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Older Women's Labor Market Attachment and Financial Security: A Cross-Cohort Perspective

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Abstract

We explore cohort differences in older women's past work and retirement by evaluating whether more recent generations were more attached to the labor market over their lifetimes from age 18-50, compared to earlier cohorts. Using the Health and Retirement Study matched with rich information on lifetime earnings records, we employ various definitions of market work, including the number of jobs and of 5-year jobs; the age when women first received labor earnings; the fraction of total years to age 50 that women received labor earnings; and the fraction of years by decade of age that they received labor earnings. We then test whether the cohort differences are significant after controlling on a variety of socio-economic variables. We also examine differences in future work and retirement plans for the same cohorts. Specifically, we evaluate whether recent cohorts of older women are working more, and/or planning to retire later, as compared to earlier cohorts. Finally, we assess whether work patterns of older women are associated with a series of other factors, including having more debt close to retirement.

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Much research has argued that today's older women have worked for pay more over their lifetimes than previous cohorts, and they will also be continuing to working more in the future.[1] To evaluate how important this pattern is, and what could account for it, we examine several cohorts of older women in the Health and Retirement Study (HRS). Our goals are to learn (a) whether the cohorts' past and anticipated future labor force patterns differ from one another, (b) what factors are associated with longer worklives and delayed retirement; and (c) what role debt might play in older women's continued market attachment.

In what follows, our analysis focuses on several different cohorts of older women observed in the HRS, a nationally-representative survey of respondents over the age of 50, for which we have access to lifetime earnings records linked to the files with respondent permission. Specifically, we compare four different birth cohorts of women first surveyed when age 51-56, and three cohorts of women surveyed when age 57-61, so to examine women both close to and on the cusp of retirement. For these women we have gathered extensive information from the HRS about their labor market experiences, their sociodemographic characteristics including marital and family histories, and their earnings records (from Social Security records). This rich dataset allows us to determine when each woman began working for pay, how long she worked, and what fraction of each decade of life she held paid employment (for more detail on the HRS, see NIA, 2014).

[1] See for instance Goldin (2014) and the citations included therein.

With this information, we compare past employment histories for each cohort and examine them for important differences. We also gathered information on each cohort's current employment status and expected future work, retirement, and longevity probabilities, permitting us to develop a rich picture of likely future labor market patterns. Again we examine whether cohorts of older women differ from one another, and what the time pattern of the changes was. Finally, we evaluate the extent to which the older women's cohorts differ with regard to how much debt they hold as they entered their 50's. This permits us to evaluate whether rising levels of debt might be significantly associated with continued work at older ages.

We find that each successive cohort of 51-56 year-old women was attached to the labor force more firmly than its predecessor. Thus the most recent cohort for which we have data, the Middle Boomers, totaled almost seven additional years of attachment to the labor force over a 30-year time span, compared to the baseline HRS cohort first surveyed in 1992. Each successive cohort was also more likely to be working in its 50's, compared to the HRS baseline, on the order of 8-9 percentage points (on a base of 70%). And again we find evidence that women anticipate working longer at older ages, and delayed retirement is becoming more prevalent over time. Part of the explanation for this is that women today are better educated, are more likely to have had marital disruptions, had fewer children, and hold more debt due to having taken on larger residential mortgages.

While many prior studies have explored women's labor supply patterns over time (c.f., Attanasio, Low, and Sanchez-Marcos, 2008; Goldin, 2014), most of these did not have access to the detailed earnings records that we have here with which to explore women's market attachment by decade of life.

I. Methodology

The HRS offers researchers various metrics of labor force attachment across several cohorts. Specifically, we have generated several variables indicative of (a) past labor market history, (b) current labor market status, and (c) expected future labor force attachment. Our goal is to evaluate whether there are statistically significant differences across the different cohorts, after controlling for a (parsimonious) set of demographic characteristics. We also evaluate whether factors such as education, marital dissolution, health, children, and debt are correlated with anticipated future work. The present analysis is descriptive and future work can address some of these questions in more depth.

Looking back at the cohorts' work patterns over women's lives up to age 50, we first assess whether newer cohorts are significantly more closely attached to the labor force than prior cohorts To this end we draw on the HRS surveys conducted for all age-eligible women, along with the earnings histories associated with respondents' records.[2] We then compute for each female respondent the number of jobs she held, and the number of jobs lasting 5+ years, up to age 50. We also measure the age when each woman first received labor earnings; the fraction of years between age 18-50 during which she worked for pay; and the fraction of years by decade of age that she received labor earnings. We then test whether the cohort differences are statistically significant, even after controlling on a handful of socio-economic variables.

For our second set of outcomes, we examine differences in current work patterns. Our third set of dependent variables includes measures of future work and retirement plans for the same cohorts. Specifically, we determine whether recent cohorts of women are planning to retire, or are actually retiring, later compared to earlier cohorts. Finally, we assess whether more recent

[2] For more detail on the HRS and earnings records see NIA (2014). Access to these unique data is an extremely valuable feature of the HRS.

cohorts of older women are likely to remain in the labor market longer, due to having more debt, a topic we have discussed in previous work (Lusardi and Mitchell, 2013).

The empirical analysis compares two separate age groups of women. First, we examine four cohorts of women **age 51-56**: those who entered the survey in 1992 (the HRS baseline group), the 1998 War Babies (WBB) group, the 2004 Early Baby Boomers (EBB) cohort, and the 2010 Middle Baby Boomer (MBB) group, to examine how the labor market attachment of older women have changed across cohorts and its potential implications for financial security. The birth years for the four 51-56 age groups were as follows: HRS baseline in 1935-1942; WBB in 1941-1948; EBB in 1948-1953; and the MBB in 1953-1960. We also have information on three cohorts of women age 57-61 whom we consider to study behavior closer to retirement, from the 1992 HRS baseline, the 2004 WBB group, and the 2010 EB. For this older **age 57-61** group, the HRS cohort was born 1930-1936; WBB in 1942-1947; and the EBB in 1948-1954.

The empirical modeling in each case involves multivariate analysis of each respective outcome variable (y) on a vector of cohort dummies, where the HRS baseline is the reference category. Hence the estimated coefficients on the cohort dummies refer to the differential behavior of subsequent cohorts versus the HRS baseline 1992 cohort. In all cases we also control on the respondent's age, race (White vs other), and ethnicity (Hispanic vs other). And in extended analysis of the anticipated future labor market attachment variables, we additionally include controls on the woman's years of education, whether she had experienced marital disruption (divorce or widowhood), whether she was in fair or poor health, her number of children, and ratios of her household debt to assets. These additional controls permit us to ascertain whether factors that might be attributed to cohort differences could instead be associated with changes in socio-economic and demographic factors, including from changes in

financial markets and the increased opportunities to borrow and take on debt. Table 1 summarizes descriptive statistics (sample size, mean, and standard deviation) for all variables used in the analysis. Panel A include the full cohorts, while Panel B is limited to the subsample of women who self-reported themselves as working for pay during the survey (some questions were asked only of the latter group and not the complete sample). The full sample size includes slightly over 6,800 women age 51-56, and around 4,200 women age 57-61.

[Table 1 here]

II. Results

A. Differences in Past Labor Force Attachment By Cohort

Table 2 examines several aspects of women's past labor market attachment from age 18-50, as they varied across cohorts. Table 2.1 focuses on the full sample from each cohort, while Table 2.2 concentrates only on those working for pay at baseline. In each case, Panel A includes the age 51-56 cohorts, while Panel B includes those age 57-61. In the latter case, as we have only three rather than four cohorts, only two cohort dummies are included in the analysis (versus three in the evaluation of the younger age group).

[Tables 2.1 and 2.2 here]

Four dependent variables are the focus of our analysis: the total number of jobs reported between age 18-50, the number of jobs lasting 5+ years, the age at which the respondent's earnings records first recorded positive earnings, and the fraction of years between ages 18 and 50 where the respondent received positive earnings. We do so to look at multiple and richer measures of labor market attachment. The first column in Panel A (B) includes only the three

(two) cohort dummies, whereas the additional age, race, and ethnicity controls are included in the second columns.

Results for the younger age group of women in Panel A show that each successive cohort of 51-56 year-olds was attached to the labor force more firmly than its predecessor. Moreover, the estimated cohort effects are strengthened when we control on a simple set of sociodemographic factors. Thus for instance the War Baby group held 0.2 more jobs than the HRS baseline, while the Early Boomers held 0.3 more jobs and the Middle Boomers held 0.4 more jobs. Similarly both Boomer groups held substantially more 5+ year jobs than the War Babies and the baseline HRS women, and the effects are statistically significant. More recent cohorts of older women also received labor market earnings for additional years (between 16 and 21% more of their adult lifetimes between ages 18 and 50), compared to the baseline HRS cohort. Interestingly, part of the reason the more recent groups were attached longer to the labor market was that each cohort was successively younger – by 1-2 years – when they recorded having positive earnings. Similar patterns obtain for the (fewer) cohorts of women age 57-61, in that more recent cohorts also worked 16-21% more of the years between age 18-20 and the effects are statistically significant. The War Baby and Early Boomer cohorts again started earning pay younger, by 2.4-3.3 years younger.

In Table 2.2 we examine the subset of women who reported working when they were first surveyed, and again we see significant cross-cohort differences in market attachment. Once again, recent cohorts held more jobs and more 5+ year jobs, and they also devoted more of their adult lives prior to age 50 to the paid labor force with respect to the HRS baseline cohort. These women also were younger (by 1.2-2 years) when they first had labor market pay recorded. The

coefficient estimates of the cohort dummies generally become larger (in absolute value) when the socio-demographic controls are included.

Table 2.3 provides additional detail on the factors associated with the number of years worked by decade of age, between ages 20-30, 30-40, and 40-50 (all respondents were over the age of 50 when surveyed). Panel A confirms that each successive cohort of women had more years of market work per decade: for instance the WBB group had roughly one additional year of work per decade in their 20's, 30's and 40's, compared to the HRS baseline reference group. Women in the Early Boomer (EBB) cohort had two full years of additional work in their 20's, with 1.7 years more in their 30's, and 1.2 years more in their 40's. And the Middle Boomer (MBB) women had almost three more years of work in their 20's, two more in their 30's and 1.4 more in their 40's. In other words, the more recent cohort for which we have data totaled almost seven additional years of attachment to the labor force over a 30-year time span, compared to the baseline HRS cohort.

[Table 2.3 here]

Panel B, which concentrates on the subsample of women working for pay at the time of the survey, indicates that this subgroup also had significantly more years of work each decade in the more recent cohorts compared to the HRS baseline. But those working when they were interviewed were more similar to the HRS reference group, than was true for the full sample. For instance, women in the MBB cohort who were working when interviewed in their 50s had only about six more years of work over the three decades, versus the full sample which had seven additional years. This suggests that older women who now work into their 50's might be trying to "make up" for time out of the labor force during their childrearing years.

Panels C and D repeat the analysis for the slightly older women (age 57-61). Again both Boomer groups had significantly more years of labor force attachment than their counterparts surveyed 18 years previously. Yet interestingly, the slightly older women actually had had more years of positive labor market earnings by decade, compared to their slightly younger peers. Thus, for instance, the older half of the Early Boomers had 2.7 additional years of work in their 20's, versus 2.1 for the younger half of the EBBs (compared to the HRS baseline). Over the full age 20-50 period, the older EBB group averaged 5 more years of paid work versus 3 more years for the younger group, and the older MBB women had 7 more years of paid work versus 5 for the younger group. Thus it appears that the rising labor force attachment by cohort was actually more marked for the women who are older now, than for their younger counterparts. Whether this represents a slowdown in the long-term trend of rising women's labor force attachment remains to be seen when the HRS initiates new cohorts in the survey.[3]

B. Differences in Current and Planned Future Labor Force Attachment By Cohort

Next we explore whether HRS women's current and intended future labor force attachment patterns differ by cohort. To this end we again compare, by cohort, whether women reported working for pay at the time of their interview, along with their expectations of the chances that they will be working at age 65. We also used the HRS questions regarding chances of living to older ages to compute whether each respondent was optimistic or pessimistic about her longevity compared to the female population life table. That is, the variable is equal to 1 if the respondent anticipates a higher probability of living to age 75 than the survival tables, and 0 otherwise.

[3] We also note that the Middle Boomers were initiated into the survey in 2010, in the wake of the financial crisis. Additional waves of data will be needed to tease out the impact of the depressed economy during that period.

Our empirical approach here is two-fold. Table 3.1 uses the identical controls to those included above, namely just the cohort dummies, age, race, and ethnicity. These are credibly exogenous factors, and generally not subject to change over the lifetime. Nevertheless, in Table 3.2, we add to these our vector of additional regressors including controls for educational attainment, marital disruption, number of children, fair/poor health, and debt to asset ratios (the ratio of mortgages and other loans on the primary residence over the value of the primary residence and other debt over liquid assets). As we are primarily interested in the estimated cohort effects, the additional variables are useful in evaluating whether the controls change the estimated cohort effects. Both tables use the same outcome variables.

[Tables 3.1 and 3.2 here]

Panel A of Table 3.1 displays results for current and future work expectations of the women age 51-56 when surveyed, while Panel B looks at the same outcomes for the older segment, age 57-61. Focusing first on the variable indicating whether the respondent worked at the time of the survey, it is clear that, compared to the HRS baseline, the later cohorts were all more likely to be working in its 50's. Moreover the differences are substantial, amounting to around 8 percentage points (on a base of 71%). Nevertheless, all the non-HRS cohort coefficients are similar, suggesting that these cohorts were not differentially attached to the workforce than the HRS baseline. For women age 57-61, results in Panel B indicate that only both the War Babies and Early Boomers worked more than the HRS baseline, by 6-12 percentage points. Comparing Tables 3.1 and 3.2, we also see that the magnitudes of the cohort effects are attenuated somewhat when the additional controls are added, though the effects remain generally statistically significant. This suggests that part of what might be attributed to cohort differences could, instead, be attributed to the recent cohorts having more education, higher rates of marital

disruption, and fewer children. Additionally, the impact of having higher mortgage debt contributed to higher work rates for these women.

Next we review differences in older women's self-reported chances of working at age 65. Once again we find a rising degree of market attachment for Boomer cohorts in both Tables 3.1 and 3.2. For instance, the Early Boomers anticipated a 4 percentage point higher chance of working at age 65 than did the HRS baseline (on a base of about 26%), a point estimate that is robust to including our extended controls. An even larger estimate characterizes the MBB women who indicated that they were 7 percentage points more likely to be working for pay, compared to the HRS reference group in both models. This underscores the conclusion that older women are becoming increasingly likely, over time, to contemplate delayed retirement.

Finally, Tables 3.1 and 3.2 indicate how older women have changed their longevity expectations over time. This is of interest since a longer lifespan might prompt greater market attachment. Yet Panels A and B in both tables indicate that none of the post-baseline cohorts are very optimistic about their future lifespans. That is, among both the 51-56 and 57-61 age groups, the Early and Middle Boomers are significantly more pessimistic about their changes of living long, compared to their HRS baseline counterparts. This might seem surprising in view of the fact that longevity has been rising rather substantially over time. Nevertheless, it is consistent with women's pessimistic longevity expectations reported by Hurd and McGarry (2002). Moreover, including the additional controls actually increases the size of the estimated coefficients on more recent cohorts, suggesting that this finding is not simply due to compositional changes in the groups.

One reason to include the additional control variables in Table 3.2 is to determine whether the cohort effects change dramatically as a result, which is not generally the case. For

instance if we compare Panel A in Table 3.1 which controls only on age, race, and ethnicity, with Panel A in Table 3.2 with the additional controls, we find that all three cohorts (WB, EBB, and MBB) and both age groups were more likely to be working for pay when surveyed in their 50's than the HRS baseline. The other dependent variables behave similarly. Table 3.2 also shows us that, for both age groups, women's expectations of working at age 65 are strongly and positively affected by additional education (by 1 percentage point on a base of 26%), marital disruption (almost 10% on the same base), and health (11-14 percentage points on the same base). More education is also associated with an optimistic assessment of one's anticipated life span.

The last two rows of Table 3.2 speak to the question of how debt influences women's work patterns, and they show that mortgage debt, in particular, raises women's chances of working for pay and the probability of working at age 65. Thus a one standard deviation in the ratio of mortgage debt to home value (0.54, from Table 1) would be associated with a 1.4 percentage point rise in women's anticipated probability of working at age 65, equivalent to a 5% change. Prior research by Fortin (1995) has suggested that liquidity constraints related to home down payments have prompted many women to work more. The effect we discern here is complimentary, suggesting that older women may defer retirement due to the need to help repay their mortgage debt.

III. What Role for Debt?

To further examine the role of debt, we note that previous research has found that people are reaching retirement age today holding more debt than in the past (Lusardi and Mitchell, 2013; see also AARP, 2013; Bucks et al., 2009; Butrica and Karamcheva, 2014; Copeland, 2014,

and Pottow, 2012 among others). Accordingly we devote some additional attention to results in Table 4, which depict various measures of older women's financial fragility across cohorts.

[Table 4 here]

What we see is that both of the Boomer cohorts display a higher chance of carrying debt later in life, for both those age 51-56 and 57-61 (Panel 1). Additionally recent cohorts have higher levels of total debt later in the life-cycle (at both ages 51-56 and 57-61; Panel 2). Over time, cohort mean and medial debt levels have been steadily rising. For example, while the median (p50) debt of the HRS baseline was a little more than $13,000 at age 51-56, this level more than tripled for the Middle Baby Boomers ($43,000; all values in $2015). Increases in debt are even more striking for the older women age 57-61: the EBB cohort had about eight times as much debt as the baseline HRS cohort ($31,300 versus $4,100).

One reason for this large expansion in debt is that more recent cohorts have taken on larger mortgages, a pattern that is true for both the younger respondents (age 51-56) and the older respondents (age 57-61; Panels 3 and 4). Mortgages along with loans related to the primary residence are not only larger in absolute value, but also as a percentage of the value of the primary residence. These ratios have increased steadily across cohorts and more than doubled for the older respondents. For example, while the older HRS baseline cohort (age 57-61) neared retirement with a ratio of mortgages and loans on the value of the primary residence of 0.11, that ratio grew to 0.28 for the EBB. Thus many older women will need to manage mortgage debt well into their older years, consistent with the findings reported in Lusardi and Mitchell (2013).

The ratio of other debt to liquid assets also rose across cohorts, indicating that more recent generations are more leveraged than their earlier counterparts (Panel 5). In other words, financial challenges during retirement will require Boomer cohorts to use their income and assets

to repay debt, in contrast to the earlier cohort. Panel 6 shows that more older women live in households where the ratio of mortgage debt to residential value has doubled, from 18% to 33%, comparing the Middle Boomers to the HRS cohort. And rising fractions of women live in financially fragile circumstances, with only 19% of the younger HRS cohorts having less than $25,000 in saving, whereas one-third of the MBB group reported have this little in saving. The rise in debt and need to repay debt in later life may be one reason why peoples' financial situation (measured by non-pension wealth) is clearly contributing to rising labor force attachment among older women.

IV. Conclusions

This research uses multivariate statistical models to illustrate differences in past, current, and expected future labor market attachment patterns of older American women, across several cohorts and two age groups. We use comparable data for women surveyed in the HRS at ages 51-56 and 57-61, for four and three distinct cohorts, respectively. Our goal was to ascertain whether the cohorts' past and anticipated future labor force patterns differ statistically from one another, and what factors are associated with longer worklives and plans to continue work at older ages. While prior studies have explored women's labor supply patterns over time (c.f., Attanasio, Low, and Sanchez-Marcos, 2008; Goldin, 2014), most of these did not have access to the detailed earnings records that we have here with which to parameterize women's labor market attachment by decade of life.

Our analysis yields several findings. First, we demonstrate that each successive cohort of 51-56 year-olds was attached to the labor force more than our baseline comparator group. For example, the War Baby cohort held 0.2 more jobs than the HRS baseline, while the Early

Boomers held 0.3 more jobs and the Middle Boomers held 0.4 more jobs. Both Boomer groups also held substantially more 5+ year jobs than did the War Babies and the baseline HRS women. More recent cohorts of older women also received labor market earnings between 16 and 21% more of their adult lifetimes between ages 18 and 50, compared to the baseline HRS cohort. Interestingly, part of the reason the more recent groups were attached longer was that each cohort began to earn when they were successively younger – by 1-2 years. Similar patterns obtain for the women age 57-61.

Second, when we focus on work by decade of age, we confirm that each successive cohort of women had more years of market work per decade: for instance the WBB group had roughly one additional year of work per decade in their 20's, 30's and 40's, compared to the HRS baseline reference group. In particular, the most recent cohort for which we have data totaled almost seven additional years of attachment to the labor force over a 30-year time span, compared to the baseline HRS cohort.

Third, we evaluate whether HRS women's current and intended future labor force attachment patterns differ by cohort. Our results show that each successive cohort was also more likely to be working in its 50's, compared to the HRS baseline, on the order of 8 percentage points (on a base of 70%). Interestingly, however, the cohorts surveyed after the baseline HRS seemed equally attached to the workforce, compared to the HRS counterparts.

Fourth, when we compare differences in older women's self-reported chances of working at older ages, again we find evidence that women anticipate working longer. That is, early Boomers believed they had a 4-5 percentage point higher chance of working than the HRS baseline (on a base of about 25%), and the MBB cohort indicates that it is even more likely to be

working for pay compared to the HRS reference group. These suggest that delayed retirement is becoming more prevalent over time.

Fifth, there appear to be several reasons for delayed retirement among older women over time. They are better educated, have experience more marital disruption, and have had fewer children than prior cohorts, and are more likely to hold substantial debt due to having taken on larger residential mortgages.

References

AARP. 2013. *In the Red: Older Americans and Credit Card Debt*. AARP Public Policy Institute Report. www.aarp.org

Attanasio, O. H. Low, and V. Sánchez-Marcos. 2008. "Explaining Changes in Female Labor Supply in a Life-Cycle Model." *American Economic Review*. 98(4): 1517–1552

Bucks, B., A. Kennickell, T. Mach, and K. Moore. 2009. "Changes in U.S. Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 95: A1-A55.

Butrica, B. and N. Karamcheva. 2013. Does Household Debt Influence the Labor Supply and Benefit Claiming Decisions of Older Americans? Working Paper, Urban Institute.

Copeland, C. 2013. "Debt of the Elderly and Near Elderly, 1992–2010." EBRI Notes. February 34.

Fortin, N. 1995. "Allocation Inflexibilities, Female Labor Supply and Housing Assets Accumulation: Are Women Working to Pay the Mortgage?" *Journal of Labor Economics*. 13: 524-557.

Goldin, C. 2014. "A Grand Gender Convergence: Its Last Chapter." *American Economic Review*. 104(4):1091-1119

Hurd, M. and K. McGarry. 2001. "The Predictive Validity of Subjective Probabilities of Survival." *The Economic Journal*. 112(482): 966-985

Lusardi, A. and O. S. Mitchell. 2013. "Debt and Debt Management among Older Adults." MRRC Report.

Lusardi, A. and O. S. Mitchell. 2015. "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature*. 52(1): 5-44. *(Lead article)*

National Institute on Aging (NIA). 2014. *Growing Older in America: The Health and Retirement Study*."www.nia.nih.gov/health/publication/growing-older-america-health-andretirement-study/preface.

Pottow, J. 2012. "The Rise in Elder Bankruptcy Filings and Failure of U.S. Bankruptcy Law." *The Elder Law Journal* 19: 220–257.

Table 1. Variable Descriptive Statistics (uses baseline survey weights)

A. Full Sample	Women Age 51-56			Women Age 57-61		
Variables	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*
Number of Jobs Reported	6,867	1.81	1.19	4,193	2.04	1.39
Number of 5+ Year Jobs Reported	6,867	1.37	1.14	4,193	1.44	1.18
Age when First Received Earnings	4,608	19.40	5.83	3,114	20.17	6.34
% of Years Age 18-50 Received Earnings	4,687	0.65	0.29	3,175	0.62	0.29
Number of years age 20-30 received earnings	4,687	6.03	3.46	3,175	5.74	3.45
Number of years age 30-40 received earnings	4,687	6.26	3.75	3,175	5.86	3.84
Number of years age 40-50 received earnings	4,687	7.14	3.73	3,175	6.93	3.84
Working for pay	6,812	0.71	0.45	4,174	0.61	0.49
Prob. Working at 65 (%)	5,226	26.29	32.50	2,987	25.69	33.32
Optimistic Live to 75	6,428	0.37	0.48	3,915	0.32	0.46
Age	6,867	53.19	1.63	4,193	58.82	1.41
White	6,867	0.80	0.40	4,193	0.82	0.39
Hispanic	6,867	0.09	0.29	4,193	0.08	0.28
Years of Education	6,836	13.15	2.82	4,182	12.94	2.99
Fair/Poor Health self-reported	6,866	0.23	0.42	4,192	0.25	0.43
Marital disruption	6,867	0.28	0.45	4,193	0.31	0.46
Number of children	6,867	2.63	1.79	4,193	2.80	1.94
All 1ry Res Loans/1ry Res. Value	6,865	0.30	0.54	4,193	0.25	0.62
Other debt/liquid assets	6,829	2.11	41.47	4,177	0.77	8.12
HRS	6,867	0.24	0.43	4,193	0.29	0.46
WB	6,867	0.21	0.40	4,193	0.32	0.46
EBB	6,867	0.24	0.43	4,193	0.39	0.49
MBB	6,867	0.31	0.46	4,193	0.00	0.00

(continued)

Table 1 (cont)

B. Subsample of Women Working For Pay	Women Age 51-56			Women Age 57-61		
Variables	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*
Number of Jobs Reported	4,593	2.03	1.17	2,389	2.40	1.42
Number of 5+ Year Jobs Reported	4,593	1.62	1.11	2,389	1.76	1.14
Age when First Received Earnings	3,108	19.03	5.24	1,815	19.73	5.80
% of Years Age 18-50 Received Earnings	3,118	0.72	0.25	1,816	0.69	0.26
Number of years age 20-30 received earnings	3,118	6.49	3.30	1,816	6.20	3.27
Number of years age 30-40 received earnings	3,118	6.92	3.51	1,816	6.52	3.65
Number of years age 40-50 received earnings	3,118	8.26	2.99	1,816	7.99	3.19
Working for pay	4,593	1.00	0.00	2,389	1.00	0.00
Prob. Working at 65 (%)	4,441	29.29	33.01	2,317	31.79	34.52
Optimistic Live to 75	4,358	0.38	0.48	2,266	0.34	0.47
Age	4,593	53.15	1.62	2,389	58.72	1.40
White	4,593	0.82	0.39	2,389	0.85	0.36
Hispanic	4,593	0.07	0.26	2,389	0.05	0.23
Years of Education	4,571	13.58	2.58	2,383	13.59	2.59
Fair/Poor Health self-reported	4,592	0.15	0.35	2,389	0.15	0.35
Marital disruption	4,593	0.29	0.45	2,389	0.31	0.46
Number of children	4,593	2.50	1.71	2,389	2.66	1.86
All 1ry Res Loans/1ry Res. Value	4,592	0.33	0.53	2,389	0.30	0.73
Other debt/liquid assets	4,570	2.63	49.23	2,383	0.77	5.81
HRS	4,593	0.22	0.42	2,389	0.27	0.44
WB	4,593	0.21	0.41	2,389	0.32	0.47
EBB	4,593	0.25	0.44	2,389	0.42	0.49
MBB	4,593	0.31	0.46	2,389	0.00	0.00

Table 2.1 Determinants of Women's Past Labor Force Attachment by HRS cohort: Full Sample (using baseline survey weights)

A. Women age 51-56

	# of jobs reported		# of 5+ year-jobs reported		Age when first received earnings		% of years age 18-50 received earnings	
WB	0.188 ***	0.210 ***	0.173 ***	0.195 ***	-0.534 **	-0.669 ***	0.093 ***	0.094 ***
	(0.046)	(0.046)	(0.044)	(0.044)	(0.267)	(0.250)	(0.013)	(0.012)
EBB	0.285 ***	0.312 ***	0.276 ***	0.302 ***	-1.277 ***	-1.424 ***	0.160 ***	0.160 ***
	(0.044)	(0.044)	(0.041)	(0.042)	(0.236)	(0.222)	(0.012)	(0.012)
MBB	0.390 ***	0.427 ***	0.389 ***	0.423 ***	-2.166 ***	-2.410 ***	0.204 ***	0.209 ***
	(0.046)	(0.047)	(0.044)	(0.045)	(0.216)	(0.211)	(0.014)	(0.014)
Age		0.012		0.017 *		0.130 **		-0.010 ***
		(0.011)		(0.011)		(0.054)		(0.003)
White		0.195 ***		0.157 ***		-2.389 ***		0.052 ***
		(0.040)		(0.038)		(0.300)		(0.012)
Hispanic		-0.415 ***		-0.402 ***		5.394 ***		-0.175 ***
		(0.054)		(0.050)		(0.610)		(0.019)
N	6,867	6,867	6,867	6,867	4,608	4,608	4,687	4,687
R-square	0.015	0.032	0.017	0.032	0.018	0.115	0.075	0.114
Mean of dep var	1.807	1.807	1.373	1.373	19.397	19.397	0.647	0.647
St.dev of dep var	1.189	1.189	1.138	1.138	5.830	5.830	0.285	0.285

Note: * p<0.10, ** p<0.05, *** p<0.01

(continued)

Table 2.1 (cont)

B. Women age 57-61

	# of jobs reported		# of 5+ year-jobs reported		Age when first received earnings		% of years age 18-50 received earnings	
WB	0.674 ***	0.708 ***	0.305 ***	0.330 ***	-2.143 ***	-2.352 ***	0.158 ***	0.164 ***
	(0.064)	(0.064)	(0.053)	(0.053)	(0.314)	(0.290)	(0.014)	(0.014)
EBB	0.597 ***	0.644 ***	0.421 ***	0.454 ***	-3.180 ***	-3.291 ***	0.239 ***	0.241 ***
	(0.059)	(0.058)	(0.052)	(0.052)	(0.265)	(0.253)	(0.013)	(0.013)
Age		-0.003		-0.004		0.422 ***		-0.013 ***
		(0.020)		(0.017)		(0.082)		(0.004)
White		0.247 ***		0.130 **		-2.874 ***		0.049 ***
		(0.062)		(0.054)		(0.409)		(0.015)
Hispanic		-0.761 ***		-0.624 ***		6.458 ***		-0.184 ***
		(0.086)		(0.071)		(0.887)		(0.026)
N	4,193	4,193	4,193	4,193	3,114	3,114	3,175	3,175
R-square	0.043	0.074	0.022	0.047	0.043	0.154	0.114	0.151
Mean of dep var	2.037	2.037	1.438	1.438	20.171	20.171	0.616	0.616
St.dev of dep var	1.393	1.393	1.175	1.175	6.336	6.336	0.290	0.290

Note: * p<0.10, ** p<0.05, *** p<0.01

Reference categories defined as follows: HRS baseline vs War Babies (WB), Early Baby Boomers (EBB), and Middle Boomers (MBB); White vs Nonwhite (self-reported); and Hispanic vs other (self-reported).

Table 2.2 Determinants of Women's Past Labor Force Attachment by HRS cohort: Subsample Working at Baseline (using baseline survey weights; see Table 2 for definitions)

A. Women age 51-56, Working at Baseline

	# of jobs reported		# of 5+ year-jobs reported		Age when first received earnings		% of years age 18-50 received earnings	
WB	0.119 **	0.137 **	0.075	0.095 *	-0.318	-0.414	0.075 ***	0.075 ***
	(0.054)	(0.054)	(0.051)	(0.051)	(0.288)	(0.266)	(0.013)	(0.013)
EBB	0.264 ***	0.287 ***	0.206 ***	0.230 ***	-1.061 ***	-1.174 ***	0.133 ***	0.132 ***
	(0.052)	(0.053)	(0.048)	(0.049)	(0.240)	(0.228)	(0.012)	(0.012)
MBB	0.380 ***	0.405 ***	0.333 ***	0.358 ***	-1.837 ***	-1.964 ***	0.193 ***	0.194 ***
	(0.054)	(0.054)	(0.052)	(0.052)	(0.243)	(0.240)	(0.013)	(0.013)
Age		0.024 *		0.027 **		0.087		-0.008 ***
		(0.014)		(0.013)		(0.054)		(0.003)
White		0.154 ***		0.125 ***		-2.746 ***		0.033 **
		(0.049)		(0.047)		(0.336)		(0.013)
Hispanic		-0.311 ***		-0.356 ***		5.175 ***		-0.126 ***
		(0.067)		(0.064)		(0.770)		(0.023)
N	4,593	4,593	4,593	4,593	3,108	3,108	3,118	3,118
R-square	0.015	0.025	0.014	0.025	0.017	0.120	0.082	0.104
Mean of dep var	2.028	2.028	1.623	1.623	19.032	19.032	0.722	0.722
St.dev of dep var	1.174	1.174	1.108	1.108	5.245	5.245	0.245	0.245

Note: * p<0.10, ** p<0.05, *** p<0.01

(continued)

Table 2.2 (cont)

B. Women age 57-61, Working at Baseline

	# of jobs reported		# of 5+ year-jobs reported		Age when first received earnings		% of years age 18-50 received earnings	
WB	0.808 ***	0.823 ***	0.293 ***	0.305 ***	-2.191 ***	-2.154 ***	0.155 ***	0.155 ***
	(0.087)	(0.087)	(0.069)	(0.070)	(0.373)	(0.353)	(0.016)	(0.016)
EBB	0.611 ***	0.626 ***	0.339 ***	0.350 ***	-2.803 ***	-2.849 ***	0.210 ***	0.211 ***
	(0.075)	(0.075)	(0.064)	(0.064)	(0.337)	(0.318)	(0.016)	(0.016)
Age		0.017		0.007		0.537 ***		-0.011 **
		(0.028)		(0.023)		(0.102)		(0.005)
White		0.147 *		0.049		-3.112 ***		0.019
		(0.086)		(0.071)		(0.595)		(0.019)
Hispanic		-0.418 ***		-0.412 ***		5.266 ***		-0.151 ***
		(0.139)		(0.118)		(1.239)		(0.035)
N	2,389	2,389	2,389	2,389	1,815	1,815	1,816	1,816
R-square	0.050	0.057	0.015	0.023	0.041	0.135	0.114	0.135
Mean of dep var	2.402	2.402	1.760	1.760	19.731	19.731	0.688	0.688
St.dev of dep var	1.422	1.422	1.144	1.144	5.799	5.799	0.257	0.257

Table 2.3 Determinants of Years Worked by Decade, By HRS Cohort (using baseline survey weights; see Table 2 for definitions)

	A. Women age 51-56			**B. Women age 51-56, Received Pay at Baseline**		
	# of years age 20-30 received earnings	# of years age 30-40 received earnings	# of years age 40-50 received earnings	# of years age 20-30 received earnings	# of years age 30-40 received earnings	# of years age 40-50 received earnings
WB	1.080 ***	1.045 ***	0.882 ***	0.911 ***	0.986 ***	0.570 ***
	(0.152)	(0.171)	(0.166)	(0.178)	(0.194)	(0.162)
EBB	2.105 ***	1.705 ***	1.161 ***	1.810 ***	1.481 ***	0.811 ***
	(0.140)	(0.157)	(0.161)	(0.160)	(0.178)	(0.152)
MBB	2.815 ***	2.193 ***	1.379 ***	2.835 ***	2.055 ***	1.045 ***
	(0.157)	(0.187)	(0.193)	(0.165)	(0.209)	(0.178)
Age	-0.086 **	-0.094 **	-0.114 ***	-0.042	-0.084 *	-0.126 ***
	(0.034)	(0.038)	(0.039)	(0.039)	(0.044)	(0.036)
White	0.730 ***	0.079	0.407 ***	0.669 ***	-0.161	0.128
	(0.143)	(0.155)	(0.157)	(0.175)	(0.180)	(0.158)
Hispanic	-2.003 ***	-1.566 ***	-1.569 ***	-1.612 ***	-0.994 ***	-1.114 ***
	(0.228)	(0.249)	(0.241)	(0.284)	(0.318)	(0.280)
N	4,687	4,687	4,687	3,118	3,118	3,118
R-square	0.128	0.064	0.040	0.115	0.053	0.031
Mean of dep var	6.032	6.261	7.140	6.485	6.925	8.260
St.dev of dep va	3.457	3.746	3.733	3.299	3.510	2.986

Note: * p<0.10, ** p<0.05, *** p<0.01

(continued)

Table 2.3 (cont)

	C. Women age 57-61			D. Women age 57-61, Working for Pay at Baseline		
	# of years age 20-30 received earnings	# of years age 30-40 received earnings	# of years age 40-50 received earnings	# of years age 20-30 received earnings	# of years age 30-40 received earnings	# of years age 40-50 received earnings
WB	1.490 ***	1.940 ***	1.540 ***	1.548 ***	1.911 ***	1.296 ***
	(0.166)	(0.186)	(0.185)	(0.207)	(0.234)	(0.202)
EBB	2.709 ***	2.615 ***	1.920 ***	2.494 ***	2.446 ***	1.452 ***
	(0.154)	(0.183)	(0.185)	(0.191)	(0.227)	(0.205)
Age	-0.083 *	-0.111 *	-0.129 **	-0.097	-0.118	-0.044
	(0.051)	(0.058)	(0.058)	(0.062)	(0.073)	(0.063)
White	0.575 ***	0.128	0.488 **	0.479 **	-0.192	-0.089
	(0.181)	(0.205)	(0.206)	(0.244)	(0.248)	(0.219)
Hispanic	-1.731 ***	-1.678 ***	-1.973 ***	-1.426 ***	-1.524 ***	-1.427 ***
	(0.320)	(0.349)	(0.320)	(0.455)	(0.509)	(0.395)
N	3,175	3,175	3,175	1,816	1,816	1,816
R-square	0.122	0.095	0.067	0.108	0.087	0.047
Mean of dep var	5.744	5.864	6.933	6.202	6.522	7.989
St.dev of dep va	3.454	3.839	3.840	3.270	3.653	3.193

Note: * p<0.10, ** p<0.05, *** p<0.01

Table 3.1 Determinants of Current and Future Work and Longevity by HRS Cohort (using baseline survey weights; see Table 2 for definitions)

A. Women age 51-56

	Currently Working for Pay	Prob. Work at 65 (%)	Optimistic re Live to 75
WB	0.088 ***	-0.324	0.002
	(0.017)	(1.528)	(0.020)
EBB	0.090 ***	4.290 ***	-0.177 ***
	(0.016)	(1.403)	(0.016)
MBB	0.080 ***	7.499 ***	-0.194 ***
	(0.016)	(1.365)	(0.016)
Age	-0.006	-0.506	-0.001
	(0.004)	(0.351)	(0.005)
White	0.075 ***	5.054 ***	-0.017
	(0.016)	(1.195)	(0.017)
Hispanic	-0.123 ***	-2.040	-0.082 ***
	(0.023)	(1.889)	(0.024)
N	6,812	5,226	6,428
R-square	0.015	0.015	0.034
Mean of dep var	0.708	26.286	0.367
St.dev of dep var	0.455	32.504	0.482

Note: * p<0.10, ** p<0.05, *** p<0.01

B. Women age 57-61

	Currently Working for Pay	Prob. Work at 65 (%)	Optimistic re Live to 75
WB	0.064 ***	1.778	-0.154 ***
	(0.022)	(1.847)	(0.019)
EBB	0.117 ***	5.140 ***	-0.183 ***
	(0.020)	(1.667)	(0.018)
Age	-0.027 ***	-0.934	0.011
	(0.007)	(0.569)	(0.007)
White	0.117 ***	6.774 ***	-0.055 **
	(0.023)	(1.641)	(0.023)
Hispanic	-0.198 ***	-7.618 ***	-0.133 ***
	(0.035)	(2.224)	(0.028)
N	4,174	2,987	3,915
R-square	0.027	0.016	0.033
Mean of dep var	0.607	25.694	0.316
St.dev of dep var	0.488	33.317	0.465

Note: * p<0.10, ** p<0.05, *** p<0.01

Table 3.2 Determinants of Future Work and Retirement by HRS Cohort: Extended Models (using baseline survey weights; see Table 2.1 for definitions)

A. Women age 51-56	Currently Working for Pay	Prob. Work at 65 (%)	Optimistic re Live to 75
WB	0.075 ***	-0.887	-0.002
	(0.017)	(1.509)	(0.021)
EBB	0.057 ***	3.494 **	-0.193 ***
	(0.017)	(1.422)	(0.017)
MBB	0.042 **	7.292 ***	-0.210 ***
	(0.018)	(1.413)	(0.017)
Age	-0.001	-0.549	0.002
	(0.004)	(0.346)	(0.005)
White	0.012	3.488 ***	-0.054 ***
	(0.017)	(1.207)	(0.019)
Hispanic	0.027	3.048	-0.019
	(0.024)	(1.985)	(0.028)
Years of Education	0.025 ***	0.976 ***	0.013 ***
	(0.003)	(0.231)	(0.003)
Marital Disruption	0.089 ***	9.618 ***	0.007
	(0.015)	(1.304)	(0.018)
Fair/Poor Health Self-reported	-0.299 ***	-10.792 ***	-0.160 ***
	(0.019)	(1.392)	(0.017)
Number of Children	-0.008 **	-0.418	0.000
	(0.004)	(0.318)	(0.004)
All 1ry Res Loans/1ry Res. Value	0.065 ***	2.602 **	0.005
	(0.023)	(1.038)	(0.014)
Other debt/liquid assets	0.001 *	0.014 *	0.000
	(0.000)	(0.008)	(0.000)
N	6,742	5,165	6,360
R-square	0.111	0.060	0.055
Mean of dep var	0.708	26.286	0.368
St.dev of dep var	0.455	32.539	0.482

Note: * p<0.10, ** p<0.05, *** p<0.01

(continued)

Table 3.2 (continued)

B. Women age 57-61	Currently Working for Pay	Prob. Work at 65 (%)	Optimistic re Live to 75
WB	0.017	1.656	-0.159 ***
	(0.024)	(1.848)	(0.020)
EBB	0.047 **	4.741 ***	-0.195 ***
	(0.023)	(1.687)	(0.020)
Age	-0.027 ***	-0.956 *	0.011
	(0.007)	(0.561)	(0.007)
White	0.035	4.546 ***	-0.114 ***
	(0.025)	(1.645)	(0.025)
Hispanic	-0.002	-0.331	-0.069 **
	(0.038)	(2.471)	(0.035)
Years of Education	0.032 ***	0.895 ***	0.013 ***
	(0.004)	(0.308)	(0.004)
Marital Disruption	0.069 ***	8.652 ***	-0.001
	(0.022)	(1.686)	(0.021)
Fair/Poor Health Self-reported	-0.280 ***	-13.880 ***	-0.177 ***
	(0.024)	(1.773)	(0.020)
Number of Children	-0.005	-0.135	0.011 **
	(0.005)	(0.390)	(0.005)
All 1ry Res Loans/1ry Res. Value	0.092 ***	2.276 **	-0.023
	(0.035)	(0.977)	(0.016)
Other debt/liquid assets	-0.001	0.060	0.001
	(0.001)	(0.057)	(0.001)
N	4,147	2,967	3,890
R-square	0.107	0.065	0.063
Mean of dep var	0.608	25.665	0.315
St.dev of dep var	0.488	33.306	0.465

Note: * p<0.10, ** p<0.05, *** p<0.01

Table 4. Differences in Debt by Cohort (using baseline survey weights; see Table 2.1 for definitions)

		p50	Mean	N
1. Have debt (0/1)				
Age group 51-56	HRS	0	0.41	2,937
	WB	0	0.41	849
	EBB	0	0.44	1,207
	MBB	1	0.52	1,874
Age group 57-61	HRS	0	0.37	2,061
	WB	0	0.39	699
	EBB	0	0.44	1,433
2. Total debt ($2015)				
Age group 51-56	HRS	13,360	57,617	2,937
	WB	27,360	62,941	849
	EBB	37,386	91,398	1,207
	MBB	43,200	98,055	1,874
Age group 57-61	HRS	4,175	33,021	2,061
	WB	23,560	68,066	699
	EBB	31,320	96,790	1,433
3. Value of all mortgages/land				
Age group 51-56	HRS	0	38,457	2,937
	WB	4,320	49,116	849
	EBB	16,120	71,083	1,207
	MBB	5,400	74,313	1,874
Age group 57-61	HRS	0	22,773	2,061
	WB	0	51,667	699
	EBB	0	70,801	1,433
4. Value of other debt ($2015)				
Age group 51-56	HRS	0	6,200	2,937
	WB	0	6,368	849
	EBB	0	7,522	1,207
	MBB	540	10,165	1,874
Age group 57-61	HRS	0	3,549	2,061
	WB	0	4,877	699
	EBB	0	8,764	1,433
5. Other debt/liquid assets				
Age group 51-56	HRS	0	0.91	2,925
	WB	0	1.69	845
	EBB	0	3.52	1,199
	MBB	0	2.22	1,860
Age group 57-61	HRS	0	0.70	2,054
	WB	0	0.39	698
	EBB	0	1.13	1,425

Table 4. (cont)

		p50	Mean	N
6. All 1ry Res Loans/1ry Res. Value >0.5				
Age group 51-56	HRS	0	0.18	2,918
	WB	0	0.24	841
	EBB	0	0.26	1,195
	MBB	0	0.32	1,862
Age group 57-61	HRS	0	0.11	2,057
	WB	0	0.22	690
	EBB	0	0.28	1,423
7. Have less than $25,000 in savings				
Age group 51-56	HRS	0	0.19	2,937
	WB	0	0.20	849
	EBB	0	0.23	1,207
	MBB	0	0.33	1,874
Age group 57-61	HRS	0	0.16	2,061
	WB	0	0.18	699
	EBB	0	0.26	1,433

Figure 1. Longitudinal Data Design of HRS (see Table 2.1 for definitions)

