TEXAS TECH UNIVERSITY
College of Human Sciences
Center for Financial Responsibility

Retirement Planning & Living
Research Initiative

In or Out or Somewhere in Between? The Determinants of Gradual Retirement

Charlene M. Kalenkoski, Ph.D., CFP®
Department of Personal Financial Planning
Texas Tech University
1301 Akron Ave
Box 41210
Lubbock, TX 79409-1210
806-834-1211
charlene.kalenkoski@ttu.edu

Sara Helms McCarty, Ph.D.
Department of Economics, Finance, and Quantitative Analysis
Samford University
800 Lakeshore Drive
Birmingham, AL 35229
smccarty@samford.edu

Working Paper No. 2019-03

September 2019

In or Out or Somewhere in Between? The Determinants of Gradual Retirement

Charlene M. Kalenkoski, Ph.D., CFP®
Department of Personal Financial Planning
Texas Tech University
1301 Akron Ave
Box 41210
Lubbock, TX 79409-1210
806-834-1211
charlene.kalenkoski@ttu.edu

Sara Helms McCarty, Ph.D.
Department of Economics, Finance, and Quantitative Analysis
Samford University
800 Lakeshore Drive
Birmingham, AL 35229
smccarty@samford.edu

September 2019

Abstract: The very definition of retirement has changed. Rather than leaving the labor force completely, many full-time workers engage in gradual retirement. Gradual retirement involves leaving full-time employment for part-time employment, either with the same employer or another employer. This paper uses panel data from the PSID and a random-effects ordered logit model to examine the determinants of the gradual retirement decisions of older workers. The results indicate that older individuals, blacks, and individuals with higher nonlabor income are more likely to engage in gradual or full retirement. They also indicate that married individuals, college graduates, and those who are in good health are less likely to either gradually or fully retire.

Acknowledgements: The authors thank Thomas Korankye for his excellent research assistance.

Introduction

The very definition of retirement has changed. Rather than leaving the labor force completely, many full-time workers engage in gradual retirement. Gradual retirement involves leaving full-time employment for part-time employment. Sometimes this involves a change in occupations or a move to self-employment. Other times it is just a reduction in hours with the same employer.

Most of the existing literature examines cross sections cut from longitudinal datasets such as the Health and Retirement Study (HRS). As such, they are unable to control for unobserved heterogeneity. To address the unobserved heterogeneity, this paper uses panel data from the PSID and a random-effects ordered logit model to examine the determinants of the gradual retirement decisions of older workers.

The results indicate that older individuals, blacks, and individuals with higher nonlabor income are more likely to engage in gradual or full retirement. They also indicate that married individuals, college graduates, and those who are in good health are less likely to either gradually or fully retire.

Literature Review

The existing literature suggests that gradual retirement is not motivated primarily by financial need (Weckerle and Shultz 1999; Kim and DeVaney 2005; Wang et al. 2008; Maestas 2010; Cahill et al. 2011, 2016; Beehr and Bennett 2015; and Bennett et al. 2016). Some evidence suggests that working in retirement provides a means of social support (Kim and Feldman 2000, Adams and Rau 2004) and a chance to acquire new skills (Deal 2007).

Cross-sectional studies

Weckerle and Schultz (1999) use cross-sectional data from the 1992 Health and Retirement Study (HRS) and discriminant function analysis to examine the determinants of bridge employment. They find that organizational factors such as the voluntariness of retirement, job-flexibility, and anticipated financial reward are the main predictors of bridge employment. However, this study did not include socioeconomic explanatory variables.

Kim and Devaney (2005) combine data from the 1992 and 2000 waves of the HRS to estimate a cross-sectional multinomial logistic regression. They examine how a change from working full time to full or partial retirement is influenced by a variety of factors. They find that full retirement is influenced by investment assets, pensions, employee health insurance, and poor health. In addition to these factors, partial retirement is influenced by self-employment, chronic health conditions, and education. They, like Weckerle and Schultz (1999), also note that workers need working conditions that allow them to choose partial retirement (bridge employment).

Wang et al (2008) also use the HRS and cross-sectional multinomial logistic regression to examine the roles that individual attributes, job-related psychological variables, family-related variables, and a retirement-planning-related variable play in different types of bridge employment decisions (same occupation, different occupation, etc.). These variables are motivated by various sociological theories. Overall, individual attributes, job-related psychological variables, and the retirement-planning-related variables appear to be significant predictors. However, they also find that financial variables such as income and wealth are not predictors of bridge employment.

Gobeski and Beehr (2009) use a small sample of retirees that they themselves survey to perform a cross-sectional, multinomial-logit-regression analysis to examine the determinants of

career bridge jobs versus non-career bridge jobs. Von Bonsdorff et al. (2009) examine the bridge-employment decisions of a small sample of middle-aged and older U.S. Federal Government employees using a cross-sectional, multinomial-logit-regression analysis.

Bennett et al. (2016) use the Adult Longitudinal Panel and cross-sectional, multinomial-logistic regression to examine work and non-work determinants of bridge employment separately. They find that psychological stress and role overload are key predictors of bridge employment whereas work determinants are not.

Hazard Studies

Unlike the other studies mentioned, Maestas (2010) takes advantage of the longitudinal nature of the HRS by taking a hazard approach rather than a simple cross-sectional approach. However, she examines retirees' return to employment after full retirement rather than gradual retirement or bridge employment, the phenomenon she calls "unretirement". She finds that "unretirement" is anticipated by the vast majority of retirees who return to work and is not the result of financial shocks, poor planning, or low wealth accumulation.

Using a panel of administrative tax data and also taking a hazard analysis approach, Ramnath et al. (2017) examine the role of self-employment in retirement transitions. They find that self-employment at older ages may serve as a "bridge job" that allows workers gradually to reduce hours in their transition to full retirement.

Contributions

Most of the existing literature examines cross-sections cut from longitudinal datasets or small cross-sectional datasets to examine the correlates of bridge employment. These studies do

not control for unobserved heterogeneity or potentially endogenous regressors. Although a couple of studies take a hazard approach, one of these focuses on the return to work after complete retirement rather than a gradual transition out of the work force, while the other examines very narrow transitions into self-employment. This paper will take full advantage of panel data from the PSID to estimate a random-effects, ordered-logit model that examines gradual retirement, allowing both transitions into and out of full retirement and partial retirement.

Data and Methods

The data used in this study come from the Panel Study of Income Dynamics (PSID). A sample of household heads aged 50 and older who were working full time in 2005 are followed through 2015. Analyses are performed on both a full and a balanced panel, with 15,024 person-years in the full panel and 11,700 person-years in the balanced panel.

The dependent variable is categorical in nature, taking three possible values. These are 1 = not retired, 2 = partially retired, and 3 = fully retired. Table 1 shows the breakdown of work status by year for both the full panel and the balanced panel. For each year of the survey, we show the number of individuals in each retirement state. We identify individuals working at least 35 hours as not retired, those working 1 to 34 hours as partially retired, and those working zero hours as fully retired. As an individual working full time in 2005 is a condition for inclusion in the analysis, those never in the labor force are not inadvertently being labeled as retired. We find no statistically distinguishable differences in retirement status between the full panel and the balanced panel.

The explanatory variables include the household head's age; an indicator variable for whether the household head is married; indicators for whether the household head is black or other race with white as the omitted category; indicators for whether the household head is a high school graduate and a college graduate with less than high school as the omitted category; an indicator variable for whether or not the household head reports being in good health; and nonlabor income. Both nonlabor income and its square are included in the model to account for potential nonlinear effects of income. Although labor supply theory suggests that both wage and nonlabor income should be included in a work regression, wage is available only for individuals who are working. Therefore, the demographic variables are included to serve as exogenous proxies for the wage. However, they also may control for preferences and constraints not accounted for by the other variables. Table 2 describes the explanatory variables for both the full panel and the balanced panel. The mean age of each sample is just over 60 years old. Annual nonlabor income is just under $10,000 for each sample. Just under 80% of each sample is married. 69% of each sample is white. Around 24% of each sample is black and about 7% is of another, non-white race. About 83% of each sample is comprised of high-school graduates. About 35% of each sample is comprised of college graduates. About 82% of each sample is comprised of household heads in good health. When comparing the demographic characteristics of the two samples using t-tests, there are several that are statistically different. The balanced panel includes household heads who are slightly more likely to be married, a high school graduate, a college graduate, and in good health, and are less likely to be of other race.

A random-effects ordered-logit model is estimated via maximum likelihood both on the full panel and on the balanced panel.

Results

Table 3 shows the marginal effects and standard errors of the explanatory variables on the probability of being not retired, partially retired, and fully retired. Compared to being in the 50-59-year-old age group, household heads who are in the 60-61-year-old age group have a 0.17 lower probability of being not retired, a 0.03 higher probability of being partially retired, and a 0.14 higher probability of being fully retired. The effects for the 62-65-year-old age group show that they have a lower probability of being not retired by 0.28, a 0.5 higher probability of being partially retired, and a 0.23 higher probability of being fully retired than the 50-59-year-old age group. The respective numbers for 66-70-year-olds are 0.47 lower, 0.06 higher, and 0.41 higher than 50-59-year-olds. The respective numbers for those over the age of 70 are 0.59 lower, 0.03 higher, and 0.56 higher than 50-59-year-olds. Pairwise t-tests (not shown) confirm that the effects for the different age groups are statistically different from each other at the 1% level. Thus, it appears that the 60s are the most likely time to engage in partial retirement (i.e. bridge employment). Married households have a 0.04 higher probability of being not retired, all else equal, than non-married households. They also have a 0.01 lower probability of partial retirement and a 0.04 lower probability of full retirement than non-married households.

Black heads of households, all else equal, have a 0.06 lower probability of being not retired, a 0.01 higher probability of being partially retired, and a 0.04 higher probability of being fully retired than white heads of household.

Having a college degree is associated with a 0.02 higher probability of being not retired, all else equal, than having less than a high school degree. It also is associated with a 0.02 lower probability of being fully retired. The effect on part-time work is negligible, although statistically significant.

Being in good health results in a 0.08 higher probability of being not retired compared to not being in good health, all else equal, a lower probability of being partially retired of 0.02, and a lower probability of 0.06 of being fully retired.

Finally, nonlabor income negatively affects hours of work, as expected, as leisure is a normal good. However, while statistically significant, the effects are substantively negligible, consistent with existing studies which have found that finances are not the reason most people engage in bridge employment.

Table 4 shows the results for the balanced panel. The results are very similar to those for the full panel.

Conclusion

The very definition of retirement has changed. Rather than leaving the labor force completely, many full-time workers engage in gradual retirement. Gradual retirement involves leaving full-time employment for part-time employment, either with the same employer or another employer. This paper uses panel data from the PSID and a random-effects ordered logit model to examine the determinants of the gradual retirement decisions of older workers. The results indicate that older individuals, blacks, and individuals with higher nonlabor income are more likely to engage in gradual or full retirement. They also indicate that married individuals, college graduates, and those who are in good health are less likely to either gradually or fully retire. However, the most substantive results are those for age, with the 60s being the most likely time to engage in gradual retirement.

References

Bennett, Misty M.; Beehr, Terry A; and Lawrence R. Lepisto (2016). "A Longitudinal Study of Work after Retirement: Examining Predictors of Bridge Employment, Continued Career Employment, and Retirement," *The International Journal of Aging and Human Development* 0091415016652403.

Gobeski, Kirsten T. (2009). "How Retirees Work: Predictors of Different Types of Bridge Employment," *Journal of Organizational Behavior* 30: 401-425.

Kim, Haejeong and Sharon A. DeVaney (2005). "The Selection of Partial or Full Retirement by Older Workers," *Journal of Family and Economic Issues* 26(3): 371-394.

Maestas, Nicole (2010). "Back to Work: Expectations and Realizations of Work after Retirement," *The Journal of Human Resources* 45(3): 718-748.

Ramnath, Shanthi; Shoven, John B.; and Sita Nataraj Slavov (2017). "Pathways to Retirement through Self Employment," NBER *Working Paper* No. 23551.

Von Bonsdorff, Monika E.; Shultz, Kenneth S.; Leskinen, Esko; and Judith Tansky (2009). "The Choice between Retirement and Bridge Employment: A Continuity Theory and Life Course Perspective," *International Journal of Aging and Human Development* 69(2): 79-100.

Wang, M., Zhan, Y., Liu, S., & Shultz, K. S. (2008). Antecedents of Bridge Employment: A Longitudinal Investigation. *Journal of Applied Psychology 93*(4), 818-830.

Weckerle, Joelle R. and Kenneth S. Shultz (1999). "Influences on the Bridge Employment Decision among Older USA Workers," *Journal of Occupational and Organizational Psychology* 72: 317-329.

Table 1: Retirement Status by Year

	Full Panel						
Retirement Status	**2005**	**2007**	**2009**	**2011**	**2013**	**2015**	**Total**
Not retired	2,845	2,388	1,899	1,566	1,310	1,034	11,042
Partially retired	0	159	334	315	352	312	1,472
Fully retired	0	203	339	541	633	794	2,510
	Balanced Panel						
Not retired	1,950	1,742	1,478	1,299	1,125	937	8531
Partially retired	0	95	263	267	305	294	1224
Fully retired	0	113	209	384	520	719	1945
Footnote: Sample includes only heads of household at least 50 years old in 2005, who had no change in head of household over the sample, and who were working full time in 2005.							

Table 2: Descriptive Statistics

	Full Panel			**Balanced Panel**			**t-test**
	Mean	**Std. Dev.**	**Median**	**Mean**	**Std. Dev.**	**Median**	
Age	60.6	6.2	60	60.6	5.9	60	
Nonlabor income	9,588	29,363	450	9,799	31308	501	
Married	0.787	0.409		0.799	0.400		***
White	0.688	0.463		0.690	0.462		
Black	0.240	0.427		0.241	0.428		
Other race	0.072	0.259		0.069	0.253		***
High school graduate	0.824	0.381		0.834	0.372		***
College graduate	0.343	0.475		0.353	0.478		***
In good health	0.814	0.389		0.827	0.378		***
N	15,024			11,700			
Footnote: Sample includes only heads of household at least 50 years old in 2005, who had no change in head of household over the sample, and who were working full time in 2005. The column "t-test" reports the two-sided test of the difference in sample composition characteristics for the full and balanced panels. ***indicates statistical significance at the 1% level							

Table 3: Ordered Logit Panel Data Results, Full Panel
Dependent Variable: Retirement Status

	Not retired	**Partially retired**	**Fully retired**
	Marginal Effects (S.E.)	**Marginal Effects (S.E.)**	**Marginal Effects (S.E.)**
Age: Base category is 50-59 years old			
Age 60-61 years old	-0.1705*** (0.0079)	0.0294*** (0.0013)	0.1411*** (0.0070)
Age 62-65 years old	-0.2864*** (0.0076)	0.0531*** (0.0018)	0.2333*** (0.0069)
Age 66-70 years old	-0.4676*** (0.0092)	0.0558*** (0.0024)	0.4118*** (0.0098)
Age 71+ years old	-0.5889*** (0.0101)	0.0252*** (0.0032)	0.5637*** (0.0123)
Male	-0.0013 (0.0169)	0.0003 (0.0037)	0.0010 (0.0132)
Married	0.0445*** (0.0138)	-0.0093*** (0.0028)	-0.0351*** (0.0110)
Black head	-0.0566*** (0.0119)	0.0117*** (0.0024)	0.0449*** (0.0095)
Other race	-0.0048 (0.0181)	0.0010 (0.0039)	0.0038 (0.0142)
Education: Base category is less than high school			
High school graduate	0.0080 (0.0107)	-0.0017 (0.0023)	-0.0063 (0.0084)
College graduate	0.0217** (0.0094)	-0.0048** (0.0021)	-0.0170** (0.0073)
Good health	0.0793*** (0.0082)	-0.0162*** (0.0017)	-0.0631*** (0.0066)
Real nonlabor income (1000s)	-0.0017*** (0.0001)	0.0004*** (0.0000)	0.0013*** (0.0001)
cut 1: 3.081 (0.20)1); cut 2: 4.210 (0.206)			
N = 15,024			
Notes: ***indicates statistical significance at the 1% level; **indicates statistical significance at the 5% level. All differences across age group pairings are statistically significant at the 1% level. Real nonlabor income marginal effect incorporates squared term			

Table 4: Ordered Logit Panel Data Results, Balanced Panel
Dependent Variable: Retirement Status

	Not retired	**Partially retired**	**Fully retired**
	Marginal Effects (S.E.)	**Marginal Effects (S.E.)**	**Marginal Effects (S.E.)**
Age: Omitted base category is 50-59 years old			
Age 60-61 years old	-0.1830*** (0.0085)	0.0324*** (0.0015)	0.1507*** (0.0076)
Age 62-65 years old	-0.2925*** (0.0083)	0.0567*** (0.0022)	0.2358*** (0.0075)
Age 66-70 years old	-0.4833*** (0.0099)	0.0558*** (0.0030)	0.4276*** (0.0107)
Age 71+ years old	-0.6223*** (0.0101)	0.0095** (0.0042)	0.6128*** (0.0130)
Male	-0.0154 (0.0214)	0.0035 (0.0049)	0.0119 (0.0164)
Married	0.0408** (0.0170)	-0.0088** (0.0036)	-0.0320** (0.0134)
Black	-0.0541*** (0.0143)	0.0116*** (0.0030)	0.0424*** (0.0114)
Other race	0.0210 (0.0216)	-0.0048 (0.0051)	-0.0162 (0.0165)
Education: Base category is less than high school			
High school graduate	0.0275** (0.0110)	-0.0062** (0.0025)	-0.0213** (0.0085)
College graduate	0.0275** (0.0110)	-0.0062** (0.0025)	-0.0213** (0.0085)
Good health	0.0635*** (0.0093)	-0.0136*** (0.0019)	-0.0500*** (0.0074)
Real nonlabor income (1000s)	-0.0015*** (0.0002)	0.0003*** (0.0000)	0.0011*** (0.0001)
cut 1: 3.113 (0.294); cut 2: 4.329 (0.254)			
N = 11,700			
Notes: ***indicates statistical significance at the 1% level; **indicates statistical significance at the 5% level. All differences across age group pairings are statistically significant at the 1% level. Real nonlabor income marginal effect incorporates squared term			