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Abstract

This paper investigates the relationship between the subjective well-being of both the employed and unemployed and regional unemployment rates. While employed men suffer from regional unemployment, unemployed men are significantly less negatively affected. This is consistent with a social-norm effect of unemployment in Germany. We find no evidence of such an offsetting effect for women.

Keywords: social norms, unemployment, life satisfaction

JEL codes: I31, Z13, J64

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1. Introduction

Unemployment is amongst the most harmful of all experiences for individual well-being. During the Great Depression, Eisenberg and Lazarsfeld (1938), using descriptive methods, emphasised that job loss deprived individuals not only of their labor income, but also of the non-pecuniary benefits of work. The more recent economic literature on subjective well-being has also addressed this issue. Clark and Oswald (1994), using the first wave of the British Household Panel Survey (BHPS), showed that unemployment is associated with significantly lower mental well-being (GHQ) scores. Additional supportive evidence has come from other countries, for example Germany in Gerlach and Stephan (1996) and Winkelmann and Winkelmann (1995, 1998), and the United States in Blanchflower and Oswald (2004).

Besides having adverse effects on the mental well-being of those who actually lose their jobs, unemployment also affects the well-being of individuals in the community of the unemployed, such as their families, colleagues, and neighbors. In particular, higher unemployment may reduce the well-being of those who remain in work via a more pessimistic perception of their own future unemployment prospects. Cobb and Kasl (1977), Fryer and McKenna (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.

While there would appear to be a fair amount of evidence of the detrimental effect of surrounding unemployment on the employed, this is less true for the effect of local unemployment on the unemployed themselves. It has been suggested in the literature that

unemployment may hurt the unemployed less the more they see of it around them, as the stigma from their own unemployment is then reduced. For example, Kessler *et al*. (1988) find that it is easier for the unemployed to establish social contacts when others in the local area are also unemployed. Cohn (1978) finds that unemployed persons' satisfaction with self is lower when there is no external cause to which one's own unemployment can be attributed, but that generally high unemployment in the region can represent such an external cause.

Economists have recently started to make use of large-scale datasets to quantitatively examine the effect of unemployment on others. Clark (2003) uses the BHPS to examine the impact of other's unemployment both on the employed and on the unemployed. While regional unemployment generally has a negative effect on the employed, there is evidence of an opposite effect for unemployed men: the well-being of unemployed men rises with the regional unemployment rate. Even at the household and partner level, men report higher well-being scores if they are not the only unemployed person in the household. These results are consistent with a "social norm" effect of unemployment. Similar results have been found for the United Kingdom (Shields and Wheatley Price, 2005), Australia (Shields *et al*., 2008), South Africa (Powdthavee, 2007), and Switzerland (Stutzer and Lalive, 2004).

In this paper, we follow the methodology of Clark (2003) and, using data for Germany, examine how the subjective well-being of the employed and the unemployed is affected by regional unemployment rates. We find strong evidence for a social norm effect of unemployment in Germany. While employed men suffer from unemployment in their region, unemployed men are significantly less negatively affected. For women, however, no such offsetting effect appears to exist.

This paper is structured as follows. In the next section, we describe the data and the estimation methodology. Section 3 contains the empirical results, and the last section provides a summary and concludes.

2. Data and Methodology

We use data from 23 waves (1984-2006) of the German Socio-Economic Panel (GSOEP), a representative longitudinal study of private households in Germany.[1] 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. As a proxy utility measure, we use self-rated life satisfaction, measured on a scale from 0 to 10 (where 0 denotes "not satisfied at all" and 10 stands for "completely satisfied").

We explain life satisfaction by a fairly standard set of variables, such as income, family status, education etc. To examine the personal and external effects of unemployment, we also include the respondent's own employment status and the regional unemployment rate. To test for a social norm effect, we include an interaction term between own employment status and the regional unemployment rate. Our multivariate analysis is based on the same regression specification as Clark (2003, p. 332):

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

where α_i is an individual fixed effect, UE_{it} is a dummy taking the value 1 if the individual is officially registered as unemployed at the German Employment Office, and $UERATE_{it}$ is a measure of the regional unemployment rate (at the German federal state level).[2] 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 are wave dummies, and ε_{it} is a random error term.

Building on the social norm literature cited in the Introduction, we formulate three prior hypotheses regarding equation (1): $\beta_1 < 0$ (the unemployed are less happy than the

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[1] 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.

[2] These unemployment rates were obtained from the German Employment Office (2008).

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

3. Results

3.1. Descriptive Statistics

A simple and illustrative way of demonstrating a social norm effect of unemployment is to compare the life satisfaction gap between the employed and the unemployed in regions with different unemployment rates and check whether this life satisfaction gap is smaller in higher unemployment regions. Figures 1 and 2 illustrate, for men and women respectively, the relationship between regional unemployment and the life satisfaction gap between the employed and the unemployed. Each point in these figures represents a German federal state, averaged over five-year periods from 1984 to 2006.

Figure 1 reveals a negative relationship between regional unemployment and the employed-unemployed well-being gap for men. 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 where there is more unemployment. Figure 2 presents the same data for women. It is difficult to detect any social norm effect here, with the relationship appearing to be positive, if anything, rather than negative.

- Figures 1 and 2 about here -

3.2. Regression results

To analyze the effects of aggregate unemployment on individual well-being, we now turn to econometric analysis. Since life satisfaction is an ordinal variable that is potentially

affected by individual-specific unobservable characteristics, we apply a fixed-effect conditional logit model (see Ferrer-i-Carbonell and Frijters, 2004).

The results are presented in the first two columns of Table 1. The estimation results with German data are consistent with those found in a number of other countries (see the references in our Introduction). As expected, own unemployment is associated with sharply lower well-being. With respect to the effects of others' unemployment, the coefficient on the main effect of regional unemployment is significant and negative. This highlights two channels via which unemployment reduces individual welfare. It first generates well-being losses for those who become unemployed, but also produces negative externalities on those who remain employed.

When we look at the effect of regional unemployment on unemployed men, we see that there is a strong opposing effect (statistically significant at the 10% level). Unemployed men suffer significantly less from surrounding unemployment than they would if they were employed. The estimated positive coefficient on the interaction term is, however, smaller in absolute size than the negative coefficient on the unemployment rate. Both the unemployed and employed are negatively affected by regional unemployment, but the magnitude of this effect is much smaller for the former.

There is no evidence of a social norm effect for women. The main effect of regional unemployment is negative (although statistically insignificant), and, contrary to men, unemployed women feel worse in regions with higher unemployment rates.

The other determinants of life satisfaction, which we include as control variables in our regression, have the expected signs for both sexes. Income is strongly positively correlated with well-being. Working part-time is less good than full-time employment. Cohabiting or being married is associated with higher life satisfaction than being single, while being divorced and living without a new partner reduces men's life satisfaction, but not that of women. Widowhood has an insignificant effect for both sexes. Respondents with children

report (insignificantly) higher life satisfaction scores. Last, education is positive, although significantly so only for women, and people are significantly less happy in their forties than in their twenties.

- Table 1 about here -

While widely-used in the "economics of happiness" literature, the conditional fixed effect logit model suffers from two disadvantages. First, the recoding of eleven life satisfaction scores into just two categories obviously discards a lot of information. Second, and perhaps more importantly, it is not necessarily true that the signs of the estimated coefficients correspond to the signs of their marginal effects. Ai and Norton (2003) show that non-linear regression models suffer from this problem and that special care has to be taken when interpreting the coefficients. To deal with both issues, we appeal to a novel estimation method that retains the original dependent variable and avoids the pitfalls of non-linear models – the Probit-adjusted ordinary least squares (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 (2005) shows that the results generated by traditional ordered probit and Probit OLS are the same up to a multiplication factor. The advantage of POLS, as compared to ordered probit, lies in the possibility of applying panel data methods, such as individual fixed effects.

Columns 3 and 4 of Table 1 present the results from a POLS regression with fixed effects. The results are qualitatively similar to those from the conditional logit estimation. Own unemployment hurts, as previously, and the main effect of regional unemployment is negative, for both men and women. The social norm effect, however, is again only found for men. In this specification, the sum of the main and interaction effects of regional

unemployment is positive (although statistically insignificant), suggesting that others' unemployment may even increase the well-being of unemployed men. Women, on the other hand, are adversely affected by regional unemployment whether they be employed or unemployed. Both POLS and conditional logit estimation thus suggest that regional unemployment produces negative externalities on the employed, but there is evidence of a social norm effect, whereby greater regional unemployment reduces well-being less, or may at the limit even be welcome, for unemployed men.

4. Conclusion

Unemployment is widely considered as generating negative externalities. Greater unemployment makes the employed feel less secure about being able to keep their job in the future, while the unemployed suffer from worse prospects of finding a new job. However, in addition to these negative effects, there may well be a counteracting positive impact for the unemployed: if more people suffer the same fate, one's own unemployment might be easier to bear. This is termed the "social norm effect of unemployment". In this paper, we see whether a social norm effect of unemployment – whereby aggregate unemployment reduces the well-being of the employed, but has a smaller negative, or even positive, effect on the unemployed – can be found in Germany. Our panel regression analysis suggests that, while both employed men and women feel worse in regions with higher unemployment, there is evidence of a social norm effect for unemployed men (but not unemployed women). This same disparity between men and women was found in BHPS data in Clark (2003).

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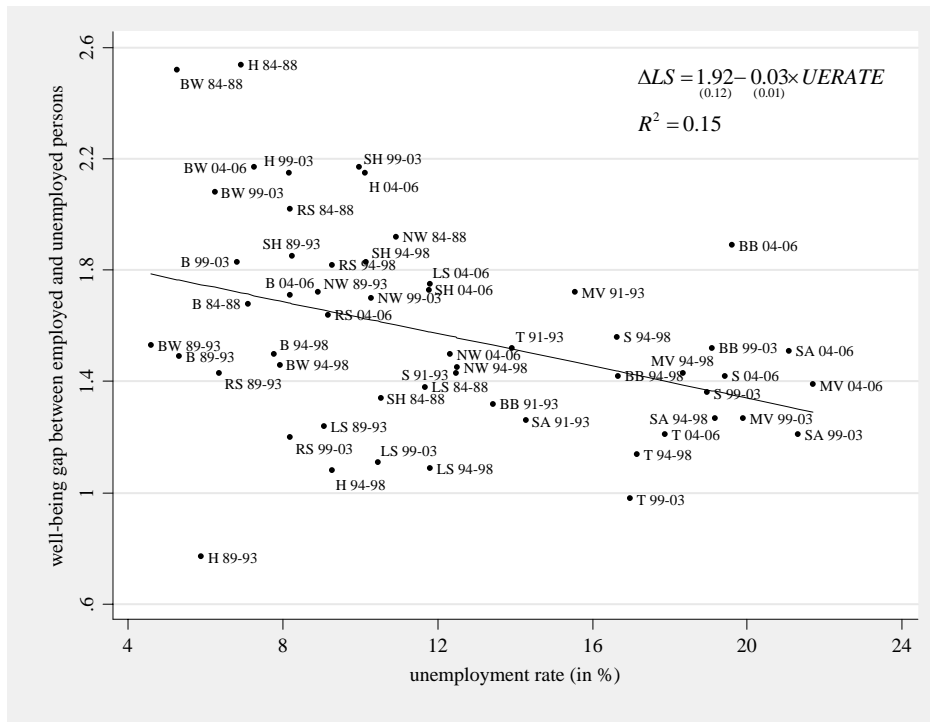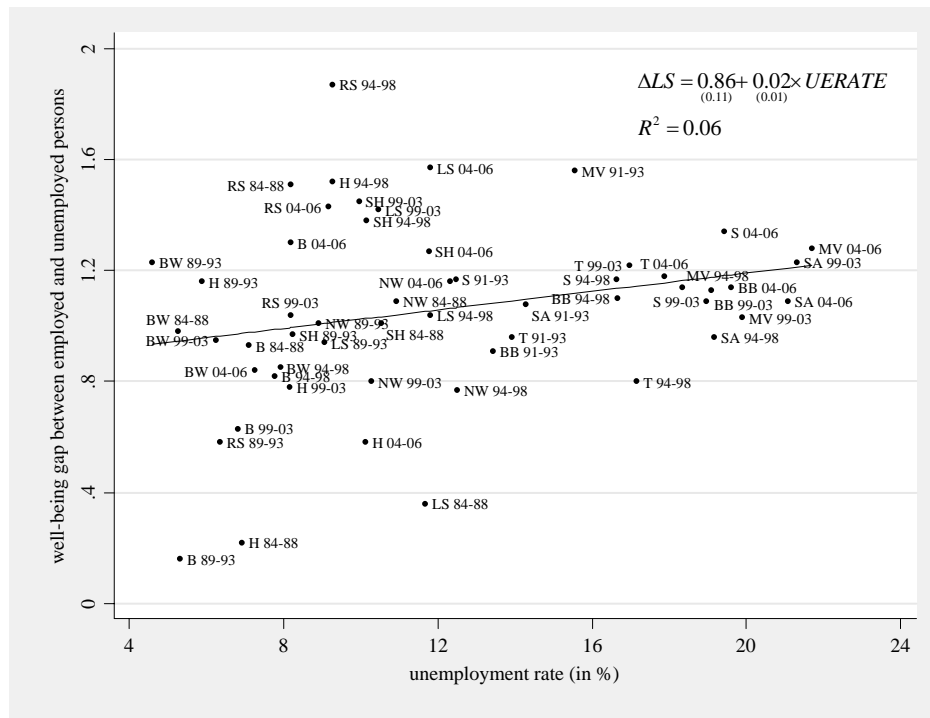*Figure 1: The Employed-unemployed life satisfaction gap and regional unemployment: Men*

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

<u>**Notes to both figures.**</u> **Observations by German Federal States averaged over the following periods: 1984-1988 (only former West Germany), 1989-1993 (1991-1993 for East Germany), 1994-1998, 1999-2003, and 2004-2006. We exclude the three city states (Berlin, Hamburg, Bremen) due to a lack of sufficient observations (less than three observations per period). Key: B = Bavaria, BB = Brandenburg, BW = Baden-Württemberg, H = Hessen, LS = Lower Saxony, MV = Mecklenburg-West Pommerania, NW = North Rhine-Westphalia, RS = Rhineland-Palatinate/Saarland, S = Saxony, SA = Saxony-Anhalt, SH = Schleswig-Holstein, and T = Thuringia.**

Table 1: Regression results

	Conditional FE logit		Probit-adjusted OLS	
	(1)	(2)	(3)	(4)
	Men	Women	Men	Women
Reference category	Full-time employed, single, less than 30 years old	Full-time employed, single, less than 30 years old	Full-time employed, single, less than 30 years old	Full-time employed, single, less than 30 years old
Unemployed	-1.170***	-0.344***	-0.625***	-0.235***
	(0.117)	(0.116)	(0.035)	(0.037)
UE Rate	-0.026***	-0.012	-0.010***	-0.006**
	(0.008)	(0.008)	(0.002)	(0.003)
UE Rate x unemployed	0.015*	-0.031***	0.014***	-0.005**
	(0.008)	(0.008)	(0.002)	(0.003)
Household income (per capita) /1000	0.344***	0.315***	0.120***	0.106***
	(0.033)	(0.035)	(0.009)	(0.010)
Part-time	-0.282***	-0.158***	-0.102***	-0.078***
	(0.071)	(0.035)	(0.022)	(0.011)
Cohabitation	0.333***	0.456***	0.125***	0.156***
	(0.049)	(0.058)	(0.015)	(0.018)
Married	0.524***	0.344***	0.187***	0.122***
	(0.060)	(0.068)	(0.019)	(0.022)
Divorced	-0.522***	-0.065	-0.200***	-0.051*
	(0.085)	(0.084)	(0.026)	(0.027)
Widowed	-0.036	-0.189	-0.017	-0.166***
	(0.210)	(0.140)	(0.065)	(0.045)
Number of children	0.015	0.024	0.007	0.007
	(0.018)	(0.022)	(0.006)	(0.007)
Years of education	0.003	0.044**	-0.002	0.012**
	(0.017)	(0.020)	(0.005)	(0.006)
$30 \leq$ age < 40	-0.021	-0.013	-0.012	-0.005
	(0.043)	(0.048)	(0.013)	(0.016)
$40 \leq$ age < 50	-0.132**	-0.073	-0.046**	-0.040*
	(0.066)	(0.073)	(0.020)	(0.023)
$50 \leq$ age	-0.103	-0.112	-0.047*	-0.044
	(0.091)	(0.101)	(0.028)	(0.032)
Individual fixed effects	yes	yes	yes	yes
Wave dumies	yes	yes	yes	yes
Log likelihood	-30161.263	-25143.647		
R²			0.057	0.041
Number of observations	64774	54338	69712	59466

*Notes. Standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.*