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HOW MUCH DO OLDER WORKERS VALUE EMPLOYEE HEALTH INSURANCE?

By Leora Friedberg, Wei Sun, and Anthony Webb*

Introduction

This *brief* seeks to answer the question in the title by analyzing data from the *Health and Retirement Study* (HRS), a nationally representative survey of older Americans. New questions in the HRS enable researchers to compare the value that workers place on health insurance with their perceptions about the cost of coverage.

The comparison of cost with willingness-to-pay is important for two reasons. First, it helps us understand why some workers and their families do not have health insurance. In one sense, the reason is straightforward. The overwhelming majority — 85 percent — of uninsured workers of all ages are either ineligible for coverage that their employer provides or else work for an employer that does not offer coverage.[1] This absence of employer-provided coverage leaves them to seek health insurance on the individual market, where both prices and denial rates are high.

But the lack of coverage raises the question of why some employers, but not others, offer health insurance. One explanation is simply that "good jobs" offer health insurance, and "bad jobs" do not. However, economic theory suggests that this notion is too simplistic. Employers will offer benefit packages to appeal to the types of employees they wish to attract — subject to the constraints of minimum wage laws, anti-discrimination regulations, and social norms. Employees will "pay" for this health insurance in the form of a reduced cash wage.[2] If employers believe that actual and prospective employees value health insurance more highly than additional cash, perhaps because of the preferential tax treatment and risk pooling obtained at the employer level, they will offer insurance; otherwise, they will not.[3] This does not mean that employees going without health insurance like their situation — they simply prefer it to the alternative of a lower cash wage. If this theory is correct, then the insured and the uninsured should differ substantially in their willingness to pay for health insurance — a hypothesis that we test using the HRS data.

The second reason to establish how much workers value health insurance is that willingness to pay will influence both the effectiveness and distributional consequences of strategies to increase coverage. Some policy proposals and existing programs require individuals to purchase health insurance, while providing subsidies targeted to low-income households.[4] Others offer such households subsidized insurance on a voluntary basis.[5]

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If the currently uninsured place a low value on coverage, then a voluntary program may have little effect, while compulsion would make them worse off, unless accompanied by generous subsidies. But if we are able to identify factors that influence the value individuals place on health insurance, it may be possible to target interventions to increase voluntary take-up or to reduce the burden of a mandate. For example, if those who currently place a low value on health insurance do so because they are financially unsophisticated, then a program of financial education may increase coverage. But if they are simply too poor to afford the premiums, then education may have little effect, and a program might require subsidies targeted at low-wage workers.

The Health Insurance Module of the HRS

The HRS is a nationally representative sample of individuals born before 1954 and their spouses. In 2006, interviewers asked a randomly selected sub-sample of 1,076 individuals who were under age 65 and not self-employed about the value they placed on employee health insurance. Of the sub-sample, 559 had health insurance from their current employer or their spouse's current employer; 178 had insurance from a past employer; 111 were working but uninsured; and the remaining 228 neither worked nor had insurance.[6] This *brief* addresses health insurance for current workers; it excludes retirees, whose coverage is likely to be relatively stable until they reach Medicare eligibility at age 65.[7]

As shown in the flow chart in Figure 1, the questions that were asked depended on the individual's health insurance and employment status. The insured were first asked the cost of their coverage, inclusive of both employer and employee contributions. To determine the value they placed on their insurance benefit, they were then asked how much they would be willing to pay for insurance in the event that their coverage stopped. Those with coverage from a current employer were further asked whether they would accept pay raises of up to 30 percent in return for dropping coverage. Uninsured workers were asked in parallel whether they would accept various percentage pay cuts in return for coverage.[8]

As shown in Table 1, workers with health insurance coverage from their current employer are very different from workers without coverage. They are more likely to be married, are better educated, earn more, are wealthier and healthier, make greater use

FIGURE 1. SELECTED HEALTH INSURANCE QUESTIONS FROM THE HRS, 2006
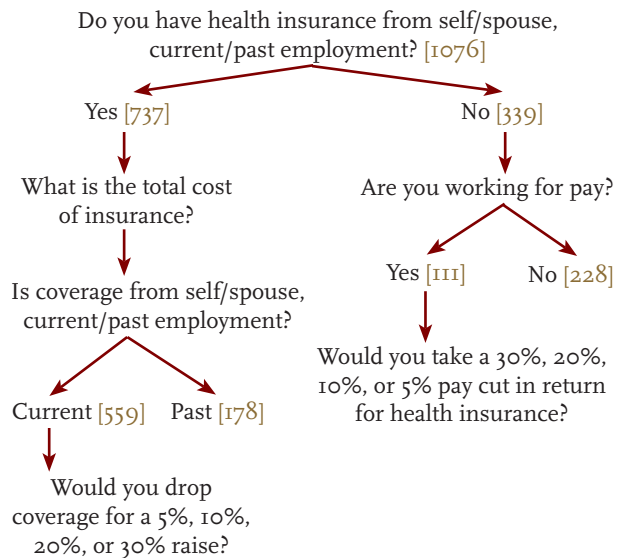
Source: University of Michigan, *Health and Retirement Study* (HRS), 2006.

of health services, are more financially savvy, and are less likely to be members of racial/ethnic minorities. We therefore anticipate that the valuations of employee health insurance among workers who do and do not have coverage will likewise differ, so we use multivariate regressions to determine how the above factors contribute to these differences.

TABLE 1. PERCENT WITH SELECTED CHARACTERISTICS OF THOSE WITH AND WITHOUT EMPLOYER-PROVIDED HEALTH INSURANCE, 2006

Characteristic	With insurance	Without insurance
Married	75.8%	52.8%
Some college	46.5	22.9
Fair or poor health	13.1	26.0
Had cholesterol test	81.9	58.4
Ability to do basic financial calculations	64.5	47.2
Black	8.6	13.0
Hispanic	1.9	11.3
Addendum:		
Median household labor income	$67,200	$22,000
Median household financial assets	$50,000	$1,300

Note: All differences are statistically significant at the 1 percent level, except for "black," which is significant at the 5 percent level.
Source: Authors' calculations from 2006 HRS.

The analysis in this *brief* uses the questions about percentage pay raises that respondents would accept in return for dropping coverage. However, it does not use the question asking the insured how much they would be willing to pay for insurance in the event that their employer stopped providing coverage, as the responses did not appear meaningful.[9]

How Much Does Health Insurance Cost?

Interviewers asked individuals with health insurance from a current employer the following question:

> *What is the total cost of this insurance coverage, including the part you pay and the part paid by the employer?* [10]

As is common in such surveys, many people — a total of 335 of the 559 — did not give a precise answer. An important strength of the HRS is that these individuals were then asked to specify a range for this value, something they were generally willing to do. These incomplete responses can then be used to impute dollar amounts to all the individuals in the sample.[11] After such imputations, the mean and median annual cost of insurance coverage amounted to $6,103 and $5,352, respectively. The mean amount is roughly comparable to estimates of the actual cost of employer health coverage, which was $6,920.[12]

How Much Do Those With Health Insurance Value Their Coverage?

The same individuals were then asked:

> *Suppose your employer offered to give you a raise if you would drop the health insurance coverage that they currently provide to you. Would you drop the health insurance coverage if the raise offered was 5 percent higher than your current pay?*

If a respondent answered "no," they were then offered sequential raises of 10, 20, and then 30 percent.[13] Figure 2 shows the responses.[14] Ninety-five percent preferred their health insurance to a 5-percent raise. Forty-seven percent also preferred their health insurance to a 30-percent raise, while only a very small proportion did not specify a preference.
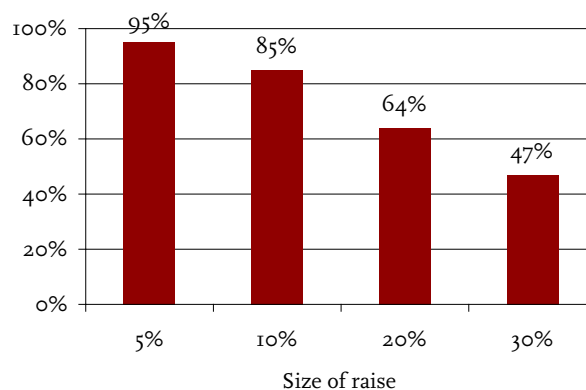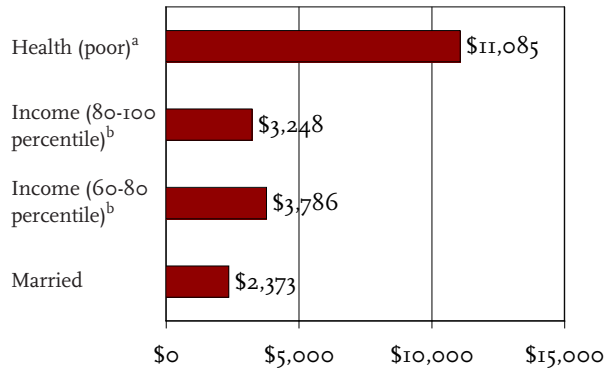
Note: The figure includes data that were imputed using HRS sample weights.
Source: Authors' calculations from 2006 HRS.

We then estimate an interval regression model to understand the factors explaining this valuation of health insurance coverage.[15] We begin by using our regression coefficients to predict the mean and median pay raises that the sample would require in return for dropping coverage. These raises amount to $15,236 and $15,077, respectively. In contrast, the same sample reported mean and median health insurance costs of $6,103 and $5,352.[16] The high value placed on employee health insurance, relative to the perceived cost of provision, likely reflects a high degree of risk aversion and perhaps an awareness of the tax advantages of being paid in health insurance rather than its cash equivalent.

Figure 3 on the next page reports the regression results, showing selected factors that influence these valuations. The results in the figure are all statistically significant. (The full regression results appear in Appendix Table A-1.) Households with high incomes require significantly more compensation for dropping coverage. The base case in the regression is a household with income in the third quintile (i.e., in the middle of the income distribution, between the 40th and 60th percentiles); in comparison, someone in the fourth income quintile (higher in the distribution, in the 60th-80th percentiles) would require $3,786 more and someone in the top quintile (80th and up) $3,248 more to drop coverage. Being in poor health is a highly significant determinant; relative to someone who reports good health, people who think their health is poor require $11,085 more to drop coverage. Married people require significantly more, $2,373, presumably because many policies cover their spouses.

FIGURE 3. EFFECT OF SELECTED FACTORS ON INCREASED PAY INDIVIDUALS WOULD REQUIRE TO GIVE UP EMPLOYER HEALTH COVERAGE, 2006

Health (poor)[a] $11,085

Income (80-100 percentile)[b] $3,248

Income (60-80 percentile)[b] $3,786

Married $2,373

$0 $5,000 $10,000 $15,000

[a] The health results are for respondents in poor health, relative to a baseline respondent who is in excellent health.
[b] The income results are for respondents in the 80-100th and 60-100th income percentiles, relative to a baseline respondent who is in the middle income (40-60th) quintile.
Source: Authors' calculations from 2006 HRS.

A number of other potential explanatory variables turn out to have no significant effect. In particular, age, gender, ethnicity, education, the use of preventative health care (a measure of risk aversion), a direct measure of risk aversion, financial planning horizons, tests of the individual's ability to make financial calculations, and household wealth have effects that are usually small and always insignificantly different from zero.

How Much Do Those Without Health Insurance Value Coverage?

A total of 111 individuals who were employed but did not have health insurance were asked a parallel question about acquiring coverage:

> *Suppose your employer offered to give you health insurance if you would take a pay cut. Would you choose health insurance coverage if the pay cut was 30 percent lower than your current pay?*

If they answered "no," they were offered pay cuts of 20, 10, and then 5 percent in return for insurance.[17] Figure 4 shows the responses.[18] Seventy-six percent were willing to accept a 5 percent pay cut, while only 24 percent preferred health insurance to a 30 percent pay cut.
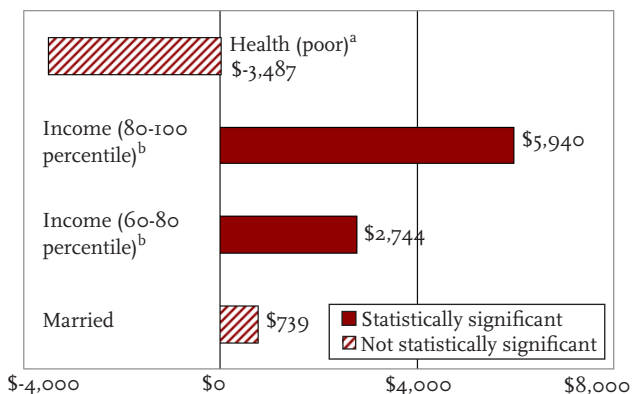
FIGURE 4. PERCENTAGE OF WORKERS WITHOUT HEALTH INSURANCE WILLING TO ACCEPT A PAY CUT IN EXCHANGE FOR HEALTH INSURANCE, BY SIZE OF PAY CUT, 2006
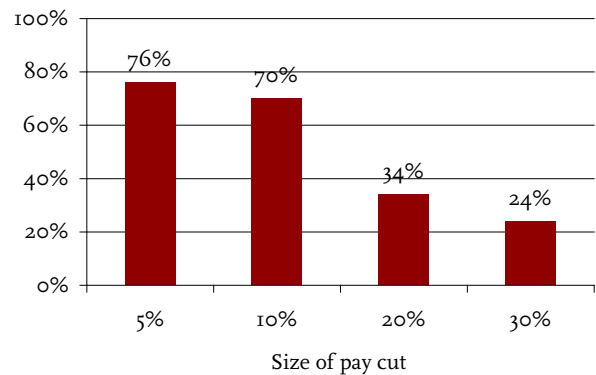
76%   70%   34%   24%

5%   10%   20%   30%

Size of pay cut

Note: The figure includes data that were imputed using HRS sample weights.
Source: Authors' calculations from 2006 HRS.

We estimated a similar interval regression model for this sample of the working uninsured and report selected results in Figure 5. (Full results are in Appendix Table A-2.) These individuals earned less, on average, than those with health insurance, so the average dollar amount that they were willing to give up in return for obtaining coverage was considerably less than the average dollar amount that those with insurance would require in return for giving it up.[19] Based on our regression coefficients, we calculate that the

FIGURE 5. EFFECT OF SELECTED FACTORS ON HOW MUCH INDIVIDUALS WOULD BE WILLING TO PAY FOR EMPLOYER HEALTH COVERAGE, 2006

Health (poor)[a] $-3,487

Income (80-100 percentile)[b] $5,940

Income (60-80 percentile)[b] $2,744

Married $739

■ Statistically significant
▨ Not statistically significant

$-4,000 $0 $4,000 $8,000

[a] The health results are for respondents in poor health, relative to a baseline respondent who is in excellent health.
[b] The income results are for respondents in the 80-100th and 60-100th income percentiles, relative to a baseline respondent who is in the middle income (40-60th) quintile.
Source: Authors' calculations from 2006 HRS.

predicted mean and median pay cut that these house-holds would accept in return for obtaining coverage amount to $4,896 and $3,538, respectively. These valuations are low, but not dramatically lower than the median health insurance cost of $5,352 estimated by those with insurance.

Income again has a highly significant effect on the valuation of health insurance. Uninsured individuals in the highest two income quintiles were willing to pay $2,744, and $5,940 more, respectively, than individuals in the middle income quintile. Health status and marital status are no longer significant. These results may reflect the small sample size. In addition, the lack of significance for health status may reflect the availability of Medicaid on a means-tested basis, which makes it a more effective safety net to those with lower assets.

Conclusion

Figure 6 summarizes our results. It compares the median cost of health insurance perceived by those with coverage to the amounts that those with and without insurance are willing to pay for coverage.

This analysis reveals substantial differences between the valuations that the currently insured place on health insurance and the amount that the currently uninsured would be willing to pay in order to obtain coverage. This result is not too surprising. The uninsured generally have quite low incomes and simply find it difficult to afford large premiums, even though they have greater need for health insurance based on their health status. Although the average willingness to pay among the uninsured is less than the likely cost of providing coverage, moderate targeted subsidies might generate substantial take-up under a voluntary program, while reducing the number of households made worse off under a mandatory program.

FIGURE 6. PERCEIVED COST OF COVERAGE COMPARED TO VALUE OF COVERAGE BY INSURED STATUS, 2006
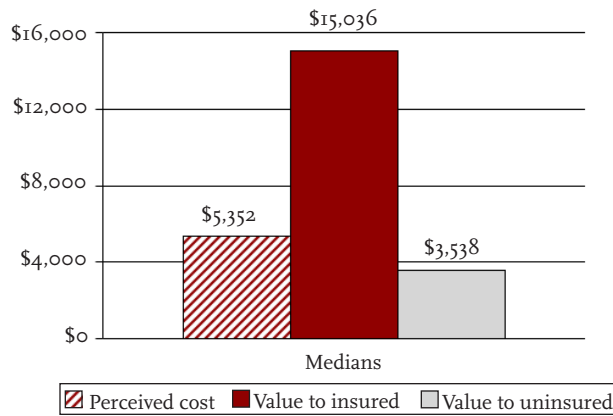
Source: Authors' calculations from 2006 HRS.

Endnotes

1 Employee Benefit Research Institute (2007).

2 Even though jobs with health care tend to also pay higher cash wages, these wages would be even higher if health insurance were not offered. The constraints mentioned in the text limit the ability of employers to reduce cash wages in order to pay for health insurance and to tailor wage-health insurance packages to match particular employee preferences.

3 Using the 1987 Medical Expenditure Survey, Monheit and Vistnes (1999) found evidence of job sorting based on workers' differing preferences for health insurance.

4 For example, the State of Massachusetts has a mandatory insurance program; for an overview, see Holahan and Blumberg (2006).

5 For example, the State Children's Health Insurance Program, a partnership between the federal government and the states, allows states to offer voluntary subsidized coverage to certain individuals. For an overview of this program, see National Conference of State Legislatures (2008).

6 Eliminating unusable responses (observations with missing earnings) reduces the sample of 559 to 528 and of 111 to 100.

7 Nevertheless, it should be recognized that any policy that increases the availability of health insurance coverage outside of employment might induce retirees to drop insurance from previous employers.

8 In addition, those with coverage from a past employer were asked to estimate the total cost of their coverage and to choose between continued coverage and payments of up to $20,000 a year. Those who were neither insured nor working were asked how they would choose between insurance and cash payments of various amounts. As noted earlier, we do not focus on these groups in our current analysis.

9 In contrast to the results we report later, running multivariate regressions with this variable — the dollar amount households said they were willing to pay for insurance in the event of losing employer coverage — as the dependent variable revealed little of interest. Moreover, this dollar amount is only weakly correlated with the dollar amount that households would require in return for giving up insurance, so we have concluded that the latter is a less noisy signal of true willingness to pay for insurance.

10 In addition to the respondent's employer, the HRS question also asks (if applicable) about the employer of the respondent's spouse or partner. For simplicity, the questions reproduced in this *brief* omit these additional variations.

11 The ranges were less than $2,000, $2,000 to $6,000, or greater than $6,000. We assigned to everyone providing a range answer a specific dollar amount taken from a randomly selected individual who answered with a precise value in the same range and had the same socio-economic characteristics. This technique is widely used in analyzing micro data sets and is referred to as "hot-deck" imputation.

12 This estimate is based on Branscome and Crimmel (2007).

13 Some respondents were instead offered a 3, 5, 10, or 20 percent raise. Individuals who had coverage and had declined the highest percentage pay raise in return for dropping coverage were then asked specifically:

> *How much of a raise would your employer have to give you to make you drop the health insurance benefits from work?*

Before imputation, a total of 268 out of 559 turned down the highest percentage raise offered and, of these, 112 answered "nothing." Their response cannot literally mean "nothing," as in 0 percent, as they had just turned down a 30 percent raise, so it presumably means that they can think of no amount, however large, that would induce them to give up their coverage. As there is clearly some amount that, after careful thought, they would accept, we ignore this question and treat this group as having an unobserved valuation that exceeds 30 percent of their pay.

14 The results in Figure 2 reflect imputed responses for those who refused a 20 percent pay raise but who were not asked whether they would accept a 30 percent raise.

15 As we are interested in the dollar willingness to pay, we express the above percentages in dollar terms by multiplying them by salary. Thus, someone earning $50,000 a year who will accept a 10 but not a 5 percent raise has a valuation lying in the interval between $2,500, and $5,000.

16 It would be preferable to compare reported cost with reported (rather than predicted) willingness to pay. Reported cost is based on reported and imputed amounts, as explained above, with the imputations derived from ranges for those who did not report precise amounts and from the distribution of actual amounts for those who did. However, valuations were only reported in ranges, so we observe no actual amounts as a basis for imputation. As an alternative, the interval regression method allows us to construct equivalent predicted amounts.

17 Although the two sets of percentages are identical, the households without health insurance were being asked to give up larger percentages of salary, inclusive of the employer's contribution to health insurance.

18 The results in Figure 4 reflect imputed responses for those who accepted a 20 percent pay cut but who were not asked whether they would accept a 30 percent cut.

19 The quality of the health insurance was not specified. Lower earners are typically offered less generous coverage, so the results may in part reflect differences in perceived quality.

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APPENDIX

Table A1. Dependent Variable — Dollar Amount Required to Give Up Health Insurance

Explanatory variable		Coefficient	Standard error ($)
Age	50-54	-2,087	1,653
	55-59	-1,949	1,481
Income quintile	Lowest	-1,054	1,974
	Second	-743	1,786
	Fourth	3,786 **	1,738
	Highest	3,248 *	1,756
Wealth quintile	Lowest	635	2,069
	Second	662	1,707
	Fourth	903	1,621
	Highest	576	1,761
Health	Very good	718	1,493
	Good	1,604	1,624
	Fair	2,204	2,128
	Poor	11,085 *	5,822
Married		2,373 *	1,431
Education	Less than high school	-650	3,266
	Some college	259	1,232
Male		-3,297	2,284
Black		2,882	2,038
Hispanic		-231	4,271
Preventative health care	Flu shot	23	1,139
	Cholesterol test	2,694	1,551
	Breast examinination	-1,029	1,625
	Mammogram	1,128	2,235
Financial knowledge	Prob of getting disease	-658	1,776
	Division of lottery	509	1,218
	Compound interest	-1,027	1,492
Optimistic about life expectancy		1,584	1,931
Risk averse		-251	469
Financial time horizon	Few months	976	2,461
	Year	326	2,594
	Next few years	-3,350	1,857
	5-10 years	-974	1,725

Notes: Sample comprises 528 individuals working and covered by health insurance. HRS sample weights used. Coefficients significant at the ten and five percent level indicated by * and ** respectively.
Source: Authors' calculations from 2006 HRS.

Table A2. Dependent Variable — Dollar Amount Will Pay to Obtain Coverage

Explanatory variable		Coefficient	Standard error ($)
Age	50-54	-3,854 **	1,667
	55-59	-2,510 *	1,329
Income quintile	Lowest	-926	1,054
	Second	-1,909	1,786
	Fourth	2,744 *	1,738
	Highest	5,940 ***	1,756
Wealth quintile	Lowest	-3,088	2,069
	Second	-2,254	1,707
	Fourth	255	1,621
	Highest	2,897	1,761
Health	Very good	4,015	1,493
	Good	2,386	1,624
	Fair	4,232	2,128
	Poor	-3,487	5,822
Married		739	1,431
Education	Less than high school	-1,349	3,266
	Some college	1,586	1,232
Male		1,596	2,284
Black		619	2,038
Hispanic		795	4,271
Preventative health care	Flu shot	-609	1,139
	Cholesterol test	-1,696	1,551
	Breast examination	3,830	1,625
	Mammogram	-1,823	2,235
Financial knowledge	Prob of getting disease	319 **	1,776
	Division of lottery	-43	1218
	Compound interest	-2,897	1,492
Optimistic about life expectancy		-1,675	1,931
Risk averse		-971 **	469
Financial time horizon	Few months	3,335	2,461
	Year	3,121	2,594
	Next few years	2,533	1,857
	5-10 years	1,468	1,725

Notes: Sample comprises 100 individuals working but lacking health insurance. HRS sample weights used. Coefficients significant at the ten, five, and one percent level indicated by *, **, and *** respectively.
Source: Authors' calculations from 2006 HRS.

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The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research and forge a strong link between the academic community and decision makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

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