Gender, Race and the Transition to Retirement among the Baby Boomers

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February 2010

Abstract

This paper investigates the transitional process from later career years to retirement among the baby boomers by modeling the determinants of their labor force participation and retirement expectations. The emphasis is on the role of possible gender and racial/ethnic differences that have been documented in the literature, but have not been examined for the baby boom generation, which is at the heart of many discussions with respect to their transition to retirement, pension benefit adequacy and the increased burden for the society in terms of Social Security benefits and other public intergenerational transfers. Data for the analysis come from the 2006 wave of the Health and Retirement Study. The results show women to be less likely to have full time employment and more likely to be in other, on average less lucrative, labor force statuses compared to men, even in the later stage of their career. They are also more likely to retire earlier. Racial and ethnic differences in the labor force status and retirement decision making between whites and major minority groups do exist, but are largely accounted for by different demographic, socio-economic and other factors in the case of Hispanics, whereas blacks exhibit more complex dynamics, in particular black women. Further investigation accounting for the time variant character of the labor force participation and retirement decision making, and consequently their inter-temporal dynamics is warranted.

Introduction

Life expectancy of the population in the United States and other developed countries is increasing, which coupled with decreasing fertility rates results in rapid aging. Simultaneously, during the second half of the twentieth century the age of transition to inactivity among older workers decreased significantly (Blöndal and Scarpetta, 1999). To some extent this increase in early retirement has been attributed to the expansion of pension programs for the aged (DeViney and O'Rand, 1988). What is certain, though, is that these divergent trends result in a large increase in the share of time people spend in retirement, which raises a number of issues like the adequacy of private pension savings and public funds available to support people during this increasingly long period of life, the character and the determinants of the decision to leave the labor market and others. These issues seem particularly pertinent for women as they still have overall smaller labor participation than men, have shorter careers and accumulate less pension wealth to support themselves in retirement, and on average live longer than men.

This paper addresses one significant part of the larger issue: namely, it focuses on analyzing the determinants of the labor force participation among older workers and their retirement expectations. Particularly interesting are possible gender and racial/ethnic differences between older workers. The population of interest is the baby boomers generation or more precisely the cohort of Early Baby Boomers (EBB) as defined in the Health and Retirement Study (US residents born between 1948 and 1953 who at the time of the initial interview did not have a spouse born before 1948). This particular segment

of the population receives heightened interest of the public as they are relatively numerous compared to subsequent cohorts of the population, and they are now on the brink of reaching retirement age. Consequently, it is important to understand the dynamics of labor force participation and the determinants of retirement expectations and decision making of (early) baby boomers as this is consequential not only for the individuals belonging to that particular cohort, but for the society at large.

Considering that the analysis of retirement expectations is the focal point of this paper, it might seem at first a bit unusual that the labor force participation among the EBB cohort is modeled as well. However, focusing on the retirement expectations alone would likely underestimate possible differences between women and men as well as different racial/ethnic groups as the character of questions used to model these expectations implies that a person is in the labor force at the time of the interview. As it is possible that the individuals who are already retired, who do not participate in the labor force or who are in some non full-time work status are predominantly non-white and/or female, it seems reasonable to model labor force participation as well and look at it in conjunction with the retirement expectations. This is supported by Green (2005) who noted that earlier exit from the labor force (and entry into the retirement) might be a function of market constraints as much as individual decisions based on preferences. Therefore, only the analysis of the two outcomes together might provide somewhat more realistic sense of the differences between genders and racial/ethnic groups in the transitional period that bridges the final stage of work age and the early stage of retirement age.

The introduction is followed by literature review and the description of data and methods I use to model labor force participation and retirement decision making. After presenting the results of the analysis, I conclude the paper with the discussion of the results.

Literature Review

Not all workers are created equal. This statement particularly holds true for the differences in work force experiences between women and men and across different racial/ethnic groups. Late-life economic inequalities have been well documented by Burr & Mutchler (2007). Flippen & Tienda (2000) find that the most vulnerable categories of workers, women and minorities, are likely to be persistently disadvantaged throughout their careers, which is then reflected in perpetuated gender and race/ethnic inequality in later life outcomes. Along these lines, Hogan, Perrucci, & Behringer (2005) find persistent gender pay inequality in late career years, offering the explanation in the prevalent social structure, especially gender relationships within marriage and the effects of "old boy" networks. Black women seem to be particularly disadvantaged. They are less likely to receive Social Security pension and their retirement incomes are smaller in comparison with both white women and black men (Hogan & Perrucci, 2007). To large extent this is only a continuation of less prestigious occupations and lower pays black women experience during their careers coupled with other negative factors like poorer health outcomes (Shuey, 2004; Wilson, 2003).

The decision to retire as opposed to continue working has long been associated with direct economic incentives for workers. Burtless & Moffitt (1985) find that Social Security benefits significantly affect retirement age (and hours of work) for workers in their late fifties and older. Similarly, Coile & Gruber (2007), using the sample of older men in the labor force from the Health and Retirement Study (HRS), conclude that Social Security pensions are significantly associated with retirement decisions, and that the same conclusion holds for private pensions. Fields & Mitchell (1984) account for possible interactions between earnings, Social Security benefits and private pensions, finding workers responsive to this "mix" of economic incentives: those with higher base-year wealth retire earlier, while those with the expectation of gaining more by continuing to work postpone their transition into the retirement.

In recent years, significant literature emerged focusing broadly on the intra-family and especially intra-marriage dynamics vis-à-vis retirement decision making. Married couples seem to be forming their retirement expectations given a number of different factors, at individual, spousal and household level (Pienta & Hayward, 2002). This intra-marriage dynamics is also explored by Szinovacz & DeViney (2000), who find factors like pension income adequacy and spouse's benefit eligibility, spouse's health needs, and marital relationship quality and post-retirement husband's status in the marriage as significant determinants of retirement decision making. In their analysis, gender differences are significant and largely correspond to what they call "patriarchal ideology." The importance of married couples' relationship dynamics with respect to retirement decision making is particularly intriguing. While it probably comes as no surprise that, given the

husband is retired, his wife is more likely to retire only if she likes spending time with him, and the same is true of the husband's decision (Gustman & Steinmeier, 2004), it is interesting to notice how important role relative power plays in relationships, with the dissatisfaction growing if after the retirement of a spouse that spouse loses to some extent the decision-making leverage in the relationship (Szinovacz & Davey, 2005). Finally, familial considerations run beyond inter-spousal relationships. Family kin obligations, especially toward resident and non-resident children, generally decrease the likelihood of retiring, though it is important to notice that there is significant racial difference with black families experiencing more intricate structure of this relationship (Szinovacz, DeViney, & Davey, 2005). Looking at an expansive concept of work-family conflict, Raymo & Sweeney (2006) establish its positive association with retirement decision making of men and women in their early fifties.

Based on the previous literature, I am formulating two hypotheses that will be examined in this paper:

1) There are persistent gender and race/ethnic differences in labor force participation in later life and retirement decision making, which hold even after controlling for different demographic, socio-economic, work history, marriage, health and other potentially mediating factors.

2) Gender and race/ethnicity interactions are significant determinant of labor force participation in later life and retirement decision making, especially for black women.

Data and Methods

Sample

The Health and Retirement Study (HRS) is a nationally representative biennial longitudinal household survey of Americans over the age of 50. The survey began in 1992 with the sample of 12,600 individuals born between 1931 and 1941. As of 1998, the HRS was joined with another survey, Asset and Health Dynamics Among the Oldest Old (AHEAD), a related survey with the sample of more than 8,000 individuals born between 1890 and 1923, and two new subsamples were added - Children of the Depression Age (CODA, comprised of people born 1924-1930) and War Baby (WB, individuals born 1942-1947) - bringing the total sample to around 26,000 individuals. The Early Baby Boomer (EBB) subsample (individuals born 1948-1953) was added in 2004. The HRS dataset is uniquely suited for the research on intergenerational transfers. The survey includes a wealth of information on the elderly including demographic characteristics, health status, employment status and job history, public transfers (in particular Social Security, Medicare and Medicaid, unemployment benefits), retirement plans, housing information, etc. Also, the HRS oversamples blacks and Hispanics, which is an important feature for the analysis I conduct in this paper.

The sample I am using comes from the RAND HRS dataset, which is a subset of the original HRS file. The RAND HRS dataset is particularly suitable for researchers as it includes cleaned and processed variables, imputed values where necessary and/or

possible and consistent cross-wave naming conventions. I define EBB subsample based on the age of people rather than the actual wave of inclusion into the study. This definition results in a sample of 3,563 individuals, but a number of them (457) has missing values on majority of variables. In the model of labor force participation, additional 31 observations are lost due to missing values on different covariates resulting ultimately in the sample of 3,075. However, there is no evidence that these individuals are not missing at random and the sample can be considered unbiased for the estimation purposes. Retirement decision making (operationalized as the expectation of working after the age of 62 and 65, respectively) sample is substantially smaller. The main reason is that some respondents are not working and the question does not apply to them or the interview is by proxy in which case there is not much sense or value in guessing about other person's expectations and therefore proxies are not asked these questions. In addition, two of the control variables (probability of living to the age of 75 and the number of living siblings) resulted in additional loss of 206 and 203 observations in the two models of retirement expectations bringing the final samples used down to 2694 and 2700, respectively. In this case, there is some evidence that among missing individuals there are relatively more Hispanics than in the general sample, but there is no change in the gender composition of the sample. While it is reassuring that there is no evidence of bias in the analysis I conduct, some caution in interpreting the results of these two models is warrented.

Variables

Outcome Variables

Labor force participation is defined as categorical variable with seven distinct, mutually exclusive categories: working full time, working part time, unemployed, partly retired, retired, disabled, and not in the labor force. As there is no theoretically or practically emerging consistent ordering of these categories, I use multinomial logistic regression in the analysis of this outcome.

The other outcome of interest, retirement decision making, is operationalized with two outcomes - the expectation of working after the age 62 and 65, respectively - that are measured as probabilities on a 0-100 scale. However, there is non-trivial clustering of responses around certain values like 0, 50, 100, and slightly less so around other multiples of 10 or other characteristic values like 25 or 75. Treating these outcomes as continuous normally distributed variables would be a mistake. Therefore, I decided to divide the scale of outcomes into five mutually exclusive clusters (very low probability 0-19, low probability 20-39, moderate probability 40-59, high probability 60-79, and very high probability 80+) that I treat for the analytic purposes as ordered categories and estimate with ordered logistic regression. This approach admittedly has a drawback of an increased imprecision in the outcome measure used when lumping the probabilities in several categories. However, theoretically more desirable alternative of applying a logarithmic transformation would be impractical due to many original responses being equal to zero, which would have to be set to missing.

Independent Variables

Primary independent variables in this analysis are gender and race/ethnicity. Gender is binary measure with the value of one attributed to women, and zero to men. Race/ethnicity is categorical variable with four categories: 1 - white, 2 - black, 3 - Hispanic, 4 - other. Although Hispanics are very heterogeneous group composed of many distinct ethnicities, the size of the EBB sample used for the analysis does not allow for the decomposition of the Hispanic group into a number of finer and logically more intuitive groups like Mexican Americans, Cuban Americans, Puerto Rican Americans, and others. However, it should be kept in mind that the Hispanic group conceals this inherent group heterogeneity that might mask possibly divergent dynamics in each of its constituent subgroups.

The list of the control variables covers a large spectrum of the factors potentially mediating possible gender and race/ethnicity effects. As the labor force status and retirement expectations are related, though distinct, outcomes, they share many of the controls in common in addition to the primary independent variables. Therefore, all estimated models control for respondents' marital status (1 - married, 2 - separated/divorced, 3 - widowed, 4 - never married), self-rated health (1 - excellent, 2 - very good, 3 - good, 4 - fair, and 5 - poor), application for any disability program (Social Security disability or Supplemental Security Income, where 1=yes), number of members living in the household, wealth, income, and the number of years worked. The model of labor force participation also controls for the number of job transitions experienced

during the career, while the models of retirement expectations of working after the age of 62 and 65 include a number of additional controls: respondents' age, number of living siblings (none, one, and two or more), self-rated probability of living to the age of 75, and whether they have any non-work related medical plan including any federal government program or other non-work and non-government provided medical plans (1=yes). Although the EBB sample used in this paper is already constrained in terms of the age of individuals included, the necessity to control for the exact age in the model of retirement expectations arises from the fact that at the age so close to both early and regular retirement age, each additional year, according to findings in the relevant literature, seems to play disproportionately larger role in forming retirement expectations than for workers in their early and mid career.

Analytic Strategy

The analysis starts with the description of the characteristics of the data used with special emphasis on gender and race distribution of the outcomes of interest. Next, I fit multinomial logistic regression to the data used in modeling labor force participation outcome, and finally I estimate ordinal logistic regression models of retirement expectations at the critical ages of 62 and 65, respectively. Models are estimated in three specifications: with gender and race as only covariates, with gender-race interaction terms, and finally the full model with all control variables included.

Results

The basic characteristics of the variables from the EBB sample used in the analysis are summarized in table 1. In addition to the already described issue of different number of observations on different variables either due to the construct of the question asked of respondents or due to some reason specifically uncontrolled for, it is interesting to note that the EBB sample consists predominantly of women who make up over 56% of the total sample.

Table 1. Characteristics of the Early Baby Boomer cohort variables used in the analysis

	Mean	**SD**	**Min**	**Max**	**N**
Labor force status	2.45	2.07	1	7	3106
Gender	.56	.50	0	1	3563
Race	1.56	.87	1	4	3562
Education (in years)	13.15	3.13	0	17	3539
Marital status	1.52	.86	1	4	3104
Health	3.33	1.15	1	5	3103
Wealth	482,529.2	2,733,437	-2,453,000	$1.01*10^8$	3106
Household income	105,328.2	694,436.3	0	$2.54*10^7$	3106
Application for disability benefits	.14	.35	0	1	3558
Household size	2.56	1.22	1	6	3106
Years worked	22.98	11.53	0	44	3106
Number of job transition	2.18	1.36	0	6	3106
Probability of working after the age of 62	2.76	1.66	1	5	2900
Probability of working after the age of 65	2.14	1.47	1	5	2903
Age	55.09	1.77	52	59	3106
Any non-work medical plan	.14	.35	0	1	3102
Living siblings	1.76	.50	0	2	3016
Probability of living to the age of 75	63.17	29.95	0	100	2820

Next, I do a series of cross tabulations between outcome variables and the two primary independent variables, gender and race.[1] This exercise sheds light to several important facts. The most striking lesson of the cross tabulation between labor force status and gender is that men are much more likely than women to work full time (20 percentage points difference), while women are twice as likely as men to work part time and over five times as likely as men not to be in the labor force. In terms of the labor force status and race, whites are more likely to work full time than blacks and Hispanics, while blacks are more likely to be unemployed or retired than either whites or Hispanics. It is important to notice that Hispanics and blacks are between two and three times as likely as whites to be categorized as disabled, which might be to large extent a function of the types of jobs they have throughout their careers compared to whites (blue collar physically demanding jobs in factories, construction work etc.). Finally, Hispanics are three times more likely than both blacks and whites to be out of the labor force. As almost all of the Hispanics out of the labor force are women, it seems reasonable to assume that at least part of the answer to this trend might be higher prevalence of the more traditional male breadwinner model in this racial/ethnic group. Cross tabulation of the expectations to work after the age of 62 and gender reveals that women have substantially greater likelihood of reporting they are very unlikely to continue working after the critical age, while conversely men have greater likelihood of saying they are very likely to continue working. In terms of race/ethnicity differences, whites have the highest expectations of continued work after the age of 62, followed by Hispanics, and finally blacks. These gender and racial/ethnic differences persist for the critical age of 65 as well, though they do diminish somewhat in magnitude.

[1] Complete cross tabulations are not shown in the paper, but are available on request.

I begin inferential analysis by fitting multinomial logit model of labor force participation. As already described, I estimate the model in three specifications and the results are presented in the following table.

Table 2. Relative risk ratios (RRR) of different labor force statuses compared to working full-time

	Model 1		Model 2		Model 3 [a]	
Labor Force Status	RRR	(95% C. I.)	RRR	(95% C. I.)	RRR	(95% C. I.)
Part-Time						
Female	2.99***	(2.28, 3.93)	4.71***	(3.28, 6.77)	4.98***	(3.44, 7.21)
Race/Ethnicity (ref = White)						
Black	.99	(.70, 1.42)	3.20***	(1.80, 5.68)	3.04***	(1.68, 5.49)
Hispanic	1.56*	(1.08, 2.23)	2.69***	(1.48, 4.92)	1.78	(.92, 3.44)
Other	.72	(.34, 1.52)	1.57	(.46, 5.34)	1.10	(.31, 3.95)
Female*Black			.18***	(.08, .37)	.19***	(.09, .41)
Female*Hispanic			.46*	(.21, .98)	.54	(.25, 1.19)
Female*Other			.32	(.07, 1.49)	.31	(.06, 1.52)
Unemployed						
Female	1.34	(.86, 2.07)	1.43	(.80, 2.53)	1.28	(.71, 2.31)
Race/Ethnicity (ref = White)						
Black	2.04*	(1.20, 3.46)	2.33*	(1.01, 5.36)	1.50	(.63, 3.60)
Hispanic	1.52	(.78, 2.98)	1.73	(.69, 4.36)	.76	(.27, 2.12)
Other	1.87	(.72, 4.83)	1.90	(.43,, 8.44)	1.28	(.27, 6.10)
Female*Black			.78	(.27, 2.30)	.61	(.20, 1.87)
Female*Hispanic			.77	(.20, 2.95)	.86	(.22, 3.44)
Female*Other			.94	(.14, 6.50)	.83	(.11, 6.15)
Partly Retired						
Female	1.98***	(1.36, 2.89)	1.86**	(1.20, 2.88)	1.87**	(1.19, 2.95)
Race/Ethnicity (ref = White)						
Black	.87	(.51, 1.49)	.73	(.25, 2.10)	.90	(.30, 2.64)
Hispanic	1.13	(.64, 2.00)	.54	(.16, 1.80)	.87	(.25, 2.98)
Other	.80	(.28, 2.24)	1.79	(.52, 6.14)	1.68	(.43, 6.52)
Female*Black			1.20	(.35, 4.10)	1.10	(.32, 3.85)

Female*Hispanic			2.82	(.72, 11.09)	2.64	(.66, 10.61)
Female*Other			.16	(.02, 1.68)	.13	(.01, 1.56)
Retired						
Female	1.64***	(1.31, 2.06)	1.93***	(1.45, 2.57)	2.20***	(1.49, 3.04)
Race/Ethnicity (ref = White)						
Black	1.55**	(1.16, 2.07)	2.30***	(1.46, 3.62)	1.38	(.75, 2.53)
Hispanic	1.30	(.91, 1.85)	1.50	(.89, 2.51)	.59	(.29, 1.21)
Other	1.00	(.54, 1.84)	1.18	(.45, 3.09)	.81	(.24, 2.76)
Female*Black			.51*	(.28, .92)	.40*	(.18, .85)
Female*Hispanic			.78	(.38, 1.58)	1.22	(.50, 2.95)
Female*Other			.74	(.21, 2.56)	.50	(.10, 2.43)
Disabled						
Female	1.49*	(1.07, 2.07)	1.50	(.93, 2.43)	1.95*	(1.05, 3.62)
Race/Ethnicity (ref = White)						
Black	3.20***	(2.17, 4.73)	3.30***	(1.75, 6.24)	1.47	(.61, 3.52)
Hispanic	3.16***	(2.03, 4.91)	3.27***	(1.73, 6.18)	.52	(.20, 1.33)
Other	2.31*	(1.11, 4.83)	2.70	(.90, 8.10)	1.00	(.21, 4.75)
Female*Black			.92	(.41, 2.06)	.50	(.17, 1.50)
Female*Hispanic			.93	(.38, 2.25)	1.60	(.50, 5.08)
Female*Other			.74	(.17, 3.25)	.45	(.06, 3.37)
Not in the Labor Force						
Female	8.64***	(5.62, 13.28)	8.64***	(4.89, 15.26)	8.30***	(.4.59. 15.00)
Race/Ethnicity (ref = White)						
Black	1.04	(.67, 1.62)	2.29	(.81, 6.47)	1.53	(.51, 4.55)
Hispanic	3.83***	(2.68, 5.46)	2.26	(.80, 6.41)	.37	(.12, 1.18)
Other	1.22	(.56, 2.63)	1.50	(.19, 11.72)	.70	(.08, 6.09)
Female*Black			.37	(.12, 1.15)	.47	(.14, 1.59)
Female*Hispanic			1.76	(.58, 5.37)	3.18	(.97, 10.41)
Female*Other			.72	(.08, 6.66)	.57	(.05, 6.04)
Log-Likelihood	-4050.91		-4032.92		-3166.03	
Chi Square	307.26		343.23		2077.02	
N	3075		3075		3075	

[a] Control variables are not shown in the table. Model 3 includes following control variables: education, marital status, household size, health, wealth, income, disability insurance application, number of job transitions, and number of years of worked.

*** p < .001, ** p < .01, * p < .05

In the labor force participation model specification with gender and race only, the main finding is that women have greater relative risk of being in all non full time work categories compared to men and, except for the category of unemployed, all the coefficients on gender are statistically significant. Particularly striking is that the relative risk of women being out of the labor force is about 8.6 times higher compared to men, while the relative risk of having a part time job is almost three times higher for women than men. Results for race/ethnicity variable also confirm findings from cross tabulations: compared to whites, blacks have statistically significantly higher relative risk of being unemployed or retired, Hispanics of working part time or being out of the labor force, while both blacks and Hispanics have substantially higher relative risk of being categorized as disabled. Once interactions between gender and race are included, previous findings for gender and race/ethnicity variables largely hold. However, there are several important additional insights. The main effects of gender and race/ethnicity are substantially attenuated for black women in the categories of working part time, being retired or being out of the labor force (in this case the coefficient is only marginally statistically significant) compared to working full time. Also, relative risk of working part time as opposed to full time is somewhat attenuated for Hispanic women as well compared to the specification taking into account only the main effects. Overall, these findings justify including interaction between gender and race/ethnicity into the final specification.

In the labor force participation model with all the covariates included the most important finding is that the gender differences persist and it seems that all the controls included do

little to attenuate the effects of gender. Compared to men, women are at substantially higher risk of being in part time employment, partly or fully retired, out of the labor force and disabled (as opposed to working full time). Actually, the only category where there is no statistically significant difference between women and men is being unemployed, but even in that category women have somewhat higher relative risk ratio than men. On the other hand, most of the initially observed racial/ethnic differences are attenuated and are not statistically significant. However, compared to whites, blacks still have about three times higher relative risk of working part time. This racial/ethnic effect is substantially attenuated for black women, who also still have significantly lower relative risk of being fully retired compared to white women, confirming once again previously observed unique trends for black women. Hispanic women have more than three times higher relative risk of not being in the labor force (though this coefficient is only marginally statistically significant), which only further emphasizes their high likelihood of not participating in the labor market as this effect is in addition to already staggering over eight times higher relative risk of not being in the labor force for all women regardless of their race and ethnicity.

Finally, I should mention that almost all controls (education, marital status, household size, health, wealth, income, disability insurance application, number of years worked, and number of job transitions) are statistically significant, at least for some of the labor statuses explored. While accounting for all the elements contributing to the explanation of the variance in the labor force participation is not in the focus of this analysis, it is worth pointing out that the fully specified model explains roughly 25% of the

unexplained variance therefore doing a fairly good job of describing labor force participation in pre-retirement period.

Next, I estimate ordinal logistic regression model of retirement expectations at the critical age of 62. The results are presented in Table 3.

Table 3. Odds of continued full time work after the age of 62

	Model 1		**Model 2**		**Model 3** [a]	
	Odds Ratio	(95% C. I.)	Odds Ratio	(95% C. I.)	Odds Ratio	(95% C. I.)
Female	.66***	(.57, .76)	.64***	(.54, .75)	.56***	(.46, .66)
Race/Ethnicity (ref = White)						
Black	.60***	(.49, .73)	.57***	(.42, .77)	.61***	(.49, .76)
Hispanic	.72**	(.58, .91)	.68*	(.48, .95)	1.00	(.77, 1.30)
Other	.94	(.64, 1.37)	.88	(.49, 1.56)	1.26	(.83, 1.90)
Female*Black			1.10	(.74, 1.63)		
Female*Hispanic			1.13	(.72, 1.78)		
Female*Other			1.13	(.52, 2.44)		
Log-Likelihood	-3887.25		-3887.00		-3596.18	
Chi Square	68.52		69.01		650.64	
N	2694		2694		2694	

[a] Control variables are not shown in the table. Model 3 includes following control variables: age, education, marital status, household size, health, probability of living to the age of 75, non-work medical insurance, wealth, income, disability insurance application, number of living siblings, and number of years of worked.

*** p < .001, ** p < .01, * p < .05

In the first model specification that includes only the two primary independent variables, gender and race/ethnicity, I find women as well as blacks and Hispanics to have lower odds of working after the critical age. Including the interaction between gender and race/ethnicity does not change these findings, there is no evidence of statistically

significant interaction effects for any group of interest, and overall the interaction does not statistically significantly improve the model. Therefore, the interaction term for gender and race/ethnicity is not included in the final model specification.

The main finding in the final specification is that gender variable remains highly statistically significant and its magnitude is only marginally attenuated with the inclusion of all the control variables. Similarly, being black remains statistically significantly associated with the lower odds of continued work after the critical age of 62. However, the differences between Hispanics and whites are completely accounted for by the inclusion of the controls. The list of controls includes age, education, marital status, household size, health, probability of living to the age of 75, non-work medical insurance, wealth, income, disability insurance application, number of living siblings, and number of years of worked, where all the variables are statistically significantly associated with the expectation of work after 62 except age and the number of years worked. The final models explains a relatively small part of the total unexplained variance (8.3%), which might suggests that there are still major factors accounting for the dynamics of the relationship that are not included in the model. However, this could also be due to other factors like the imprecision of the outcome measure as defined in this analysis (grouping probabilities in five larger intervals) where substantial loss of information and statistical power is likely.

Finally, I re-estimate the same model of retirement expectations, but for the critical age of 65, and the results are presented in Table 4.

Table 4. Odds of continued full time work after the age of 65

	Model 1		Model 2		Model 3 [a]	
	Odds Ratio	(95% C. I.)	Odds Ratio	(95% C. I.)	Odds Ratio	(95% C. I.)
Female	.70***	(.60, .81)	.71***	(.60, .84)	.59***	(.51, .69)
Race/Ethnicity (ref = White)						
Black	.54***	(.44, .67)	.60**	(.43, .83)	.51***	(.41, .65)
Hispanic	.79*	(.62, .99)	.75	(.53, 1.06)	.98	(.75, 1.28)
Other	.86	(.58, 1.29)	.85	(.47, 1.54)	1.06	(.69, 1.63)
Female*Black			.83	(.54, 1.28)		
Female*Hispanic			1.09	(.68, 1.75)		
Female*Other			1.03	(.46, 2.33)		
Log-Likelihood	-3509.98		-3509.51		-3314.40	
Chi Square	61.62		62.56		452.77	
N	2700		2700		2700	

[a] Control variables are not shown in the table. Model 3 includes following control variables: age, education, marital status, household size, health, probability of living to the age of 75, non-work medical insurance, wealth, income, disability insurance application, number of living siblings, and number of years of worked.

*** p < .001, ** p < .01, * p < .05

Findings for the three specifications of the model of expectation to continue working after the age of 65 broadly mirror the findings for the model with the critical age of 62. The only substantive difference is among the control variables (not shown in the table), where both age and the number of years worked are statistically significantly associated with the lower odds of working after the age of 65, while this was not the case in the model estimating the odds of working after the age of 62. Therefore, it seems that age and work experience matter more for the retirement decision making process when the reference age is closer to the regular rather than the early retirement age. Intuitively, this makes sense as early retirement decision is often related to some unusual or unexpected circumstances like sudden deterioration in health rather than age or time spent working,

which are more relevant for retirement decision at regular retirement age. Similar to, the final specification of the model of expectation to work after the age of 65 explains only a small part (6.4%) of the total unexplained variance.

Discussion

Compared to men, women are less likely to have arguably more desirable full time employment even in their late career/pre-retirement work years, and they are more likely to retire earlier. Those are the main and the most consistent findings of this paper, which reaffirm findings from the relevant literature. What is particularly worrisome, though, is the fact that the differences are observed for the sample of baby boomers that is comprised of individuals who are on average younger than the populations examined previously, which predominantly included people born years and even decades before the baby boomers were born. Therefore, it could be argued that gender differences observed among earlier generations have not visibly diminished for the baby boomers, and this might be a sign that more should be done in order to address the issue of the labor market setup, retirement incentives as well as the larger social setup that seems to result in divergent and suboptimal outcomes for women. Considering that women live on average longer than men and consequently spend more time in retirement (even if one disregards other elements further increasing this gender difference in time spent in retirement), it is obvious that it should be of the utmost interest to the society that women have the opportunity to work as much and as long as men do in order to build up sufficient

pension wealth and secure their financial independence in retirement years. This would likely have beneficial impact on the larger society as well, because there would be less need for women to rely on different government programs or unofficial (family) support networks, while simultaneously securing healthier and arguably happier aging with likely greater contribution to their families, communities and society at large.

Another important finding is that race/ethnicity differences in the labor force status and retirement decision making are real, but are largely accounted for by different demographic, socio-economic and other factors. This is particularly true for the differences between Hispanics and whites, whereas the dynamics for blacks are somewhat more complex. While being woman and being black is separately associated with both less favorable labor force status and earlier exit into retirement, much of this adverse effect is attenuated for black women, who are in their outcomes comparable to or even better than their male counterparts, which does not hold across other racial/ethnic groups. This is different finding than the dominant one in the previous literature that emphasized black women as particularly disadvantaged group (Hogan & Perrucci, 2007; Shuey, 2004; Wilson, 2003). It is possible to hypothesize that this finding might be at least partially credited to the positive effects of the affirmative action in the United States whose primary beneficiaries might have arguably been exactly black women of baby boom generation.

It should also be noted that this analysis is limited in several important ways. While focusing on baby boomer population is of particular interest for the society in general and

especially policy makers, this does result in substantially smaller sample than if all the HRS respondents have been used. As a consequence, for example, some racial/ethnic groups are represented with only a handful of observations in some of the seven possible categories of the labor force status, which gives unduly high weight to these observations and calls for caution in interpreting the results in such cases. Next, some important concepts like the risk aversion or the type and the number of private pension plans an individual has have not been controlled for as there are many missing observations on these potentially useful control variables that would severely bias the sample. Furthermore, the measure of the likelihood to continue working after the age of 62 and 65 is suboptimal. People do not tend to think about this question in terms of the exact likelihood, but rather very rough, and often very imprecise, approximation. Once this already imprecise measure is lumped into five larger, albeit intuitively acceptable, categories, it comes as no surprise that the model, no matter how elaborate, does not explain much of the unexplained variance. Looking at the problems with retirement planning behavior, Ekerdt & Hackeny (2002) found general inattention of people to available information as the root cause of the relative ignorance of retirement benefits, and consequently the retirement expectations and/or planning as described by the outcome measure used in this analysis.

Finally, arguably the most important limitation of this study is that it is cross-sectional and does not use the advantage of the longitudinal character of the HRS dataset. This is important as people do change both their labor force status, and possibly even more importantly their retirement expectations across the waves of the study. A particular

issue, which is not addressed even in the great majority of papers using longitudinal data, is the role of uncertainty in retirement expectations. While most studies tend to disregard "non-substantive" answers like "don't know," there are increasingly warnings that these are completely legitimate answers that are essential for the appropriate description and understanding of the dynamics of retirement decision making and should consequently be an integral part of the analysis (Ekerdt, Hackney, Kosloski, & DeViney, 2001; Wong & Hardy, 2009).

All of the indicated limitations pose certain challenges for internal and external validity of this study. At the same time, particularly with respect to the use of longitudinal data and "non-substantive" answers, they also represent an opportunity to push the analysis further and explore all the nuances of here established general trends.

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