My IRA: Making Up Ground or Cashing It in?

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We interpret participation in Individual Retirement Accounts (IRAs) in the United States over time from both an economic and socio-behavioral perspective. We report an IRA plateau with about 33% of families aged 30-64 participating during 1999 – 2007. The participation rate has fallen steadily to about 23% in recent years. From an economic perspective, expectations of greater non-pension retirement resources appear to induce a decline in IRA participation. Greater current resources lead to more persistent pension participation. In terms of social factors, we observe notable gender differences in the composition of IRAs.

Keywords: IRA management, life cycle savings, capital gains and savings

INTRODUCTION

Individual Retirement Accounts (IRAs) represent nearly half of all assets in private sector retirement balances (Chen and Munnell, 2017). IRAs are important and are often accumulated from prior 401(k)s. The annual dollar contribution limits suggest IRAs should be more important in the retirement savings of middle-income families. As the name suggests, IRAs have more individual control than employer-sponsored defined benefit (DB) or defined contribution (DC) pension plans. In this paper, we show IRAs offer a better opportunity to understand the motivations behind accumulating life-course resources and reasons for the substantial pre-retirement exits. As with other wealth or saving balances, IRAs can be reduced, accumulated at a slower rate, or even discontinued to support current consumption when pre-retirement resources are unexpectedly diminished.

The decision to continue participating in or exiting an IRA appears to be shaped by intertemporal consumption smoothing. During periods of reduced resources leading up to retirement, families often cash in their IRAs. Similarly, when there are capital gains that can help support future retirement consumption, families frequently exit their participation as well. Conversely, more favorable pre-retirement conditions tend to encourage continued participation in an IRA. In this paper, we propose what may be termed the Pension Consumption Smoothing Hypothesis (PCSH). Under this hypothesis, IRA holdings can be important for smoothing consumption across time.

Behavioral factors influencing participation reveal notable gender disparities in the composition of IRAs and distinct patterns of sustained participation among African-American families. Our findings also align with previous research highlighting a strong link between participation and pension plans (Chiteji, Gouskova and Stafford, 2010). Evidence for these newly discovered patterns comes from an analysis of IRA persistence and exits, based on data from the Panel Study of Income Dynamics from 1999 to 2015.

From 1991-2000, the flow of funds data indicates a shift away from equity in defined benefit plans and into defined contribution plans (Teplin, 2001; Federal Reserve, 2012). Research has shown that job transitions have long been an important window for cashing in defined contribution pensions (Hurd, Lillard and Panis, 1998). During the Great Recession, many families withdrew funds from their defined contribution pension plans and stopped contributing to them altogether (Bridges and Stafford, 2013; Lu, Mitchell, Utkus, and Young, 2017), possibly induced in part by reduced employer matching (Munnell and Quinby, 2010). Since the Great Recession, there seems to have been some stabilization and recovery in defined contribution participation, although there are important measurement issues.

Data from the employer-based National Compensation Survey of the U.S. Department of Labor show a rise in participation rates from 37 percent in 2010 to 40 percent in 2017. In contrast, data from the Current Population Survey "showed significant declines in the percentage of workers participating in employment-based retirement plans from 2013 to 2015," though there are measurement issues related to the questionnaire redesign (Copeland, 2016). Suppose that participation in defined contribution plans has stabilized or even modestly increased in recent years, has this trend been offset by a decline in IRA participation due to exits? If so, this is noteworthy, particularly because the contribution limits suggest that IRAs may be more significant for middle-income families.

The financial exigencies of the recession led to shifts out of IRA participation and into withdrawals, and, though disappointing, is not necessarily surprising and certainly continues for those with cash flow limits or protecting consumption commitments, such as home ownership payments for mortgage, taxes and insurance. As the recovery developed over the period 2009-2015, a continued decline in IRA participation by those in the 'working years' age range of 30-64 is observed. So on the face of it, a decline in participation has occurred in both bad times *and* in good times. Possibly potential participants have been discouraged. Even with strong returns from 2009-2015, holding stocks may look too risky and a flow of IRA funds into fixed income assets has been discouraged by low interest rates. Further, myopic savers may have a systematic bias favoring current consumption expenditures, and many of them lack financial literacy (Lusardi and Mitchell, 2007).

While the discouragement from perceived risk and poor returns on safer assets or inability to engage in intertemporal planning may be an explanation for more recent IRA exits, one theme we explore is the impact of *favorable* nearer term experience with non-pension assets that can be thought of as resources for retirement. Suppose a family has capital gains from stocks, whether held directly or within retirement funds; also, the family has home equity, which is generally viewed as stable and likely to persist or recover. Under these assumptions, there are incentives to bring to the present resources for current consumption as part of an intertemporal balance. Some prior evidence is consistent with this intertemporal view. During the strong stock market gains of the early 1990's, a wealth effect was observed in the form of reduced flows into various forms of saving (Juster, Lupton, Smith, and Stafford, 2006). This paper shows a related response as IRA participation declined for those with recent non-pension capital gains in the stock market.

On the one hand, a previous depletion of resources due to retirement spending, such as during a cash flow crisis from the Great Recession involving mortgage payments, may prompt individuals to make up ground and put more aside in pensions or other wealth components (Yang and Chen, 2021). Moreover, in recent decades, current and future resources have become more fungible among one other. Paying down a mortgage and contributing to an IRA, pension, or other savings can together support future consumption (Poterba and Wise, 1996). Conversely, resources that are otherwise earmarked for future use can be more easily redirected towards current spending. For instance, a family's current or anticipated increase in home equity might enable them to allocate less toward long-term savings. They might also choose to refinance their mortgage to a larger balance, thereby withdrawing funds to support current consumption, such as during a spell of unemployment (Hurst and Stafford, 2004).

The paper's organization is as follows: in section II, we present data on repeated cross-section participation rates in IRAs, both overall and segmented by families headed by men and women, as well as by pre-retirement age individuals (30-64). We also present balanced panel transition tables for 2005-2015 and then the more recent post-recession period 2011-2015. In section III, we develop a stylized two period model of income and consumption in a current pre-retired period and an anticipated retirement period. Section IV develops an empirical model of the factors predicting panel-based exits from pension participation from 2005-2015. This period includes both good and bad times, allowing for the assessment of factors that may motivate both exits from participation and continued participation among those approaching retirement. Section V concludes.

PARTICIPATION IN INDIVIDUAL RETIREMENT ACCOUNTS

Weighted percentages of participation in IRAs for the families in the Panel Study of Income Dynamics, both overall and by age and gender groups are presented in Table 1. During the COVID-19 pandemic, substantial government relief, including stimulus checks and enhanced unemployment benefits, boosted disposable income for many Americans. This led to a surge in retail investors and unusual market dynamics. Given these extraordinary circumstances, we exclude this period from our analysis.

The age range of 30-64 for the head matches the age range in which people are most likely to be active in the labor force and can generally set aside current resources to support consumption during retirement. Notably, for all four panels, the percentage of non-participation by families (No Investment) is stable over the period 1999-2007. From 2007-2015 the percentage of participation falls steadily. For families headed by men aged 30-64, the participation percentage has fallen from 36.3% to 26.7%. For families headed by a single woman aged 30-64, the participation percentage has fallen from 22.7% to 15.3% from 2007-2015. These cross-sectional patterns in Table 1 suggest the compositional shifts and exits are not simply a matter of life cycle transitions.

In terms of composition, conditional on participation, women are less likely to have their IRA mostly in stocks. Among the single household women aged 30-64 who participated in an IRA as of 1999, 35.3% of them stated that the balance was 'mostly in stocks.' This percentage fell to 22.9% in 2015. Among families headed by men participating, the share of pensions 'mostly in stocks' fell modestly from 38.3% in 1999 to 36.0% in 2015. As there were exits from the share of pensions mostly in stocks, the share of those men participating in a more balanced allocation ('split') has risen from 37.6% to 48.8%, and for women it has risen from 31.5% to 60.1%. An interpretation of the exits from stocks is an increase in the perceived risk after the downturn during the Great Recession (Hudomiet, Kédzi and Willis, 2011; Yang and Kazemi, 2020; Yang, Kazemi, and Sherman, 2021; Yan and Yang, 2022; Chen, Kazemi, and Yang, 2025). The tendency of women to generally prefer less risky asset allocation is reported in the literature (Barsky, Juster, Kimball, and Shapiro, 1997; Hallahan, Faff and McKenzie, 2004; Shah, Kung and Addum, 2013) and shows up as a lower dependence on stocks in these retirement allocations.

Table 2 shows the balanced panels of the transitions in IRA and the composition of assets from 2005 to 2015. Balanced panels are also presented for 2011 -2015. We can see that aligned with the repeated cross-sectional patterns shown in Table 1, the panel transitions predominantly shift towards 'No Investment,' defined as no family member participating in an IRA.

A STYLIZED PENSION CONSUMPTION SMOOTHING HYPOTHESIS (PCSH)

From an economic perspective, consider a simple two period model with time prior to retirement t_0 and a retirement period t_1. Consumptions in the two periods is C_0 and C_1, respectively. Resources for pre-retirement consumption in t_0 are Y_0 and in t_1 are Y_1. The question is to maximize:

1. $U = U(C_0, C_1)$ subject to
2. $Y = Y_0 + Y_1/(1+r)$ where r is the return on pre-retirement saving (which could be negative). Y represents the total resources available in the 2 periods.

3. $D_1 < \alpha Y_1$ can be added as a possible limit on taking from Y_1 such as social security or a defined benefit pension.

The Y_1 resources include home equity, stocks, bonds or other assets which can be thought of as being available for retirement, which at a price, can be converted into use during the pre-retirement period. The basic comparative statics of the model are illustrated in Figure 1. Suppose the initial equilibrium is at point **a**, with an intertemporal allocation of Y_{00} and Y_{10}. An adverse resource shock would move current resources to Y_{01} (point **d**). In response, there would be a reallocation to point **b**, representing a drawdown of retirement resources, including an exit from pension or IRA participation, to smooth consumption across the two periods.

TABLE 1
IRA PARTICIPATION, 1999-2015

Panel A: All

Percentage	1999	2001	2003	2005	2007	2009	2011	2013	2015
Mostly Stocks	10.21	11.64	10.82	11.03	10.35	9.05	8.84	8.34	8.09
Mostly Interest Earning	8.56	7.10	8.04	7.04	6.29	6.70	4.93	3.91	4.20
Split	11.02	12.34	12.33	12.42	13.09	12.06	13.22	12.66	11.82
No Investment	70.21	68.92	68.81	69.51	70.26	72.19	73.01	75.09	75.89
Number of Obs	6722	7060	7378	7793	8065	8489	8743	8869	8887

Panel B: Age 30-64

Percentage	1999	2001	2003	2005	2007	2009	2011	2013	2015
Mostly Stocks	12.62	13.94	12.00	13.17	12.46	10.53	9.70	8.99	7.92
Mostly Interest Earning	8.60	6.24	7.89	6.27	5.22	5.69	4.22	2.69	3.63
Split	12.21	14.01	14.41	14.27	15.31	13.53	14.67	13.31	11.97
No Investment	66.58	65.80	65.69	66.29	67.02	70.24	71.41	75.02	76.48
Num of Obs	4543	4806	4996	5252	5355	5681	5851	5890	5946

Panel C: Age 30-64 (Male Head)

Percentage	1999	2001	2003	2005	2007	2009	2011	2013	2015
Mostly Stocks	13.99	15.80	13.84	15.31	14.35	12.24	11.51	10.16	9.63
Mostly Interest Earning	8.80	6.82	8.36	6.67	5.19	6.09	4.58	3.16	4.04
Split	13.76	15.63	15.28	15.20	16.78	15.20	16.40	15.13	13.05
No Investment	63.46	61.74	62.53	62.82	63.67	66.46	67.51	71.55	73.28
Num of Obs	3380	3544	3674	3871	3928	4127	4169	4174	4140

Panel D: Age 30-64 (Female Head)

Percentage	1999	2001	2003	2005	2007	2009	2011	2013	2015
Mostly Stocks	8.51	8.53	6.64	6.76	6.67	5.61	4.82	5.85	3.50
Mostly Interest Earning	8.01	4.56	6.55	5.08	5.29	4.54	3.28	1.44	2.58
Split	7.58	9.31	11.89	11.49	10.77	8.71	10.04	8.44	9.17
No Investment	75.90	77.61	74.93	76.67	77.27	81.14	81.86	84.27	84.74
Num of Obs	1163	1262	1322	1381	1427	1554	1682	1716	1806

TABLE 2
TRANSITIONS IN IRA AND THE COMPOSITION OF ASSETS DURING 2005-2015

Panel A: All

		2015			
	Percentage	Mostly Stocks	Mostly Interest Earning	Split	No Investment
2005	Mostly Stocks	3.96	0.64	3.07	4.40
	Mostly Interest Earning	0.61	0.96	1.49	3.40
	Split	2.11	1.10	5.36	5.06
	No Investment	2.26	1.86	3.98	59.74

Panel B: Aged 30-54 in 2005

		2015			
	Percentage	Mostly Stocks	Mostly Interest Earning	Split	No Investment
2005	Mostly Stocks	4.04	0.61	3.14	4.60
	Mostly Interest Earning	0.46	0.80	1.35	2.29
	Split	1.63	1.03	5.14	4.94
	No Investment	2.45	1.54	4.31	61.67

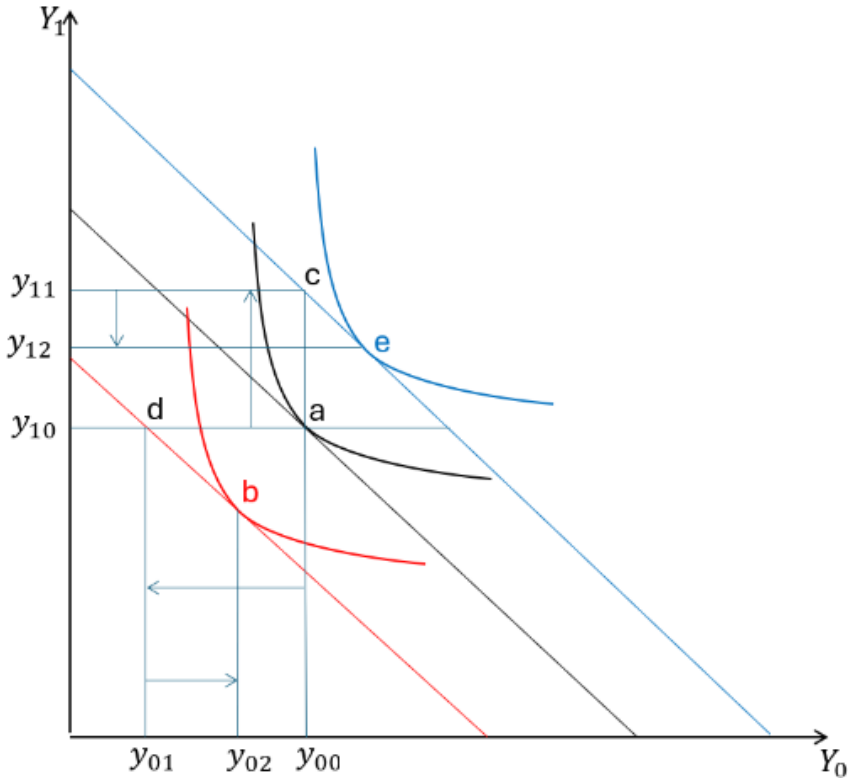
Panel C: All

		2015			
	Percentage	Mostly Stocks	Mostly Interest Earning	Split	No Investment
2011	Mostly Stocks	4.12	0.36	2.06	3.00
	Mostly Interest Earning	0.56	1.12	1.01	2.23
	Split	2.50	1.24	5.71	4.24
	No Investment	1.79	1.59	3.59	64.89

Panel D: Aged 30-60 in 2011

		2015			
	Percentage	Mostly Stocks	Mostly Interest Earning	Split	No Investment
2011	Mostly Stocks	3.68	0.45	2.08	3.27
	Mostly Interest Earning	0.53	0.73	0.94	1.48
	Split	2.53	1.13	6.10	4.69
	No Investment	1.96	1.39	3.54	65.52

FIGURE 1
INTERTEMPORAL PENSION/IRA ALLOCATIONS



Now consider the converse scenario. Suppose the initial equilibrium is at point **a**. Also, there is a favorable shift to greater resources in period t_1 from a capital gain in the stock market or the pre-existing IRA or pension value (point **c**). Then to smooth consumption, some of the future gain is transferred to the current (point e). This may occur through selling off stock, cashing in an IRA, or by reducing participation in a defined contribution pension to boost income resources for current consumption. In this way, capital gains in the stock market, pension value, or home equity may lead to reduced participation in a pension or IRA.

Consider a prior Y_0 loss which has induced a transfer of substantial Y_1 to period t_0. As Y0 resources improve, there can be an adjustment from point **a** to point **e**. One form of this effort to make up ground could be increased or continued participation in a defined contribution pension, contrasting to the main flow observed in Table 2. In Table 3 we list a summary of four possible adjustment paths.

TABLE 3
RESPONSES TO CHANGES IN CURRENT AND FUTURE RESOURCES

Adjustment	Change*	Response
1	Lose Y_0	Dissave – cut back on IRA/pension contributions, draw down
2	Gain Y_1	Dissave – cut back on IRA/pension contributions, draw down
3	Lose Y_1	Save to smooth consumption, participate in an IRA/pension
4	Gain Y_0	Save to smooth consumption, participate in an IRA/pension

*Income in the other period is assumed constant

TO PERSIST OR EXIT: EMPIRICAL ANALYSIS

Prior research shows that Response Adjustment 1 is observed. Pre-retirement resource losses – such as income losses through unemployment and cash flow problems in making mortgage payments- lead to both pension withdrawals and discontinued participation and sales of directly held equities (Chen and Stafford, 2016). Table 1 provides evidence of a notable fall in IRA participation from 2007 – 2009 as the recession set in. A bit more perplexing is the continued decline in participation from 2009-2015 as the economy and financial markets improved notably.

One assessment of the continued exodus is a residual aversion to financial investments – including the main elements in IRAs. Much of this aversion appears to be on the part of those with moderate wealth - even as intensive margin adjustment to more stocks took place for wealthier families after 2009 (Chen and Stafford, 2018). We do not rule out the 'fear of markets' or limited financial literacy as playing some role in the continued exodus from IRAs. Here we offer some modest evidence supporting what may be termed the "pension consumption smoothing thesis" and socio-behavioral influences.

The panel data allow for analysis based on differing time windows. We experimented with short two-period windows and observed no systematic adjustment patterns. Our preliminary interpretation is that a longer period may be needed to provide a better chance to observe responses in these longer period allocations. The estimates based on a 10-year observation period are set out in Table 4, where the dependent variable is IRA exits by the family over the period 2005-2015. This 10-year period allows for diverse impacts from the Great Recession and changes in the financial markets after the recession. As indicated by the model in Section II, it is important to distinguish between allocation of money to future consumption versus the reverse – 'cashing in' money that would be available in the future for current consumption.

Of interest is the role of the stock market. Based on the panel data, we can measure not only if the value of stocks increased over time, but *why* was there an increase? One reason for an increase in the value of stocks would be putting money in the market, possibly as part of a wider effort – including IRA participation by the family - to build up or rebuild resources for future consumption. If so, IRA and stock inflows should be positive – short of a substitution between modes of investing for the future.

The panel data have measures of the change in the stock value and whether there was active savings in the form of putting money into the market. The stock value increases after allowance for putting money in and are likely to encompass capital gains. In line with these expectations, when active savings in the stock market are included in the model to predict exits from IRA participation by the family, increases in the value of stock holdings now are an indicator of capital gains and predict a higher probability of exit from IRA participation, as suggested by Adjustment Response 2.

Increases in current resources, such as higher income and a wife beginning to work during the period, predict a lower likelihood of exiting an IRA. In contrast, if the wife acquired a defined contribution pension from 2009-2015, the family is more likely to have discontinued participation in an IRA. Such a response allows the family to shift consumption to the present in light of an augmentation of retirement resources via her added pension. While the estimates of recent pension participation show different results depending on the data used, the substitution out of an IRA when the spouse acquires a pension is likely acting to curtail the growth of overall retirement resources at least to some extent.

Being in higher family income categories as of 2014 also predicts a reduced probability of exiting an IRA, which is consistent with Adjustment Response 4. Non–housing wealth increases exhibit a negative relationship to IRA exits. As noted in the discussion of equity value changes, the question is whether the non-housing wealth increase was from savings or from capital gains on a range of possible assets. If the increase is from savings, is it based on Response Adjustment 3 – part of an effort, along with pension participation, to rebuild Y_1 resources lost in the recession? Given the general rise in home values during 2005-2015, we see a greater chance of exit from an IRA for homeowners.

Suppose we assume that most homeowners as of 2015 had experienced some capital gains (allowing for those with mortgage difficulties). In that case, the presumed greater equity constitutes an increase in resources for Y_1 and an Adjustment Response 2. On the other hand, those homeowners having experienced mortgage difficulties are those who had risky loans and cash flow issues and are likely to have depleted

their Y_1 resources. As the economy recovers, they take steps to rebuild resources for future consumption and continue participating in an IRA to accomplish this. Protection of perceived future risks may accentuate this (Sandmo, 1970).

Younger families are less likely to exit than older ones – many of whom are pursuing an early partial or full retirement. An interpretation is simply that of building an accumulation of Y1, which is not a feature of our stylized model but is easily conceptualized. Those with more education are *more* likely to have exited – suggesting that they perceive themselves as able to do a better job of asset management outside the IRA system. Of interest is the persistent participation by African Americans. Prior research shows a stronger connection to pensions by African-American families (Chiteji, Gouskova and Stafford, 2010) and less regarding home ownership and direct ownership of equities. This may reflect a greater willingness to delegate and simplify financial decision-making for retirement.

TABLE 4
IRA OWNERSHIP

Dependent Var: whether a family owned IRA in 2005, but not in 2015)	1	2	3
Intercept	-1.9663***	-1.9524***	-1.9404***
	(0.4292)	(0.4291)	(0.4286)
Stock Variables			
whether (own regular stock account in 2015, but not in 2005)	-0.7634	-0.7914	-0.8322
	(0.5162)	(0.5215)	(0.5315)
whether (the value in regular stock account increase from 2005 to 2015)	0.5855*	0.604*	0.6074*
	(0.3291)	(0.3289)	(0.3337)
whether (input money in stock in 2011-2013)	-0.668	-0.6761	-0.7006
	(0.4797)	(0.472)	(0.4793)
whether (input money in stock in 2013-2015)	-0.6093	-0.6163	-0.6104
	(0.5599)	(0.5501)	(0.5534)
Employment and Wealth			
whether (head is employed in 2015, but not in 2005)	-0.4928	-0.5137	-0.5112
	(0.4689)	(0.4649)	(0.4683)
whether (wife is employed in 2015, but not (or no wife) in 2005)	-0.5433*	-0.5232*	-0.5359*
	(0.2989)	(0.2987)	(0.2997)
7k<increase of total family income from 2004 to 2014<=35K	-0.3024	-0.3298*	-0.335*
	(0.1946)	(0.1948)	(0.1948)
increase of total family income from 2004 to 2014>35K	-0.2987	-0.3463	-0.3914*
	(0.2229)	(0.2258)	(0.2281)
16K<increase of wealth without home equity from 2005 to 2015 <=40K	-1.2171***	-1.2086***	-1.1837***
	(0.1923)	(0.193)	(0.1932)
increase of wealth without home equity from 2005 to 2015>40K	-1.2382***	-1.2245***	-1.1987***
	(0.2137)	(0.2137)	(0.2139)

whether (head has no DC plan in 2009, but has in 2015)		0.3036	0.2441
		(0.1977)	(0.2044)
whether (wife has no DC plan in 2009, but has in 2015)			0.4638**
			(0.2184)
Mortgage Variables			
whether (home owner in 2015)	0.3752*	0.3662*	0.3389
	(0.2105)	(0.2106)	(0.2122)
whether (mortgage distress in 2015)	-0.7286**	-0.7079**	-0.6874**
	(0.3406)	(0.341)	(0.3409)
Demographic and Education			
male_head_ 2015	0.275	0.2581	0.2145
	(0.2641)	(0.2635)	(0.2655)
age_head_2015<=34	-1.6729***	-1.6869***	-1.6633***
	(0.452)	(0.4498)	(0.45)
34<age_head_2015<=49	-0.3103*	-0.3265*	-0.3204*
	(0.1755)	(0.1752)	(0.1754)
edu_head_2015=12	0.3198	0.2974	0.2902
	(0.3481)	(0.3492)	(0.3488)
12<edu_head_2015<=16	0.9946***	0.9598***	0.9622***
	(0.3199)	(0.3208)	(0.3203)
edu_head_2015>16	0.7427**	0.7036*	0.7126*
	(0.3688)	(0.3718)	(0.3711)
African Americans_2015	-0.7567**	-0.7542**	-0.741**
	(0.2979)	(0.2987)	(0.299)
Number of observations	3457	3457	3457
AIC (Intercept and Covariates)	46627.489	46537.24	46406.597

Numbers in parentheses are standard errors.
*, **, and *** denote the significant level of 10%, 5% and 1% respectively.

CONCLUSION

The fact that there is a continued net exodus by families from IRAs is concerning. It is quite clear that some families cease participating because of shorter-term and more immediate resource needs and may have difficulties maintaining participation for various reasons. Many families with financial exigencies during the Great Recession took steps to access resources that would have otherwise been available for future consumption, ranging from selling off stocks and cashing in IRAs early. One thought is that as the economy improves, they should try to make up for lost time and participate continuously. Our results show that some of this occurred. Notably, those families who had experienced problems paying for their mortgage were often hit badly by the recession and were far less likely to exit from IRA participation by 2015. This can be thought of as a prudent making up for lost ground.

On the other hand, we have shown that those families with financial gains from the stock market and those home-owning families as of 2015 were more likely to have ceased to participate in an IRA. This suggests that favorable conditions in housing and financial markets can prompt shifts away from IRAs. African-American families are more likely to have persisted, a result consistent with prior studies. This suggests a greater reliance on IRAs and pensions – or what may be considered delegation of financial decision-making to others – perhaps something that should be more widely practiced. Those with a college

education were more likely to exit from participation, suggesting the possibility that they see other and better ways to prepare for the future.

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