



Can workfare programs offset the negative effect of unemployment on subjective well-being?



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HIGHLIGHTS

- Estimates the effect of a workfare program on subjective well-being in Germany.
- Employment in workfare has a substantial positive effect on subjective well-being.
- The effect of workfare can offset most of the negative effects of unemployment.

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ABSTRACT

Previous research suggests that unemployment negatively affects indicators of mental health and well-being, but it remains unclear whether active labor market policy can offset this effect. This paper examines a workfare program that was a key part of Germany's active labor market policy for over 30 years. Fixed effects panel estimates suggest that participation in the workfare program offset most, though not all, of the negative effect of unemployment on subjective life satisfaction. Robustness tests find no evidence that this estimate is due to non-parallel time-trends, unobserved shocks in the pre-treatment period, adaptation to unemployment or differences in regional unemployment rates. These results suggest that active labor market policies can help reduce the negative psychological effect of unemployment.

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1. Introduction

Previous research has documented a substantial negative psychological effect of unemployment. For instance, unemployment has been shown to reduce life satisfaction, increase psychological distress, and lead to cardiovascular disease, hospitalization for mental illness, and suicide (Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998; Marks and Fleming, 1999; Clark, 2003; Carroll, 2007; Kassenboehmer and Haisken-DeNew, 2009; Kuhn et al., 2009; Browning and Heineken, 2012). A possible explanation for this effect is that jobs confer social status, social networks and a sense of purpose—all of which are thought to be important contributors to well-being (Izard, 1991; Ryan and Deci, 2000; Ellingsen and Johannesson, 2007; Ariely et al., 2008). Involuntary unemployment may therefore have a psychological cost—a negative effect

on well-being and mental health that goes beyond its effects on income and consumption (Frey and Stutzer, 2002; Carroll, 2007). This would have important implications for labor market and welfare policy, suggesting that the welfare cost of unemployment is greater than the value of lost output and that active labor market policies like workfare programs may be a more efficient way of increasing the well-being of the unemployed than cash transfers. For instance, Edlin and Phelps (2009) cite the psychological benefits of employment as an argument for the introduction of tax credits for employers of low-wage workers.

It is, however, not clear whether jobs created through workfare programs or other active labor market policies can offset the negative psychological effect of unemployment. People may only receive psychological benefits from jobs with certain desirable characteristics like being perceived as meaningful or conferring social status (Ellingsen and Johannesson, 2007; Ariely et al., 2008). Since workfare jobs are often poorly paid and confer little social status, they may be poor substitutes for regular jobs when it comes to increasing life satisfaction.

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A previous study by Wulfgramm (2011) examined the effect of Germany's One-Euro-Jobs – a type of workfare program – on life satisfaction. The study found that participants in the program reported higher life satisfaction than unemployed non-participants but substantially lower life satisfaction than the employed. The positive effect of workfare was even smaller and not robustly statistically significant once time-invariant individual characteristics were controlled for by fixed effects. There is therefore little evidence that One-Euro-Jobs were able to substantially offset the negative effect of unemployment on life satisfaction.

The current paper examines the effect of a similar workfare program, Germany's *Arbeitsbeschaffungsmaßnahmen* (ABM). This program was an integral part of Germany's active labor market policy for over 30 years until the labor market reforms of 2004, after which it was phased out and replaced by One-Euro-Jobs. The main difference between the two programs is that ABM paid a wage to participants while One-Euro-Jobs only paid a small supplement to basic welfare payments. The previous evidence on the effects of the ABM program on subjective well-being and mental health is mixed. Using a random effects ordered probit model, Knabe and Rätzl (2011) find that the life satisfaction of people enrolled in ABM is slightly higher than that of the unemployed though still substantially lower than that of people employed in regular jobs. Huber et al. (2011), on the other hand, find that people who enter ABM and similar workfare programs experience a slightly higher prevalence of mental health problems than people who remain unemployed. I build on these two papers by using fixed effects regressions to estimate the effect of employment in the ABM program on life satisfaction, based on data from the German Socio-Economic Panel (SOEPv27) from the years 1992–2004. The main advantage of the fixed effects approach over the methods used in previous studies of the ABM program is that it controls for unobserved time-invariant differences between individuals with different employment status. Previous research has shown that not controlling for individual fixed effects can introduce substantial bias into estimates of the determinants of subjective well-being Ferrer-i-Carbonell and Frijters (2004). The detailed nature of the SOEP panel data further allows me to conduct robustness tests for unobserved shocks and to control for individual differences in unemployment duration and recent employment history.

My estimates suggest that workfare employment had a large positive effect that offset most of the negative effect of unemployment. The results are robust to controlling for individual specific linear time-trends. In an additional robustness test, I find no evidence that participants experienced systematic unobserved shocks to life satisfaction before entering the program. These results suggest that workfare programs can help reduce the negative psychological effects of unemployment, as postulated by Edlin and Phelps (2009).

2. Data and measurement issues

The empirical analysis in this paper uses data from the German Socio-Economic Panel (SOEPv27), from the years 1992 to 2004. The sample is restricted to working age individuals (ages 18–65). The outcome of interest is respondents' subjective life satisfaction measured by their answer to the question: "All things considered, on a scale from 0 to 10, how satisfied are you with your life?" This measure correlates strongly with more detailed measures of psychological distress (Koivumaa-Honkanen et al., 2004) and with objective indicators of well-being such as blood-pressure (Blanchflower and Oswald, 2008) and suicide risk (e.g. Koivumaa-Honkanen et al., 2001). Among other things, it has been used to evaluate the effect of income comparisons (Luttmer, 2005), environmental externalities (Luechinger, 2009) and infrastructure improvements (Cattaneo et al., 2009; Devoto et al., 2011).

Previous research has shown that while the unemployed report lower life satisfaction than the employed, they report equal levels of moment-by-moment satisfaction with their daily activities (Knabe et al., 2010). This suggests that not all measures of well-being are likely to be affected by workfare employment, a limitation that should be kept in mind when interpreting the results of this paper. However, Benjamin et al. (2012) found that, among the commonly used measures of happiness, life satisfaction is the best predictor of people's choices in hypothetical choice situations, which suggests that it is a better proxy for utility than the other measures.

3. Empirical strategy

The empirical strategy used in this paper is a fixed effects model based on repeated observations of the same individuals. In particular, I estimate the following equation:

$$Y_{it} = D'_{it}\beta + X'_{it}\gamma + \alpha_i + \lambda_t + \varepsilon_{it} \quad (1)$$

where Y_{it} is the life satisfaction reported by individual i at time t . D_{it} is a vector of indicators for the individual's employment status. It contains three mutually exclusive indicators for being employed in the ABM workfare program, being employed in a regular job, and being outside the labor force (defined as not working and not looking for work). The omitted category is being unemployed. X_{it} is a vector of household characteristics that serve as control variables. The model contains fixed effects at the individual and year level (α_i, λ_t).

Of course, enrollment into the workfare program is not random. It is therefore possible that the life satisfaction of individuals who were selected into the program was on an upward trend anyway, which would lead to endogeneity bias in the estimates of Eq. (1). As a robustness test, I estimate a model that includes individual-specific time trends.

$$Y_{it} = D'_{it}\beta + X'_{it}\gamma + \theta_i t + \alpha_i + \lambda_t + \varepsilon_{it}. \quad (2)$$

Since the data contains over 6000 individuals, it is computationally difficult to estimate the parameters θ_i . I therefore follow the method suggested by Wooldridge (2002), and estimate a fixed effects regression after taking first differences:

$$\Delta Y_{it} = \Delta D'_{it}\beta + \Delta X'_{it}\gamma + \theta_i + (\lambda_t - \lambda_{t-1}) + (\varepsilon_{it} - \varepsilon_{it-1}). \quad (3)$$

To further test whether workfare participants experienced unobserved shocks to their subjective well-being before enrolling in the program, I also estimate a specification that includes the "lead" (i.e. next period's value) of employment status.

4. Results

Table 1 presents summary statistics of the whole sample, and separately of participants and non-participants in the workfare program. The comparison in columns 2–4 shows that individuals who were ever employed in the workfare program are less happy, older and have more children and lower household incomes than the rest of the population. They are also substantially more likely to be unemployed, which is consistent with the fact that the policy targets the long-term unemployed.

Columns 1 and 2 of Table 2 present estimates of the fixed effects model described in Eq. (1). The parameter associated with employment in a regular job is 0.66–0.68, which suggests a large negative psychological effect of unemployment (which is the omitted category). The parameter associated with workfare employment is slightly smaller at 0.40–0.42 and the difference is statistically significant (see F -tests in the bottom row). However, the effect of workfare employment is still large and statistically significant. The results suggest that workfare employment can offset approximately 60% ($0.40/0.66 = 0.60$) of the negative effect of unemployment. The effect of workfare is also large in

Table 1
Summary statistics.

	Whole sample	Ever in workfare	Never in workfare	<i>p</i> -value of difference
Happiness	6.84 (1.73) [1.18]	5.93 (1.87) [1.36]	6.89 (1.72) [1.17]	<0.001
Workfare employment (%)	0.69 (8.3) [7.5]	14.8 (34.5) [33.4]	0 (0) [0]	<0.001
Regular employment (%)	70.5 (45.6) [30.6]	41.7 (49.3) [40.4]	72.0 (44.9) [30.0]	<0.001
Unemployed (%)	6.8 (25.1) [20.6]	27.9 (44.9) [39.0]	5.6 (23.1) [19.1]	<0.001
Out of labor force (%)	22.0 (41.5) [28.0]	16.6 (37.2) [31.8]	22.4 (41.7) [27.8]	<0.001
Age	41.2 (12.5) [3.5]	43.3 (11.3) [3.6]	41.1 (12.6) [3.4]	0.001
# of adults	2.29 (0.83) [0.52]	2.27 (0.80) [0.53]	2.29 (0.83) [0.52]	0.69
# of children	0.66 (0.93) [0.48]	0.78 (1.04) [0.50]	0.66 (0.92) [0.48]	0.033
Lives with partner (%)	64.8 (47.8) [21.5]	66.3 (47.3) [21.1]	64.8 (47.8) [21.5]	0.55
Female	52.2 (50.0) [0]	54.8 (49.8) [0]	52.1 (50.0) [0]	0.40
Education (years)	11.7 (3.41) [1.48]	11.7 (2.60) [1.17]	11.7 (3.21) [1.49]	0.99
Household income (euros/month)	3097 (1688) [931]	2365 (1027) [699]	3136 (1707) [942]	<0.001
Observations	64807	3240	61567	64807
Individuals	6442	269	6173	6442

Summary Statistics are based on data from the German Socio-Economic Panel, 1992–2004. Standard deviations in parentheses. Within-individual standard deviations in square brackets. *p*-values are based on *t*-tests with standard errors clustered at the individual level.

absolute terms, corresponding to approximately 35% of the within-individual standard deviation of life satisfaction of 1.17. It is more than twice as large as the parameter associated with a live-in partner and 50% larger than the parameter associated with the logarithm of household income. The models in columns 3 and 4 of [Table 2](#) also control for individual specific linear time-trends. Here the difference between the effects of workfare and regular employment becomes even smaller and statistically insignificant. The estimates suggest that workfare employment can offset 87% ($0.48/0.55 = 0.87$) of the negative effect of unemployment. Interestingly, the estimated effect of being out of the labor force is also positive and significant, though smaller than the effect of regular employment. This is most likely due to the fact that being out of the labor force is voluntary, whereas unemployment is involuntary. The estimate therefore suggests that the negative psychological effect of unemployment is not merely due to the fact that the individual is not working, but due to the fact that they are not working for a reason that is not their own choice.

4.1. Robustness tests

One concern about my identification strategy is that participants in the workfare program may have experienced unobserved

shocks to their life satisfaction in the period leading up to their enrollment into the program. As a robustness test, I therefore estimate a model with leads of the employment status indicators. If participants experienced systematic unobserved shocks in the period leading up to workfare enrollment, the lead coefficient of workfare should be non-zero, which would indicate a violation of the model's identifying assumption. [Table 3](#) presents results of this robustness test. The lead coefficient associated with workfare employment is small, negative and not statistically significant at conventional levels. There is thus little evidence that, relative to the unemployed, workfare participants experienced unobserved shocks to their life satisfaction in the period leading up to their enrollment in the program. If anything, the negative point estimate suggests that participants experienced negative shocks to life satisfaction before entering the program, so that the fixed effects estimate is likely to be a lower bound of the effect of workfare employment.

Another concern is that workfare was targeted towards the long-term unemployed who may have already been adapted to unemployment. To test for this, the specifications presented [Table 4](#) control for the individual's duration of unemployment, based on previous observations in the SOEP, interacted with a set of dummies for current employment status. The results

Table 2

Workfare employment and life satisfaction: Fixed effects estimates.

	Dependent variable: life satisfaction			
	(1)	(2)	(3)	(4)
Workfare employment	0.42 ^{***} (0.080)	0.40 ^{***} (0.081)	0.48 ^{***} (0.083)	0.48 ^{***} (0.083)
Regular employment	0.68 ^{***} (0.035)	0.66 ^{***} (0.035)	0.55 ^{***} (0.038)	0.56 ^{***} (0.038)
Out of labor force	0.57 ^{***} (0.037)	0.58 ^{***} (0.037)	0.36 ^{***} (0.041)	0.35 ^{***} (0.042)
Number of adults in HH		−0.10 ^{***} (0.015)		0.01 (0.023)
Number of children in HH		−0.02 (0.015)		0.07 ^{***} (0.028)
Lives with partner		0.14 ^{***} (0.033)		0.19 ^{***} (0.050)
Education (years)		0.00 (0.005)		−0.00 (0.008)
Log of HH income		0.29 ^{***} (0.024)		0.15 ^{***} (0.029)
<i>F</i> -test: workfare = regular empl.	10.4 ^{***}	9.8 ^{***}	0.74	0.81
Individual specific linear time trends	No	No	Yes	Yes
No. of individuals	6201	6201	5938	5938
No. of observations	64 566	64 566	57 380	57 380

All specifications include individual, state and year fixed effects. Standard errors in parenthesis, clustered at the individual level.

* Denote statistical significance at the 10% level.

** Denote statistical significance at the 5% level.

*** Denote statistical significance at the 1% level.

Table 3

Robustness test for non-parallel time trends.

	Dependent variable: life satisfaction			
	(1)	(2)	(3)	(4)
Workfare employment	0.41 ^{***} (0.082)	0.39 ^{***} (0.083)	0.44 ^{***} (0.091)	0.44 ^{***} (0.091)
Workfare employment in $t + 1$ (lead)	−0.06 (0.088)	−0.06 (0.087)	−0.09 (0.092)	−0.09 (0.091)
Regular employment	0.65 ^{***} (0.037)	0.62 ^{***} (0.037)	0.56 ^{***} (0.040)	0.57 ^{***} (0.040)
Regular employment in $t + 1$ (lead)	0.13 ^{***} (0.032)	0.13 ^{***} (0.032)	0.05 (0.036)	0.06 (0.036)
Out of labor force	0.48 ^{***} (0.038)	0.49 ^{***} (0.038)	0.40 ^{***} (0.043)	0.39 ^{***} (0.044)
Out of labor force in $t + 1$ (lead)	0.22 ^{***} (0.035)	0.23 ^{***} (0.034)	0.13 ^{***} (0.040)	0.13 ^{***} (0.040)
<i>F</i> -test: workfare = regular employ.	8.6 ^{***}	8.1 ^{***}	1.81	1.96
Control Variables	No	Yes	No	Yes
Individual specific linear time trends	No	No	Yes	Yes
No. of individuals	6194	6194	5929	5929
No. of observations	57 636	57 636	50 929	50 929

All specifications include individual, state and year fixed effects. Standard errors in parenthesis, clustered at the individual level. The bottom row reports *F*-statistics for a test of the null-hypothesis that the effect of workfare employment is equal to the effect of regular employment.

* Denote statistical significance at the 10% level.

** Denote statistical significance at the 5% level.

*** Denote statistical significance at the 1% level.

show that controlling for unemployment duration increases the estimates to 0.49–0.51 for workfare employment and to 0.76–0.77 for regular employment. This suggests that adaptation did not lead to a substantial upward bias in the compensating effect of workfare, which remains stable at around 65% of the effect of regular employment. The models in columns 3 and 4 also control for state-by-year fixed effects to address the concern that

workfare programs were targeted towards regions with higher unemployment. This increases the estimated effect of workfare employment to 0.59–0.61, consistent with the hypothesis that omitting regional unemployment rates (or other time-varying state-specific unobserved variables) led to a downward bias. The point estimate corresponds to 82% of the effect of regular employment, though I cannot reject the null hypothesis that the

Table 4

Workfare employment and life satisfaction: Additional robustness tests.

	Dependent variable: life satisfaction					
	(1)	(2)	(3)	(4)	(5)	(6)
Workfare employment	0.51*** (0.113)	0.49*** (0.113)	0.61*** (0.111)	0.59*** (0.111)	0.66*** (0.124)	0.64*** (0.124)
Regular employment	0.77*** (0.045)	0.76*** (0.045)	0.73*** (0.045)	0.72*** (0.045)	0.74*** (0.048)	0.74*** (0.048)
Out of labor force	0.66*** (0.047)	0.68*** (0.047)	0.60*** (0.047)	0.63*** (0.047)	0.62*** (0.051)	0.63*** (0.051)
F-test: workfare = regular employ.	5.5**	6.0**	1.19	1.45	0.41	0.68
Control variables	No	Yes	No	Yes	No	Yes
Unemp. Dur. × Emp. Status	Yes	Yes	Yes	Yes	Yes	Yes
State-by-year FE	No	No	Yes	Yes	Yes	Yes
Lagged employment status	No	No	No	No	Yes	Yes
No. of individuals	6442	6442	6442	6442	5938	5938
No. of observations	64807	64807	64807	64807	57380	57380

All specifications include individual, state and year fixed effects, as well as unemployment duration interacted with indicators for current employment status. Specifications in columns 3 and 4 contain state-by-year fixed effects. Specifications in columns 5 and 6 contain indicators for lagged labor force status. Standard errors in parenthesis, clustered at the individual level. The bottom row reports *F*-statistics for a test of the null-hypothesis that the effect of workfare employment is equal to the effect of regular employment.

* Denote statistical significance at the 10% level.

** Denote statistical significance at the 5% level.

*** Denote statistical significance at the 1% level.

two effects are equal. Finally, the models in columns (5) and (6) control for the individual's employment status in the previous year. This addresses the concern that, due to the short-term nature of ABM measures, workfare participants were substantially more likely to be unemployed in the previous year, so that a lagged effect of unemployment (or a short-term effect of exit from unemployment) might bias the estimates. By controlling for lagged employment status, the estimates are based on comparing new entrants into workfare to individuals who have entered regular employment since the previous year, an arguably more relevant control group. Controlling for lagged employment status increases the estimated effect of workfare employment to 0.64–0.66. This corresponds to approximately 86% of the effect of regular employment, though the difference between the two estimates is not statistically significant.

5. Conclusion

This paper analyzed the effect of a type of workfare program, Germany's *Arbeitsbeschaffungsmaßnahmen* (ABM), on life satisfaction. Previous research has shown that unemployment has a large negative effect on self-reported life satisfaction (Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998; Marks and Fleming, 1999; Clark, 2003; Carroll, 2007; Kassenboehmer and Haisken-DeNew, 2009), but there was little evidence that job-creating active labor market policies can offset this effect. Using panel data and fixed effects regressions, I show that the workfare program under study offset most of the negative effect of unemployment. Robustness tests find little evidence of endogeneity bias from non-parallel trends, unobserved shocks to life satisfaction in the pre-treatment period, adaptation to unemployment or differences in regional unemployment rates.

Of course, the ABM program should not be evaluated only based on its effects on subjective well-being. Previous studies have found evidence that participation in ABM reduces the probability of finding employment in regular jobs, at least for some groups (Hujer et al., 2004; Caliendo et al., 2008), so that the program's long-term employment effects could offset the positive short-term effect on subjective well-being. Still, the current paper's findings have important policy implications, suggesting that jobs created by active labor market policies can at least partly offset the negative effects of unemployment on subjective well-being.

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