Retirement and subjective well-being

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A B S T R A C T

The life cycle model predicts that individuals substitute leisure for consumption when they retire. We show that the effect of retirement on various well-being measures available in the German Socio-Economic Panel (GSOEP) are compatible with this prediction: the overall effect on life satisfaction is negligible, while satisfaction with the free time increases and satisfaction with household income decreases. The life cycle model also predicts that involuntary retirement is likely to have adverse effects because individuals would actually prefer to work in order to consume more, but are prevented from doing so. We find that indeed, involuntary retirement results in an overall negative effect that can partly be explained by a bigger drop in income satisfaction and a smaller increase in satisfaction with the free time.

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1. Introduction

Retirement is a major event in life that affects the financial situation, the allocation of time, social relations, as well as physical and mental health. The life cycle model predicts that individuals optimally decrease their consumption level and compensate for this by engaging in more home production or substituting leisure for consumption. The extent to which they do this depends on their preferences. In this paper, we use well-being measures that are available in the German Socio-Economic Panel (GSOEP) and show that, compatible with this prediction, voluntary retirement has a negative effect on satisfaction with household income, a positive effect on satisfaction with the free time, a positive effect on satisfaction with health, and a small positive effect on life satisfaction.[1] The life cycle model also predicts that they will not be able to fully compensate for the drop in the consumption level if they are forced to retire earlier than they had planned. This explains our finding of a negative overall effect of involuntary retirement.

There are a number of studies that characterize the relationship between well-being and retirement, but none of them has investigated the effects on domain satisfaction at the same time, and none of them uses as long and as comprehensive

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[1] We use, interchangeably, the expressions subjective well-being, satisfaction with life, general satisfaction, life satisfaction, and satisfaction with life in general. The use of subjective measures in economics has been developing since the 1970s with the Leyden school's approach (Van Praag and Frijters, 1999). Finkelstein et al. (2009), among others, argue that subjective reports on well-being are a good proxy for utility. A large number of economic studies that use subjective data have burgeoned since the mid 1990s. See, e.g. Clark and Oswald (1994), Frey and Stutzer (2000), Frijters (2000), Di Tella et al. (2001), Easterlin (2001), McBride (2001), Ravallion and Lokshin (2001), Ferrer-i-Carbonell (2005), Van Praag (2007), and Layard et al. (2008) for further references and discussions.

panel data as we do. In those studies, it is typically emphasized that the retirement decision might be related to unobserved individual characteristics that by themselves are related to the level of subjective well-being. Usually, this is addressed by performing FE or FD estimation (for linear models), the inclusion of Mundlak (1978) regressors (for nonlinear models), or IV estimation that exploits exogenous variation in retirement incentives.[2] Lindeboom et al. (2002) perform FD estimation to investigate the effect of major events in life on mental health for a representative sample of individuals from the Netherlands and find insignificant effects of retiring. Clark and Fawaz (2009) use the Survey of Health, Ageing and Retirement in Europe (SHARE) and the British Household Panel Survey (BHPS) and show that on average psychological well-being barely changes when individuals retire. Charles (2004) uses HRS data with outcomes "being depressed" and "feeling lonely" as well as NLSMature Men data with outcome "subjective well-being" and finds a negative effect using the ordinary least squares (OLS) estimator, insignificant negative FE estimates, and positive IV estimates (some of these are significant). So, generally, effects are not found to be statistically different from zero.[3]

At least two studies characterize associated dynamics.[4] Kim and Moen (2002) find "higher morale" in the short run and more symptoms of depression in the long run. Börsch-Supan and Jürges (2009) find a strong association between early retirement and subjective well-being. Individuals are less happy in the years of early retirement than in the years before and after retirement.

Unemployment is similar to involuntary retirement in that individuals are not working but actually want to. It is well established that being unemployed is associated with lower levels of satisfaction (e.g. Clark and Oswald, 1994). Clark et al. (2001) find that life satisfaction is lower for currently unemployed individuals and decreases in past unemployment. However, these findings could be explained by the presence of FE that are negatively related to the probability of being unemployed and positively related to life satisfaction. In fact, Winkelmann and Winkelmann (1998) reject a model without FE and find "large non-pecuniary costs of unemployment" when controlling for FE. Also Van Praag and Ferrer-i-Carbonell (2002) assess the monetary value of being in the labor force and find that it is substantial for many individuals. Lucas et al. (2004) and Clark et al. (2008) also control for FE and find the strongest effects of unemployment at the time individuals become unemployed. Clark et al. (2008) also find significant lag and lead effects.

This paper proceeds as follows. The next section contains a discussion of the conceptual framework. Thereafter, we describe our data and discuss the econometric approach. Then, we present the results and assess their robustness. The last section concludes.

2. Conceptual framework

We will interpret our results through the lens of the classic life cycle model in economics. In this model, per period flow utility is a function of consumption and leisure. Individuals maximize the discounted sum of utilities through their choice of consumption expenditures and labor supply. Fig. 1 summarizes the predictions of the model when retirement is voluntary.[5]

The bottom panel shows the increase in leisure that is due to retirement. The panel in the middle shows the income and consumption profile. Consumption is smoothed before and after retirement, respectively. Individuals save for retirement as income exceeds consumption before retirement, and consumption exceed income thereafter. Consumption drops optimally at retirement because individuals consume more goods when leisure is scare, when they are not yet retired (French, 2005; Laitner and Silverman, 2005). Another interpretation is that they do not directly consume more leisure when retired, but use the additional time to engage in more household production, which again is a substitute for consumption expenditures (Hurd and Rohwedder, 2003; Aguiar and Hurst, 2005; Skinner, 2007). The top panel shows that utility will (slightly) increase at retirement.

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[2] There are also some more descriptive studies. Midanik et al. (1995) compare individuals who retired to individuals who did not do so. Controlling for age, gender, marital status and education they find that retired individuals report lower stress levels and engage in regular exercise more often. They find no differences with respect to self-assessed mental health status, coping, depression, smoking, and alcohol consumption. Portnoi (1983) finds an association between retirement and depression. Bossé et al. (1987) find that both early and late retirees reported more psychological symptoms. Loewenstein et al. (1999) also provide a psychological perspective and find no significant overall effect of retirement. Blanchflower and Oswald (2004) use ordered logit regressions and find that in the United States and Great Britain retirement has no overall effect on well-being. Bender (2012) finds that individuals who were forced to retire have significantly lower well-being.

[3] An exception is the study by Pinquart and Schindler (2007) who use latent growth mixture modeling and GSOEP data to identify different groups with different effects of retiring. In Group 1, satisfaction declined at retirement but continued on a stable or increasing trajectory thereafter. Group 2 demonstrated a large increase in satisfaction at retirement but overall declining satisfaction. In Group 3, satisfaction showed a temporary very small increase at retirement. We take this as evidence for heterogeneity in the effect. In this study, we estimate average effects.

[4] It turns out that dynamics are less important in the data we look at. Figs. 4 and 5 show that the main effect is permanent and takes place at the time of retirement.

[5] The figure is similar to Fig. 3 in Skinner (2007). Footnote 9 in that paper contains a specification of a constant-elasticity-of-substitution utility function. We have numerically solved for the optimal consumption level in such a model, using different combinations of the intratemporal and the intertemporal elasticity of substitution. These characterize the ease of substituting consumption for leisure and utility from one period to another, respectively. Typically, consumption drops at retirement. It stays constant if utility is strongly separable in consumption and leisure or the two elasticities of substitution are the same. The model can also generate a (slight) increase in consumption if the intertemporal elasticity of substitution exceeds the intratemporal elasticity of substitution. For the parameter values we tried, which were combinations of the two elasticities between 1 and 20, respectively, utility always increased when individuals retired.