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Unemployment and subjective well-being

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Unemployment and subjective well-being.

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Abstract

This chapter summarizes the latest state of the art in economic research on unemployment and subjective well-being. Outcomes covered are general life satisfaction, affective well-being, and mental health. Special attention is paid to empirical evidence as obtained from popular panel data sets. Both prominent methodological issues and substantive themes are introduced. Topics covered include the estimation of non-pecuniary costs of unemployment, unemployment over time, the role of others' unemployment, spill-over effects, and re-employment, among others.

Keywords: unemployment, subjective well-being, life satisfaction, happiness, mental health

JEL Codes: I31, J60

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1 Introduction

According to the conventional individual labor supply model, individuals trade-off consumption for leisure. Becoming unemployed is understood as enjoying more leisure and comes at the pecuniary costs of a lower consumption level. Therefore, an optimizing agent who voluntarily chooses unemployment at the prevailing wage rate is expected to be at least as happy as in employment. Research on subjective well-being, however, suggests just the opposite: unemployed report substantially *lower* subjective well-being (SWB) than employed while controlling for income, which points to additional *non-pecuniary* costs of unemployment.

Research on SWB gained popularity in economics during the 1990s (e.g., [Frey and Stutzer 2002](#) and ► “The Economics of Happiness” chapter in this handbook). Confidence in measures of SWB feeds on psychological research, where such measures are systematically developed and applied since the 1970s. The popularity of SWB research in economics also follows from the availability of appropriate large-scale household panel data. More recently, research on SWB receives increasingly public interest, as it is one of the promising frameworks providing critical information for a better measurement of human well-being ([Stiglitz et al., 2009](#)). As a consequence of all this, research on SWB is by now a fast-growing line of research (e.g., [Clark, 2018](#)).

Individual-level consequences of unemployment on their part are already studied for almost a century (e.g., [Bakke, 1933](#), [Jahoda, 1979](#), [Eisenberg and Lazarsfeld, 1938](#), [Komarovsky, 1940 \[2004\]](#)). The very object of investigation is, however, in a state of flux. The realities of unemployed people changed substantially over this period, especially for the expansion of modern welfare states. Indeed, relevant conditions are still changing due to reforms of labor market regulations, increasing life expectancy, higher levels of education, various technological developments, etc.

Investigating the role of unemployment for SWB is important for numerous reasons. First, several implications follow for both labor market policies and underlying theories, as the simple model sketched above enters numerous more specific models (e.g., for bargaining, job search, or business cycles). For instance, the existence of non-pecuniary costs of unemployment suggests that tackling unemployment may be motivated on efficiency grounds or that reduced SWB due to unemployment may help to explain other economic phenomena such as hysteresis, via discouragements effects ([Darity and Goldsmith, 1996](#)). Second, policymakers are facing trade-offs, such as balancing measures to fight inflation and unemployment (e.g., [Di Tella et al., 2001](#)). Therefore, it is vital to unveil the various

costs associated with unemployment. Otherwise, policymakers' decisions may suffer from systematic distortions. Third, going beyond the pure quantification of costs, both understanding the underlying mechanisms and identifying effective measures to cure or prevent SWB losses, is imperative for any research seeking to improve human well-being. Fourth, an unemployment-induced loss of SWB may be followed by other adverse outcomes such as bad mental or physical health, or even suicide (e.g., [Sullivan and von Wachter, 2009](#), [Helgesson et al., 2012](#), [Milner et al., 2013](#)), which may result in additional costs for treatment and rehabilitation. More importantly, interrupting this functional chain early on may prevent irreversible outcomes such as suicide altogether.

The present chapter provides an overview over economic research on the role of unemployment for SWB. The target readership covers both graduate and PhD students in economics, but also professionals who are just interested in the current state of research or consider contributing themselves. Therefore, this chapter will introduce both prominent methodological issues in measurement or analysis, and substantive themes. While research on SWB is inherently interdisciplinary, the focus on economics is necessary for the mere amount of studies on this subject and manifests *inter alia* in methodological considerations, preferred theoretical explanations, and in the perspective on implications for both theory and policy advice. Notwithstanding, closely related work in neighboring disciplines such as psychology and sociology is occasionally referenced. Moreover, this chapter concentrates on the empirical findings and aims at piecing together the available evidence to assemble a sharper SWB profile of individual unemployment. While there is no shortage of related theories, the prevailing evidence is often consistent with several theoretical approaches at the same time. Finally, in order to facilitate a critical appraisal of the available body of evidence this chapter distinguishes the different dimensions of SWB, points to methodological limitations, and flags different country contexts.

See [Winkelmann \(2014\)](#) for an earlier introduction to this topic and the chapter ► “Happiness, Work, and Identity” of this handbook for a review of the evidence from one particular theoretical perspective. For literature surveys in related fields see [Fryer and Payne \(1986\)](#), [Ezzy \(1993\)](#), [Darity and Goldsmith \(1996\)](#), [Paul and Moser \(2009\)](#).

2 Data, outcomes, and methods

2.1 Data

The preferred type of data in this line of research are large-scale household panel datasets such as the German Socio-economic Panel (SOEP), running since 1984 and the British Household Panel Survey (BHPS) which started in 1991 and was integrated into the UK Household Longitudinal Study (UKHLS) in 2008. Further frequently used datasets are the Household, Income and Labor Dynamics in Australia (HILDA), running since 2001, and the Russian Longitudinal Monitoring Survey (RLMS), running since 1994. Reasons for this preference include that respective samples (i) are representative of entire societies allowing for general conclusions, (ii) are covering various domains of life, (iii) allow to partially address the confounding role of unobserved heterogeneity, which is considered to be formidable in such analyses, (iv) allow for various refined research designs (e.g., the analysis of time profiles).

2.2 Constructs and measures

Measures of SWB can be viewed to reveal information about utility—one of the key concepts in modern economics. Psychological research considers SWB comprising several distinct constructs, in particular a cognitive and an affective component (e.g., [Diener *et al.*, 1999](#)). The concept of mental health, however, originates from a different tradition and is usually understood as absence of mental disorders, such as anxiety disorders or depression see, e.g, the classification of the World Health Organization ([WHO, 2004](#)). Notably, although these concepts do overlap, their exact relation to each other remains to be established—just as their precise relation to utility.

Numerous scales and measures have been used to operationalize the aforementioned concepts (cf. ► [“Measuring Subjective Well-being”](#), ► [“The Economics of Happiness”](#)). Many survey instruments for satisfaction or emotions use a single item scale and responses are recorded on 3 to 11-point response scales. The German SOEP, for instance, measures general life satisfaction using an 11-point scale, ranging from 0–10, where 0 means ‘completely dissatisfied’ and 10 means ‘completely satisfied’. Respondents are also asked how often they experienced certain feelings (e.g., happiness or sadness) during the past four weeks and responses are recorded on a five-point scale. Finally, mental health is measured using the Mental Component Scale ([Ware *et al.*, 1996](#)) which is based on information of

the 12-item Short Form Health Survey. In contrast, the BHPS records life satisfaction responses on a 7-point scale and measures overall mental well-being based on 12 questions of the General Health Questionnaire (GHQ) ([Golderberg and Williams, 1988](#)). The often used Caseness GHQ score thus draws on respondent's feelings of strain, depression, inability to cope, joy in day-to-day activities, sleeplessness due to anxiety.

2.3 Econometric aspects

Previous research in psychology highlights the importance of personality traits (e.g., [Lykken and Tellegen, 1996](#), [Diener and Lucas, 1999](#)). In line with this [Frijters et al. \(2004b\)](#) find whether the outcome is treated as ordinal or cardinal is of less importance, rather what matters is to account for time-invariant unobserved heterogeneity. Consequently, the linear fixed effects estimator is the workhorse in applied research, often complemented with results from conditional logit or ordinal fixed effects methods ([Chamberlain, 1980](#), [Frijters et al., 2004b](#), [Baetschmann et al., 2015](#)). More recently, matching estimators gained popularity in particular in combination with difference-in-difference frameworks to account for selection on both observables and time-invariant unobservables.

Besides unobserved heterogeneity, reverse causality is another source of endogeneity. Indeed, studies provide evidence supporting this concern: see [Frijters et al. \(2011\)](#) and [Oswald et al. \(2015\)](#) for evidence related to life satisfaction and happiness, and [Jusot et al. \(2008\)](#), [Stewart \(2001\)](#) for selection into and out of unemployment related to bad health. To address reverse causality concerns, many studies rely on reported reasons for entering unemployment. In particular plant closures, which are studied in labor economics for a long time (e.g., [Kletzer, 1998](#)) and to a lesser extent also redundancies, or dismissals became a popular device to address such endogeneity concerns (e.g., [Winkelmann and Winkelmann, 1998](#), [Kassenböhmer and Haiken-DeNew, 2009](#)). Though being plausibly exogenous from an employee's point of view, plant closures rarely come as a surprise. Consequently, employees may anticipate this looming event, for instance, by leaving the company early on or by reporting a lower life satisfaction already during the periods prior to the actual plant closure and, thereby, lead to biased estimates.

Moreover, the event of plant closures is used in different ways: as a stand-alone experience irrespective of the employment status (to study the effect of job losses), and as a way to restrict the unemployment spells used in the analysis, or as a kind of shock-effect which occurs in addition to the conventional unemployment dummy. The chosen approach usually makes a difference (e.g., [Bubonya et al., 2017](#), [Kunze and Suppa, 2020](#)). Limitations

of relying on plant closures in the analysis include that by construction they still involve selected samples of unemployed and a limited external validity of the obtained results. Naturally, addressing endogeneity concerns using alternative approaches is feasible, too. [Farré *et al.* \(2018\)](#), for instance, address selection into and out of unemployment using a shift-share instrument to study mental well-being of workers during the crisis in Spain. Indeed, addressing time-varying unobserved heterogeneity using appropriate instruments as hitherto been rarely attempted.

In terms of model specification, applied studies usually control for an array of potential confounding variables including age, sex, education, marital status, health, the presence of children, recently experienced shocks, and household income (often as log) to proxy consumption. One difficulty arising in this context is that unemployment may directly affect income and thereby rendering it a ‘bad control’ variable (cf. [Angrist and Pischke, 2009](#)).

3 The non-pecuniary costs of unemployment

3.1 The main finding

From the outset economic research on the SWB of the unemployed covers different outcomes ranging from happiness to life satisfaction to mental health. Early evidence using three waves of representative Swedish panel data is provided by [Björklund \(1985\)](#) who examines mental health, measured as a binary variable using symptoms of mental illness or somatic problems. Cross-sectional logit regressions suggest unemployment being associated with lower mental health (while controlling for age and gender, but not income). Effects, however, vanish for the conditional logit fixed effects estimation. Additionally, [Korpi \(1997\)](#) uses four waves of the Survey of Unemployed Youth in Stockholm to examine psychological distress (based on sleeplessness, headache, pain, etc). [Korpi \(1997\)](#) finds a negative effect of unemployment in several specifications including simple cross-sections and first differences. Income is however not controlled for.

First evidence for the United Kingdom is provided by [Clark and Oswald \(1994\)](#) who use the first wave of the BHPS and analyze mental health as measured by the Caseness score based on the GHQ. They apply an ordered probit model and, moreover, introduce a larger array of control variables, including age, region dummies, education, marital status, but not income (since robust effects did not emerge). Results suggest a strongly negative coefficient for being unemployed, which is largely independent of additional con-

trol variables and, moreover, varies with age (the strongest effect emerges for mid-aged people). [Theodossiou \(1998\)](#) uses the same data applying an ordered logit approach, but examines single measures of mental well-being. His results indicate that joblessness leads to a marked rise in anxiety and depression with an associated loss of confidence and self-esteem. Effects on all outcomes tend to be stronger for men and middle-aged persons (i.e. between 23 and 50). [Clark \(2003\)](#) confirms the effect of unemployment on mental health to emerge in a conditional logit fixed effects framework.

Early evidence for (West) Germany is provided in [Winkelmann and Winkelmann \(1995\)](#) who analyze happiness in a linear fixed framework using SOEP data and find a significant reduction being associated with unemployment which seems to be larger for men. [Gerlach and Stephan \(1996\)](#) also use SOEP data and document a significant loss of life satisfaction using linear fixed effects methods. Moreover, they find a larger loss in life satisfaction for men and mid-aged persons. Among the first applying a conditional logit fixed effects model, [Winkelmann and Winkelmann \(1998\)](#) analyze life satisfaction for men and confirm previous findings, whereas [Frijters *et al.* \(2004a\)](#) add respective evidence for East German males and females relying on an ordered fixed effects logit approach. All of these studies control for household income and an array of socio-demographic variables.

For Australia, [Dockery \(2004\)](#) provides evidence based on a single wave, whereas [Carroll \(2007\)](#) offers evidence using three waves of HILDA and fixed effects estimations. While unemployment is found to reduce life satisfaction of both men and women (while controlling for income), women are found to suffer no less than men. For previous evidence on a link between unemployment and SWB using other datasets, see [Marks and Fleming \(1999\)](#), [Flatau *et al.* \(2000\)](#), [Dockery \(2005\)](#).

Evidence for Russia usually draws on RLMS data, which includes responses of a life satisfaction question recorded on 5-point scale. [Ravallion and Lokshin \(2001\)](#) use the first two waves and apply an ordered probit fixed effects approach. Initially they do find an effect of unemployment which, however, turns out not to be robust to changes in sample restrictions (which are meant to reduce the measurement error for income). [Eggers *et al.* \(2006\)](#) can rely on five waves of the RLMS and report ordered logit results showing unemployment to reduce life satisfaction. Using the same five waves, [Frijters *et al.* \(2006\)](#) confirm this finding in an ordered logit fixed effects framework and, moreover, find quantitative similar effect for men and women. Again all studies control for household income and several socio-demographic characteristics.

3.2 On the order of magnitude

One way to assess the magnitude of the non-pecuniary cost of unemployment is to calculate the income needed to compensate an individual for the experienced loss in life satisfaction. Essentially, the ‘compensating income variation’ is a ratio of both coefficients unemployment and income. Note, however, that often income is modeled as the log of income. This way one can obtain the required income increase as a factor of the income observed on average, which renders the unemployed just indifferent. Estimates for compensating income vary for different reasons, including underlying estimation frameworks, sample restrictions, and different variable definitions. Moreover, since standard errors or confidence intervals are rarely reported, specific numbers should not be over-interpreted, in particular if compared across studies.

Several studies provide such estimates. Using German panel data [Winkelmann and Winkelmann \(1998\)](#) estimate that an income increase of 7 times the disposable income is needed to compensate an unemployed man in West-Germany. [Frijters *et al.* \(2004b\)](#) primarily examine the role of income for life satisfaction in East-Germany during the aftermath of the German re-unification using an ordered logit fixed effects framework. Their results indicate a relatively strong effect of income relative to unemployment, implying income increases by 82–104% to compensate unemployment men and women, respectively. [Kassenböhmer and Haisken-DeNew \(2009\)](#) document higher non-pecuniary costs for women who lost their job due to plant closures. Specifically, they estimate an increase of 2.4–4.7 times the household income as a compensation for their experience. More recently, also using SOEP data, [Hetschko \(2016\)](#) finds income increases of 2.2 and 3.7 times to be necessary in order to compensate employees who lost their jobs due to plant closures and self-employed who had to shut down their businesses. [Carroll \(2007\)](#) provides comparable estimates for Australia using data from HILDA. Applying a conditional logit fixed effects framework he finds unemployed individuals require compensations between AUD 40,000–80,000. See [Blanchflower and Oswald \(2004\)](#) for estimates of the United States based on cross-sectional data.

Having an estimate for the compensating income variation then allows to compare non-monetary and momentary costs of unemployment. Monetary costs are usually obtained via the implied reduction in disposable household income, which varies with the respective welfare regime. Nonetheless, given conventional replacement rates, non-pecuniary costs tend to outperform pecuniary losses. Moreover, an estimate for the compensating income variation may be used to evaluate anti-unemployment measures within a

cost-benefit analysis.

The methodology to obtain such income compensations can be questioned in different ways. First, from a conceptual point of view economists would prefer consumption over income data. Building on this [Knabe and Rätzel \(2011\)](#) argue such compensations to be inaccurate, as they do not account for intertemporal spillovers of temporary compensations via changes in permanent income. Using German SOEP data they estimate an ordered probit model including (logged) measures for both transient and permanent income. Their results indicate substantially smaller increases in income, i.e. about 82% and 55% for men and women, respectively. However, this approach is not applicable in fixed effects frameworks. Moreover, [Frijters *et al.* \(2011\)](#) note that using the simple marginal effect assumes income not to be subject to anticipation or adaptation. Therefore, [Frijters *et al.* \(2011\)](#) suggest to rely on discounted life satisfaction effects and arrive at smaller compensations, too. Finally, one may question the credibility of the estimates as causal effects. For the present exercise this concern affects both the effect of unemployment and income.

If the goal is only to obtain a sense of magnitude for the SWB loss associated with unemployment, an alternative way is to compare it against other commonly experienced life events, such as a divorce or the death of the partner. For instance, the magnitude of the life satisfaction loss for entering unemployment is quite similar to the contemporaneous effect of widowhood, in Germany and United Kingdom ([Clark *et al.*, 2008](#), [Clark and Georgellis, 2013](#)) or multiple material deprivation in Germany [Suppa \(2015\)](#).

Before closing this section, four remarks are appropriate. First, despite their limited comparability, these studies do document a substantial loss in SWB to be associated with unemployment in several countries using representative datasets, whereby they complement previous psychological research (e.g., [Darity and Goldsmith 1996](#), [Argyle 1999](#)). Second, even though the applied methods do not unequivocally allow for a causal interpretation of the estimates, they do rule out findings to be driven by other potential factors including income, scale interpretations or personality traits. Third, these results also suggest transfers to be an ineffective compensation from a SWB perspective. Rather than aiming for more comprehensive compensation it might be cheaper and more effective to bring people back into employment. Fourth, unemployment transfers are often suspected to disrupt job search incentives. The available evidence, however, suggests (i) that common replacement rates are far from restoring SWB to pre-unemployment levels and (ii) that on average unemployment is a very uncomfortable experience—despite the

support of a generous welfare state.

4 Why are the unemployed dissatisfied?

From the outset, a host of explanations, mechanisms, and theories are invoked to motivate the analysis or rationalize the evidence—not least because this line of research is standing on the shoulders of previous psychological and other research. [Theodossiou \(1998, p. 90\)](#), for instance, notes that work ‘may be source of prestige and social recognition, basis for self-respect, sense of worth, opportunity for social participation, or merely a way of earning a living.’ Likewise, [Winkelmann and Winkelmann \(1998, p. 1\)](#) state that non-pecuniary costs ‘arise primarily since employment is not only a source of income but also a provider of social relationships, identity in society, and individual self-esteem.’ However, even though several specific theories and frameworks have been invoked, as of now no single approach is clearly dominating. In fact, much of the available evidence is consistent with several of the proposed theories. Therefore, specific theories are not presented in detail, but only briefly introduced and referenced where appropriate.

A prominent early attempt to theorize the many consequences of unemployment on an individual level is the so-called latent functions approach (e.g., [Jahoda, 1981](#)), which builds upon the famous Marienthal study, carried out in Austria in the early 1930s ([Jahoda et al., 1974](#)). According to this approach, work frequently provides several non-monetary ‘functions’, such as a time structure, and the basis for status and identity and social contacts, among other things. Drawing on Jahoda’s work, the so-called vitamin model has been applied to both employment and unemployment especially to study mental health (e.g., [Warr, 1987](#)). Likewise, [Fryer \(1986\)](#) develops an agency restriction theory in response to Jahoda’s work. Other relevant theories include attribution theory, helplessness theory, self-efficacy theory (see, e.g., [Feather, 1990, ch. 4](#)). The analysis of social norms and identity in the context of unemployment and SWB is often discussed in the light of [Akerlof \(1980\)](#) and [Akerlof and Kranton \(2010\)](#), see also [Schöb \(2013\)](#) and ► “Happiness, Work, and Identity”. When it comes to the analysis over time, set-point theory and the theory of hedonic adaptation are of particular interest (e.g., [Frederick and Loewenstein, 1999](#), [Diener et al., 1999](#), [Kahneman et al., 1999](#)). Other approaches applied include the health production function of [Grossman \(2017\)](#) and the social production functions (e.g., [Ormel et al., 1997](#)).

Four remarks on theory are in order. First, a common theme in many theoretical

approaches is that the additional benefits of work are very diverse in their nature (e.g., identity, time structure, and social contacts). In line with this, ‘multi-functional activities’ figure prominently in social production function theory (Ormel *et al.*, 1997) and from a capability perspective work can also be conceived as a multipurpose means to account for the multiplicity of effects on different dimensions of human well-being (Suppa, 2019). Thus, the available theoretical work gives reason to expect different and potentially *complementary* mechanisms to be operative (rather than mutually exclusive and competing mechanisms).

Second, all the previously mentioned approaches are broadly consistent with the observation that unemployment ‘hurts’ the individual in one way or another. None of the theories, however, provides a comprehensive interface to seamlessly accommodate the complexity of the evidence, which partly originates from SWB comprising several distinct outcome variables. For instance, Akerlof and Kranton (2000) introduce identity into the conventional utility function, but integrating both cognitive and affective well-being into this framework requires additional steps and assumptions (e.g., Schöb 2013 and ► “Happiness, Work, and Identity”). Consequently, further research is needed to refine theoretical concepts such that they can be more carefully linked to the different empirical counterparts. Note that these considerations encourage a multidimensional perspective since components of SWB are known to be distinct and, moreover, can be easily considered valuable to an individual by itself. Hence, there is neither an a priori demand to choose one, nor a need to aggregate all into a single outcome.

Third, given the character of work as multipurpose means and insufficiently developed theoretical concepts, it is also hard to discriminate further among the theories using testable hypothesis. That work influences the realities of individuals in so many ways, puts research on the role of unemployment for SWB into an intricate situation from an epistemological point of view. Specifically, the employed and unemployed tend to differ in many ways from each other, which in part follows from work being essentially a multipurpose device—and moreover the common device—to achieve various things individuals consider to be important, like prestige or social contacts. For instance, taking up employment tends to bring about a new time structure for the day, regular skill use, new professional prospects, norm compliance, and new opportunities for social contacts at the same time. Careful analyses are further complicated by data limitations as many of the relevant differences are job characteristics (ranging from contractual period to the degree of autonomy of the job), which largely determine the effects on well-being, are hard to observe and even more so all together. Therefore, this chapter is confined to document

the empirical SWB profile of individual unemployment. Even if unequivocal theoretical conclusions may not immediately emerge, a sharper and more nuanced SWB profile of individual unemployment, may put future research into a better position to discriminate between different mechanisms and interpretations.

Fourth, piecing together the puzzle of the SWB loss due to unemployment may benefit from taking complementary evidence more systematically into consideration. Specifically, research exploring closely related outcomes may offer additional insights to discriminate between different theories. For instance, a small literature explores the effect of unemployment on social participation, an often hypothesized mechanism behind the lower SWB. Using the German SOEP [Winkelmann \(2009\)](#) shows specific social activities to be correlated with life satisfaction, suggesting social participation as a source of SWB. Also using SOEP data [Kunze and Suppa \(2017a\)](#) find, moreover, an enduring reduction in public social activities for individuals who entered unemployment (cf. [Pohlan, 2019](#), [Kunze and Suppa, 2020](#)). Therefore, lower social participation seems to be part of the experience, as well. Likewise, other research finds an elevated risk for divorce, suggesting that intimate social relations are affected as well, possibly due to frustrated expectations (e.g., [Charles and Stephens, 2004](#), [Eliason, 2012](#), [Doiron and Mendolia, 2012](#)).

5 Do the unemployed also feel bad?

One way to better understand the distress of the unemployed is to distinguish the responses to unemployment in terms of cognitive and affective well-being as well as mental health more carefully. For instance, [Schimmack et al. \(2008\)](#) use a specific sub-sample in a single cross-section of the SOEP to analyze cognitive well-being, as measured by life satisfaction and affective well-being as measured by five positive items (relaxed, joyful, happy, pleasant, affectionate) and five negative items (unpleasant, sad, fearful, angry, worried). With respect to unemployment the authors observe a negative effect on affective well-being, but conclude based on effect sizes that unemployment seems more important for cognitive well-being.

[Knabe et al. \(2010\)](#) use a cross-sectional sample, collected in Berlin and Magdeburg, to examine whether unemployment also manifests in common measures of affective well-being. The data was generated using the day reconstruction method (► [“Measuring Subjective Well-being”](#)) and provides information for several positive and negative attributes (e.g., being happy, relaxed, anxious, frustrated) by different activities (e.g., eating, social-

izing, working). Their results suggest for three common measures of affective well-being (net affect, the U-index, and episode satisfaction) both employed and unemployed to experience similar levels of affective well-being, even though unemployed are however also found to report a significantly lower life satisfaction. Further analysis suggests that unemployed seem to restore affective well-being by substituting towards more enjoyable activities (while enjoying each particular activity less than the employed). Consistent with [Knabe *et al.* \(2010\)](#), [Krueger and Mueller \(2012\)](#) find using an American time-use survey the unemployed to be sadder during same activities compared to when they are employed—also after controlling for fixed effects, so saddening is less likely to originate from selection. [Krueger and Mueller \(2012\)](#) conclude that unemployment comes with an emotional toll during leisure activities, while results for some other emotions are less clear-cut.

Using BHPS data [Clark and Georgellis \(2013\)](#) analyze anticipation and adaptation effects for several important life events (see section 6), but in doing so they use both mental well-being and life satisfaction within a linear fixed effects framework. Results suggest little support for any adaptation to unemployment and thus qualitatively similar performance of both measures. However, comparing the magnitude of coefficients, e.g., for the contemporaneous effect of unemployment and widowhood suggests, the latter quite plausibly to be relatively more important for mental well-being (which largely overlaps with negative affective well-being). Also using British panel data [Binder and Coad \(2015b\)](#) examine the effect of unemployment on three different outcome measures related to SWB: life satisfaction, mental health, and a broader measure of SWB composed of different domain satisfactions. Drawing on standardized regression coefficients the authors find unemployment to have the strongest effects on the commonly used mental well-being measure, followed by general life satisfaction, and finally the composite measure of domain satisfactions.

Using eight waves of German panel data and a linear fixed effects approach, [von Scheve *et al.* \(2017\)](#) examine the effect of unemployment on the individual components of affective well-being. Information on moods is annually collected since 2007 and responses are recorded on a five-point scale and refer to the experience during the past four weeks. [von Scheve *et al.* \(2017\)](#) find that immediately after entering unemployment experienced happiness decreases, sadness and anxiety increase, whereas they do not observe any significant response for anger. Two years after entering unemployment, however, no significant changes can be observed anymore, suggesting individuals to adapt with respect to their affective well-being. Indeed, this appears to be consistent with the results

of [Knabe et al. \(2010\)](#) who do not observe any differences in affective well-being between employed and unemployed (their sample only covers long-term unemployed). Thus, it seems that time-use allows unemployed individuals to re-establish affective well-being. The loss in life satisfaction however cannot be recovered in this way.

Finally, [Song \(2018\)](#) examines the effect of displacements on both affective and cognitive well-being using cross-sectional data from American Time Use Survey Well-Being (ATUS). His results indicate that women respond relatively stronger in terms of affective outcomes. More specifically, women report lower net affect, higher U-index, lower happiness and more pain, stress and sadness upon being displaced, while men only report lower satisfaction with life.

In summary, investigating the responses to unemployment in different SWB outcomes more carefully, a more nuanced picture comes into view and new questions emerge, e.g., due to the conceptual overlap between measures of negative affect and mental health. Specifically, while affective well-being as measured per net affect or U-index can be re-established (if it drops at all in the first place), the available evidence also suggests a significant negative and prolonged effect in mental health, which raises the question of which underlying differences are driving these contrasting findings. Furthermore, disentangling the effects on different components of SWB and, moreover, estimating the effect of one component on the other may also shed light on underlying mechanisms. However, few studies so far attempted such exercises (see [Knabe et al. 2016](#) for an example). Finally, a further challenge in scrutinizing the interplay of unemployment and different SWB components is that studies may rely on different measures of affective well-being, which may matter in some instances ([Stone and Mackie, 2013](#), p. 95). Specifically, most panel datasets use conventional survey instruments to collect information on emotions and not experience sampling or day reconstruction methods, which may dilute the contrast between both components of well-being and, moreover, may limit the comparability of different studies.

6 Unemployment over time

A critical question is whether prolonged exposure to unemployment may result in adaptation and thus restore pre-unemployment levels of SWB. Questions like this have a long history in theories of several academic disciplines, including psychology and philosophy.

Naturally, policy implications regarding work incentives would be reversed and the absence of enduring costs in terms of SWB would alter the need for political action too.

6.1 Time profiles

While responses to unemployment over time can be studied with cross-sectional data (e.g., [Clark and Oswald, 1996](#), [Dockery, 2004](#)), many years of panel data allow to trace-out the effect throughout the entire unemployment spell using instantaneously recorded information on both response and explanatory variables. First steps towards such an analysis are in [Clark \(2006\)](#) who documents the response in life satisfaction over the first three years after entrance using SOEP and BHPS data. He finds little evidence for adaptation. More comprehensively [Clark et al. \(2008\)](#) use 20 waves of SOEP data to trace-out both anticipation and adaptation for unemployment and other important life events, including marriage, divorce, and widowhood for plus or minus five years around the occurrence. In general the authors find remarkably similar responses for both men and women and importantly complete adaptation for all life events except unemployment.

Using 18 waves of BHPS data [Clark and Georgellis \(2013\)](#) analyze adaptation to unemployment in terms of mental well-being as measured by the GHQ Caseness score and life satisfaction (using 12 waves). Here too similar time profiles for both outcome variables emerge. Specifically, no evidence in support of adaptation in any of the SWB measures is found during the subsequent 5 years for men, and during the subsequent 2 years for women (the period of analysis is limited because of small sample sizes). Analogous evidence for Russia is provided by [Bauer et al. \(2015\)](#) using 16 waves of RLMS data. Neither men, nor women seem to adapt to unemployment in terms of life satisfaction (recorded on a 5-point scale) during the subsequent five years.

[von Scheve et al. \(2017\)](#) revisit anticipation and adaptation in Germany using eight waves of SOEP data and investigate besides life satisfaction also affective well-being. Their results confirm non-adaptation to unemployment in life satisfaction and, moreover, the authors find single components of affective well-being, like anger, anxiety, sadness, and happiness not to have lasting effects during the first 2 years after entry. Additionally, anger for instance, seems throughout being entirely unrelated. [von Scheve et al. \(2017\)](#) hypothesize that substitution allows compensating time-use in pleasant activities and, thereby, to restore affective well-being, whereas the loss in life satisfaction is more difficult to compensate since work is a multifunctional resource.

6.2 Methodological issues

First, while most studies use yearly data, some studies provide finer time profiles using quarterly data usually, however, over shorter time-spans in total (Frijters *et al.*, 2011, Uglanova and Staudinger, 2012, von Scheve *et al.*, 2017). Second, Qari (2014) highlights the importance of the same reference group in the joint estimations of lead and lag specification, which prevents misinterpretations. However, this requirement elevates data demand of such an analysis even further as individuals have to be observed both before and after the life event. Indeed, it is already a common challenge to find sufficient observations for more distant lags or leads. A third, methodological issue relevant in this context is the selection out of unemployment, which so far has not been addressed and thus casts doubts on current findings. However, previous evidence documents an elevated mortality risk due to unemployment, often due to suicides (e.g., Gerdtham and Johannesson, 2003, Eliason and Storrie, 2009, Sullivan and von Wachter, 2009, Milner *et al.*, 2013) which is consistent with individuals not adapting to the experience of unemployment.

6.3 Complementary evidence

Finally, this framework can also be used to provide complementary evidence which helps to better understand dynamic aspects. For instance, Powdthavee (2012) draws on BHPS data and finds for unemployed a lasting dissatisfaction with both finances and social life. The former at least partly reflects that material hardship is still a relevant part of the experience and is consistent, with Suppa (2015) and Clark *et al.* (2016), who find that individuals fail to adapt to material deprivation and income-poverty, respectively. Moreover, Kunze and Suppa (2017a) observe a lasting reduction of public social activities like attending cultural events (e.g., concerts, theater and lectures) over the subsequent 5 years after entering unemployment. Together these studies also point towards sustained consequences of being unemployed.

To put this set of evidence into perspective it is important to recognize that unemployment seems to be one of the major exceptions in terms of adaptation. For most life events research suggests complete adaptation, including marriage, child birth, widowhood, and divorce (e.g., Gardner and Oswald, 2006, Clark *et al.*, 2008). Among those life events individuals fail to adapt during the subsequent 4–6 years rank material deprivations, income-poverty (Suppa, 2015, Clark *et al.*, 2016) and possibly severe forms of disabilities (Oswald and Powdthavee, 2008).

7 The unemployment of others and social norms

7.1 A social norm to work?

From a theoretical point of view the effect of others' unemployment as measured, e.g., by the local unemployment rate is ambiguous for those who are already unemployed. On the one hand, the local unemployment rate may be seen to reflect an unemployed person's chances to return into employment. On the other hand, an unemployed person may quarrel less with his or her situation, if more people share this fate. Indeed, the role of social norms to work and their implications for work incentives is already subject to previous theoretical research (e.g., [Akerlof, 1980](#)).

Some first evidence on the role of the unemployment rate for subjective well-being is provided by [Di Tella *et al.* \(2001\)](#) who use data from Eurobarometer and the General Social Survey (GSS) over 16 years to document that changes in the unemployment rate are indeed correlated with significant reductions life satisfaction. The authors interpret their finding as a “fear of unemployment”. The study assumes the effect of the unemployment rate for all people, whether employed or unemployed (cf. also [Lüchinger *et al.*, 2010](#)). Going one step further both [Clark \(2003\)](#) and [Di Tella *et al.* \(2003\)](#) allow for effect heterogeneity of the unemployment rate between employed and unemployed persons. Both studies provide some evidence in support of an attenuating effect of the unemployment rate on SWB, however, based on different data and estimation frameworks. Using Eurobarometer data for 12 countries over almost 20 years [Di Tella *et al.* \(2003\)](#) analyze the roles of several macroeconomic concepts on self-reported life satisfaction. Their results, based on fitting an ordered probit model for samples split by employment status suggests a shrinking gap in satisfaction between employed and unemployed for increasing rates of unemployment.

The study of [Clark \(2003\)](#) instead relies on seven waves of BHPS data and examines the role of the regional unemployment rate on mental health. In his model the local unemployment rate enters as a main effect and interacted with individual unemployment, allowing a straightforward test for effect heterogeneity. Results suggest that the local unemployment rate indeed moderates the psychological distress associated with unemployment, however, only for men in prime age. This results holds true in both ordered probit and conditional logit fixed effects frameworks. The intuition for such an effect is that a higher local unemployment rate reflects a weaker norm to work in the relevant reference group of an individual. As a consequence the violation of the norm to work

entails lower psychological distress for an unemployed individual, if less people comply with this norm to work.

This approach of [Clark \(2003\)](#) has been applied to numerous datasets and using different models. However, results tend to be mixed. While many studies do find indications in support of a buffering norm effect for the unemployed (e.g., [Shields and Wheatley Price, 2005](#), [Powdthavee, 2007](#), [Shields *et al.*, 2009](#), [Clark *et al.*, 2009](#)) including further effect heterogeneity ([Kunze and Suppa, 2017b](#)), several studies do not (e.g., [Frijters *et al.*, 2006](#), [Oesch and Lipps, 2013](#)). Moreover, if there is such an effect it is usually only found for men. Various factors may account for this, including different models and dependent variables, too little variation in the unemployment rates, samples for different countries and, of course, opposing effects associated with the local unemployment rate itself.

Subsequent studies develop refined approaches in order to obtain a more detailed account. First, [Clark *et al.* \(2010\)](#) argue to better reveal social norm effects the appropriate distinction should be between persons with insecure and secure labor force attachment (whether or not unemployed). More specifically, the authors argue the social norm effect to be stronger for persons with bad job prospects. The underlying intuition is that only those who see themselves likely to be unemployed in the future—either insecurely employed or unemployed with bad employment prospects—experience an attenuating affect of higher local unemployment rates. To test these hypotheses [Clark *et al.* \(2010\)](#) use 23 waves of SOEP data and apply a linear fixed effects framework to explain life satisfaction. Measures of labor market prospects draw on self-assessed job security for employed and self-assessed ease to find a new job (both recorded on a 3-point scale, but modeled as dummies). Among other things, the regional unemployment rate is shown to reduce life satisfaction for both securely employed and unemployed with good employment prospects. On the other hand, both employed and unemployed with bad job prospects are, however, found to be less or even positively affected. Note that both [Clark *et al.* \(2010\)](#) and [Knabe and Rätzl \(2010\)](#) find better job prospects to be associated with higher life satisfaction for both employed and unemployed. Even though such estimates may suffer from a simultaneity bias, ([Geishecker, 2012](#)), job prospects appear to be critical for the SWB. Moreover, this evidence also suggests that what matters are the trajectories individuals consider themselves to follow.

A second way to examine work norms is explored in [van Hoorn and Maseland \(2013\)](#) who argue that a Protestant work ethic implies higher losses of life satisfaction due to unemployment. The authors suggest to measure adherence to this work ethic via an individual's denomination as Protestant and alternatively whether a particular country was

traditionally a protestant one. Using data World Values Survey and European Value Survey together with further data they estimate a multilevel model to explain life satisfaction (while controlling for income groups among other things). Their results provide evidence for both that Protestants suffer more from unemployment and that people unemployed in Protestant countries suffer more from unemployment. Their preferred model specification suggests the latter to hold true.

A third way to examine the norm to work is explored in [Hetschko et al. \(2014\)](#) who use 27 waves of German SOEP data to examine transitions from unemployment into retirement. The analysis is motivated using models from identity economics (e.g., [Akerlof and Kranton, 2010](#)). Specifically, [Hetschko et al. \(2014\)](#) argue that by switching from unemployment to retirement identity utility is restored due to change in social category from ‘working age’ to ‘retirement age’. Thereby, the social norm changes from ‘has to work’ to ‘does not have to work’, whereas components in the individualistic part of the utility function arguably remain unchanged during the transition (e.g., leisure time, disposable income, consumption opportunities). In order to control for a ‘pure retirement’ effect, the authors apply a difference-in-difference framework drawing on retirements of previously employed people. Their results, indeed, document a substantial increase in life satisfaction, when retiring from unemployment.

7.2 A social norm not to live off others?

[Stutzer and Lalive \(2004\)](#) propose a slightly different way to measure related social norms. Drawing on [Elster \(1989, p.121\)](#) who refers to a “social norm against living off other people and a corresponding normative pressure to earn one’s income from work” the authors seek to measure this social norm using the percentage of people voting in favor of a reduction of unemployment benefits during a Swiss referendum. The authors then explain reported life satisfaction as observed in a single cross-section of Swiss data using an ordered probit model. Their results indicate for an increasing strength of the social norm to work, the life satisfaction of the unemployed to decrease further. Interestingly, adding the local unemployment rate itself barely changes their results (and the respective coefficient turns out to be insignificant).

Similarly, [Chadi \(2012\)](#) examines whether the psychological distress of the unemployed is partly for receiving stigmatizing transfers and not unemployment itself. To distinguish these channels he considers jobs which are associated with the same potentially stigmatizing income supplements in addition to unemployment. His analysis for Germany

suggests that receiving specific transfers (i.e. unemployment or social assistance) is associated with lower life satisfaction. However, for unemployed people this cost (about 25% of the unemployed's dissatisfaction) accrues in addition to their already documented distress. In a subsequent study, [Chadi \(2014\)](#) examines whether this life satisfaction loss varies with the proportion of transfer recipients in a particular region. Using eleven years of German SOEP data he explains life satisfaction in both linear and probit-adjusted models. His results indicate that receiving potentially stigmatizing transfers is less distressing if more people receive such transfers. Once the social norm is introduced into the model, the unemployment rate itself is found to reduce life satisfaction even further for the unemployed.

More recently, [Hetschko et al. \(2020\)](#) analyze transitions between unemployment, regular employment, and subsidized employment, the latter reflecting the household to receive potentially stigmatizing transfers. Their analysis employs a difference-in-difference approach using German PASS data. Results suggest that transitions from unemployment to subsidized employment increase life satisfaction, however, less than transitions into regular employment, which is consistent with previous research. A policy implication is to reconsider the means-testing of these transfers, which may lead via non-take-up to an ineffective policy measure.

Three remarks regarding social norms are appropriate. First, while the available body of evidence clearly suggests the existence of an attenuating social norm effect for life satisfaction and mental health (for men), unemployment remains an uncomfortable experience as (i) only the gap between employed and unemployed decreases and (ii) the employed themselves tend to suffer more with higher rates of local unemployment. Second, despite significant progress and a principal consensus on the relevance of social norms, their ideal measurement and potential cross-country variation are far from clear and call for more research. Finally, some studies provide complementary evidence supporting social norms effects in terms of actual behavior. For instance, [Stutzer and Lalive \(2004\)](#) document that a stronger social norm to work, results in shorter unemployment spells. Instead, [Kunze and Suppa \(2017a\)](#) find the reduction of public social activities associated with unemployment to be smaller for higher local unemployment rates (while controlling for job prospects), which is consistent with social norm effects.

8 More on effect heterogeneities

8.1 Socio-demographic factors

The sex-specific effect of unemployment on SWB may differ by region. Indeed, [Kassenböhmer and Haiken-DeNew \(2009\)](#) document higher distress associated with unemployment for women in East than West Germany. These results can be explained with the socialist history of East Germany which results in women having traditionally a higher labor force attachment. Moreover, the authors find a strong entry effect only for women (in east and west) which they interpret as evidence for reduced outside options, a family constraint, or a large loss of firm-specific human capital. As the authors additionally find married women to experience larger negative effects due to company closures, they conclude family constraints to account for this finding.

The role of migration status is explored in [Leopold *et al.* \(2017\)](#) who use 24 years of German panel data to examine whether immigrants suffer more from unemployment. The analysis is carried out in a linear fixed-effects framework and seeks to explain general life satisfaction. Their results indicate that immigrants and in particular male immigrants suffer even more from unemployment than their native counterparts. The authors presume that immigrants might have higher expectation regarding the socio-economic success stemming from their migration.

8.2 Quantile regressions

A methodologically different way to explore heterogeneity in the effect of unemployment on SWB is to ask whether dissatisfied people report a stronger loss in life satisfaction than people satisfied with life. Using quantile regression techniques one can examine whether the effect of unemployment on SWB depends on the individuals position in the distribution of SWB (which itself can be defined either unconditional or conditional on further covariates).

Using BHPS data from 1996–2008 [Binder and Coad \(2015a\)](#) apply conditional quantile regression techniques to examine the effect of unemployment on both general life satisfaction and mental health (using the GHQ-12 module). Results turn out to be quite similar for both outcomes. Specifically, the authors find negative effects of unemployment not only on average, but also across the entire distribution, i.e. for all deciles. However, they also document substantial heterogeneity as individuals with higher levels of life sat-

isfaction or mental well-being report weaker reductions. Therefore, the authors conclude that higher levels of SWB seem to function as a ‘safety net’. In a follow-up study [Binder and Coad \(2015b\)](#) adopt an unconditional quantile regression framework combined with matching techniques to examine several outcome measure, including mental health. Results suggest the strongest (i.e. most negative) effects for lower quantiles. Unlike their previous study they even find positive effects of unemployment on mental health for the highest quantiles, thereby suggesting higher mental health indeed to have a protective role in case of becoming unemployed.

[Schiele and Schmitz \(2016\)](#) perform a similar analysis using German SOEP data to examine quantile treatment effects of job losses due to plant closures (which however do not imply subsequent unemployment) on several health outcomes, including physical and mental health. Their results suggest that the negative effect on average is again driven by negative effects experienced by individuals in lower deciles of health. Instead, individuals in better health seem unaffected. In a similar fashion [Clark and Lepinteur \(2019\)](#) find the effect of unemployment experience at the age of 30 to be stronger for lower quantiles of life satisfaction. In sum, the available evidence suggests that higher SWB levels may buffer against adverse events like unemployment, but underlying mechanisms (e.g., nonlinearities in the accumulation of adverse events) are not yet fully understood.

8.3 Other forms of work

Forms of work other than regular full-time jobs, including public employment programs, may also be viewed as a type of effect heterogeneity. For instance, using British panel data, [Theodossiou \(1998\)](#) examines several individual psychological outcomes (e.g., anxiety, depression, confidence, self-esteem, and happiness) with respect to employment, unemployment, low-pay employment, and not in labor force). His results suggest, for instance, that (i) all groups suffer from lower self-esteem compared against the employed, (ii) only the unemployed are less happy and more strained and (iii) low-pay workers enjoy everyday activities, unlike unemployed (cf. [Knabe et al., 2010](#)). [Dockery \(2005\)](#) provides similar evidence for ‘career jobs’, ‘bad jobs’, and unemployment in Australia, [Korpi \(1997\)](#) for young participants in manpower programs. In short, there seem to be gradual differences between jobs and, moreover, even jobs with ‘low quality’ may provide relief for unemployed in some particular aspects.

More recently, using two waves of the panel study on ‘Labor Market and Social Security’ (PASS, Panel Arbeitsmarkt und soziale Sicherung) [Wulfgramm \(2011\)](#) examines life

satisfaction (measured on 11-point scale) for German One-Euro jobs. Using a linear fixed effects framework (and controlling for income and welfare dependency), she finds people working in One-Euro jobs to report a life satisfaction between that of unemployed and regular employed. Based on complementary evidence, she argues frequent social contacts to account for the higher life satisfaction than the unemployed and both skill mismatch and lack of purpose to account for the lower life satisfaction than the regular employed (cf. [Strandh, 2001](#), [Andersen, 2008](#), [Croft, 2016](#)).

In sum, these studies suggest that other forms of work (e.g., low pay or precarious work) tend take an intermediate position between regular employment and unemployment from a SWB perspective, suggesting the exact configuration of jobs features to be critical for SWB. For policymakers this means that carefully devised public employment programs may be effective to partially restore SWB.

8.4 Labor market institutions

Usually all citizens within a country are exposed to the same configuration of labor market institutions. An analysis of the role of labor market institutions, therefore, entails higher data demands, as either sufficient variation of over time or across countries or both is needed. Consequently, respective research tends to rely on cross-country surveys, which do offer individual level information comparable across countries. Frequent caveats are, however, less precise income information (often reported as income classes or quartiles) and no possibility to account for unobserved heterogeneity at the individual level.

Early evidence on the role of labor market institutions is provided by [Di Tella et al. \(2003\)](#) who explore the role of replacement rates on reported life satisfaction for 12 European countries using Eurobarometer data over several years. Their analysis is carried out using an ordered probit model and controls for personal characteristics (including income quartiles), macroeconomic factors (e.g., GDP and inflation), and country fixed effects. The results indicate similar positive effects of higher replacement rates for both employed and unemployed. In a similar analysis using the same data, [Ochsen and Welsch \(2012\)](#) find, moreover, benefit duration not to provide further relief for the unemployed in addition to level of replacement rates.

Using European Social Survey data [Wulfgramm \(2014\)](#) examines the role of labor market policies in moderating the dissatisfaction with life of the unemployed using a multilevel model approach for 21 countries. Her results indicate a substantial role for the generosity of unemployment benefits (which account for both replacement rates and

duration of payments) in attenuating the dissatisfaction of the unemployed—also after controlling for country fixed effects and income classes. Therefore, she concludes non-pecuniary mechanisms to be at work too, possibly operating via weaker stigmatization following from relying on transfers. In sum, the available evidence suggests in particular replacement rates to be important to attenuate the loss in life satisfaction, bearing in mind a potentially crude measure for income.

9 Re-employment

9.1 Scarring

If re-employment fails to restore SWB, unemployment entails lasting costs for individuals, beyond the actual period of experience. The existence of such costs is directly relevant from a well-being perspective but, moreover, offers important insights for labor market dynamics and biographies. For instance, [Ravallion and Lokshin \(2001\)](#) note that if an incomplete recovery is anticipated, negative effects on the incentives for a job search and take-up may ensue. Within this line of research, the unemployment experience is usually measured as a share of total labor market experience over the past three years or so, following the seminal study of [Clark *et al.* \(2001\)](#) who provide first evidence in support of scarring in terms of unemployment. Using eleven waves of German SOEP data the authors analyze life satisfaction using both an ordered probit and a conditional logit fixed effects model. Their results indicate a lower life satisfaction for males who experience more unemployment during the past three years despite no longer being unemployed. Using two waves of Russian panel data [Ravallion and Lokshin \(2001\)](#) do not find any significant improvement due to re-employment either. The underlying RLMS data, however, records reported life satisfaction only on a 5-point scale, which may leave especially in combination with their fixed effects approach little scope for detecting a significant increase in the first place.

[Knabe and Rätzl \(2009\)](#) revisit the scarring effect using 22 waves of German panel data and argue that unemployment scars because it scares. To this end, they take subjectively assessed risks about the future risk of unemployment into account. After documenting that their measure of future unemployment risk is indeed correlated with experience of past unemployment they apply both an ordered probit and a fixed effect conditional logit model. Their results suggest the fear of becoming unemployed to be an important factor for both employed and unemployed. Moreover, [Knabe and Rätzl \(2009\)](#) do not

find evidence for a ‘genuine scarring effect’ besides the concern for the future risk of unemployment. Additional evidence for a scarring effect is also provided by [Gielen and van Ours \(2014\)](#) who focus on complete unemployment spells. Specifically, they examine whether pre- and post unemployment levels of life satisfaction differ, using a linear probability model. Their results suggest that if individuals experienced a drop upon unemployment entry, they also have a significant higher probability to report a drop between pre- to post-unemployment life satisfaction—implying unemployment to scar. For related sociological research see, e.g., [Young \(2012\)](#).

A relatively small literature explores long-term scarring taking advantage of birth cohort datasets. [Bell and Blanchflower \(2011\)](#) analyze consequences of experiencing unemployment at an early age. Using data from the 1958 cohort of the British National Child Development Study (NCDS) they find lower life satisfaction and mental health at the age of 50 if unemployment has been experienced before the age of 23. They apply an ordered probit model and control for performance at school, mental health at early ages. Instead, [Clark and Lepinteur \(2019\)](#) use data from the 1970 cohort of the NCDS to examine long-term scarring of unemployment in terms of general life satisfaction, which is recorded on a 11-point scale using a linear and an ordered probit model. Their results suggests individuals with more unemployment experience over the last ten reported episodes to have a significantly lower life satisfaction at the age of 30. This result also holds if several adult outcomes, childhood characteristics, and family background are controlled for. For similar studies on psychological distress and mental health in UK and Sweden see [Daly and Delaney \(2013\)](#) and [Strandh \(2001\)](#). Together these studies clearly document an influence of unemployment beyond the past three or so years.

One challenge for the interpretation regarding the content of the scarring effect follows from the fact that SWB after re-entering employment might be lower for several reasons, including lower wages, worse job quality, lower human capital, more worries about job insecurity to name a few (e.g., [Arulampalam, 2001](#), [Eliason and Storrie, 2006](#)). Therefore, in a recent study [Hetschko et al. \(2019\)](#) rely on SOEP data to examine changes in life satisfaction related to transitions into retirement, which are preceded by an involuntary spell of unemployment (due to plant closures). The authors argue that since these individuals cannot suffer from employment-related reasons any more and changes in income are controlled for, a potential scarring effect of unemployment must originate from other sources such as a challenged concept of the self. Using a difference-in-difference approach augmented with matching techniques, [Hetschko et al. \(2019\)](#) find that an in-

voluntary unemployment spell between the last job and retirement, indeed, results in a lower life satisfaction after retirement. In sum, unemployment reduces SWB beyond its actual spell, and that even into the more distant future. Moreover, factors other than features of the subsequent job, such as identity seem to play a key role in this.

9.2 Job search and job finding

A second line of research related to re-employment explores, whether levels or changes in SWB may help to explain job search efforts and re-employment probabilities. More specifically, several studies for Germany and UK probe whether the drop in life satisfaction or mental health experienced upon entry into unemployment increases (i) the probability of being later re-employed, (ii) self-reported job search intensities, or (iii) the willingness to make wage concessions ([Clark *et al.*, 2001](#), [Clark, 2003](#), [Clark *et al.*, 2010](#), [Chadi, 2010](#), [Gielen and van Ours, 2014](#), [Mavridis, 2015](#)). While most studies find a stronger SWB drop to be associated with more intense job search activities, a higher probability for returning to employment is found for UK, but not for Germany ([Gielen and van Ours, 2014](#), [Mavridis, 2015](#)). Alternative approaches are explored in [Krause \(2013\)](#), [Rose and Stavrova \(2019\)](#), [O'Connor \(2020\)](#). Scrutinizing the distribution of the drop in life satisfaction upon unemployment entry, [Winkelmann \(2009\)](#) observes approximately half of the unemployed not to experience any drop in the first place, which holds true for both men and women. In short, there is a considerable heterogeneity in how individuals respond in terms of life satisfaction upon unemployment entry.

While research on the underlying reasons why more intense job search fails to translate into a higher re-employment probability is still inconclusive, several hypotheses have been advanced. For instance, the unemployed may experience the scarcity mindset (cf. [Mullainathan and Shafir, 2013](#), [Winkelmann, 2014](#), [Kunze and Suppa, 2017a](#)), or unemployed who experienced a drop in life satisfaction may only report higher job search intensities because they feel obliged to do so ([Gielen and van Ours, 2014](#)). Yet another factor preventing job search from being successful are obviously demand side constraints. Certainly these questions require more academic attention.

10 Spill-over effects

10.1 On partners

The effect of unemployment may not only affect the person who lost the job but furthermore spill-over to other closely related persons, like spouses or children. Early evidence for spill-over effects on spouses' happiness is provided by [Winkelmann and Winkelmann \(1995\)](#) who find that unemployment of the husband also reduces the wife's SWB (but not vice versa) using a linear fixed effects framework and SOEP data from the 1980s. [Clark \(2003\)](#) provides similar evidence for the UK using seven waves of BHPS data for an analysis of mental health in a conditional logit fixed effects framework. More recently, [Marcus \(2013\)](#) examines spill-over effects of unemployment on mental health of spouses using German SOEP data for 2002–2010. The analysis employs a difference-in-difference framework in combination with matching techniques. The experience of unemployment is, moreover, restricted to entries because of plant closures. His results suggest a negative impact of unemployment on both own and the partner's mental health, the direct effect amounting to 27% of a standard deviation and the indirect effect to 18% of a standard deviation. Additionally, the deterioration in mental health tends to be larger if husbands becomes unemployed.

Mental health of spouses in the UK is examined in [Mendolia \(2014\)](#) using 14 waves of BHPS data drawing on redundancies in declining industries to identify involuntary displacements. She applies a logit fixed effects approach and is not controlling for income (for the risk of spurious correlations). Her findings indicate both partners to experience lower mental health after husbands redundancy. Using 11 waves of Australian HILDA data [Bubonya et al. \(2017\)](#) examine the effect of job losses and unemployment on the mental health of the partner. Their results suggest lower mental health for women if husbands lose jobs, however, only if the husband is not re-employed, the couple already reported cash-flow stress or financial hardship in the previous period. In their analysis involuntary job loss includes lay-off, retrenchment, dismissal, or the employer going out of business. Men, however, only report lower mental health if wife's job loss results in a sustained period of unemployment. An earlier study did not find any effects of unemployment on the spouses ([Carroll, 2007](#)).

More recently, [Nikolova and Ayhan \(2019\)](#) examine life satisfaction of cohabiting spouses using German SOEP data. They draw on plant closure and apply a linear fixed effects estimator to address endogeneity concerns. Their results document significant

negative effects also on the indirectly affected partners (both husband and wives). Moreover, [Nikolova and Ayhan \(2019\)](#) provide complementary evidence showing that domain satisfactions for household income and living standard fall significantly (for both husbands and wives), whereas no effects are found for satisfaction with health, housework or leisure. The authors interpret this finding as evidence in support of a social norm violation as relying on public transfer is not ‘earned income’. Further complementary evidence on actual behavior is provided in [Kunze and Suppa \(2020\)](#) and suggests that public social activities of both partners decline if one of them enters unemployment (due to plant closure) whereas additional substitution with private social activities only emerges if the indirectly affected person is working neither.

10.2 On children

Taking advantage of comprehensive household panel datasets, several studies examine SWB of directly interviewed children in the household and that for both while their one of their parents is unemployed and later when grown-up (cf. ► [“Socioeconomic Conditions in Childhood and Well-Being Later in Life”](#)). Using the BHPS youth sample [Powdthavee and Vernoit \(2013\)](#) apply linear and conditional fixed effects methods to examine self-reported happiness with life of 11–15 year-old. Their results suggest children to suffer strongly from parental unemployment, in particular older ones. Younger children (11-year-old) are actually found to benefit from parental unemployment in some cases. For Australia, [Bubonya et al. \(2017\)](#) analyze mental health (anxiety and mood disruption) of co-resident adolescents (i.e. individuals aged 15–20 years) using the HILDA. This study finds no evidence for an effect of fathers’ job loss, but some evidence supporting an effect of mothers’ job loss (however only if followed by a sustained non-employment and in particular for girls). The authors invoke a reduced bargaining power of mothers on how resources of the household are spent and refer to other research observing that adolescent relationship with their mothers is more intense, including more frequent conflict.

Some panel datasets such as the German SOEP interview grown-up children, too. Consequently, one can examine the influence of specific life events, like episodes of unemployment, on the SWB of children, say, ten years later where information on potential confounding variables is provided directly from both the then unemployed parent and the now grown-up child. [Nikolova and Nikolaev \(2018\)](#) provide evidence on such a intergenerational scarring, i.e. that parental unemployment experienced through childhood, results in lower life satisfaction of individuals when grown-up (aged 18–31). The

effect is quantitatively small, but lasting. In contrast, [Clark and Lepinteur \(2019\)](#) observe children with a less advantaged family background (including non-working parents) to be less affected by unemployed in terms of their SWB (despite experiencing more adult unemployment themselves). The authors conclude that growing up under disadvantaged conditions may generate a kind of resilience in terms of life satisfaction, which is also consistent with an attenuating effect of social norms.

Finally, it is noteworthy that the presented research on spill-over effects overcomes an array of limitations previous studies suffered from (for a survey see [Ström 2003](#)) by drawing on representative household panel data. For recent research in related disciplines see, e.g., [Luhmann *et al.* \(2014\)](#).

11 Summary

Combining the different pieces of evidence a more detailed SWB profile of individual unemployment comes into view. At the center stage of this profile are the substantial reductions in terms of life satisfaction and mental health, which are associated with unemployment in addition to monetary aspects. These reductions are constant over time, unlike many other adverse experiences. Instead, affective well-being seems to be disturbed only around entering unemployment (if at all). Nonetheless, an emotional toll to unemployment remains. Moreover, the SWB costs of unemployment seem to extend beyond the actual unemployment spell—irrespective of whether re-entering employment or retiring—and far into the distant future as effects can even be observed after years of employment. Reductions in life satisfaction tend to be stronger for people with higher labor force attachment and higher expectations. A crucial part of experiencing unemployment is on which trajectory individuals see themselves for the future (as labor market prospects indicate an alternative dividing line). Moreover, the lower SWB of the unemployed depends on contextual factors, such as the unemployment rate, the traditional denomination of region, or relevant replacement rates. Receiving potentially stigmatizing transfers tends to worsen the unemployed's situation further in terms of life satisfaction (while holding income constant). Finally, the detrimental effect of unemployment is on the hand limited to a subset of the unemployed and mostly pertains to persons already reporting lower levels of SWB in the first place. On the other hand its detrimental effect may also spill-over to other people, including both partners and children. The available evidence suggests that costs of unemployment are easily underestimated and underlines

the need for tackling unemployment to become a key political priority.

Regarding policy implications three remarks seem particularly noteworthy. First, prevailing monetary compensations only partially restore SWB and on their own are unlikely to be an efficient measure to do so in view of the substantial gap to be compensated. Consequently, it seems cheaper and more effective to bring unemployed back into employment. Moreover, common replacement rates seem to be far from disrupting job search incentives. Second, unemployment is for most people a hard to take experience and higher job search intensities are often futile. Therefore, efforts to effectively tackle unemployment may have to address demand-side constraints and matching issues. Third, public employment programs appear to have a place in the toolbox of policymakers for restoring SWB. However, the specific configuration of job features seems essential. Jobs are more likely to restore SWB if they provide a set of goal-oriented activities, allow for social contacts, and a good match in terms of skills seems critical, too. Moreover, it appears to be important to which extent such work is perceived as stigmatizing and to which extent it allows employees to comply with relevant social norms.

The previously outlined SWB profile of individual unemployment underscores the complexity of the available evidence and most pieces of evidence can be supported by more than one theory. Notably the complexity itself is consistent with theoretical considerations in that it reflects the character of employment as a multipurpose means, including for organizing one's daily life, earning an income, enhancing one's prestige and social recognition, fulfilling one's self-set goals, confirming one's identity, or complying with social norms. By implication this also means that there is little reason to expect a single mechanism being responsible for the distress experienced by the unemployed. More likely different factors are contributing their shares and bits and may even reinforce each other. Therefore, further sharpening the profile of the unemployment experience with due regard to both complementary evidence and country-specific differences appears to be one useful way forward. In particular, future research may distinguish SWB outcomes more carefully. Given the recent growth of evidence and the current data situation, it seems to be a good moment for identifying finer differences in how people respond to unemployment. Otherwise there is the real risk of masking instructive differences.

A second way forward might be to aim at rejecting specific theoretical implications rather than providing additional support for more than one theory as this would help to discriminate between more and less powerful theories. Such an approach however re-

quires more theoretical research which works out appropriate testable implications. A third way forward might be to integrate research on unemployment and SWB more thoroughly with SWB research on other manifestations of work, including self-employment, precarious employment, non-standard working arrangements, voluntary work etc. (cf. ► [“Self-employment and Subjective Well-being”](#), ► [“The well-being implications of being out of the labor force”](#)). Synergies may cover a deeper understanding of underlying mechanisms and instructive insights for policy implications (e.g., for public employment programs). Finally, one shortcoming of the current literature is its bias towards a handful countries i.e. Germany, UK, and Australia which actually applies to SWB research more generally ([Clark, 2018](#)). Consequently, credible evidence regarding the SWB profile of unemployment from other countries is a welcome contribution and that in both supporting or contradicting previous research.

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