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Widening Health Gap in the US Labor Force Participation at Older Ages

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Abstract

Using microdata from the CPS and the HRS, we document changes in labor force participation at older ages in the USA since the mid-1990s. Our main finding is that the over two-decade increase in participation is solely driven by individuals in good health, and does not differ across either educational or occupational groups. This phenomenon may importantly affect the results of social security reforms aiming at raising the mandatory retirement age and may exacerbate the health gap in lifetime earnings. (JEL codes: J22 and I14)

Key words: labor force participation, old ages, health.

1 Introduction

After declining from about 70% in the late 1940s to about 38% in the mid-1990s, the US labor force participation rate for men aged 55 and over rose steadily to about 47% in 2012 and flattened out in recent years as shown in Figure 1. Interestingly, the pattern for women since the mid-1990s does not differ much from that for men at older ages despite the large differences in levels and trends of the prime-age participation rates. Using aggregate data, Rogerson and Wallenius (2021) document that this 7-decade-long phenomenon takes place in a number of OECD economies, suggesting that some common gender-neutral factors may be operating across countries over the entire period.[1] It is important, particularly for policy reasons to have a better understanding of this secular pattern and the underlying economic forces.

In this article, we aim to shed some light on the increase of labor force participation at older ages since the early 1990s in the USA by using microdata from the Current Population Survey and the Health and Retirement Study (HRS). While prime-age men have continued to participate in the labor force at lower rates until today, the increase in labor force participation at older ages is observed only for men aged 62 and over. Indeed, there has been an increase of almost 15 percentage points in the participation rate of men aged

[1] They offer a narrative to explain this fact that combines mean reverting low frequency shock to labor market opportunities for all workers with temporary country-specific policy changes that incentivize older individuals to withdraw from or stay in the labor market. They argue that the secular increases in labor supply of older females is unlikely to be the dominant factor behind the trend reversal, a driving force explored in Schirle (2008).

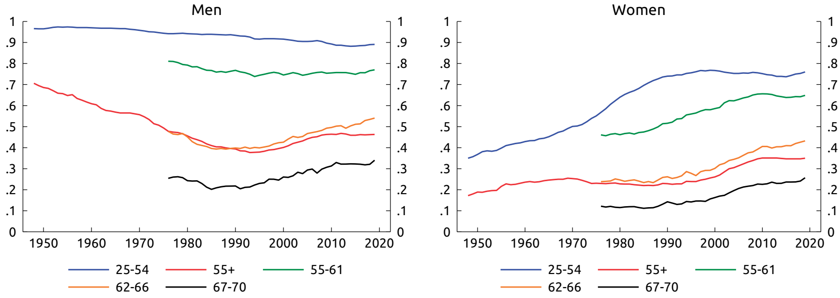

Figure 1. Labor force participation rate by age. Note: Annual averages of monthly data plotted. Source: BLS, basic monthly CPS microdata.

62–66 since 1990, with over one-third of this rise taking place since 2013. The pattern for women since the mid-1990s is similar. After a rising trend from WWII until 1969, the participation rate of women aged 55+ mirrored its men's counterpart: it mildly declined bottoming out in 1987 at 22%, then increased up to 35.1% in 2013, with a mild slide downwards since then. Unlike men, however, women in their late 50s and early 60s have kept increasing their attachment to the labor force until 2013.

There are two main findings from our analysis. We first show that compositional changes in the population shares by education, health, and spouse's participation account for about one-third of the participation increase for men and women aged 62–66 between the 1934 cohort and the 1953 cohort. That is, some 8 percentage point increase in participation appears to be due to behavioral changes. These dynamics may be induced by institutional and technological changes affecting differently the different cohorts. According to the literature, changes in the social security rules, increasing normal retirement (NRA) age, and delayed retirement credit have contributed to partially explain the increase in male labor market participation in the USA during recent years, see for instance Blau and Goodstein (2010), Banerjee and Blau (2016), Goldin and Katz (2018), and Behaghel and Blau (2012). Most importantly, according to French and Jones (2011) and Yu (2023), the elimination of the earnings test after NRA plays an important role in accounting for the higher participation of recent cohorts. However, according to Banerjee and Blau (2016), much of the divergence in labor force participation across age groups in recent years remains unexplained. Across the most recent cohorts, we include in our analysis, changes in the social security rules are minor. All the cohorts born after 1935 were not affected by the earnings test after the NRA age since it was removed for those 65 and older beginning in 2000. Although the NRA age has increased from 65 to 66 for the cohorts in this study, it is unlikely that this may account for the whole increase in the participation that we document for individuals aged 62–66. The importance of changes in wages, increasing life expectancy or medical costs as drivers of trends in participation at older ages remain to be explored.

Our second main finding is that the participation rise for the age group 62–66 years, after controlling for those compositional changes, is mainly restricted to men and women in good health. Specifically, men (women) in bad health from the 1948–1953 cohort are 2.8 (2.1) percentage points less likely to participate than those of the 1934–1936 cohort, while participation of men (women) in good health has risen by 7.3 (10.6) percentage points between these cohorts. As a result, the health gap in participation at older ages has become wider over time. In contrast, we find no evidence of uneven changes in participation across either educational categories, spouse's labor force status, or broad occupational categories. To the best of our knowledge, this has not been documented so far.

A better understanding of the economic forces that drive healthy individuals but not others to participate longer in the labor force over time is very important for guiding the design of new policies. As argued by French and Jones (2017), recent reforms of pension programs to encourage later retirement are unlikely to be successful if older individuals are too unhealthy to significantly extend their careers. Furthermore, uneven responses to these policies across health categories may exacerbate differences not only in lifetime earnings, but also in longevity, as found in Saporta-Eksten et al. (2021) for blue collar workers. Furthermore, our findings suggest that the recent literature focusing on how health shapes lifetime earnings inequality—see De Nardi et al. (2018) and Hosseini et al. (2021)—has to pay special attention to older ages.

Our work contributes to the literature on labor force participation at older ages. The importance of education has been widely discussed, for example by Blau and Goodstein (2010) and Jaimovich (2021). The latter also emphasizes the differential role of non-routine occupations. Schirle (2008) finds that the increase in married women's participation explains about one-fourth of the increase in their husbands' participation. Although we also find that all these factors contribute to the rise of participation, our work shows that they fail to account for the large part.

The article is organized as follows. In Section 2, we describe the main datasets used for the analysis. Using Current Population Survey data, we quantify how compositional changes affect the dynamics of participation across different cohorts of individuals in Section 3, and in Section 4, we explore differences in behavior across demographic groups. In Section 5, we show that our main findings are robust using HRS data. Finally, Section 6 concludes the article.

2 Data

Our primary data source is the Current Population Survey (CPS).[2] Since health information is only present in CPS March Supplements since 1996 onward and, to avoid the COVID-19 pandemic period, we limit our sample to 1996–2019. We construct the series we use for analysis from CPS microdata, using the corresponding weights to make the data representative. We present the data for both men and women and most of our analysis focuses on comparisons across different cohorts. We further restrict the analysis to individuals belonging to the age group 62–66 years, that is those close to the full retirement age. We have about 1 million observations for each gender when we use monthly CPS data, and a bit less than 100 thousand observations for each gender when we use CPS March Supplements. Because of the larger sample size, we use the monthly CPS data whenever possible, but switch to March Supplements only for analysis that requires health information.

In Section 5, we replicate our CPS analysis using data from the HRS.[3] Despite its limited size, HRS is widely used because it provides rich information on individuals of age 50 and over, who are tracked over time. Our HRS dataset comprises over 25,400 observations for over 11,300 individuals aged 62–66 of various birth cohorts.

For our analysis, we use individual information on age, race, gender, labor force status, education, occupation, spouse's status, and health. In line with the literature, we define two categories using information on self-reported health: *good* health (if reporting that health is either "excellent," "very good," or "good"), and *bad* health (otherwise). There is quite some discussion in the literature regarding the potential problems of using objective and subjective measures of health. As discussed in French and Jones (2017) and Blundell et al. (2023), the effects of measurement error and the so-called *justification bias* appear to

2 Flood et al. (2021) is used for consistent occupation coding over time.

3 We use the RAND HRS data files from 1992 to 2016, which are produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740).

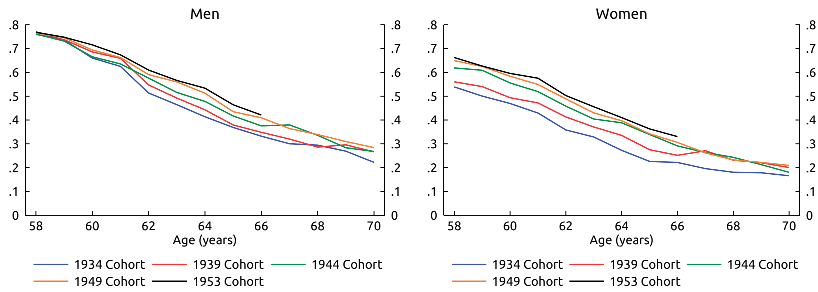

Figure 2. Labor force participation rate by birth cohort. Note: 1-year birth cohorts plotted. Source: BLS, basic monthly CPS microdata.

cancel out with one another. We also distinguish between individuals with (at least) and without a bachelor's degree, and refer to the former as college graduates.

We benefit from the longitudinal structure of both the CPS and the HRS to look into participation decisions by and within occupation. Following the literature, for example Autor and Dorn (2013), we classify occupations into three main categories according to the routine content of the occupation tasks: routine, non-routine manual, and non-routine abstract. Broadly speaking, the former category comprises sales, clerical and production occupations, the second group services, manual and construction and transportation, and the latter, managerial, professional, and technical occupations.[4]

2.1 Changes in labor force participation by cohort

Figure 2 shows labor force participation at older ages for five 1-year birth cohorts between 1934 and 1953. For men, labor force participation in their late 50s remained very stable across cohorts, but for ages 62–66 years, the participation increased on average by 10 percentage points between the 1934 cohort and the 1953 cohort. For women, later cohorts participate in the labor force at higher rates for all ages shown in Figure 2, with the average increase for ages 62–66 years being about 13 percentage point between the 1934 cohort and the 1953 cohort.

3 Compositional versus Behavioral Changes

In this section, we first document compositional changes in the US population that can partially account for the increase in labor force participation of men and women aged 62–66 years. The main result is that compositional changes related to education, spouse's labor force status, and health together explain about one-third of the participation increase over the last two decades. Using annual transition rates, we also find that compositional changes related to occupation appear to account for very little of the participation dynamics over time.

3.1 Demographics: Education, spouse's labor force participation, and health

Over time, there have been important changes in the composition of the population aged 62–66 years. In more recent cohorts, individuals are more likely to be college graduated, to have good health, and to have a spouse participating in the labor force. These compositional changes may be responsible, at least to some extent, for the increase in participation

[4] No statistically significant differences are found if construction, transportation and extraction occupations are added to the routine occupational group as suggested by, for example Jaimovich and Siu (2020).

Table 1. Compositional changes, 62–66 years

	Men			Women		
	Share diff 1934–1953	LFPR in 1934	LFPR diff. 1934–1953	Share diff. 1934–1953	LFPR in 1934	LFPR diff. 1934–1953
No college	−0.090	0.377	0.088	−0.192	0.262	0.106
College	0.090	0.547	0.079	0.192	0.405	0.102
No spouse	0.110	0.341	0.077	0.002	0.313	0.116
Spouse not in LF	−0.125	0.329	0.122	−0.089	0.179	0.094
Spouse in LF	0.015	0.596	0.085	0.087	0.425	0.119
Bad health	−0.041	0.240	−0.014	−0.056	0.162	0.013
Good health	0.041	0.470	0.133	0.056	0.336	0.139

Source: BLS, March CPS microdata.

since college workers, healthy workers, and men married to a working spouse are notably more likely to participate.

Table 1 provides summary evidence about those compositional changes. The share of college graduates has increased between the 1934 and the 1953 cohorts by 9 and 19 percentage points for men and women, respectively. The share of those with a non-participating spouse declined by 12.5 and 9 percentage points for men and women, respectively. Finally, the share of those in good health rose by 4 and 5.5 percentage points for men and women, respectively.

Table 1 also provides summary evidence on the change in labor force participation from the 1934 cohort to the 1953 cohort by education, spouse's participation, and health. Labor force participation increased within each education category for both men and women. Additionally, individuals are more likely to participate in the 1953 cohort than in the 1934 cohort independently of their marital status and of the spouse's labor force participation status. Perhaps the most striking difference is for those in bad and good health. Specifically, for both men and women, we observe little change in the labor force participation rate between the 1934 and the 1953 cohorts when we consider individuals in bad health. In stark contrast, the participation rate increased by more than 13 percentage points between the 1934 and the 1953 cohorts for those in good health.[5]

So far, we only conditioned on one demographic characteristic of the individual at a time. In order to provide a more comprehensive analysis of the importance of compositional changes, we regress a labor force participation dummy variable on a set of age and cohort dummies together with several demographic controls:

$$\text{lfpr}_{it} = \alpha_0 + \alpha_1 UR_t + \sum_{a=63}^{66} \alpha_{2a} I_{\text{age}_{it}=a} + \beta X_{it} + \sum_c \delta_c I_{\text{cohort}_i=c} + \epsilon_{it} \quad (1)$$

where $I_{\text{age}_{it}=a}$ and $I_{\text{cohort}_i=c}$ are age and 1-year birth cohort dummies, with the 1934 cohort being the base one. The aggregate unemployment rate, UR_t, is included to control for the cycle, and X_{it} stands for demographic controls including dummies for race, college

[5] Given Case and Deaton's work on deaths of despair, it is tempting to think that the health condition of non-College white non-Hispanic Americans may have worsened for those who reach their mid-60s. However, this does not seem to be the case: The share of healthy non-College white male Americans aged 62–66 has increased from 71% for the 1934–1936 cohort to 74% for the 1953 cohort. As a comparison, for all the other demographic groups together, the corresponding numbers are 79% and 82%. Indeed, our results are somewhat aligned with Case and Deaton's findings in the sense that the participation rate for the unhealthy (maybe partly because of alcohol or drugs abuse among non-College white Americans) born in the early 1950s does not significantly differ from the rate of their older counterparts, whereas it does for the healthy.

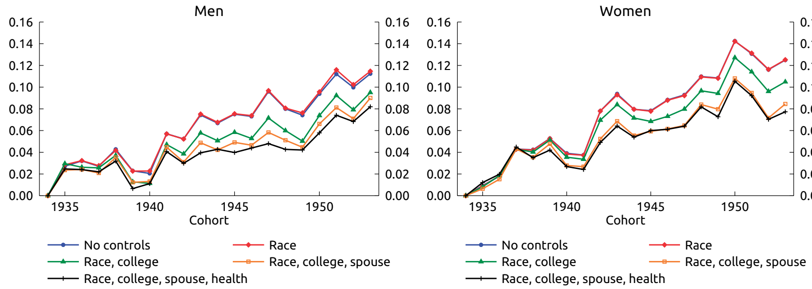

Figure 3. Change in LFPR relative to cohort 1934, 62–66 years. Note: Regression estimates for 1-year birth cohort dummies plotted. Source: BLS, March CPS microdata.

education, marital status and spouse's labor force participation, and health status. Because individuals may appear twice in our sample, standard errors are clustered at the individual level. Table A2 in the Supplementary Appendix contains detailed regression results, while in Figure 3 we plot the estimated coefficients for the (1-year) cohort dummies. Compositional changes appear to account for about one-third on the increase in participation since the mid-1990s. Nonetheless, a 8 percentage points increase in participation from the 1934 cohort to the 1953 cohort remains unexplained, for both men and women.

3.2 Occupation

Changes in the occupational distribution may have contributed to an increase in the participation rate if the composition of occupations have changed toward those in which retirement occurs at an older age. In contrast with the other demographics analyzed above, we cannot calculate labor force participation rates by occupation because occupation information is only available for those employed and unemployed (but not for the nonparticipants). Furthermore, CPS does not track individuals long enough to learn their last occupation before they moved to non-participation. Nonetheless, we can exploit its short longitudinal structure to compute the annual transition rates from participation into non-participation as we have two observations per individual, 1 year apart from one another. Although not directly comparable with the above analysis of participation rates, annual transition rates into non-participation are also informative. Thus, we regress those transition rates on cohort dummies, the same set of observables as above, and the initial broad occupation reported by the individual. According to our estimates reported in Tables A4 and A5 in the Supplementary Appendix, individuals in non-routine abstract occupations are less likely to exit the labor force at each age than individuals in routine occupations and non-routine manual occupations. Because the fraction of individuals in non-routine abstract occupations increased for men (women) from 19.5 (9.9) percent in the 1934 cohort to 25.8 (20.1) percent in the 1953 cohort, this trend may be behind the increase in participation at older ages that we document. However, the estimated coefficients of the cohort dummies reported in Figure A1 in the Supplementary Appendix are hardly changed after controlling for occupation. The transition rate of men into non-participation declines by some 7 percentage points relative to the 1934 cohort. This suggests that the role played by changes in the occupation composition is fairly limited. In the case of women, the decline in the transition rate into non-participation is smaller, about 2 percentage points, but, again, it is only slightly accounted for by the occupation controls.

4 Heterogenous Time-Varying Patterns

In the previous section, we concluded that there is clear evidence of a sizable increase in the labor force participation that is not solely due to compositional changes. In order to provide a more detailed description of this phenomena, in this section, we explore differences in participation over time across different demographic groups and different occupational categories. The main result in this section is that the health gap in labor force participation widens during the period of analysis. We do not find evidence of different time-varying patterns across the other demographic groups under study.

4.1 Demographics: Education, spouse's labor force participation, and health

We extend the regression estimated in Equation (1) to allow for heterogeneous time-varying patterns of each demographic group. In order to do so, each demographic characteristic j (education, marital status and spouse's labor force participation, and health) is interacted with the cohort dummies:

$$\mathrm{lfpr}_{it} = \alpha_0 + \alpha_1 UR_t + \sum_{a=63}^{66} \alpha_{2a} I_{\mathrm{age}_{it}=a} + \beta X_{it} + \sum_c \delta_c I_{\mathrm{cohort}_i=c} + \sum_c \sum_j \gamma_{cj} X^j_{it} I_{\mathrm{cohort}_i=c} + \epsilon_{it} \quad (2)$$

We are specifically interested in the coefficients γ, which capture possible heterogeneous changes in participation over time across demographic characteristics. We now consider multiple-year birth cohorts, with the 1934–1936 being the base cohort.

In work not reported here, we do not find evidence of significantly different changes in participation over time across education categories, marital status, and spouse's labor force participation.[6] In sharp contrast, we do find that the health gap in participation has widened over time. Table 2 shows the estimates of γ for the interactions with the good health dummy, separately for men and women. Specifically, those in good health in the 1948–1953 cohort group have seen their participation rate rise by 7.3 percentage points for men and 10.6 percentage points for women relative to the base 1934–1936 cohort, while the participation rate for those in bad health has fallen slightly, 2.8 in the case of men and 2.1 in the case of women.

Significant estimates of the interaction terms of the good health dummy and the cohort dummies may be masking lower attachment to the labor market of individuals in bad health that are more likely to be eligible for disability benefits in recent years. In order to assess this possibility, we extend Equation (2) to include a self-reported disability dummy as a control variable, see columns 2 and 4 in Table 2.[7] In both cases, the uneven increase in participation across health categories is corroborated.

4.2 Occupation

Finally, in order to assess the possibility of heterogeneous changes across occupational categories, we estimate annual transition rates from labor force participation into non-participation. As shown in Table A6 in the Supplementary Appendix, the annual transition rate into non-participation for men evolved in a similar way for the different occupation categories since the coefficient of the interaction of the cohort dummies and the occupational dummies are not significant. For women, however, the decrease in the transition rate are more pronounced in the case of routine occupations.

In sum, the analysis using CPS data suggests that there are behavioral changes driving the increase in participation between cohorts born in 1934 and 1953, with striking differences between individuals in good and bad health. Among others, the potential underlying forces are increases in lifetime expectancy and in medical expenses, productivity changes, and changes in the Social Security rules. Regarding the latter, Blau and Goodstein (2010) find that between one quarter and one half of the increase in participation up to 2005 can

6 Results are available upon request.

7 Alternatively, we also estimated Equation (2) excluding from the sample self-reported disabled individuals and obtained similar results to the ones reported here.

Table 2. LFPR, 62–66 years

	(1) Men	(2) Men	(3) Women	(4) Women
63 years	−0.046***	−0.046***	−0.033***	−0.035***
	(0.006)	(0.005)	(0.005)	(0.005)
64 years	−0.075***	−0.078***	−0.062***	−0.067***
	(0.006)	(0.006)	(0.006)	(0.006)
65 years	−0.134***	−0.144***	−0.119***	−0.127***
	(0.007)	(0.007)	(0.006)	(0.006)
66 years	−0.163***	−0.179***	−0.151***	−0.165***
	(0.007)	(0.007)	(0.006)	(0.006)
College	0.127***	0.110***	0.069***	0.056***
	(0.005)	(0.006)	(0.007)	(0.007)
Married w/non-part. spouse	−0.042***	−0.063***	−0.191***	−0.215***
	(0.008)	(0.008)	(0.010)	(0.010)
Married w/part. spouse	0.172***	0.149***	0.043***	0.023***
	(0.007)	(0.007)	(0.007)	(0.007)
Good health	0.206***	0.136***	0.156***	0.096***
	(0.014)	(0.014)	(0.012)	(0.011)
Cohort 1937–1941	−0.028**	−0.013	−0.020*	−0.008
	(0.014)	(0.013)	(0.012)	(0.011)
Cohort 1942–1947	−0.038***	−0.017	−0.022*	0.011
	(0.014)	(0.013)	(0.013)	(0.012)
Cohort 1948–1953	−0.028**	0.012	−0.021*	0.014
	(0.014)	(0.013)	(0.011)	(0.011)
Good health × cohort 1937–1941	0.048***	0.032**	0.061***	0.048***
	(0.017)	(0.016)	(0.014)	(0.014)
Good health × cohort 1942–1947	0.091***	0.071***	0.095***	0.064***
	(0.016)	(0.015)	(0.015)	(0.014)
Good health × cohort 1948–1953	0.101***	0.065***	0.126***	0.095***
	(0.016)	(0.016)	(0.014)	(0.013)
Disabled (self-reported)		−0.381***		−0.350***
		(0.005)		(0.006)
Constant	0.294***	0.398***	0.303***	0.391***
	(0.015)	(0.016)	(0.015)	(0.015)
R-squared	0.157	0.195	0.125	0.160
N	72278	72278	79992	79992

Note: Base cohort is 1934–1936.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

be accounted for by the increase in the NRA and the increase in the delayed retirement credit. However, Behaghel and Blau (2012) find that the effect of changes in the NRA is less salient for leaving employment than for claiming.

5 HRS Data Analysis

In this section, we use HRS data to look further into the participation at older ages. The main message is that conclusions very consistent with those from CPS data are drawn. Specifically, participation increases over time are concentrated among healthy individuals, with education and the labor force status of the spouse playing no statistically significant role. Importantly, using the longitudinal design of the HRS, we find that the occupational-based composition effects are fairly small, and there are no significant time differences in participation across occupations.

Before proceeding, some clarifications are in order. Because of the much smaller data size and the evidence from Figure 3 and Table 2 in terms of the time pattern to be gender-neutral, models (1) and (2) are used for males and females together and with 6-year birth cohorts. Likewise, most individuals appear in the sample several times. Thus, standard errors are clustered at the individual level. The base cohort comprises individuals born in 1931 through 1936.

The first column of Table 3 displays the estimates of model (1), while Table A8 in the Supplementary Appendix shows the regression results when adding the demographic controls one by one. A similar relationship of the participation at older ages with age, race, high education, and the labor force status of the spouse's to the one documented with CPS data is established here. Specifically, all these demographics together account for 5.7 of the 12.3 percentage points in participation increase of the 1948–1953 cohort relative to the base cohort.

As discussed in Section 3.2, non-routine occupations have exhibited growing employment over these last decades, and higher participation rates. To study the effects of these phenomena on participation we include the occupation at an individual's late 50s as a regressor in the fourth column of Table 3. As a result, the data size shrinks considerably, from 11,345 to 6191 individuals.[8] Using the routine occupation group as the base one, the point estimate of the non-routine abstract occupational group is large and different from 0 at 1%, but the estimate of non-routine manual is not significant. In any case, compositional effects appear to be small, since the coefficients of the cohort dummies are barely the same in columns third and fourth.

Finally, in work not shown here, we find that the estimates of the interaction of age, race, high education, and the labor force status of the spouse's with the cohort dummies are not significant at 10%. In words, there appears to be no differences in participation over time across different educational groups, nor among those with and without a participating spouse. In contrast, as shown in the second column of Table 3, the interaction of the dummy variable good health with the cohort dummies is significant. Further, the cohort dummies lose all their significance. This implies that participation increases are restricted to individuals in good health, as we found using CPS data. Furthermore, the last column of Table 3 shows that the estimates of the interactions of occupation and cohort dummies are not significant at 10%, which suggests that there are no time-varying differences in participation across occupations. This is consistent with the non-significant differences in the time patterns of the CPS annual transition rates by occupation for men reported in Table A6 in the Supplementary Appendix.

6 Conclusions

In this article, we use microdata from the CPS and the HRS to document recent changes in the participation of men and women at older ages. Consistent with what other papers have documented in the literature we find that compositional changes in education, occupation, health, and a spouse's participation play a role in understanding recent changes in participation. However, there is clear evidence of changes in behavior.

Our main finding is that the increase in participation is solely driven by individuals in good health. Individuals in bad health are staying behind. This is an important issue because it may exacerbate the health gap in lifetime earnings that has been the focus of a recent strand of the literature.

Finally, as discussed in Blau and Goodstein (2010), the identification of the impact of changes in Social Security rules following a pure empirical approach present some difficulties and it is sensitive to the way birth cohort effects are specified. Therefore, we believe that exploring the importance of these policy changes (and others such as increases in productivity, life expectancy and medical expenses) within the context of a life-cycle model of labor supply and savings is an important line in our ongoing

8 For the sake of comparability, we report the estimates of the same model specification than in the first column, but for this restricted sample in the third column of Table 3.

Table 3. HRS labor force participation

	(1)	(2)	(3)	(4)	(5)
Female	−0.089***	−0.089***	−0.018	−0.022	−0.023*
	(0.011)	(0.011)	(0.014)	(0.014)	(0.014)
63 years	−0.0203*	−0.0203*	−0.0138	−0.0149	−0.0143
	(0.011)	(0.011)	(0.0139)	(0.0138)	(0.0138)
64 years	−0.0542***	−0.0542***	−0.0632***	−0.0636***	−0.0638***
	(0.0086)	(0.0086)	(0.0113)	(0.0112)	(0.0112)
65 years	−0.0952***	−0.0954***	−0.122***	−0.123***	−0.123***
	(0.011)	(0.011)	(0.0144)	(0.0143)	(0.0143)
66 years	−0.126***	−0.127***	−0.184***	−0.185***	−0.184***
	(0.01)	(0.01)	(0.0136)	(0.0136)	(0.0135)
College	0.123***	0.122***	0.0974***	0.0557***	0.0543***
	(0.0127)	(0.0127)	(0.0148)	(0.0168)	(0.0168)
Married w/non-part. spouse	−0.112***	−0.113***	−0.119***	−0.121***	−0.122***
	(0.0127)	(0.0127)	(0.0174)	(0.0173)	(0.0172)
Married w/part. spouse	0.0849***	0.0846***	0.0709***	0.068***	0.0674***
	(0.0135)	(0.0135)	(0.0169)	(0.0168)	(0.0167)
Good health	0.239***	0.211***	0.177***	0.17***	0.171***
	(0.0104)	(0.013)	(0.0163)	(0.0163)	(0.0162)
Cohort 1937–1941	0.0269***	0.0183	0.0402***	0.0408***	0.0364
	(.00104)	(0.0161)	(0.0145)	(0.0144)	(0.0242)
Cohort 1942–1947	0.0555***	0.0214	0.06***	0.0605***	0.079**
	(0.0153)	(0.0242)	(0.02)	(0.0199)	(0.0315)
Cohort 1948–1953	0.066***	0.0178	0.0591***	0.0594***	0.0135
	(0.015)	(0.0262)	(0.019)	(0.0189)	(0.0344)
Good health × cohort 1937–1941		0.0107			
		(0.0192)			
Good health × cohort 1942–1947		0.0444*			
		(0.0268)			
Good health × cohort 1948–1953		0.0616**			
		(0.0294)			
Abstract occ. by age 60				0.0726***	0.0601**
				(0.0171)	(0.0256)
Manual occ. by age 60				−0.0144	−0.0231
				(0.0173)	(0.0258)
Abstract occ. by age 60 – cohort 1937–1941					−0.0101
					(0.0342)
Manual occ. by age 60 – cohort 1937–1941					0.0269
					(0.0352)
Abstract occ. by age 60 – cohort 1942–1947					−0.0142
					(0.0407)
Manual occ. by age 60 – cohort 1942–1947					−0.0415
					(0.0445)
Abstract occ. by age 60 – cohort 1942–1947					0.0699
					(0.0429)
Manual occ. by age 60 – cohort 1948–1953					0.0593
					(0.0479)
Constant	0.326***	0.348***	0.486***	0.485***	0.492***
	(0.0232)	(0.0235)	(0.0298)	(0.0312)	(0.0329)

(continued)

Table 3. (continued)

	(1)	(2)	(3)	(4)	(5)
R-squared	0.125	0.125	0.091	0.096	0.097
N	25,454	25,454	13,919	13,919	13,919

Note: Estimates of linear regressions (1) and (2) of labor force participation on HRS data on men and women aged 62–66. The first two columns refer to the whole sample, and the last three to the subsample for which occupation by age 60 is reported. The reference age is 62, and the base cohort is formed by those born in 1931–1936. The reference occupational category comprises routine occupations. The unemployment rate and a black-race dummy are also included in the set of regressors. Standard errors are clustered at the individual level, and reported in parentheses.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

research. The heterogeneous patterns overtime across health categories that we document in this article are an important source of information to validate the alternative hypothesis considered.

Supplementary material

Supplementary material is available at *Cesifo* online.

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