

Individual Retirement Account Balances, Contributions, Withdrawals, and Asset Allocation Longitudinal Results 2010–2016: The EBRI IRA Database

By Craig Copeland, Ph.D., Employee Benefit Research Institute

AT A GLANCE

Individual retirement accounts (IRAs) represent the largest single repository of U.S. retirement plan assets and are a vital component of U.S. retirement savings, holding one-quarter of all retirement plan assets in the nation. In response to this growing importance, the EBRI IRA Database was developed by the Employee Benefit Research Institute (EBRI) to analyze the status of and individual behavior in IRAs. This is the fifth annual IRA database study of longitudinal changes in IRAs, supplementing annual cross-sectional analyses.

This *Issue Brief*, using the EBRI IRA Database, specifically examines the trends in account balances, contributions, withdrawals, and asset allocation in IRAs from 2010–2016. Results from both the annual cross-sectional sample and a consistent sample of IRA owners who have been in the database in each year from 2010–2016 are presented. This allows for the investigation of the behavior in IRAs that are continuously maintained instead of the results being affected by new and former IRA owners.

Account balances: Not surprisingly, results show significantly higher balances in the consistent sample of IRA owners compared with the annual cross-sectional sample. While the cross-sectional overall average balance increased 35.0 percent from 2010 to 2016, the increase for those IRA owners who continuously owned IRAs from 2010–2016 was 57.1 percent.

- For consistent account owners, the median balance change from 2010 to 2016 was an increase of 54.4 percent. These changes ranged widely: At the lowest (first) quartile of balance changes, an increase of just 0.2 percent or less over the period resulted compared with the highest (fourth) quartile of balance changes equaling or surpassing 108.6 percent.
- The median Roth IRA balance change was an increase of 85.8 percent for consistent account owners from 2010 to 2016 compared with 40.9 percent for all Traditional IRAs. A major factor in these different rates of increase was that new contributions (or conversions) made up a larger portion of Roth IRA balances than Traditional IRA balances, which magnified the impact of contributions.

Contributions: There were considerable differences by IRA type in the likelihood of consistent account owners contributing to the IRA and in the number of years contributions were made. Among Traditional IRA owners, 86.4 percent did *not* contribute to the IRA in any year, while 1.7 percent contributed in all seven years. In contrast, 58.0 percent of Roth IRA owners did *not* contribute in any year and 9.3 percent contributed in all seven years. Roth IRA owners under age 25 were the most likely to contribute in any year at 63.5 percent, and Roth IRA owners ages 25–29 were most likely to contribute in all seven years at 14.6 percent.

- While the percentage of individuals contributing in each year remained relatively consistent across the seven years, the percentage contributing the maximum has varied, rising and falling periodically within a range of 43.5 percent and 55.4 percent.
- In 2010, the average contribution was \$3,335, peaking at \$4,145 in 2013, and declining to \$3,938 in 2016. This pattern of multiyear increases followed by a decrease in 2014 occurred in the average contribution for each known age and gender group of contributing owners of IRAs, except for those IRA owners ages 60 or older.

Withdrawals: Just under 24 percent of consistent account owners took a withdrawal in 2016; however, 36.1 percent took a withdrawal in at least one year of the 2010–2016 study period.

- The percentage of consistent account owners ages 65–70 in 2010 who took a withdrawal increased from 21.0 percent in 2010 to 77.9 percent in 2016. This is the result of the increasing percentage of these individuals surpassing the required minimum distribution (RMD) age.
- When comparing the withdrawn amount with the calculated required minimum distribution, approximately 30 percent of the IRA owners ages 71 or older withdrew an amount in excess of that required.

Asset allocation: Equity allocations peaked in 2014 at 55.7 percent and have since declined to 50.9 percent by 2016. In contrast, the amount allocated to balanced funds was at its highest level in 2016, at 13.2 percent, having previously ranged from 9.5 percent to 10.9 percent (between 2010 and 2015). For bonds, the allocation has declined from 19.9 percent in 2010 to 14.7 percent in 2016.

- Among consistent participants, equity allocations reached their highest levels in 2016, at 53.1 percent — up from 47.5 percent in 2010. Balanced fund allocations were also higher in 2016 than in previous years, at 11.0 percent. In contrast, bond allocations decreased from 15.1 percent in 2010 to 13.2 percent in 2016.
- The majority of consistent account owners across all categories had an extreme (either a zero percent or 100 percent) equity allocation in at least one year, except for those with balances of \$100,000 or more. Furthermore, as the account balance increased, it became more likely that an individual did *not* have an allocation at the extremes, reaching 73.8 percent for those with balances of \$250,000 or more not having an extreme equity allocation. There was also a reduced likelihood of having an extreme equity allocation as the age of the IRA owner increased through ages 70–74.

Craig Copeland is senior research associate at the Employee Benefit Research Institute (EBRI). This *Issue Brief* was written with assistance from the Institute’s research and editorial staffs. Any views expressed in this report are those of the author and should not be ascribed to the officers, trustees, or other sponsors of EBRI, Employee Benefit Research Institute–Education and Research Fund (EBRI-ERF), or their staffs. Neither EBRI nor EBRI-ERF lobbies or takes positions on specific policy proposals. EBRI invites comment on this research.

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Data Security

The Employee Benefit Research Institute’s (EBRI’s) retirement databases (the EBRI/ICI Participant-Directed Retirement Plan Database, the EBRI IRA Database, and the EBRI Integrated Defined Contribution/IRA Database) have undergone multiple independent security audits and have been certified to be fully compliant with the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) ISO/IEC 27002 Information Security Audit standard. Moreover, EBRI has obtained a legal opinion that the methodology used meets the privacy standards of the Financial Services Modernization Act of 1999 (the Gramm-Leach-Bliley Act). At no time has any nonpublic, personal information that is personally identifiable, such as Social Security number, been transferred to or shared with EBRI.

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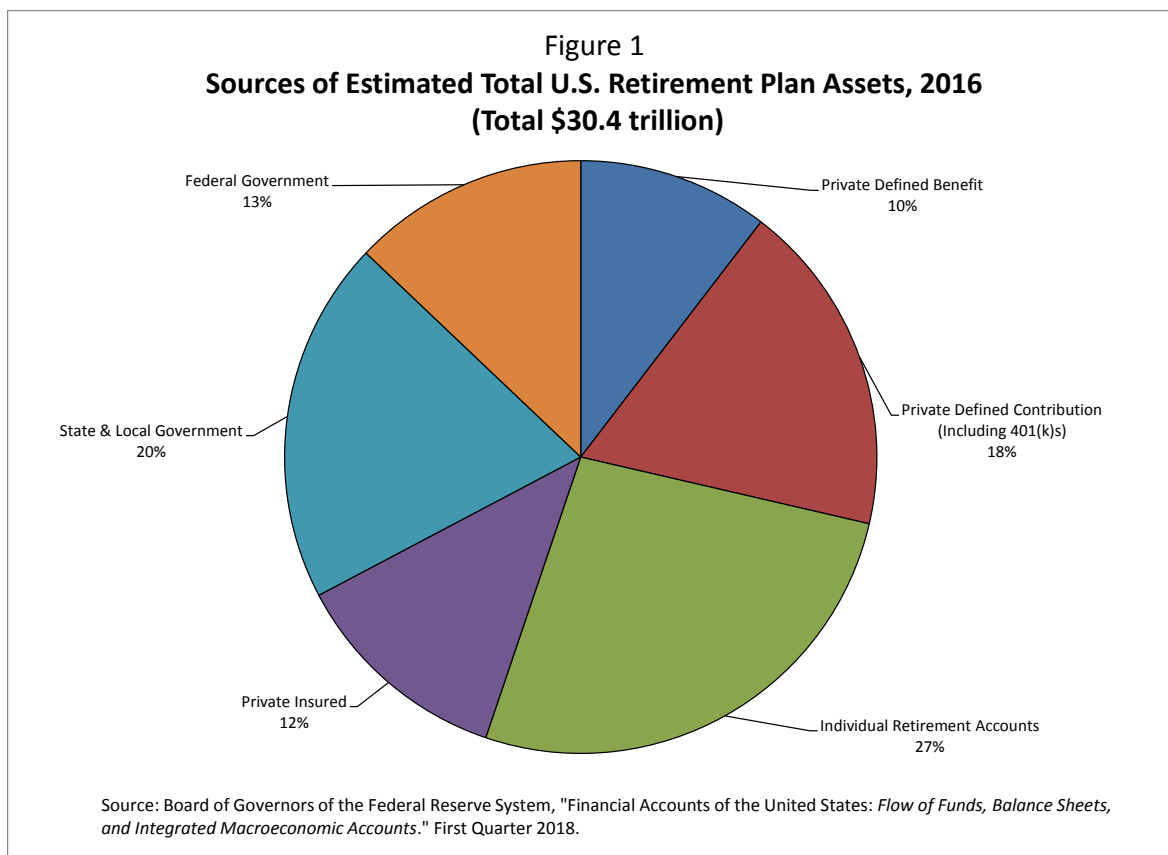
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Introduction

Individual retirement accounts (IRAs) are a vital component of U.S. retirement savings, holding one-quarter of all retirement plan assets in the nation (Figure 1). A substantial and growing portion of these IRA assets originated in other tax-qualified retirement plans, such as defined benefit (pension) and 401(k) plans, and were moved to IRAs through rollovers from those plans.

The Employee Benefit Research Institute (EBRI) developed the EBRI IRA Database to analyze the status of and individual behavior in IRAs. This database complements the EBRI/ICI Participant-Directed Retirement Plan Data Collection Project, which has detailed data on 401(k) plan participants. The EBRI IRA database has been an ongoing project since 2010, and this is the fifth annual study of longitudinal changes in IRAs. In addition, annual cross-sectional analyses of the EBRI IRA Database are conducted.¹

This *Issue Brief*, using the EBRI IRA Database, specifically examines the trends in account balances, contributions, withdrawals, and asset allocation in IRAs from 2010–2016.² Results from both the annual cross-sectional samples and a consistent sample of IRA owners who have been in the database in each year from 2010–2016 are presented. This allows for a look at the overall market as well as how individual IRA owners behave over time when they continue ownership.



Data

The EBRI IRA Database is an ongoing project that collects data from various types of IRA administrators. For year-end 2016, it contains information on 24.2 million accounts owned by 19.1 million unique individuals, with total assets of \$2.36 trillion.³ For each account within the database, the IRA type, account balance, contributions made, rollovers transferred during the year (if any), withdrawals taken, asset allocation, and certain demographic characteristics of the account owner are included (among other items).

As part of this longitudinal study, a sample of consistent account owners is constructed. This sample contains all the IRA owners who have a positive account balance in each year of the database from 2010–2016. The sample includes 8.9 million individuals having accounts amounting to \$1.37 trillion (2016 value). The consistent-account-owner sample is slightly smaller for the portion of the study on asset allocation, as complete asset allocation information is not available for some individuals. This results in 8.2 million individuals holding \$1.29 trillion (2016 value) in assets making up the consistent-account-owner asset allocation sample.

In Figure 2, the distributions of the samples can be compared across the age and gender of the account owners and the account balances and IRA types of the accounts held. The distributions are relatively similar except for the consistent-account-owner sample being more weighted toward higher balances and older owners relative to the all-one-year cross-sectional sample. The distributions of IRA types are particularly close, with the four IRA types (Traditional-originating from contributions (Traditional-Conts.), Traditional-originating from rollovers (Traditional-Rlvr), Roth, and SEP/SIMPLE) included in the consistent sample having distributions within 7 percentage points of the other samples.⁴

	All Individuals	Complete Longitudinal	Longitudinal Asset Allocation		All Individuals	Complete Longitudinal	Longitudinal Asset Allocation
All	100.0%	100.0%	100.0%	All	100.0%	100.0%	100.0%
Gender				Account Balance			
Female	33.2	34.1	33.5	Less than \$10,000	32.2	24.3	24.6
Male	39.7	42.4	42.3	\$10,000-\$24,999	14.3	13.1	12.8
Unknown	27.1	23.5	24.2	\$25,000-\$49,999	12.5	13.3	13.0
Age				\$50,000-\$99,999	13.2	15.3	15.1
Less than 25	1.8	1.5	1.6	\$100,000-\$149,999	7.2	8.5	8.5
25-44	25.4	18.3	17.8	\$150,000-\$249,999	7.5	9.0	9.1
45-54	20.4	22.4	22.2	\$250,000 or more	13.1	16.5	16.9
55-64	24.1	26.0	26.1	Type*			
65-69	10.4	11.4	11.5	Traditional-Conts.^	40.4	40.3	43.1
70-74	7.3	8.7	8.8	Roth	29.3	35.7	36.2
75-84	7.3	9.0	9.2	Traditional-Rlvr^	36.4	41.2	41.6
85 or older	2.3	2.7	2.8	SEP/SIMPLE	7.1	10.0	10.8
Unknown	1.0	0.0	0.0	All Traditional	73.9	76.6	78.2

Note: Age and account balance categories in this figure are for 2016.

*The type for the longitudinal data adds up to more than 100% due to the individuals potentially having more than one IRA.

^Traditional-Conts.=Traditional-Originating from contributions, Traditional-Rlvr=Traditional-Originating from rollovers. Both of these accounts could have received contributions or rollovers after their origination, so these are NOT proxies for employment-based dollars versus IRA-only dollars. The Traditional-originating from rollovers do provide an estimate of the dollars that have been moved into a new IRA.

Source: EBRI IRA Database.

Account Balances 2010–2016

While each year's database is a unique cross section of that year's IRA balances, it is informative to compare the results between years to consider changes in account balance trends. The first comparison is conducted by examining each year's cross-sectional results. The second comparison focuses only on those individuals who have at least one account with a positive balance in the database in each year of the analysis (2010–2016). Focusing just on such "consistent account owners" not only allows the analysis to focus on the activity within these accounts over an extended period of time, but also controls for changes in the aggregate and average balances resulting from the additions and subtractions from the database because of new data providers into the database as well as accounts being opened and closed. Furthermore, the distribution of the growth in the balances across each account holder in the study can be deduced.⁵

Cross-Sectional Comparison—The average balance for each year's full sample decreased from \$91,864 in 2010 to \$87,668 in 2011 before increasing to \$105,001 in 2012, \$119,804 in 2013, and \$127,583 in 2014 and then decreased in 2015 to \$125,045 and to \$123,973 in 2016—an increase of 35.0 percent from 2010 to 2016, but a decrease of 2.8 percent from 2014 to 2016 (Figure 3). The median followed the same pattern, going from \$25,296 to \$23,785 to \$27,987 to \$32,179 to \$33,185 to \$31,742 to \$30,534, representing an increase of 20.7 percent between 2010 and 2016 and an 8.0 percent decrease between 2014 and 2016.

The same down, then-up, then-down pattern in average balances occurred for each gender and among Traditional IRAs. However, the average balance continued up in 2010–2014 for those accounts owned by 35-to-49-year-olds. Above those ages, the pattern of a decrease in average balance in 2011 and an increase in average balance in 2012–2014 resulted. Below age 35, another year of declines resulted before balances increased in 2013 and 2014. The average balance for Roth and SEP/SIMPLE IRAs increased each year. For 2015, all categories experienced a decline in the average balance, regardless of their prior trend.

In 2016, the average balances increased for Traditional-Conts., Roth, and SEP/SIMPLE IRAs, but decreased for Traditional-RIvr IRAs. For both identified genders, the average balances also increased, whereas for unknown gender, the average balance decreased. Furthermore, the average balances of IRA owners in their 40s and ages 60–64 also increased, while those of the remaining ages declined in 2016.

Consistent-Account-Owner Comparison—In order to compare the experience of the same account owners longitudinally, the consistent-account-owner sample is used. Each individual's accounts are studied to determine the change in his or her IRA balances and contribution behavior during 2010–2016. This provides a more accurate picture of account growth than relying on aggregate database totals, which might include new individuals or might exclude individuals who no longer have an account. This allows for a better understanding of account growth and contribution activity among those maintaining IRAs.

For consistent account owners, the overall average balance increased each year including 2016 — from \$98,188 in 2010 to \$99,195 in 2011, to \$111,105 in 2012, to \$132,339 in 2013, to \$143,135 in 2014, to \$144,045 in 2015, and to \$154,243 in 2016 (an increase of 57.1 percent) (Figure 4). This increase occurred across each known owner age group except for owners ages 70 or older.⁶ Furthermore, the average balances in both Roth and SEP/SIMPLE IRAs increased each year, while the average balance among Traditional IRA owners declined in 2011 and 2015. The average balance for each gender category also increased all years. The median account balance for all IRAs followed the same continual upward trend as the average balance with the exception being for the oldest (ages 65 or older) account owners, having declines in 2015 and 2016.

While comparing the averages and medians is instructive, it does not show the full range of the changes in the individuals' IRA balances. The full distribution of these account-level changes is an important consideration, as different individuals could experience significantly different changes between years, particularly in view of the varying levels of contributions to and withdrawals from the accounts as well as the asset allocation within the accounts. Using the experiences of the consistent account owners, the 25th percentile, median, and 75th percentile of the resulting percentage changes of these individuals' balances are presented in Figure 5. The median percentage change in the account balances for the consistent account owners was an increase of 54.4 percent from 2010 to 2016. This means

Figure 3
Average and Median Individual IRA Balances, by IRA Type, Age, and Gender, 2010–2016

	Average						Median							
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016
All	\$91,864	\$87,668	\$105,001	\$119,804	\$127,583	\$125,045	\$123,973	\$25,296	\$23,785	\$27,987	\$32,179	\$33,185	\$31,742	\$30,534
Type														
Traditional-Conts.^	88,403	78,051	97,286	112,943	120,163	119,286	123,318	29,756	24,721	32,161	37,611	39,389	38,615	39,599
Roth	24,798	25,741	31,288	37,010	39,544	38,834	40,572	11,471	11,344	12,796	15,190	15,847	15,327	16,332
Traditional-Rivr^	123,426	110,918	134,354	150,261	157,277	153,865	142,833	38,138	31,944	39,172	43,535	43,598	41,841	34,530
SEP/SIMPLE	55,733	56,479	67,457	79,424	84,599	82,993	84,094	15,471	15,711	17,794	20,257	20,604	19,590	19,923
All Traditional	103,346	98,797	118,645	134,791	142,780	140,955	137,685	32,647	28,457	35,803	40,996	42,157	41,032	38,453
Age														
Under 25	21,986	11,434	11,165	13,103	13,264	11,531	9,490	5,782	3,238	3,360	3,708	3,433	3,565	3,206
25-29	10,290	12,278	11,009	12,537	12,552	11,648	11,146	4,769	4,488	4,721	5,000	4,826	4,622	4,265
30-34	16,236	18,106	17,704	20,456	21,120	20,257	20,041	7,229	6,612	7,036	7,661	7,531	7,113	6,472
35-39	25,683	27,664	29,202	33,784	34,903	33,222	33,023	10,819	10,072	11,003	12,325	12,138	11,244	10,830
40-44	36,968	38,354	42,826	49,948	52,582	50,902	51,253	14,745	13,751	15,770	17,745	17,864	16,738	15,958
45-49	50,998	51,006	59,471	68,683	72,177	70,197	70,783	19,329	18,312	21,463	24,264	24,564	23,439	22,198
50-54	74,046	66,771	80,525	91,976	96,726	94,355	94,274	24,505	23,216	28,056	31,692	32,639	31,440	30,223
55-59	92,196	86,572	108,074	122,957	130,459	127,060	126,072	31,762	29,080	36,363	41,149	42,950	41,733	40,357
60-64	129,976	116,415	147,739	165,139	175,418	171,918	172,502	42,998	38,838	49,899	55,807	59,138	57,859	57,089
65-69	170,672	145,575	191,208	212,812	224,144	217,688	216,544	58,965	50,122	66,852	75,277	79,928	78,612	78,153
70 or older	162,857	144,252	192,961	219,790	232,389	228,818	226,099	56,198	49,994	65,419	75,627	80,500	80,968	81,414
Unknown	108,765	280,290	160,233	126,759	177,699	170,940	197,062	35,255	116,475	43,666	45,801	44,692	37,942	38,048
Gender														
Female	71,112	66,529	81,700	96,339	94,774	94,479	101,008	23,246	21,642	27,826	30,660	29,651	28,129	28,616
Male	120,719	114,745	139,467	160,589	153,649	149,636	158,251	32,752	30,704	40,103	43,449	41,057	38,603	38,842
Unknown	85,037	76,604	85,230	91,853	128,631	125,726	101,892	22,820	19,916	26,589	23,576	30,923	29,771	24,412

^Traditional-Origins=Traditional-Origins from contributions, Traditional-Rivr=Traditional-Origins from rollovers. Both of these accounts could have received contributions or rollovers after their origination, so these are NOT proxies for employment-based dollars versus IRA-only dollars. The Traditional-origins from rollovers do provide an estimate of the dollars that have been moved into a new IRA.

Source: EBRI IRA Database.

Figure 4

Distribution and Average and Median IRA Balances of a Consistent Sample* of Individuals, by IRA Type, Age, and Gender, 2010–2016

Type#	Average										Median					
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016		
All	\$98,188	\$99,195	\$111,105	\$132,339	\$143,135	\$144,045	\$154,243	\$28,060	\$28,814	\$33,215	\$40,951	\$44,751	\$45,348	\$48,410		
Traditional-Conts.^	85,356	86,356	96,317	114,403	123,733	123,881	131,561	28,616	28,815	32,546	39,428	42,557	42,510	44,665		
Roth	26,976	27,482	32,815	41,056	45,796	46,815	51,702	12,247	12,842	15,375	19,310	21,421	21,802	23,933		
Traditional-Rlvr^	125,534	124,058	135,879	157,567	167,169	165,775	175,225	38,931	38,024	41,773	49,120	51,798	51,360	53,329		
SEP/SIMPLE	62,999	65,256	74,476	89,706	97,792	98,605	106,500	19,203	20,316	23,353	28,115	30,126	30,197	32,015		
All Traditional	111,542	111,524	123,116	144,440	154,565	154,125	163,388	34,152	34,025	38,002	45,497	48,709	48,573	50,772		
Age&																
Under 25	19,680	21,025	24,123	29,557	32,195	32,874	35,936	6,077	7,289	9,078	11,843	13,549	14,208	15,698		
25-29	11,191	12,581	15,909	21,550	25,508	27,565	32,119	5,587	6,573	8,169	10,622	12,176	12,847	14,508		
30-34	18,151	19,609	24,122	31,791	36,716	39,036	44,720	8,618	9,336	11,219	14,257	15,943	16,548	18,357		
35-39	29,119	30,567	36,632	47,299	53,788	56,471	63,790	12,588	13,163	15,580	19,746	21,870	22,430	24,576		
40-44	42,072	43,378	51,097	65,017	73,097	76,077	85,086	17,612	18,095	21,094	26,485	29,278	29,941	32,641		
45-49	59,152	60,422	70,180	88,096	98,430	102,109	113,217	23,529	24,017	27,775	34,724	38,406	39,385	42,808		
50-54	80,839	82,680	95,298	118,173	131,505	136,191	151,002	30,576	31,330	36,128	44,851	49,517	50,851	55,201		
55-59	111,966	115,248	131,835	161,111	178,306	183,738	201,176	41,067	42,288	48,586	59,568	65,504	66,904	71,785		
60-64	160,174	162,832	182,690	216,505	234,600	237,198	254,262	59,590	60,764	68,540	82,151	88,682	89,208	93,775		
65-69	208,731	210,317	231,022	265,208	278,052	270,381	276,591	83,452	83,592	91,829	105,823	110,140	106,335	105,691		
70 or older	209,938	203,433	214,648	238,089	243,296	230,784	231,456	82,134	78,968	83,133	92,280	93,614	88,191	85,857		
Gender																
Female	75,099	76,335	85,767	102,656	111,533	112,788	120,971	26,046	26,679	30,491	37,144	40,405	40,791	43,233		
Male	134,396	134,953	150,201	177,511	190,696	190,728	203,416	39,074	39,531	45,045	55,013	59,501	59,859	63,283		
Unknown	66,338	67,822	77,304	93,875	103,140	105,137	113,763	18,696	19,797	23,546	29,891	33,591	34,527	37,637		

*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.

#The IRA types add up to more than 100 percent, because individuals can own more than one type.

^Traditional-Conts.=Traditional-Originating from contributions, Traditional-Rlvr=Traditional-Originating from rollovers. Both of these accounts could have received contributions or rollovers after their origination, so these are NOT proxies for employment-based dollars versus IRA-only dollars.

The Traditional-originating from rollovers do provide an estimate of the dollars that have been moved into a new IRA.

&The individual's age is from 2010.

Source: EBRI IRA Database.

Figure 5
Distribution of IRA Balance Changes for a Consistent Sample*
of Individuals From 2010 to 2016, by IRA Type, Age, and Gender

	Total			Traditional [^]			Roth		
	Percentile			Percentile			Percentile		
	25th	Median	75th	25th	Median	75th	25th	Median	75th
All	0.2%	54.4%	108.6%	0.0%	40.9%	88.8%	40.5%	85.8%	146.6%
Age [#]									
Under 25	14.3	77.7	209.0	-3.5	46.4	84.6	60.8	142.0	338.3
25-29	11.3	92.5	248.4	0.1	33.4	100.6	55.0	111.4	243.9
30-34	7.4	76.0	176.6	0.1	51.5	101.4	50.6	95.1	177.0
35-39	11.3	70.7	139.0	0.2	55.1	100.6	45.1	87.8	143.3
40-44	15.5	69.8	122.2	0.2	57.9	100.6	43.5	86.2	132.9
45-49	17.4	68.3	116.3	5.3	57.7	99.8	41.5	86.1	135.7
50-54	18.5	65.6	113.5	10.1	56.2	98.9	40.7	85.7	141.3
55-59	11.1	60.1	111.2	4.2	52.3	98.7	34.8	81.4	138.8
60-64	0.2	46.9	97.5	0.1	40.1	88.1	29.6	73.4	123.8
65-69	-7.0	23.6	66.4	-10.7	17.8	56.7	28.1	68.6	104.9
70 or older	-19.4	3.8	34.4	-21.7	0.5	27.3	25.2	64.0	99.6
Unknown	0.0	29.3	95.9	-1.4	20.6	91.2	48.9	89.0	123.1
Gender									
Female	0.8	54.3	102.2	14.0	42.3	88.4	40.7	84.2	134.1
Male	0.1	48.7	102.0	0.0	35.9	85.7	34.3	81.3	136.8
Unknown	6.3	63.8	142.2	9.5	49.2	96.7	49.3	94.6	184.9

*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.

[^]Includes all Traditional IRAs. [#]The individual's age is from 2010.

Source: EBRI IRA Database.

that half of the individuals had an increase greater than that amount, and the other half had a smaller increase, no change, or a decline. Furthermore, at the 25th percentile, a 0.2 percent increase resulted, meaning that 25 percent of the consistent account owners had an increase smaller than 0.2 percent or a decline. The highest (fourth) quartile of balance changes had growth rates equal to or surpassing 108.6 percent.

The growth rates for Roth IRA balances were higher both overall and for each age and gender. The median Roth IRA increase was 85.8 percent from 2010 to 2016 compared with 40.9 percent for all Traditional IRAs. A major factor in these different rates of increase was that new contributions (or conversions) made up a larger portion of Roth IRA balances than Traditional IRA balances, which magnified the impact of contributions.

The significant differences in the distribution of percentage changes in the balances at ages 70 or older is due to the required minimum distribution (RMD) rules that require individuals to make withdrawals out of Traditional IRAs starting April 1 of the year following the calendar year in which they reach age 70-½. These rules do not apply to Roth IRAs, which explains the continued increases found at this age for Roth owners. Even with the required withdrawals, more than half of these Traditional IRA owners had balances in 2016 that were larger than they were in 2010, meaning that the returns they received during those years were equal to or larger than the amount they may have withdrawn.⁷

The overall growth shows the change in the balances from one year to another year. The geometric mean measures the average annual growth rate of the account balances.⁸ The median of the distribution of the geometric means of the growth rates for all of the individual IRA balances from 2010 to 2016 was 7.7 percent, with a 25th percentile of 0.1 percent and a 75th percentile of 13.1 percent (Figure 6). The younger IRA owners had larger geometric means at the median and the 75th percentile. This was due to younger owners being more likely to contribute and less likely to withdraw. The known genders had very similar distributions of geometric means, while there were only small

differences in the geometric mean distributions for individuals with account balances of \$5,000 or more but were lower for those with the highest balances. The individuals with account balances of less than \$5,000 had a much lower geometric mean distribution.

As would be expected given the distribution of the percentage changes in the account balances, the distribution of the account balances has shifted to higher-balance categories from 2010 to 2016 (Figure 7). In 2010, 20.3 percent of the consistent account owners had balances of less than \$5,000. By 2016, this number was down to 17.5 percent, although it did reach 17.2 percent in 2014. Correspondingly, the percentage of consistent account owners with account balances of \$250,000 or more increased from 9.7 percent in 2010 to 16.5 percent in 2016.

Figure 6
Distribution of the Geometric Means of IRA
Balance Changes for a Consistent Sample* of Individuals
From 2010 to 2016, by Age, Gender, and Account Balance

	Percentile		
	25th	Median	75th
All	0.1%	7.7%	13.1%
Age[#]			
Under 25	2.1	9.8	17.4
25-29	0.6	10.9	20.8
30-34	0.9	9.7	16.5
35-39	2.1	9.6	14.5
40-44	3.0	9.7	13.9
45-49	3.2	9.5	13.7
50-54	3.2	9.0	13.5
55-59	2.1	8.1	13.0
60-64	0.1	6.5	11.8
65-69	-0.7	3.8	8.8
70 or older	-2.9	1.0	5.5
Unknown	0.0	5.8	12.8
Gender			
Female	0.5	7.7	12.9
Male	0.0	6.9	12.5
Unknown	1.3	8.9	14.2
Account Balance[#]			
Less than \$5,000	0.0	0.6	11.3
\$5,000-\$9,999	4.4	10.2	14.9
\$10,000-\$24,999	4.5	10.3	15.5
\$25,000-\$49,999	3.8	9.7	14.8
\$50,000-\$99,999	2.1	8.1	13.1
\$100,000-\$149,999	1.1	6.9	11.8
\$150,000-\$249,999	0.6	6.2	11.1
\$250,000 or more	-0.1	4.4	9.0

*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.
[#]The individual's age and the account balance are from 2010.
Source: EBRI IRA Database.

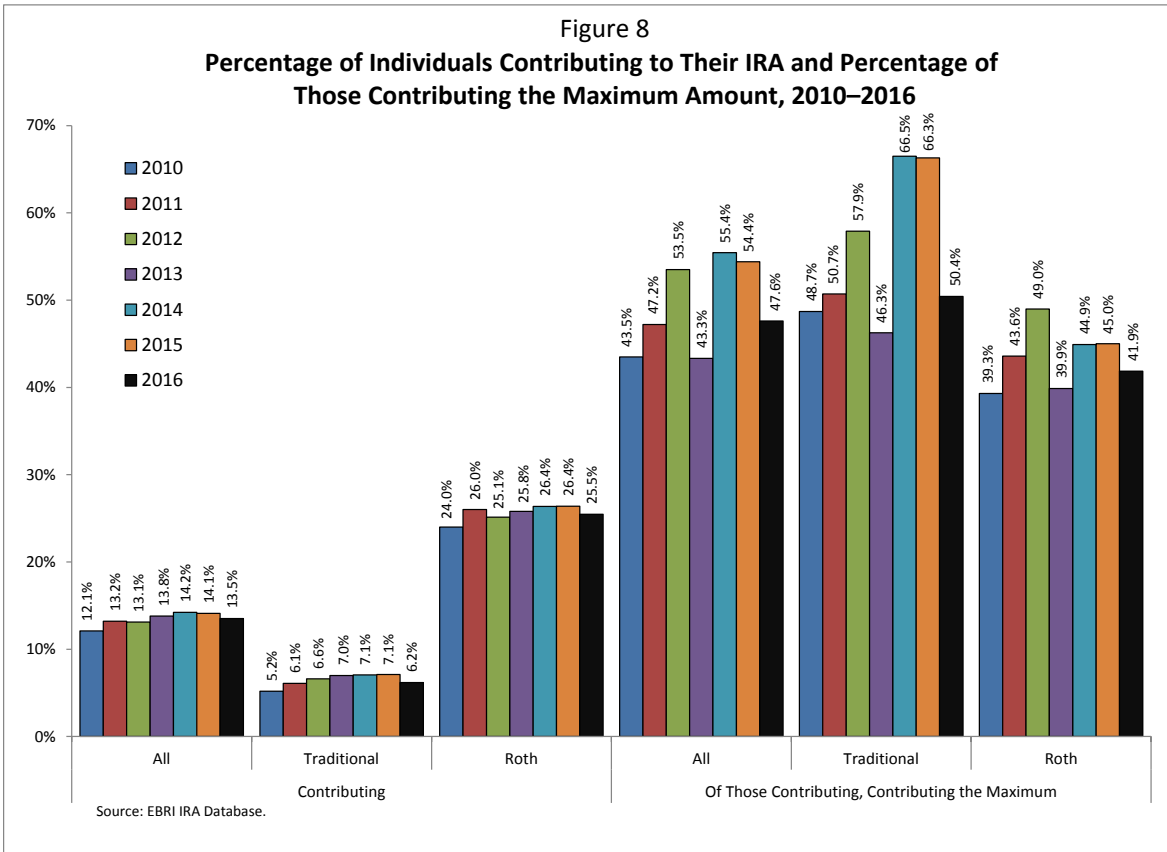
Figure 7
Distribution of IRA Owners by Account Balance for a Consistent Sample* From 2010–2016

	2010	2011	2012	2013	2014	2015	2016
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Account Balance							
Less than \$5,000	20.3	20.3	19.2	17.5	17.2	17.5	17.5
\$5,000-\$9,999	9.8	9.4	8.6	7.6	7.2	7.1	6.8
\$10,000-\$24,999	17.4	17.2	16.3	14.7	13.9	13.7	13.1
\$25,000-\$49,999	15.2	15.3	15.1	14.6	14.1	13.9	13.3
\$50,000-\$99,999	13.9	14.1	14.8	15.5	15.5	15.5	15.3
\$100,000-\$149,999	6.9	6.9	7.3	8.0	8.3	8.3	8.5
\$150,000-\$249,999	6.8	6.9	7.5	8.3	8.7	8.8	9.0
\$250,000 or more	9.7	9.8	11.3	13.8	15.1	15.3	16.5

*The consistent sample has only the individuals with at least one account in the database for each year 2010–2016.
Source: EBRI IRA Database.

Contributions 2010–2016

Cross-Sectional Comparison—The percentage of individuals who contributed to their IRA in a given year ranged between 12.1 percent and 14.2 percent over the past 7 years: It increased from 12.1 percent in 2010 to 14.2 percent in 2014 before moving to 14.1 percent in 2015 and 13.5 percent in 2016 (Figure 8). Those contributing to Traditional IRAs ranged between 5.2 percent and 7.1 percent over the period: After increasing from 5.2 percent in 2010 to 7.1 percent in 2015, the percentage of individuals owning Traditional IRAs that contributed decreased to 6.2 percent in 2016. Roth owners were more likely to contribute but had an inconsistent trend, ranging from 24.0 percent to 26.4 percent over the period.



While the percentage of individuals contributing remained relatively consistent across the five years, the percentage of contributors that contributed the maximum rose from 43.5 percent in 2010 to 53.5 percent in 2012 (Figure 8). Increases during that time occurred for each IRA type, with owners of Traditional IRAs having higher likelihoods of contributing the maximum in each year. However, in 2013, with the increase in the maximum allowable contribution, the percentage contributing the maximum overall fell from 53.5 percent in 2012 to 43.3 percent in 2013. Similar percentage-point drops occurred for both Traditional and Roth IRAs. In 2014, the likelihood of contributing the maximum among those who contributed increased again, reaching 55.4 percent before an overall decline in 2015 to 54.4 percent and 47.6 percent in 2016.

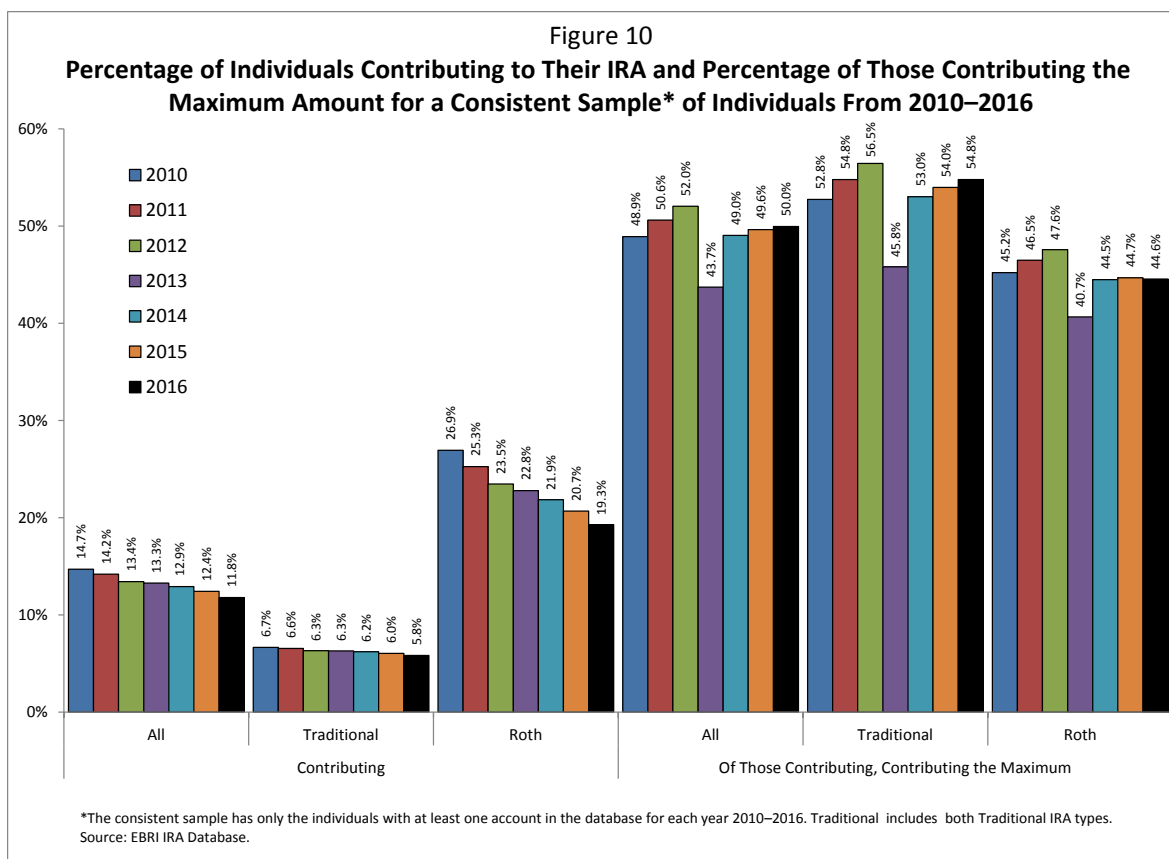
The overall average contribution level to Traditional or Roth IRAs has ranged from \$3,335 to \$4,169 since 2010. It increased each year through 2013 before a slight decline in 2014 and then increased in 2015 to surpass the 2013 level before falling back to near 2012 levels in 2016 (Figure 9). This pattern of multiyear increases followed by a decrease in 2014 occurred in the average contribution rates for each known age and gender group of contributing owners of IRAs, except for owners ages 60 or older, whose average contributions continued up in 2014. Furthermore, the average contribution increased with the age of the IRA owners through ages 65–69 for each year, with the exceptions of 2011, when the increase stopped at ages 60–64, and 2010, when it stopped for those ages 30–34 and 70 or older. In 2015, all age and gender categories had increases in the average contribution amount from 2014, except for IRAs owned by those under age 25 and by females. The average contribution fell for each age and gender group in 2016.

Figure 9
Average Contributions to a Traditional* or Roth IRA,
by Age and Gender, 2010–2016

	2010	2011	2012	2013	2014	2015	2016
All	\$3,335	\$3,723	\$3,904	\$4,145	\$4,119	\$4,169	\$3,938
Age							
Under 25	2,496	2,814	2,909	3,055	3,025	3,005	2,910
25-29	2,754	3,095	3,182	3,429	3,421	3,454	3,351
30-34	2,752	3,135	3,194	3,445	3,426	3,516	3,433
35-39	2,794	3,209	3,284	3,524	3,492	3,573	3,463
40-44	2,923	3,315	3,424	3,653	3,610	3,697	3,572
45-49	3,078	3,466	3,595	3,827	3,790	3,845	3,680
50-54	3,667	4,122	4,295	4,533	4,495	4,569	4,345
55-59	3,970	4,347	4,532	4,776	4,751	4,825	4,594
60-64	4,205	4,500	4,713	4,948	4,950	5,025	4,798
65-69	4,319	4,471	4,759	4,975	5,039	5,122	4,874
70 or older	4,192	4,360	4,625	4,755	5,028	5,159	4,818
Unknown	3,282	4,110	3,549	3,834	3,878	4,020	3,840
Gender							
Female	3,453	3,755	3,995	4,243	4,030	4,020	3,970
Male	3,630	3,831	4,023	4,260	4,066	4,076	4,031
Unknown	3,096	3,431	3,584	3,846	4,190	4,318	3,751

*Traditional IRAs in this figure include all Traditional IRAs.
Source: EBRI IRA Database.

Consistent Account Owner Comparison—The likelihood of contributing to an IRA by consistent account owners decreased each year from 14.7 percent in 2010 to 11.8 percent in 2016 (Figure 10).⁹ For Traditional IRA owners, the likelihood of contributing also declined, moving from 6.7 percent in 2010 to 5.8 percent in 2016. Among Roth owners, there was a continuous decrease from 26.9 percent in 2010 to 19.3 percent in 2016. Of those contributing in a specific year, the likelihood of contributing the maximum increased each year through 2012 among both IRA types, reaching 56.5 percent for Traditional IRA owners and 47.6 percent for Roth owners. However, the percentage of those contributing the maximum decreased in 2013 for both IRA types as the maximum allowed contribution increased.¹⁰ The percentage contributing the maximum decreased for contributing Traditional IRA owners to 45.8 percent and for Roth IRA contributors to 40.7 percent. The percentage contributing the maximum increased from 2014–2016, reaching 54.8 percent for Traditional IRAs. For Roth IRAs, the percentage contributing the maximum increased in 2014 and 2015 before leveling off in 2016 at 44.6 percent.



This analysis also examines the persistence of consistent account owners' contributing to IRAs or the number of years each individual contributed. Nearly 75 percent of consistent account owners did *not* contribute to their IRA in any of the years 2010–2016 (Figure 11). Contributions for those making them broke down as follows: 7.0 percent only contributed in one year, 3.8 percent contributed in two years, 2.9 percent contributed in three years, 2.5 percent contributed in four years, 2.1 percent contributed in five years, 2.4 percent in six years, and 4.9 percent contributed in all seven years.

Looking at the different IRA types, considerable differences were present in the likelihood of consistent account owners contributing to their IRAs and in the number of years contributions were made, with Roth owners being much more likely to contribute. Among Traditional IRA owners, 86.4 percent did *not* contribute to the IRA in any year, while 1.7 percent contributed in all seven years. In contrast, 58.0 percent of Roth IRA owners did *not* contribute in any year and 9.3 percent contributed in all seven years.¹¹

Figure 11

Percentage of a Consistent Sample* of Individuals Owning IRAs From 2010–2016
Who Contribute for Various Numbers of Years, by IRA Type, Age, Gender, and Account Balance

	Total							Traditional ^A							Roth										
	One Year	Two Years	Three Years	Four Years	Five Years	Six Years	Seven Years	None	One Year	Two Years	Three Years	Four Years	Five Years	Six Years	Seven Years	None	One Year	Two Years	Three Years	Four Years	Five Years	Six Years	Seven Years		
All	74.3%	7.0%	3.8%	2.9%	2.5%	2.1%	1.1%	4.9%	86.4%	5.0%	2.2%	1.5%	1.2%	1.0%	1.0%	1.7%	58.0%	10.2%	6.0%	4.8%	4.1%	3.6%	4.0%	9.3%	
Age [#]																									
Under 25	61.9	8.7	5.5	4.7	4.3	3.9	3.7	6.7	90.6	3.6	1.6	1.0	0.8	0.6	0.6	1.2	36.5	13.6	9.2	8.0	7.3	6.7	7.4	11.4	
25-29	50.3	10.6	6.9	5.8	5.3	4.8	5.5	10.9	81.3	7.2	3.3	2.2	1.7	1.3	1.3	1.8	37.0	12.6	8.6	7.4	6.8	6.0	7.0	14.6	
30-34	60.1	9.4	5.6	4.5	3.9	3.4	4.0	9.1	81.9	6.6	3.1	2.0	1.6	1.2	1.4	2.2	47.9	11.5	7.1	5.8	5.0	4.3	5.2	13.2	
35-39	67.1	8.1	4.6	3.6	3.1	2.7	3.2	7.7	82.6	6.0	2.7	1.9	1.5	1.2	1.4	2.6	57.2	9.9	5.7	4.5	3.9	3.4	4.1	11.4	
40-44	70.7	7.4	4.0	3.1	2.7	2.4	2.8	6.9	83.0	5.6	2.6	1.8	1.5	1.2	1.5	2.8	60.2	9.3	5.3	4.1	3.6	3.1	3.6	10.8	
45-49	72.4	7.2	3.9	3.0	2.5	2.2	2.6	6.1	83.2	5.7	2.6	1.8	1.4	1.2	1.4	2.7	60.3	9.5	5.3	4.2	3.6	3.2	3.8	10.1	
50-54	72.9	7.4	4.0	3.0	2.6	2.3	2.6	5.4	83.0	5.9	2.6	1.8	1.5	1.2	1.4	2.5	58.6	10.0	5.8	4.5	3.9	3.5	4.1	9.6	
55-59	72.6	7.8	4.2	3.2	2.7	2.4	2.6	4.5	82.7	6.2	2.8	2.0	1.5	1.3	1.4	2.1	57.7	10.8	6.2	5.0	4.3	3.9	4.2	7.9	
60-64	77.3	7.6	3.9	2.9	2.3	1.9	1.8	2.4	85.6	5.8	2.5	1.7	1.3	1.0	1.0	1.2	64.0	11.0	6.2	4.7	3.9	3.1	2.9	4.3	
65-69	86.5	5.6	2.7	1.8	1.3	0.9	0.6	0.6	92.1	3.9	1.7	1.1	0.7	0.4	0.1	0.0	75.3	9.0	4.5	3.2	2.5	1.8	1.6	2.1	
70 or older	96.7	1.5	0.5	0.3	0.3	0.2	0.2	0.2	99.3	0.6	0.1	0.0	0.0	0.0	0.0	0.0	84.9	5.7	2.6	1.8	1.4	1.1	1.1	1.4	
Unknown	93.7	1.6	1.0	0.8	0.8	0.5	0.5	1.1	97.1	0.9	0.5	0.4	0.3	0.1	0.2	0.4	70.6	7.2	4.5	3.7	4.3	2.7	2.0	5.2	
Gender																									
Female	75.9	6.8	3.6	2.7	2.3	2.0	2.2	4.4	86.6	4.9	2.2	1.5	1.2	1.0	1.0	1.7	60.8	10.1	5.7	4.4	3.8	3.3	3.7	8.2	
Male	75.9	6.8	3.6	2.8	2.3	2.0	2.3	4.4	87.1	4.9	2.1	1.4	1.1	0.9	1.0	1.6	59.5	10.2	5.8	4.6	3.9	3.5	4.0	8.6	
Unknown	69.3	7.6	4.5	3.6	3.1	2.5	2.9	6.6	84.5	5.4	2.6	1.8	1.4	1.1	1.2	2.1	52.5	10.4	6.6	5.4	4.8	4.0	4.6	11.8	
Account Balance [#]																									
Less than \$5,000	83.8	5.5	2.6	1.9	1.5	1.1	1.3	2.2	92.2	3.6	1.4	0.9	0.6	0.4	0.4	0.6	69.6	8.7	4.5	3.5	2.9	2.3	2.9	5.6	
\$5,000-\$9,999	71.3	8.2	4.4	3.3	2.8	2.3	2.5	5.2	84.9	5.9	2.6	1.7	1.3	1.0	1.0	1.6	58.7	10.4	6.0	4.6	4.0	3.3	3.9	9.1	
\$10,000-\$24,999	68.9	8.1	4.6	3.5	3.0	2.6	2.8	6.5	84.0	5.8	2.6	1.8	1.4	1.1	1.2	2.1	53.3	10.8	6.5	5.2	4.5	4.0	4.3	11.3	
\$25,000-\$49,999	67.2	7.6	4.6	3.7	3.2	2.9	3.3	7.6	83.0	5.6	2.7	1.9	1.5	1.3	1.4	2.6	49.2	10.7	6.8	5.6	5.0	4.4	5.1	13.2	
\$50,000-\$99,999	71.2	7.0	4.1	3.3	2.8	2.6	2.9	6.2	84.1	5.3	2.5	1.8	1.4	1.2	1.3	2.4	52.9	10.4	6.5	5.3	4.7	4.2	4.8	11.2	
\$100,000-\$149,999	75.2	6.8	3.8	2.9	2.5	2.1	2.4	4.3	85.6	5.2	2.3	1.6	1.3	1.0	1.1	1.9	59.0	10.5	6.2	4.9	4.2	3.6	4.0	7.7	
\$150,000-\$249,999	76.7	6.7	3.6	2.8	2.3	2.0	2.2	7.6	86.6	5.0	2.2	1.5	1.2	1.0	1.0	1.6	61.1	10.5	6.0	4.7	4.0	3.5	3.7	6.6	
\$250,000 or more	81.4	6.1	3.0	2.2	1.8	1.6	1.6	2.4	89.1	4.4	1.7	1.2	0.9	0.8	0.8	1.2	68.2	9.9	5.2	3.9	3.3	2.8	2.8	4.0	

*The consistent sample has only the individuals with at least one account in the database for each year 2010–2016. ^ATraditional | includes both contributory and rollover in this figure.

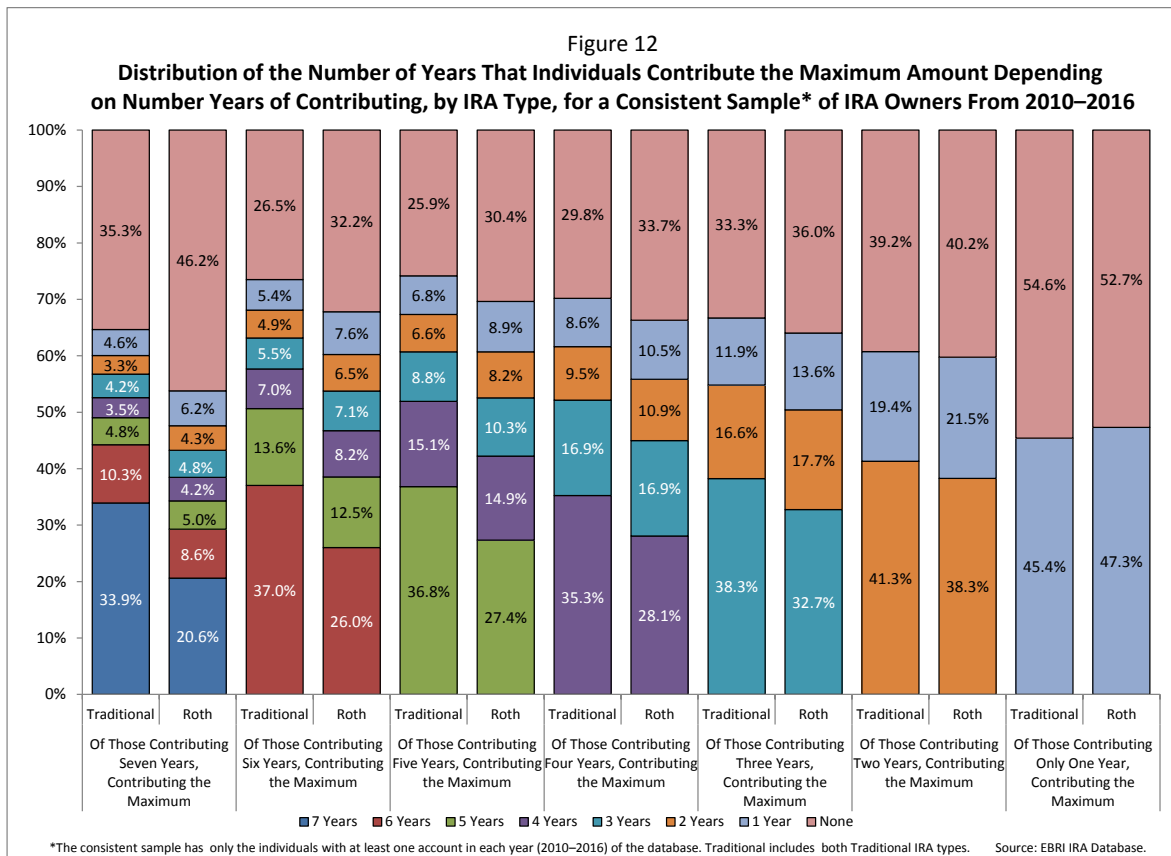
[#]The individual's age and account balance are from 2010.

Source: EBRI IRA Database.

Roth IRA owners ages under 25 were the most likely to contribute at least one year at 63.5 percent, and Roth IRA owners ages 25–29 were the most likely to contribute in all years at 14.6 percent. These percentages continued downward as the age of the Roth IRA owners increased, reaching 15.1 percent who contributed in any year and 1.4 percent who contributed in all seven years among those ages 70 or older. There were no major differences for those ages 25–64 for Traditional IRA owners, as 1.2 percent to 2.8 percent contributed in all seven years and 14.4 percent to 18.7 percent contributed in any year.

When considering the number of years contributions were made, no significant gender differences among the consistent account owners were found. However, in terms of account balance, those with balances in the \$10,000–\$99,999 range exhibited the highest likelihood of contributing in all seven years. IRA owners with the lowest (less than \$5,000) balances were the least likely to contribute.

Consistent Roth IRA owners were more likely to contribute any amount, but consistent Traditional IRA owners who contributed were generally more likely to contribute the maximum allowed amount (Figure 12). Of the Traditional IRA owners who contributed in all seven years, 33.9 percent contributed the maximum in all seven years. For comparison, 20.6 percent of the Roth IRA owners who contributed in all seven years contributed the maximum amount all seven years. This same result followed for those who contributed two to six years.



The higher average IRA contribution for Traditional IRAs relative to Roth IRAs is due to more Traditional IRA contributors maxing out their contribution amount and the relative age distributions of the contributors (older contributors have larger average contribution amounts). The average Traditional IRA contribution in 2016 for all those making a contribution was \$4,480 compared with \$4,081 for all Roth IRA contributions (Figure 13). The average Traditional IRA contribution was also higher than the Roth average in 2010–2015. In addition, the average contribution for Traditional IRAs increased from 2010–2016, while the average contributions to Roth IRAs increased from 2010–2014 before slight declines in 2015 and 2016.

Consistent account owners identified as males had slightly larger average contributions than those identified as females for both Traditional and Roth IRA types. Furthermore, the average contributions increased each year except for Roth IRAs owned by both identified genders in 2015 and 2016. With a few exceptions, the larger the account balance, the higher the average contribution was, and the average contribution increased each year across all the account balances as well except for Roth IRAs with the highest balances in 2015 and 2016.

Figure 13
Average Annual IRA Contribution for a Consistent Sample* of Individuals From 2010–2016,
by IRA Type and Age, Gender, and Account Balance

	Traditional [^]							Roth						
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016
All	\$3,982	\$4,034	\$4,101	\$4,376	\$4,447	\$4,455	\$4,480	\$3,685	\$3,741	\$3,768	\$4,034	\$4,090	\$4,087	\$4,081
Age [#]														
Under 25	2,346	2,441	2,507	2,694	2,877	2,966	3,091	2,779	2,973	3,127	3,440	3,595	3,648	3,706
25-29	2,726	2,738	2,858	3,167	3,304	3,423	3,613	3,215	3,257	3,283	3,522	3,589	3,589	3,573
30-34	3,157	3,202	3,285	3,567	3,656	3,725	3,793	3,224	3,241	3,237	3,448	3,487	3,494	3,488
35-39	3,470	3,509	3,580	3,873	3,930	3,949	3,989	3,212	3,240	3,232	3,458	3,502	3,496	3,503
40-44	3,601	3,637	3,684	3,977	4,042	4,040	4,182	3,293	3,325	3,334	3,560	3,604	3,619	3,702
45-49	3,689	3,821	3,996	4,403	4,582	4,695	4,727	3,479	3,606	3,722	4,086	4,255	4,350	4,373
50-54	4,250	4,382	4,435	4,709	4,780	4,788	4,811	4,172	4,301	4,334	4,631	4,702	4,710	4,704
55-59	4,473	4,521	4,572	4,823	4,894	4,886	4,880	4,556	4,630	4,655	4,963	5,005	4,991	4,966
60-64	4,598	4,607	4,651	4,887	4,939	4,909	4,879	4,826	4,837	4,835	5,114	5,125	5,076	5,027
65-69	4,594	4,566	4,610	4,848	4,871	4,796	4,153	4,874	4,867	4,836	5,090	5,076	5,007	4,917
70 or older	4,169	3,105	2,709	2,585	2,588	2,609	2,598	4,738	4,689	4,663	4,902	4,921	4,882	4,770
Unknown	4,221	4,091	4,086	4,349	4,349	4,475	4,417	3,994	4,023	3,985	4,460	4,279	4,309	4,114
Gender														
Female	4,007	4,038	4,121	4,397	4,459	4,464	4,491	3,749	3,797	3,823	4,084	4,126	4,120	4,104
Male	4,114	4,154	4,207	4,481	4,556	4,558	4,577	3,839	3,887	3,902	4,168	4,218	4,209	4,205
Unknown	3,721	3,834	3,905	4,183	4,261	4,285	4,320	3,438	3,516	3,555	3,827	3,902	3,913	3,915
Account Balance [#]														
Less than \$5,000	1,404	1,957	2,149	2,434	2,634	2,729	2,849	1,358	1,806	1,994	2,286	2,473	2,541	2,614
\$5,000-\$9,999	2,906	2,969	3,070	3,351	3,456	3,527	3,616	2,559	2,734	2,795	3,058	3,183	3,218	3,242
\$10,000-\$24,999	3,445	3,495	3,593	3,862	3,967	4,021	4,074	3,395	3,436	3,462	3,721	3,805	3,830	3,833
\$25,000-\$49,999	4,014	4,072	4,153	4,460	4,562	4,590	4,639	4,081	4,115	4,132	4,427	4,489	4,513	4,515
\$50,000-\$99,999	4,449	4,502	4,563	4,880	4,960	4,972	5,008	4,552	4,579	4,602	4,918	4,956	4,963	4,960
\$100,000-\$149,999	4,662	4,692	4,750	5,080	5,151	5,154	5,186	4,669	4,706	4,730	5,063	5,122	5,097	5,118
\$150,000-\$249,999	4,811	4,849	4,911	5,231	5,302	5,328	5,342	4,847	4,889	4,914	5,263	5,291	5,269	5,266
\$250,000 or more	5,065	5,082	5,129	5,486	5,555	5,582	5,572	5,166	5,179	5,174	5,517	5,535	5,525	5,495

*The consistent sample has only the individuals with at least one account in the database for each year 2010–2016.
[^]Traditional includes both Traditional IRA types in this figure. [#]The individual's age and account balance are from 2010.
Source: EBRI IRA Database.

Withdrawals from Traditional and Roth IRAs: 2010–2016

Among the consistent account owners, the percentage of individuals taking a withdrawal from a Traditional or Roth IRA rose from 14.1 percent in 2010 to 23.7 percent in 2016 (Figure 14). Furthermore, the percentage of consistent account owners ages 65–70 in 2010 who took a withdrawal increased from 21.0 percent in 2010 to 77.9 percent in 2016. This pattern was the result of the increasing percentages of individuals in this sample surpassing the RMD age each year due to the sample IRA owners being the same each year.¹²

While the percentage of consistent account owners taking a withdrawal in any one year was less than 24 percent, the percentage of consistent account owners who took a withdrawal in at least one of the seven years was 36.1 percent (Figure 14). This broke down into 9.7 percent taking a withdrawal in only one year, 4.7 percent in two of the years studied, 3.4 percent in three of the years studied, 3.0 percent in four of the years studied, 2.7 percent in five of the years studied, 4.7 percent in six of the years studied, and 7.9 percent in all seven years. The IRA-owning individuals younger than age 50 had similar likelihoods of taking a withdrawal during those seven years, with more than 50 percent of those taking a withdrawal doing so in only one year.¹³ However, at ages 50 and older, IRA owners were

increasingly likely to have taken a withdrawal in more than one year and, once the RMD age was attained, to have taken them in all seven years.

Figure 14
Percentage of Individuals From a Consistent Sample* of IRA Owners
Who Took a Withdrawal and Number of Years Withdrawals Were Taken, by Age, 2010–2016

	Took a Withdrawal							Number of Years Taking Withdrawals									
	2010	2011	2012	2013	2014	2015	2016	Zero	One	Two	Three	Four	Five	Six	Seven	At Least 1	
	All	14.1%	17.6%	18.6%	20.0%	21.5%	22.7%	23.7%	63.9%	9.7%	4.7%	3.4%	3.0%	2.7%	4.7%	7.9%	36.1%
Age [#]																	
Less than 30	5.0	5.9	6.1	6.6	6.9	7.1	7.3	81.1	10.3	3.0	1.3	0.8	0.6	1.1	1.7	18.9	
30-39	5.4	4.7	4.5	4.5	4.5	4.4	4.3	81.8	11.4	3.4	1.5	0.8	0.4	0.4	0.3	18.2	
40-49	6.4	6.2	5.9	5.9	6.1	6.0	5.9	81.0	9.8	3.6	2.0	1.2	0.8	0.8	0.8	19.0	
50-59	7.2	8.2	8.7	9.4	10.4	11.2	12.0	75.4	9.9	4.6	3.0	2.1	1.5	1.7	1.9	24.6	
60-64	13.9	17.0	18.2	19.3	20.7	21.5	25.6	57.9	13.6	6.7	4.9	4.1	3.6	4.1	5.1	42.1	
65-70	21.0	32.7	42.2	52.9	63.3	73.0	77.9	14.1	8.7	11.4	12.3	13.3	12.8	14.3	13.1	85.9	
71-79	62.3	83.1	83.1	83.1	83.7	83.8	83.1	9.3	2.5	2.0	2.1	2.5	4.6	23.4	53.7	90.7	
80 or older	69.9	84.8	84.4	83.6	84.1	83.5	81.7	8.4	2.4	2.0	2.1	2.6	4.7	19.5	58.4	91.6	
Unknown	11.7	11.8	12.1	12.9	13.6	14.3	14.2	80.4	3.8	1.8	1.4	1.4	1.4	2.5	7.4	19.6	

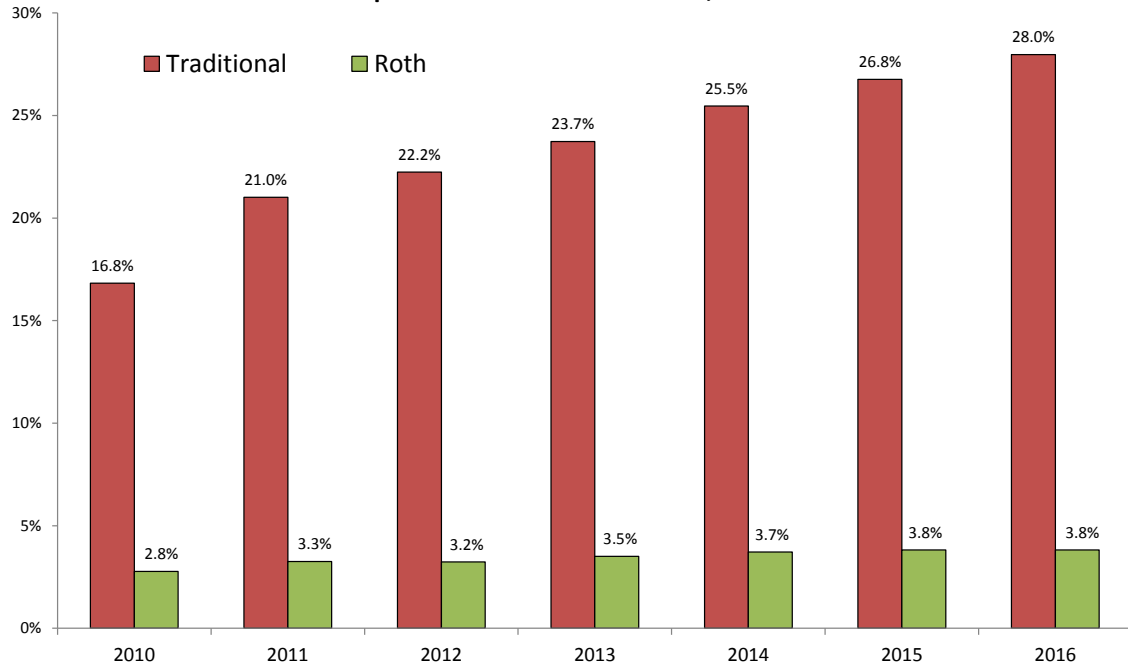
*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database. [#]The individual's age is from 2010.
Source: EBRI IRA Database.

Almost all of the withdrawal activity was observed coming from Traditional IRAs, as the percentage of consistent Roth IRA owners who took a withdrawal was relatively constant at 2.8 percent in 2010 to 3.8 percent in 2016 (Figure 15). The percentage of Traditional IRA owners in the sample taking a withdrawal increased each year, from 16.8 percent in 2010 to 28.0 percent in 2016, as the individuals in the sample aged.¹⁴

For consistent Traditional IRA owners, the distribution of the withdrawal rates for individuals who took a distribution was similar for 2010–2016 for the 25th percentile and median, but in 2010 and 2011, the 75th percentile rates were significantly higher (Figure 16). In each year, the median withdrawal rate ranged from just below 5.0 percent to 6.0 percent (4.9 percent in 2013 to 5.9 percent in 2010). The 25th percentile was around 4 percent for each year, while the 75th percentile decreased from 22.8 percent in 2010 to 9.3 percent in 2016. When withdrawals by consistent account owners younger than traditional retirement age occur, they are generally thought to be the result of the need for money either because of a hardship (loss of job, medical bills, etc.) or due to insufficient funds held elsewhere by individuals to finance purchases (house, business, etc.), even though the resulting tax and premature withdrawal penalties imposed are significant. However, once an individual reaches retirement age, a withdrawal to cover expenses in retirement is the expected result from an IRA and is, in fact, a required result from a Traditional IRA for owners after they reach age 70-½. The rate of these withdrawals is important in determining the likelihood of having sufficient funds to last for the duration of an individual’s life, certainly where these balances are a primary source of post-retirement income. Given that the Traditional IRA is where the vast majority of post-retirement withdrawals occur, the remaining focus of this section will be on Traditional IRA withdrawal activity.

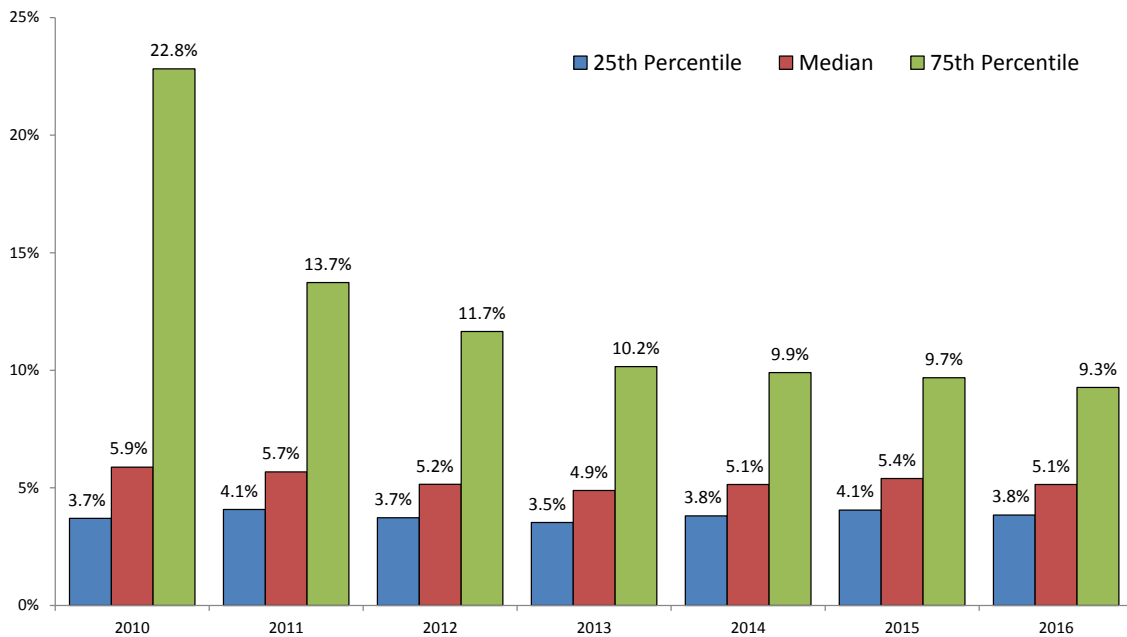
For an analysis to establish the withdrawal trends and sustainability of those converting their IRA account balances into income, the most salient age to examine is when the owners reach the RMD age (generally age 70-1/2). In order to determine how, and how rapidly, the individuals in this group are withdrawing their money, for individuals who were ages 71 or older in 2010 and withdrew money from their Traditional IRA in each year from 2010–2016, the geometric means of the seven years of withdrawal rates were calculated. The median of these geometric means was 5.5 percent (Figure 17), and the 25th and 75th percentiles were not much different at 4.5 percent and 7.6 percent, respectively. Furthermore, given the required minimum withdrawal for these individuals, the 10th percentile was close to the median at 4.0 percent. At the 90th percentile, the rate reached 12.5 percent. The distributions of the withdrawal rates across ages are relatively similar for ages 71–84, but the median did trend upward for each successive older age group. Once the IRA owners reached age 85, the distribution moved upward significantly at each percentile level, when the RMD rates are the highest.

Figure 15
Percentage of Traditional and Roth IRA Owners in a Consistent Sample* Who Took a Withdrawal, 2010–2016



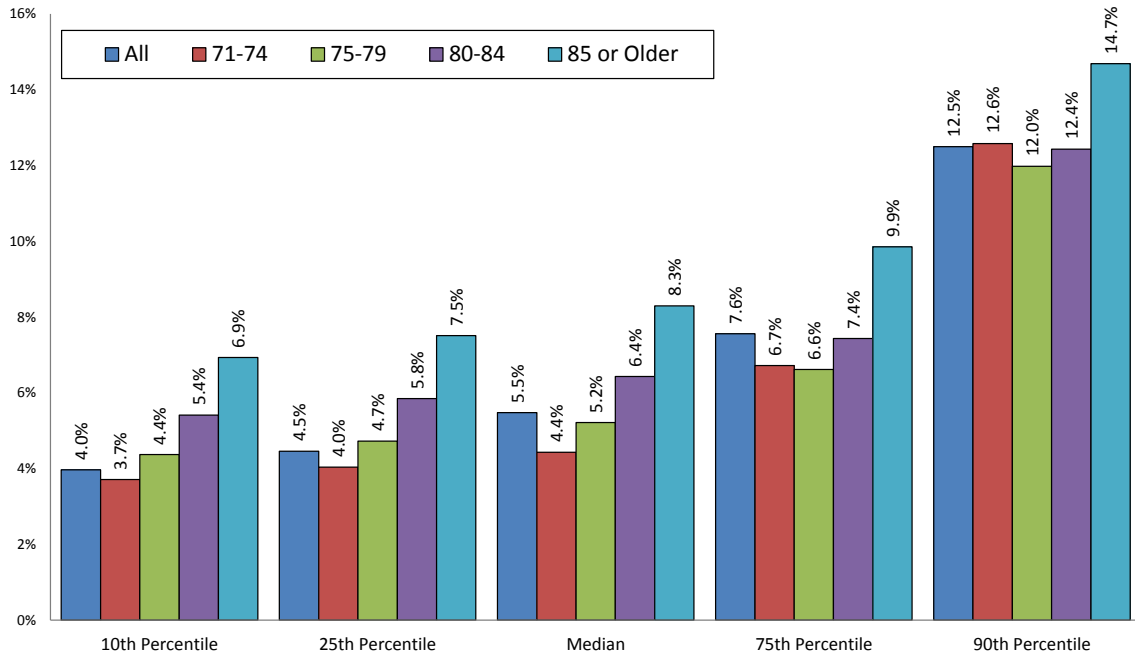
*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.
 Source: EBRI IRA Database.

Figure 16
Distribution of Withdrawal Rates by Traditional IRA Owners Taking a Withdrawal in a Consistent Sample*, 2010–2016



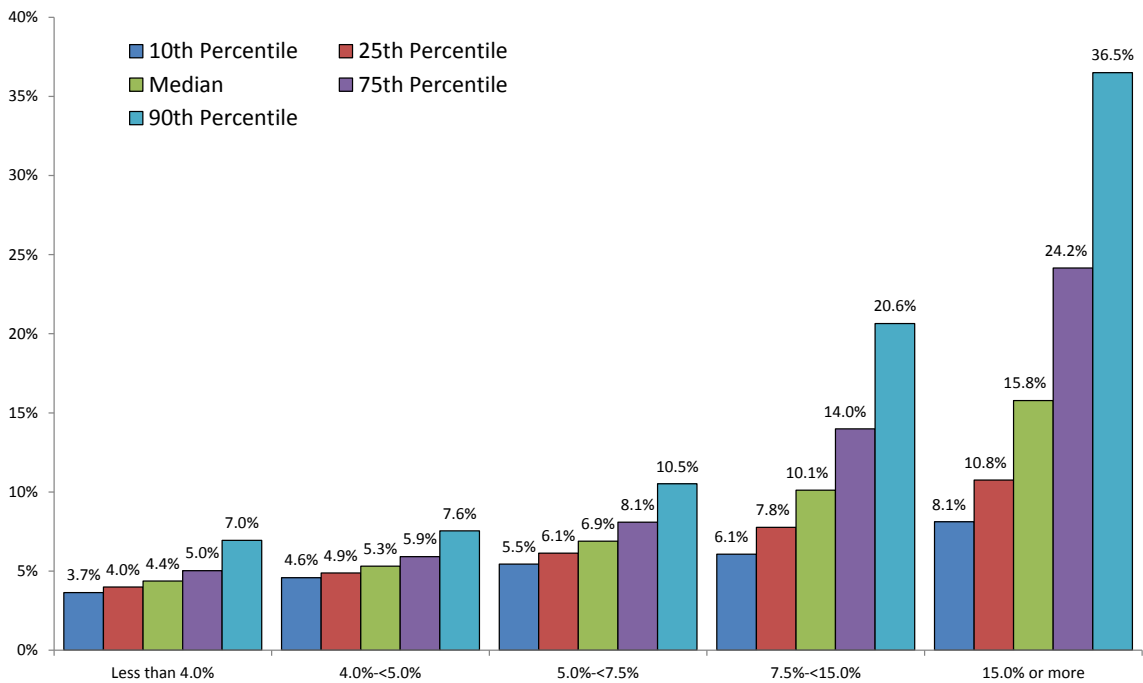
*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.
 Source: EBRI IRA Database.

Figure 17
Distribution of the Geometric Mean of Withdrawal Rates by Traditional IRA Owners Ages 71 or Older in 2010 Who Took a Withdrawal in Each Year 2010–2016, by Owner Age



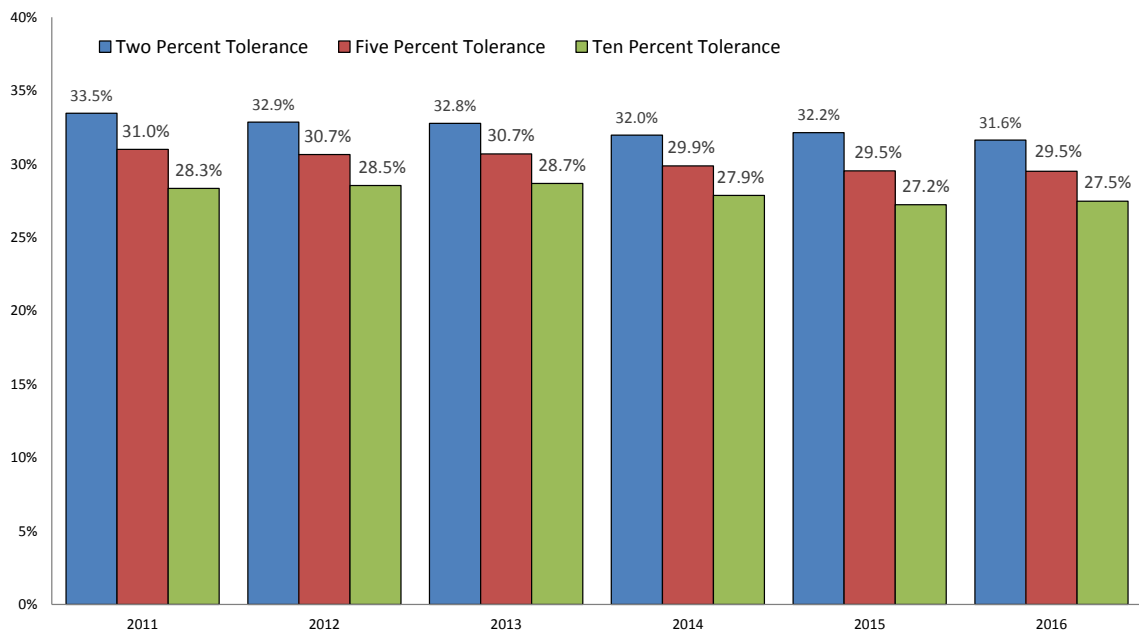
Source: EBRI IRA Database.

Figure 18
Distribution of the Geometric Mean of Withdrawal Rates by Traditional IRA Owners Ages 71 or Older in 2010 Who Took a Withdrawal in Each Year 2010–2016, Based on Initial Year's Withdrawal Rate



Source: EBRI IRA Database.

Figure 19
Percentage of Traditional IRA Owners Ages 71 or Older Who Took a Withdrawal From Their IRA That Was an Amount Larger Than Their Required Minimum Distribution for a Consistent Sample* of IRA Owners, by Various Tolerance Thresholds, 2011–2016



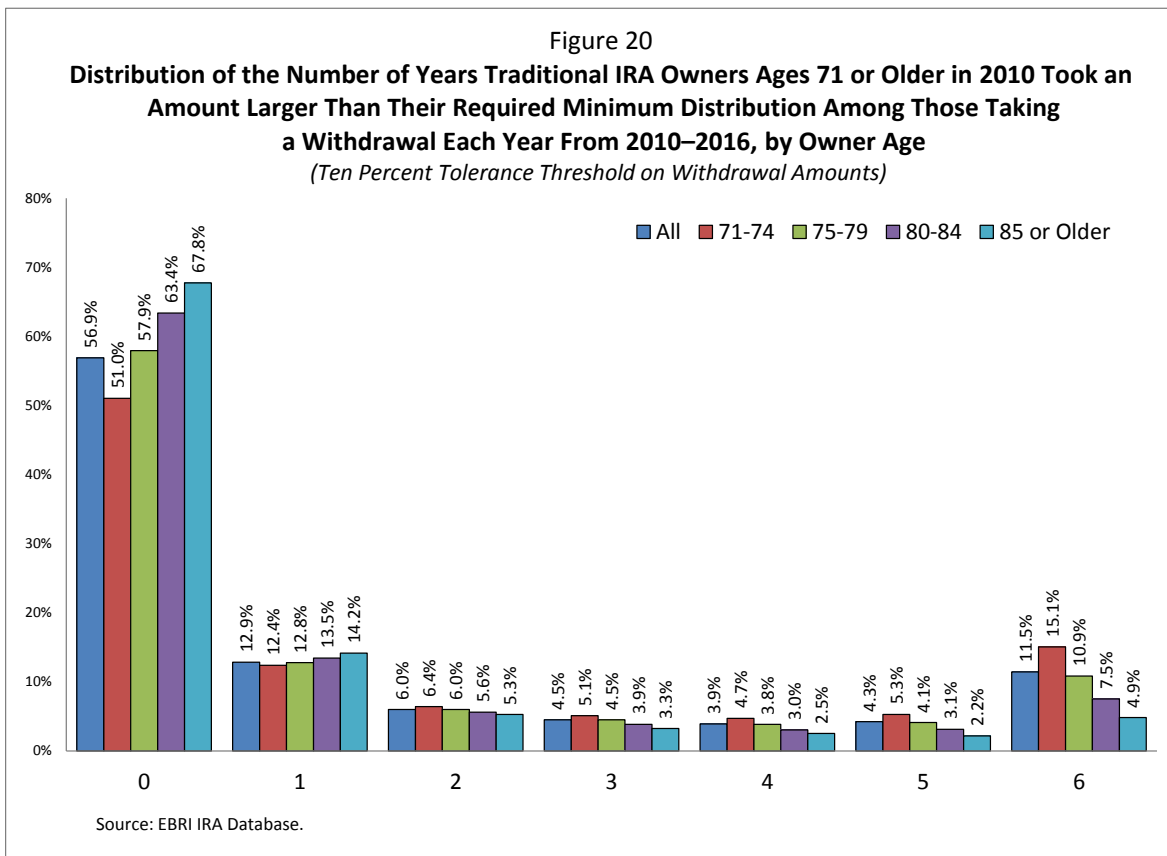
*The consistent sample has only the individuals with at least one account in each year (2010-2016) of the database.
 Source: EBRI IRA Database.

Taking another step in this analysis, the geometric means of withdrawal rates from 2010–2016 were calculated and broken out based on their initial 2010 level. For consistent account owners who had a withdrawal rate of less than 4.0 percent in 2010, the median geometric mean of the withdrawal rates from 2010–2016 was 4.4 percent (Figure 18). The distribution of these geometric means was tight around the median, with a 10th percentile of 3.7 percent and a 90th percentile of 7.0 percent. The next three groupings also were relatively tight around the median. In fact, not until the initial withdrawal rates reached 7.5 percent or more did the distribution of the geometric means really spread out. Consequently, the withdrawal rate in the current year, in most cases, appears to be a good proxy for the rate an IRA owner will take out over the next few years.

This consistent-account-owner sample allows for the determination of whether the amounts actually withdrawn by Traditional IRA owners ages 71 or older are in excess of what would be required to be taken out of Traditional IRAs under the RMD rules. The balances in the consistent sample are end-of-year balances, so dividing prior-year balances by the RMD factors provided by the Internal Revenue Service for the owner’s age in the current year determines the required amount to be withdrawn. When comparing the withdrawn amount with the calculated required amount, approximately 30 percent of the IRA owners ages 71 or older withdrew an amount in excess of that required (Figure 19). To account for small calculation differences, the comparison used three different tolerance levels of 2 percent, 5 percent, and 10 percent, so that the calculated amount in the study is adjusted upward by that percentage.¹⁵ The tolerance choice did not have a large impact on the percentage above the RMD amount. In 2011, the percentage withdrawing more than the required amount by 10 percent was 28.3 percent, and remained between 27 percent and 29 percent from 2012–2016.

While roughly the same percentage of these individuals took out more than their RMD in each year, it was not the same individuals each year. Over half (56.9 percent) of these individuals did *not* take a withdrawal larger than their RMD during the 2011–2016 period (Figure 20).¹⁶ Therefore, 43.1 percent took a withdrawal greater than their RMD at least once from 2011–2016. Just over 11 percent took a withdrawal greater than their RMD in all six years, while 12.9 percent took a withdrawal greater than their RMD only once. The remaining individuals were fairly evenly distributed across 2–5 years of withdrawals greater than their RMDs. Younger individuals of this group (ages 71–74) were more likely to have taken a distribution greater than their RMD and to have taken distributions greater than their RMDs in all

years. In particular, 51.0 percent of those ages 71–74 had not taken a distribution greater than their RMDs compared with 67.8 percent of those ages 85 or older. In addition, 15.1 percent of those ages 71–74 took distributions greater than their RMD in all years, while only 4.9 percent of those ages 85 or older did.



Asset Allocation: 2010–2016

Again in this section, each year’s cross-sectional results of that year’s IRA asset allocation is presented. However, the changes in asset allocation over time of the same accounts provide pertinent information about the behavior of IRA owners. Consequently, two types of comparisons are presented to examine the changes in asset allocation: Each year’s cross-sectional results and a consistent sample of individual IRA owners who have a Traditional, Roth, or SEP/SIMPLE IRA with a positive balance in the database and complete asset allocation data for each year from 2010–2016.

Cross Sectional—Equity allocations peaked in 2014 at 55.7 percent and have since declined to 50.9 percent in 2016 (Figure 21). In contrast, the amount allocated to balanced funds was at its highest level in 2016 at 13.2 percent, having previously ranged from 9.5 percent to 10.9 percent (between 2010 and 2015). The percentages allocated to other assets decreased through 2014 before an uptick in 2015 and 2016. For bonds, the allocation declined from 19.9 percent in 2010 to 14.7 percent in 2016.

The equity allocation followed this trend of decrease then significant increase for each gender through 2013 before a decrease for males and females in 2014 and 2015, and a decrease just for females in 2016. For the individuals with an unknown gender, the equity allocation continued with a significant increase in 2014 before leveling off in 2015 and dramatically dropping in 2016. Among the various IRA types, the equity allocation decreased in 2011, then increased through 2014 and declined in 2015, except for Traditional IRAs, where the equity allocation increased each year through 2014, and SEP/SIMPLEs, where the equity allocation decreased in 2014. There was a decrease in the equity allocation in each IRA type in 2016.

Figure 21
IRA Asset Allocation, Asset Weighted, Full Samples, by Various Characteristics, 2010–2016

	Equity ^a						Balanced ^b						Bonds						Money ^c						Other										
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016
All	45.7%	44.4%	52.1%	54.7%	55.7%	54.7%	50.9%	10.7%	10.7%	9.5%	10.1%	10.7%	10.9%	13.2%	19.9%	18.0%	15.1%	15.3%	14.9%	15.0%	14.7%	8.9%	13.0%	12.8%	11.6%	10.5%	10.8%	11.1%	14.8%	13.9%	10.6%	8.4%	8.2%	8.8%	10.1%
Gender																																			
Female	45.6	43.9	53.7	55.7	51.6	50.5	50.4	11.6	13.2	10.9	11.1	15.8	15.5	15.0	18.1	16.3	13.1	15.2	13.4	13.4	14.4	11.3	15.4	14.1	11.3	10.8	11.1	11.2	13.4	11.2	8.2	6.7	8.4	9.4	9.0
Male	44.7	43.9	53.5	56.4	52.6	52.0	52.1	8.8	9.4	7.9	8.6	12.4	12.4	11.9	18.8	16.7	13.5	15.1	13.9	13.9	14.7	11.3	15.2	14.5	11.9	11.3	11.6	11.6	16.4	14.8	10.6	8.1	9.8	10.0	9.7
Unknown	46.9	45.8	47.2	49.2	60.4	60.0	48.6	12.4	11.0	11.7	12.7	6.8	6.7	14.1	21.9	21.7	20.5	15.7	16.6	17.1	15.1	5.1	7.1	7.5	11.0	9.8	9.3	9.7	13.7	14.4	13.2	11.4	6.4	7.0	12.5
Age																																			
Less than 25	52.1	47.9	59.2	58.8	59.1	49.7	49.2	19.4	14.0	15.1	14.5	14.8	25.1	21.1	18.6	13.3	6.8	9.7	9.5	13.2	12.1	8.4	12.4	13.2	12.4	11.8	7.9	4.7	1.5	12.4	5.7	4.5	4.8	4.2	12.9
25-44	58.6	49.0	56.6	58.6	58.7	57.6	52.4	18.6	14.9	16.2	18.8	19.7	20.2	22.4	7.9	9.7	6.5	6.1	5.9	5.7	6.4	8.6	15.0	13.9	12.2	11.2	11.4	12.5	6.3	11.4	6.9	4.3	4.6	5.2	6.3
45-54	55.4	50.1	58.4	61.5	62.0	61.0	56.5	13.3	12.0	11.0	12.2	13.0	13.3	15.4	12.1	11.8	9.1	9.1	8.9	8.8	8.8	8.9	14.2	13.5	11.6	10.5	10.5	11.7	10.3	11.9	8.1	5.5	5.7	6.5	7.6
55-64	45.8	44.6	52.4	55.6	56.5	55.5	51.5	10.8	10.8	9.4	10.1	10.9	11.1	13.3	18.7	17.2	14.2	14.3	14.1	14.1	13.9	9.1	13.5	13.5	12.0	10.8	10.9	11.6	15.6	13.9	10.5	8.0	7.8	8.5	9.7
65-69	41.0	41.2	49.2	51.7	52.9	51.7	47.9	9.1	9.7	8.3	8.7	9.5	9.8	12.2	22.9	21.2	17.6	18.0	17.7	17.7	17.3	9.5	12.6	13.0	11.8	10.8	10.9	11.2	17.6	15.3	11.9	9.7	9.2	9.9	11.4
70-74	39.8	40.7	49.1	51.4	52.9	52.0	48.4	8.7	9.3	7.8	7.9	8.4	8.6	11.0	24.5	22.8	18.7	19.1	18.6	18.7	18.2	9.6	11.7	12.2	11.3	10.3	10.4	10.4	17.5	15.5	12.2	10.3	9.7	10.3	12.0
75-84	40.3	41.4	49.6	51.6	53.4	52.9	49.6	8.5	9.3	7.9	7.8	8.1	8.1	10.4	25.3	24.0	19.6	19.9	19.3	19.2	18.6	9.1	10.5	11.1	10.3	9.6	9.7	9.4	16.8	14.8	11.9	10.4	9.6	10.1	12.0
85 or older	40.7	42.1	49.0	51.2	53.1	52.9	49.7	8.0	8.7	7.8	8.1	8.4	8.5	10.8	28.2	26.1	21.8	21.2	20.1	19.6	19.1	9.3	9.4	10.3	10.2	9.5	9.6	9.4	14.0	13.7	11.1	9.4	8.9	9.4	11.0
Unknown	48.8	44.2	46.5	48.1	51.1	51.3	52.4	9.4	6.3	9.0	11.9	10.8	10.7	10.4	26.2	19.1	22.4	17.0	15.7	14.9	13.7	1.5	17.0	8.3	11.7	11.5	13.2	15.2	14.1	13.4	13.8	11.3	11.0	9.9	8.3
Account Balance																																			
Less than \$10,000	56.8	48.2	52.3	49.1	46.9	45.9	39.6	21.2	20.5	17.9	19.4	21.1	21.4	22.4	6.9	5.3	5.0	5.2	4.6	4.4	6.0	12.4	20.5	20.5	24.1	25.0	25.4	28.1	2.7	5.5	4.2	2.2	2.4	2.9	3.9
\$10,000-\$24,999	56.7	50.2	55.3	53.9	53.0	52.4	47.5	19.6	20.2	18.1	20.3	22.1	22.5	24.5	10.1	8.2	7.3	7.3	6.7	6.4	7.3	8.7	14.6	14.2	15.2	14.8	14.7	16.1	4.9	6.8	5.2	3.3	3.4	4.0	4.6
\$25,000-\$49,999	55.2	49.9	55.4	54.8	54.4	53.6	49.0	16.6	17.6	16.0	18.2	19.6	19.7	22.0	12.6	10.6	9.1	9.1	8.7	8.4	8.8	8.3	13.6	13.1	13.4	12.8	12.8	14.0	7.3	8.3	6.4	4.5	4.6	5.4	6.2
\$50,000-\$99,999	51.5	48.5	55.1	55.8	55.7	54.8	50.7	13.9	14.1	12.9	15.1	16.4	16.5	18.8	15.2	13.3	11.3	11.0	10.5	10.3	10.5	8.4	13.4	12.7	12.1	11.4	11.4	12.5	11.0	10.7	8.0	6.0	6.0	7.0	7.5
\$100,000-\$149,999	48.4	46.5	53.7	55.8	56.6	55.6	51.9	12.1	12.2	11.0	12.5	13.6	13.7	15.9	16.8	15.3	12.8	12.3	11.8	11.5	11.6	8.6	13.4	12.9	11.7	10.7	10.7	11.5	14.1	12.6	9.6	7.7	7.4	8.5	9.1
\$150,000-\$249,999	45.8	44.8	52.5	54.7	55.7	54.5	51.1	11.0	10.9	9.9	11.2	12.2	12.3	14.3	18.7	17.2	14.2	13.8	13.3	13.1	13.1	8.7	13.3	13.0	11.6	10.6	10.6	11.4	15.8	13.8	10.4	8.7	8.3	9.5	10.1
\$250,000 or more	41.1	41.5	50.4	54.4	55.9	54.9	51.3	7.7	7.5	6.8	7.1	7.7	7.9	10.2	24.2	22.2	18.0	18.0	17.5	17.8	17.2	9.2	12.3	12.4	10.9	9.8	9.9	10.0	17.8	16.5	12.4	9.6	9.2	9.5	11.3
Type																																			
Traditional-Comts. [^]	45.5	43.9	49.6	51.9	52.9	52.0	49.0	10.5	11.1	10.2	10.5	11.3	11.3	12.9	20.5	17.6	17.8	16.5	16.0	15.9	15.7	7.7	13.7	12.8	10.0	9.1	9.4	9.6	15.8	13.7	9.6	11.2	10.7	11.4	12.8
Roth	59.1	52.5	60.4	63.6	64.5	63.9	59.8	15.5	14.5	12.5	13.6	14.0	14.4	16.8	9.8	8.8	8.0	8.0	7.5	7.5	7.5	7.2	12.3	8.6	9.1	8.3	8.4	8.6	8.4	11.9	10.5	5.7	5.7	5.8	7.3
Traditional-Rlvr [^]	41.3	42.1	52.2	54.8	56.1	54.8	50.4	9.9	9.8	8.3	9.0	9.5	9.7	12.5	19.8	17.1	13.7	16.2	15.0	16.3	15.9	12.8	17.3	9.5	13.4	12.1	12.1	13.0	16.2	13.7	16.3	6.6	7.3	7.1	8.2
SEP/SIMPLE	51.1	46.8	56.2	59.0	58.8	57.8	52.5	12.2	4.2	9.7	10.4	11.2	11.5	15.0	13.5	11.1	9.7	11.0	10.9	11.1	10.4	12.6	21.2	8.2	13.3	12.4	12.5	13.3	10.6	16.7	16.2	6.3	6.7	7.1	8.8
All Traditional	43.8	42.8	51.0	53.4	54.6	53.5	49.7	10.3	10.3	9.2	9.7	10.3	10.5	12.7	20.2	17.3	15.6	16.3	16.0	16.1	15.8	9.7	15.8	11.0	11.7	10.7	10.8	11.3	16.0	13.8	13.2	8.8	8.4	9.1	10.5

^aEquity includes directly held stocks, equity mutual funds, and other equity products. ^bBalanced funds include balanced funds, lifecycle/style funds, and target-date funds. ^cMoney includes money market mutual funds and certificates of deposit (CDs). [^]Traditional-Comts.=Traditional-Originating from contributions, Traditional-Rlvr=Traditional-Originating from rollovers. Both of these accounts could have received contributions or rollovers after their origination, so these are NOT proxies for employment-based dollars versus IRA-only dollars. The Traditional-originating from rollovers do provide an estimate of the dollars that have been moved into a new IRA.

Source: EBRI IRA Database.

Across ages and account balances, the overall pattern was followed only for those ages 25–64 and for account balances of \$100,000–\$249,999. For owners under age 25, the equity allocation declined in 2013, increased in 2014, and decreased in 2015, while for owners ages 65 or older, the equity allocation increased each year from 2010–2014 before decreasing in 2015. For account balances less than \$50,000, the equity allocation decreased in 2013 and 2014, but for those with account balances of \$50,000–\$99,999, the equity allocation increased in 2013 and then decreased in 2014. The equity allocation increased each year from 2010–2014 for accounts with balances of \$250,000 or more. Equity allocations across all age and account balance categories declined in 2015 and 2016, regardless of the prior years' patterns, except for those with unknown ages in 2016.

Consistent Account Owner Comparison—In order to compare the consistent account owners' asset allocations, each individual's total asset allocation is compared to determine the change in asset allocation from 2010 to 2016, with particular focus on the equity allocation. This comparison provides results on how the same individuals' asset allocation changed during this period, which allows for a better understanding of how the allocation changes for those maintaining IRAs.¹⁷

Among consistent participants, equity allocations reached their highest levels in 2016, at 53.1 percent — up from 47.5 percent in 2010. Balanced fund allocations were also higher in 2016 than in previous years, at 11 percent. In contrast, bond allocations have decreased from 15.1 percent in 2010 to 13.2 percent in 2016 (Figure 22).

In general, the changes in the asset allocation from 2010 to 2012 were relatively minor. For instance, the share of assets allocated to equities was 47.5 percent in 2010 and 46.7 percent in 2012, with a decline to 46.0 percent in 2011. The other asset classes had minimal changes from 2010 to 2012.

However, in 2013, the percentage allocated to equities increased substantially, by 5.1 percentage points, to 51.8 percent, and the percentage allocated to bonds decreased by 3.6 percentage points from 16.5 percent in 2012 to 12.9 percent in 2013. The amount allocated to money also decreased by 1.5 percentage points in 2013, while the percentages allocated to balanced funds and other assets were virtually unchanged.

In 2014, the percentage allocated to equities again increased, reaching 53.0 percent. The percentage allocated to money decreased a similar amount as the remaining asset categories were virtually unchanged from 2013 to 2014. Meanwhile, for 2015, the changes in each asset category were no more than 0.5 percentage points, where equities decreased, and bonds, money, and balanced funds had very small increases. Equity allocations increased in 2016, with a corresponding decrease in the allocation to other assets.

The amount allocated to equities increased across all demographic groups and IRA types in 2013 and 2014, driving an overall increase allocated to equities in each these groups from 2010–2016, despite a decrease in the equity allocation in almost all categories in 2015 before increases in 2016. The allocations to balanced funds increased from 2010 to 2016, including flat or slightly upward allocation levels in 2015 and 2016. For bonds, the allocation increased in 2015 and 2016, but the allocations to bonds across all categories were below their 2010 levels.

Money allocations in 2015 and 2016 had slight changes after clearly decreasing across virtually all groups in 2013 and 2014 leaving the money allocations lower in all. The allocations to other assets were little changed in 2015 compared with 2014 before a significant decline in 2016, which led the levels to be below those established in 2010.

Extreme Allocations—The overall direction can mask what happens at the individual level, so given that the sample consists of the same individuals, the distribution of the changes in the allocations from 2010 to 2016 can be determined. First, since a significant percentage of consistent account owners have been shown to have allocations at the extremes (zero percent or 100 percent),¹⁸ a comparison of the individuals' initial equity-allocation grouping (zero percent, 100 percent, or something in between in 2010) with the same individuals' 2016 grouping was conducted.

Figure 22
IRA Average Asset Allocation, Asset Weighted, Consistent Sample^a, by Various Characteristics, 2010–2016

	Equity ^b							Balanced ^b							Bonds							Money ^c							Other						
	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016	2010	2011	2012	2013	2014	2015	2016
All	47.5%	46.0%	46.7%	51.8%	53.0%	52.5%	53.1%	9.4%	9.9%	10.4%	10.6%	10.8%	10.9%	11.0%	15.1%	16.3%	16.5%	12.9%	12.6%	12.9%	13.2%	14.3%	14.8%	14.1%	12.6%	11.4%	11.5%	11.5%	13.7%	13.0%	12.4%	12.2%	12.2%	11.2%	11.2%
Gender																																			
Female	47.8	46.4	47.2	52.5	53.7	53.0	53.3	10.7	11.2	11.7	11.8	12.1	12.1	12.3	15.3	16.5	16.6	13.2	12.9	13.3	13.6	14.4	14.5	13.7	11.9	10.8	10.9	10.9	11.9	11.4	10.9	10.6	10.6	10.9	10.0
Male	47.5	45.9	46.6	51.8	53.0	52.6	53.2	7.6	8.1	8.4	8.5	8.7	8.8	8.9	15.7	17.0	17.2	13.4	13.2	13.5	13.9	14.0	14.5	13.9	12.6	11.4	11.6	11.6	15.2	14.5	13.9	13.7	13.6	13.6	12.4
Unknown	47.2	45.6	46.2	50.7	52.1	51.8	52.3	13.9	14.6	15.3	15.6	15.9	15.9	16.0	12.6	13.6	13.8	10.5	10.1	10.3	10.6	15.5	16.0	15.2	13.5	12.1	12.2	12.3	10.7	10.1	9.6	9.7	9.8	9.9	9.0
Age ^d																																			
Less than 25	52.5	50.7	50.5	57.0	57.7	58.0	57.7	20.1	21.4	22.3	20.6	21.0	21.0	21.2	16.5	17.5	17.3	13.3	12.1	11.4	11.0	8.9	8.4	7.7	6.8	6.3	6.5	6.7	2.0	2.0	2.1	2.4	2.9	3.1	3.4
25-44	54.9	54.0	54.6	58.0	59.0	58.8	59.4	15.0	15.6	16.2	16.2	16.3	16.2	16.2	6.3	7.1	7.2	5.6	5.5	5.6	5.8	15.2	15.2	14.3	12.2	11.0	10.9	11.2	8.6	8.1	7.8	8.0	8.2	8.5	7.4
45-54	54.3	52.7	53.0	57.3	58.1	57.3	57.2	10.8	11.3	11.7	11.6	11.8	11.8	11.8	9.5	10.7	10.9	8.6	8.6	9.0	9.6	14.7	15.2	14.6	12.7	11.5	11.6	11.9	10.7	10.1	9.8	9.8	10.0	10.3	9.4
55-64	47.4	45.4	45.5	50.5	51.4	50.5	50.7	8.9	9.4	9.8	9.9	10.2	10.1	10.2	15.3	16.7	17.2	13.6	14.2	14.8	14.4	15.0	14.5	13.1	11.9	12.0	12.1	14.1	13.5	13.0	13.0	13.0	13.1	12.2	
65-69	43.6	41.8	42.3	48.0	49.3	49.0	49.9	7.8	8.3	8.7	8.8	9.1	9.1	9.2	18.7	20.2	20.6	16.2	15.9	16.4	16.8	14.3	14.8	14.0	12.7	11.5	11.4	11.0	15.7	15.0	14.4	14.3	14.2	14.2	13.2
70-74	42.5	41.3	42.3	48.2	49.8	49.5	50.5	7.8	8.3	8.7	8.8	9.0	9.0	9.2	20.0	21.3	21.5	17.0	16.6	16.9	17.2	14.1	14.2	13.1	11.9	10.7	10.7	10.4	15.8	15.0	14.4	14.1	14.0	13.9	12.8
75-84	42.4	41.3	42.4	48.4	50.1	49.7	50.7	8.3	8.7	9.1	9.3	9.5	9.5	9.8	20.3	21.7	21.7	17.3	16.7	17.0	17.1	12.8	12.9	12.0	10.9	9.9	10.1	9.8	16.2	15.4	14.8	14.1	13.9	13.8	12.7
85 or older	41.3	40.9	42.2	48.2	49.9	49.7	50.6	7.4	7.8	8.2	8.5	8.8	8.9	9.3	21.1	22.4	22.4	18.3	17.5	17.4	17.1	13.3	12.9	11.9	10.9	10.1	10.4	10.4	16.9	16.0	15.4	14.1	13.8	13.7	12.7
Unknown	45.9	44.9	46.2	51.4	53.6	53.0	55.8	6.2	6.4	6.5	6.6	6.6	6.7	7.0	10.0	10.7	11.3	8.6	8.5	8.3	8.8	22.7	25.0	24.2	21.9	20.1	20.6	20.9	15.2	13.1	11.8	11.5	11.2	11.4	7.7
Account Balance ^e																																			
Less than \$5,000	43.2	40.0	40.8	45.9	47.7	47.2	48.0	17.8	17.0	17.6	17.0	17.2	16.4	16.2	2.9	6.8	8.2	7.1	7.3	7.9	9.0	32.5	29.4	26.3	21.2	18.4	18.1	17.6	3.7	6.8	7.2	8.8	9.5	10.5	9.2
\$5,000-\$9,999	52.3	48.0	47.5	51.3	52.2	51.6	51.8	20.6	20.6	21.0	20.1	20.0	19.3	19.0	4.7	7.0	8.0	6.8	7.2	7.7	8.6	18.1	18.8	17.5	14.6	12.8	12.9	12.7	4.3	5.6	6.0	7.2	7.8	8.5	8.0
\$10,000-\$24,999	53.7	50.8	50.6	54.2	55.0	54.2	54.1	19.3	19.4	19.8	19.1	19.0	18.4	18.2	6.2	7.9	8.7	7.1	7.2	7.7	8.5	15.8	16.4	15.2	13.1	11.6	11.8	11.8	5.0	5.5	5.8	6.6	7.1	7.8	7.5
\$25,000-\$49,999	54.5	52.2	52.4	56.2	57.1	56.4	56.2	16.8	17.1	17.4	17.0	17.0	16.6	16.4	7.8	9.2	9.8	7.8	7.8	8.3	9.0	14.9	15.4	14.2	12.3	11.0	11.1	11.2	6.1	6.1	6.2	6.7	7.2	7.7	7.3
\$50,000-\$99,999	52.9	51.0	51.4	55.8	56.7	56.1	56.0	14.1	14.5	14.8	14.5	14.6	14.3	14.3	10.1	11.5	11.9	9.4	9.3	9.7	10.2	15.0	15.4	14.4	12.4	11.2	11.3	11.4	7.9	7.7	7.6	7.9	8.2	8.7	8.2
\$100,000-\$149,999	50.7	48.9	49.5	54.3	55.4	54.7	54.9	12.4	12.8	13.1	12.9	13.0	12.9	12.9	11.8	13.1	13.5	10.6	10.4	10.8	11.2	15.4	15.7	14.9	12.9	11.7	11.7	11.8	9.8	9.5	9.2	9.4	9.6	10.0	9.2
\$150,000-\$249,999	49.0	47.4	48.0	53.1	54.2	53.5	53.9	10.9	11.3	11.5	11.5	11.6	11.5	11.5	13.4	14.8	15.1	11.8	11.6	12.0	12.4	15.2	15.6	14.8	12.9	11.7	11.8	12.0	11.5	11.0	10.7	10.7	10.9	11.2	10.3
\$250,000 or more	44.9	43.5	44.2	49.6	50.9	50.4	51.3	6.5	6.9	7.1	7.2	7.3	7.3	7.5	18.1	19.5	19.8	15.6	15.4	15.9	16.2	13.6	13.9	13.4	12.2	11.1	11.2	11.1	16.9	16.2	15.6	15.3	15.3	15.2	13.9
Type																																			
Traditional-Conts. ^a	47.0	45.2	45.9	51.1	52.1	51.7	51.7	10.2	10.7	11.2	11.3	11.6	11.6	11.8	16.4	17.6	17.8	13.9	13.5	13.8	14.0	12.3	12.8	12.0	10.8	9.9	10.1	10.2	14.1	13.7	13.2	12.9	12.9	12.8	12.4
Roth	56.8	55.6	56.1	60.2	61.4	61.8	62.4	13.0	13.9	14.3	14.2	14.3	14.2	14.4	7.8	8.7	8.9	6.5	6.3	6.3	6.5	11.4	11.6	10.8	9.5	8.6	8.6	8.6	11.0	10.2	9.9	9.7	9.5	9.0	8.1
Traditional-RIV ^a	45.8	44.5	45.2	50.6	52.0	51.2	52.3	8.1	8.4	8.7	8.8	9.0	9.0	9.2	16.1	17.5	17.7	14.0	13.8	14.2	14.5	16.0	16.3	15.8	14.1	12.9	12.9	13.1	14.1	13.3	12.6	12.5	12.4	12.6	10.9
SEP/SIMPLE	50.3	48.4	48.9	53.7	54.7	54.3	54.4	10.7	11.5	11.9	12.0	12.2	12.3	12.5	11.3	12.4	12.6	9.7	9.6	9.9	10.1	16.0	16.9	15.9	14.1	12.9	13.0	13.2	11.7	11.0	10.7	10.5	10.5	10.5	9.8
All Traditional	46.3	44.9	45.5	50.8	52.0	51.4	51.9	8.9	9.4	9.7	9.9	10.1	10.1	10.3	16.2	17.5	17.7	14.0	13.7	14.1	14.4	14.5	14.9	14.2	12.7	11.6	11.7	11.8	14.1	13.4	12.8	12.7	12.6	12.8	11.7

^aThe consistent sample has only the individuals with at least one account in each year (2010–2016) of the database. ^bEquity includes directly held stocks, equity mutual funds, and other equity products. ^cBalanced funds include balanced funds, lifecycle/style funds, and target-date funds. ^dMoney includes money market mutual funds and certificates of deposit (CDs). ^eThe individual's age and account balance are from 2010. ^fTraditional-Conts.=Traditional-Originating from contributions, Traditional-RIV=Traditional-Originating from rollovers. Both of these accounts could have received contributions or rollovers after their origination, so these are NOT proxies for employment-based dollars versus IRA-only dollars. The Traditional-originating from rollovers do provide an estimate of the dollars that have been moved into a new IRA. Source: EBRI IRA Database.

Just over one-quarter (27.6 percent) of IRA owners in the consistent sample had zero percent allocated to equities in 2010 and 2016, while 18.2 percent had 100 percent allocated to equities in both years (Figure 23). Almost 6 percent had a zero percent allocation to equities in 2010 but something greater than zero percent in 2016, which means that 17.6 percent of those with a zero percent allocation in 2010 changed to something larger than zero percent in 2016.¹⁹ Similarly, 23.3 percent of those who had a 100 percent allocation in 2010 changed the allocation to something less than 100 percent in 2016.²⁰ After accounting for those consistent account owners who moved to zero percent (4.0 percent) and to 100 percent (2.5 percent), 36.5 percent had an allocation of more than zero percent but less than 100 percent in both years.

Figure 23
Distribution of IRA Owners by Level of Equity
Allocation, Consistent Sample*, by Various Characteristics, 2010 and 2016

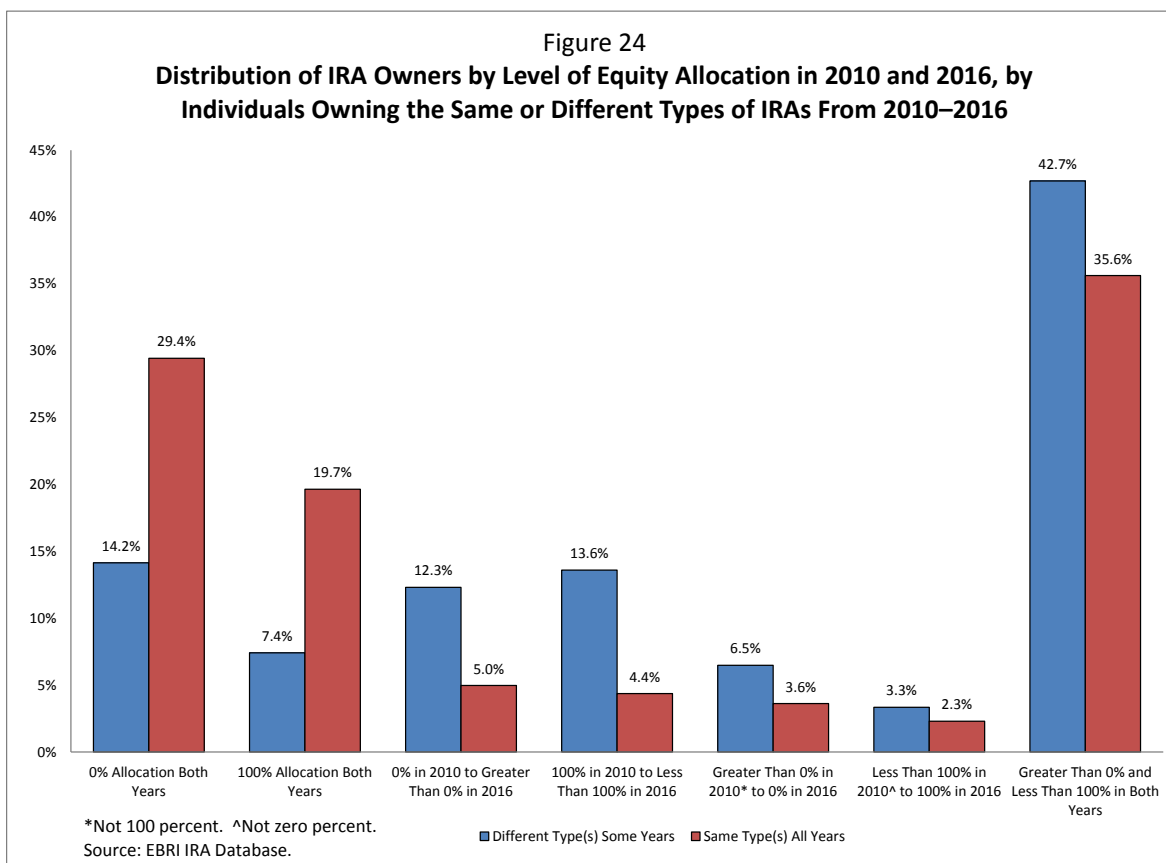
	0% Allocation Both Years	100% Allocation Both Years	0% in 2010 to Greater Than 0% in 2016	100% in 2010 to Less Than 100% in 2016	Greater Than 0% in 2010 ^{&} to 0% in 2016	Less Than 100% in 2010 [^] to 100% in 2016	Greater Than 0% and Less Than 100% in Both Years
All	27.6%	18.2%	5.9%	5.5%	4.0%	2.5%	36.5%
Gender							
Female	28.4	19.6	5.4	5.2	3.6	2.3	35.5
Male	23.6	16.4	5.7	5.4	4.7	2.7	41.6
Unknown	33.4	19.3	6.8	6.1	3.3	2.3	28.8
Age[#]							
Less than 25	37.7	22.9	8.3	5.4	2.0	2.4	21.2
25-44	34.1	20.4	6.5	5.6	2.8	2.3	28.3
45-54	26.0	20.8	5.3	6.1	3.6	2.3	35.9
55-64	23.5	15.5	5.9	6.0	4.9	2.3	41.9
65-69	21.8	12.9	5.7	4.6	5.3	2.9	46.9
70-74	22.4	13.6	5.1	3.5	5.0	3.3	47.0
75-84	25.6	14.9	4.8	3.6	5.5	3.5	42.1
85 or older	34.4	15.0	4.5	3.8	6.9	3.1	32.2
Unknown	31.0	17.0	4.8	2.8	6.9	2.3	35.3
Account Balance[#]							
Less than \$5,000	57.6	21.0	6.0	3.9	1.6	1.1	8.8
\$5,000-\$9,999	31.6	30.2	7.7	7.3	2.3	2.1	18.7
\$10,000-\$24,999	26.1	26.4	6.7	7.6	3.2	2.8	27.3
\$25,000-\$49,999	20.8	21.0	5.8	7.4	4.2	3.2	37.6
\$50,000-\$99,999	17.0	14.1	5.3	6.1	5.4	3.3	48.8
\$100,000-\$149,999	14.4	8.9	5.2	4.6	6.2	3.1	57.6
\$150,000-\$249,999	12.2	6.0	4.9	3.6	6.5	2.9	63.9
\$250,000 or more	8.6	2.8	4.5	2.0	6.2	2.1	73.8
Type							
Roth	25.6	30.4	7.3	6.9	2.8	3.0	24.0
Traditional	29.3	16.2	5.8	5.0	4.4	2.4	36.9

*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.
[&]Not 100 percent. [^]Not zero percent. [#]The individual's age and account balance are from 2010.
Source: EBRI IRA Database.

The majority of consistent account owners across all categories had either a zero percent or 100 percent equity allocation in at least one year except for those with balances of \$100,000 or more. Furthermore, as the account balance increased, the more likely it was that an individual did not have an allocation at the extremes, reaching 73.8 percent for

those with balances of \$250,000 or more not having an extreme equity allocation. There was also a reduced likelihood of having an extreme equity allocation as the age of the IRA owner increased through ages 70–74.

Since IRAs in many instances are a repository for assets until retirement, the account may not receive much attention after its establishment. One way to see if someone has been actively engaged with an account is to see if an individual has added or subtracted an account type. In Figure 24, the same initial 2010 allocations to equities and the 2016 allocation categories from Figure 23 are shown for individuals who had the same type of IRA(s) in each year from 2010–2016 and for those who had a different IRA type. Individuals who had a different IRA type were much less likely to be at an extreme allocation (zero percent or 100 percent) in both years. For those with a different IRA type, 14.2 percent had a zero percent allocation in both 2010 and 2016, and 7.4 percent had a 100 percent allocation to equities in both years. For comparison, of the individuals with the same type of IRA(s), 29.4 percent had zero percent allocations in both years and 19.7 percent had 100 percent allocations in both years. Furthermore, among those with the same IRA types, 35.6 percent were not at the extreme allocations in either year compared with 42.7 percent of those with different IRA types.



Going one step further from just the top-level categories in 2010 and 2016, the distribution of the equity allocation level changes between 2010 and 2016 are examined across various demographics and by the initial allocation level in order to provide additional information on how consistent account owners allocate assets to equities over time. First, for all individuals in the sample, the middle 50 percent (25th percentile to 75th percentile) of changes were relatively small or equal to zero (Figure 25). The largest changes were among those individuals within the middle 50 percent of changes who had account balances of \$50,000 or more.

Figure 25
Distribution of the Percentage-Point Change in the Equity Allocation of
IRA Owners, by Initial Allocation and Various Characteristics, 2010 to 2016

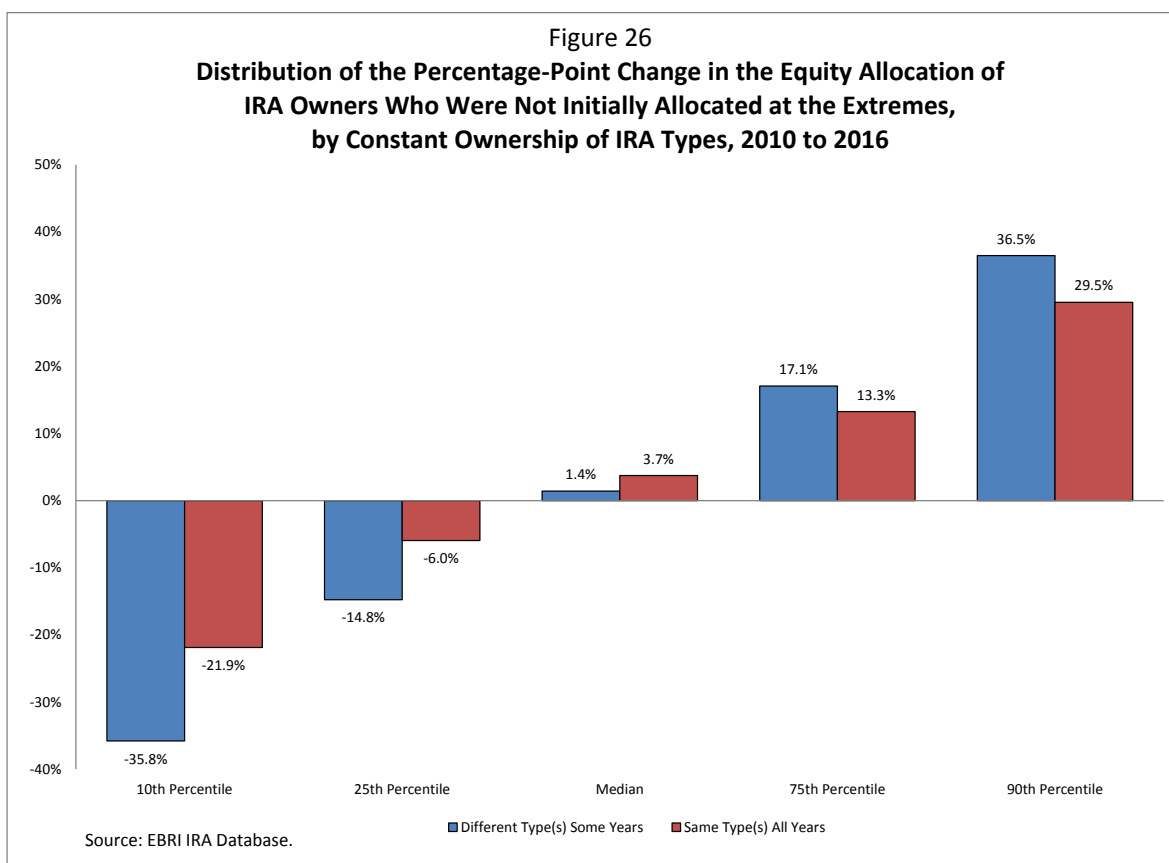
	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile
All Allocations in 2010					
All	-24.4%	0.0%	0.0%	4.3%	26.6%
Female	-21.2	0.0	0.0	3.8	24.0
Male	-28.4	-1.3	0.0	5.9	28.6
Less than age 45	-16.2	0.0	0.0	1.6	26.4
Ages 45-64	-29.2	-0.8	0.0	4.2	25.0
Ages 65 and older	-24.4	-1.0	0.0	8.7	29.5
Acct balance <\$50,000	-17.6	0.0	0.0	0.0	21.2
Acct balance \$50,000 or more	-31.5	-6.7	0.0	10.6	30.7
0% Allocation in 2010 to Greater Than 0% in 2016					
All	10.8	27.1	56.1	87.1	100.0
Female	11.0	26.9	55.2	85.2	99.9
Male	9.9	25.9	55.3	85.9	99.6
Less than age 45	15.3	35.8	68.1	93.7	100.0
Ages 45-64	9.6	24.9	53.2	82.0	99.7
Ages 65 and older	8.1	20.7	44.5	75.8	99.7
Acct balance <\$50,000	15.5	35.1	65.2	93.5	100.0
Acct balance \$50,000 or more	6.1	16.6	39.3	66.8	92.5
100% Allocation in 2010 to Less Than 100% in 2016					
All	-100.0	-81.3	-35.9	-13.9	-4.5
Female	-100.0	-82.0	-36.1	-14.2	-4.6
Male	-100.0	-80.3	-35.0	-13.3	-4.2
Less than age 45	-100.0	-75.0	-29.9	-11.9	-4.3
Ages 45-64	-100.0	-83.1	-38.4	-15.6	-5.1
Ages 65 and older	-100.0	-87.9	-40.6	-13.4	-3.3
Acct balance <\$50,000	-100.0	-86.4	-38.2	-14.9	-5.0
Acct balance \$50,000 or more	-99.2	-68.5	-31.3	-11.6	-3.8
Greater Than 0% and Less Than 100% Allocation in Both 2010 and 2016					
All	-24.1	-7.2	3.5	13.7	30.6
Female	-22.1	-6.0	3.8	13.2	29.4
Male	-25.1	-8.0	3.4	14.2	31.4
Less than age 45	-22.4	-5.0	3.9	13.4	32.0
Ages 45-64	-26.1	-8.4	3.0	12.5	29.1
Ages 65 and older	-21.6	-6.9	4.6	16.6	32.2
Acct balance <\$50,000	-24.8	-5.8	3.8	12.7	30.2
Acct balance \$50,000 or more	23.8	-8.1	3.3	14.4	30.8

Note: The individual's age and account balance are from 2010.

Source: EBRI IRA Database.

Among those who started out at an extreme allocation in 2010, between 10 percent and 25 percent moved to the other extreme in 2016, shown by the 100 percentage point (or close to 100 percentage point) change in the allocation from 2010 to 2016 in Figure 25 (middle two panels). This change was the percentage-point difference from the percentage in 2016 minus the percentage in 2010, so that either a 100 percentage point change or a –100 percentage point change represented a movement from one extreme to the other from 2010 to 2016. This group was small (approximately 11 percent of the total) as shown in Figure 23, but a significant portion of these IRA owners who did make the change from an extreme value switched completely to the other extreme.

Looking at the group of consistent account owners who did not have an extreme value in either year, the distribution of the changes was skewed toward higher equity allocations, with the 10th percentile change at –24.1 percentage points, the median at 3.5 percentage points, and the 90th percentile at 30.6 percentage points. This held true for each gender, age, and account balance. This group of non-extreme-value accounts can be further broken down into accounts with the same and those with different IRA types. This analysis shows that individuals who had a change in IRA type during the 2010–2016 period had larger percentage point changes at the 10th, 25th, 75th, and 90th percentiles (Figure 26). For example, at the 10th percentile of the percentage-point changes, the individuals who had a different IRA type had a decline of 35.8 percentage points compared with a decline of 21.9 percentage points for those individuals who had the same IRA types.



Accounts with less than \$5,000 were found to have much higher allocations to money than accounts with more than \$5,000, and many cases are a result of a default rollover from an employment-based retirement plan.²¹ In fact, 39.2 percent of accounts with less than \$5,000 had 100 percent allocations to money in 2010 and 2016, while only 4.8 percent of the accounts with \$5,000 or more had this allocation in both years (Figure 27). Accounts with less than \$1,000 were even more likely to have 100 percent allocations in both years at 59.1 percent. Furthermore, of those that had 100 percent allocations in 2010, just 11.1 percent had an allocation less than 100 percent in 2016.²² Accounts with

\$5,000 or more were more likely to not have an extreme allocation in money in either 2010 or 2016 at 26.0 percent compared with 9.4 percent for accounts with less than \$5,000.

Among those changing money allocations, the accounts with less than \$5,000 had a wider distribution of changes in the money allocation than those accounts with \$5,000 or more. The 10th percentile for the small accounts had a 96.2 percentage point decline, while for the larger accounts this percentile was a 38.3 percentage point decline (Figure 28). At the 90th percentile, a 79.6 percentage point increase vs. a 41.6 percentage point increase resulted, respectively.

Figure 27
Distribution of IRA Owners by Money Allocation, Consistent Sample*, by Account Balance, 2010 and 2016

	0% Allocation Both Years	100% Allocation Both Years	0% in 2010 to Greater Than 0% in 2016	100% in 2010 to Less Than 100% in 2016	Greater Than 0% in 2010 ^{&} to 0% in 2016	Less Than 100% in 2010 [^] to 100% in 2016	Greater Than 0% and Less Than 100% in Both Years
Less Than \$5,000	38.7%	39.2%	4.2%	4.9%	1.8%	1.9%	9.4%
Less than \$1,000	20.1	59.1	2.7	5.3	1.2	2.9	8.8
\$1,000-\$2,499	44.4	34.7	4.4	4.6	1.8	1.4	8.7
\$2,500-\$4,999	54.2	21.3	5.7	4.7	2.3	1.3	10.5
\$5,000 or More	46.5	4.8	11.6	2.4	6.9	1.9	26.0

*The consistent sample has only the individuals with at least one account in each year (2010–2016) of the database.
Note: The individual's account balance is from 2010. [&]Not 100 percent. [^]Not zero percent.
Source: EBRI IRA Database.

Figure 28
Distribution of the Percentage-Point Change in the Money Allocation of IRA Owners Who Had a Change in Their Money Allocation, by Account Balance, 2010 to 2016

	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile
Less Than \$5,000	-96.2%	-27.0%	-0.8%	17.1%	79.6%
Less than \$1,000	-97.0	-35.9	0.0	21.6	87.0
\$1,000-\$2,499	-96.4	-28.3	-1.1	15.9	77.1
\$2,500-\$4,999	-95.1	-21.3	-1.1	15.0	69.5
\$5,000 or More	-38.3	-10.7	0.0	8.9	41.6

Note: The individual's account balance is from 2010.
Source: EBRI IRA Database.

Conclusion

With seven years of contiguous data now available in the ERBI IRA Database, an increasingly comprehensive examination of the longitudinal changes within IRAs is possible. Not only can the cross-section results be compared, but also a consistent sample of individual IRA owners that have owned an IRA for the seven contiguous years 2010–2016 can be studied. This allows for the investigation of the behavior in IRAs that are continuously maintained instead of the results being affected by new and former IRA owners.

While the cross-sectional overall average balance increased 35.0 percent from 2010 to 2016, the increase for those IRA owners who continuously owned IRAs from 2010–2016 was 57.1 percent. For the consistent account owners, the distribution of the actual changes in the account balances can be measured. The lowest 25 percent (regardless of age) had increases less than or equal to 0.2 percent since 2010. On the other hand, the highest 25 percent of balance changes exceeded or were equal to 108.6 percent. Consistent Roth IRA owners experienced a much higher distribution

of increases, with the lowest 25 percent of the balance changes for IRAs topping out at 40.5 percent and the highest 25 percent exceeding 146.6 percent. The distribution of geometric means for the account balance changes of the IRA owners from 2010–2016 had a median of 7.7 percent, with a 25th percentile of 0.1 percent and a 75th percentile of 13.1 percent.

The annual cross-section percentage of those contributing to their IRAs (13.5 percent in 2016) doesn't show whether the same individuals were contributing over time or if different people contributed in different years. However, if focused on the consistent account owners, 4.9 percent of the IRA owners contributed each year from 2010–2016 (1.7 percent of Traditional IRA owners and 9.3 percent of Roth IRA owners). Almost 75 percent of the consistent account owners did not contribute from 2010–2016, but 18.7 percent of the consistent account owners contributed two or more years during 2010–2016.

When looking at the withdrawal rates for those ages 71 or older, the median of the distribution of the geometric mean withdrawal rates over a seven-year period shows that many consistent account owners are withdrawing at a rate that is likely to be able to sustain some post-retirement income from IRAs as the individual continues to age (assuming they continue to withdraw at the same rates). Furthermore, the initial withdrawal rate for those in this age group appears to be the rate at which these individuals are likely to continue to take the next year based on the resulting distribution of average withdrawal rates over time given the initial year withdrawal rate.

The asset allocation among consistent account owners moved toward higher equity holdings from 2010–2016 despite drops in 2015 and 2016. The equity allocations in 2016 were higher than in 2010 for individuals ages 45 or older or with balances of \$100,000 or more, while those younger or with lower balances had lower equity allocations. While 45.7 percent of the IRA owners had extreme holdings in equities (zero percent or 100 percent allocation) in both years, for those who were not at an extreme value in either year, the distribution of the asset allocation changes between 2010 and 2016 had a median increase in equities of 3.5 percentage points, with the 75th percentile having a 13.7 percentage-point increase compared with a 7.2 percentage-point decline at the 25th percentile. Furthermore, individuals who had a change in IRA type during the study period were more likely to *not* be at an extreme allocation in both 2010 and 2016 and to have larger changes in their equity allocations from 2010 to 2016.

As the EBRI IRA Database continues to expand and mature, further examinations of the longitudinal changes will be conducted. This study focused on longitudinal changes in IRAs, including account balance changes, persistence of contributions, withdrawal behavior, and changes in asset allocation. As the EBRI IRA Database is linked with 401(k) plan data, results on the combination of individuals' assets in these accounts can be determined along with the growth and movement of dollars both within and between these accounts. Ultimately, the tracking of dollars from defined contribution plan accumulations, to IRA rollovers, and eventually through decumulation will be measured to assess whether retirees are positioned to maintain these assets to continue to generate similar income for the rest of their lives.

About IRAs

Individual retirement accounts (IRAs) were created by the Employee Retirement Income Security Act of 1974 (ERISA) as a way to provide workers who did not have employment-based pensions an opportunity to save for retirement on a tax-deferred basis. The Economic Recovery Tax Act of 1981 (ERTA) extended the availability of IRAs to all workers with earned income, including those with pension coverage. The Tax Reform Act of 1986 (TRA '86) restricted the tax deductibility of IRA contributions to those with incomes below certain levels and created *nondeductible* IRAs (where contributions are not tax-deductible but earnings still accrue tax-deferred), and *partially* (or *wholly*) deductible IRAs, depending on income. The Taxpayer's Relief Act of 1997 (TRA '97) created a new type of nondeductible IRA—the Roth IRA—and allowed nonworking spouses to contribute to an IRA, subject to certain income restrictions. As an account type, IRAs currently hold the largest single share of U.S. retirement plan assets, largely from rollovers from other types of plans (see Figure 1).

Nonemployment-based IRAs. There are two basic types:

Traditional IRAs: Anyone with earned income, as well as a nonearning spouse of an earner under certain conditions, can contribute. Contributions are tax deductible (or not) depending upon the contributor's income and participation in an employment-based retirement plan. Earnings in these IRAs accrue *tax-deferred*, and withdrawals after age 59-½ are taxed as ordinary income. Minimum withdrawals from a Traditional IRA must commence by April 1 of the calendar year after the year the individual turns age 70-½.

Roth IRAs: This type of IRA offers *tax-free* investing for retirement: No taxes are paid on investment returns or on withdrawals made after age 59-½, as long as the Roth IRA has been held for at least five years. Contributions to Roth IRAs are not tax-deductible, but there are no mandatory withdrawals after age 70-½ (as there are with Traditional IRAs). Certain income limits restrict eligibility for contributing to a Roth IRA. (Traditional IRAs can be converted to Roth IRAs through paying the applicable taxes.)

The current, maximum, annual contribution to a Traditional or Roth IRA is \$5,500 for those under age 50 at the end of 2018. This limit can be split between a Traditional and a Roth IRA, but the combined limit is \$5,500. Those ages 50 or older in 2018 can make an additional \$1,000 "catch-up" contribution, for a combined annual limit of \$6,500. The maximum contribution to a Roth IRA and the maximum deductible contribution to a Traditional IRA may be reduced depending upon an individual's modified, adjusted gross income.

Employment-based IRAs.

- *Simplified Employee Pension (SEP) plans* allow employers to make contributions on a tax-deferred basis for their employees and allow self-employed individuals to make contributions for their own retirement.
- *Savings Incentive Match Plans for Employees (SIMPLE) plans* also allow for tax-deferred, employer contributions plus allow salary-reduction contributions by the employees. The employers must make matching contributions or nonelective contributions to the plans.

Traditional—originating from rollovers (TOFR) IRAs or Traditional—originating from contributions (TOFC) IRAs:

In the EBRI IRA Database, Traditional IRAs are separated into two categories to highlight the amount of IRA assets that have moved from other tax-qualified plans (including defined benefit (DB), defined contribution (DC), and prior IRA plans) and were subsequently rolled over to new IRAs—those originating from rollovers and those originating from contributions. However, this in *no instance* should be construed as an estimate of the dollars originating in the employment-based system and transferred to the IRA system, as both types of accounts could have received rollovers or contributions subsequent to their establishment. Additionally, a rollover could have been an IRA-to-IRA rollover without any money originating in the employment-based system. This distinction is important for those interested in seeing the relative contribution of the employment-based retirement system vs. that funded solely by IRA contributions. As the longitudinal aspect of this database is developed, a more refined measure of these dollars will be established. The Internal Revenue Service reports these accounts as a single category called Traditional IRAs. The tax treatment is the same for these IRAs once the dollars are in the IRA.

Endnotes

¹ See Craig Copeland, "EBRI IRA Database: IRA Balances, Contributions, Rollovers, Withdrawals, and Asset Allocation, 2016 Update," *EBRI Issue Brief*, no. 456 (Employee Benefit Research Institute, August 13, 2018) for the most recent cross-sectional analysis.

² See Craig Copeland, "Individual Retirement Account Balances, Contributions, Withdrawals, and Asset Allocation Longitudinal Results, 2010–2015: The EBRI IRA Database," *EBRI Issue Brief*, no. 440 (Employee Benefit Research Institute, Jan. 10, 2018) for the most recent prior longitudinal results from the database.

³ Below is a comparison of the EBRI IRA Database with numbers from the Internal Revenue Service. See Internal Revenue Service, "SOI Tax Stats- Accumulation and Distribution of Individual Retirement Arrangements (IRA)." 2015, <https://www.irs.gov/statistics/soi-tax-stats-accumulation-and-distribution-of-individual-retirement-arrangements> for more detail about the IRS tabulations of IRA data.

	EBRI IRA Database 2016	Internal Revenue Service 2015 Data
Total Assets	\$2.36 trillion	\$7.48 trillion
Percentage Traditional Assets	85.0%	85.4%
Average Rollover Amount	\$94,238	\$94,535
Average Account Balance	\$123,973	\$127,980
Average Traditional Contribution	\$4,154	\$4,153
Average Traditional Withdrawal	\$17,237	\$15,949
Age		
Under 25	1.8%	1.4%
25-29	4.1	3.5
30-34	6.2	5.4
35-39	7.3	6.5
40-44	7.9	7.7
45-49	9.6	8.9
50-54	10.8	10.9
55-59	12.1	12.7
60-64	12.0	12.9
65-69	10.9	11.2
70 or older	16.5	18.9
Unknown	1.1	0.0
Type		
Traditional	78.7	79.5
SEP/SIMPLE	7.5	10.4
Roth	31.0	32.9

The above percentage of Traditional assets is adjusted for known assets. With the unknown assets included, the Traditional IRA asset percentage is 82.1 percent. As can be seen from the table above, the EBRI IRA Database is very close in all the benchmarks examined.

Based on an asset comparison with the Federal Reserve's *Financial Accounts* report (referenced in Figure 1) 2016 number of \$8.08 trillion, the database includes about 27 percent of the 2016 assets. The number of individuals owning IRAs in the database (19.1 million) represents about one-third of all IRA owners given the 58.4 million individuals the Internal Revenue Service reported owning an IRA in 2015.

⁴ The distributions for IRA types add up to more than 100 percent, because individuals can own more than one IRA type. Those in the consistent-account-owner sample were more likely to own more than one IRA type relative to the cross-sectional sample.

⁵ All of the values in the longitudinal section are nominal dollars.

⁶ The ages in the consistent sample are individuals' ages in 2010.

⁷ The distribution of the percentage of Traditional IRA balance changes became more negative for the oldest owners. For example, those owners ages 70–74 had a 25th percentile of change at –7.4 percent and a median of 22.8 percent, owners ages 75–84 had a 25th percentile of –18.1 percent and a median of 4.1 percent, and those ages 85 or older a 25th percentile of –27.8 percent and –6.6 percent for a median.

⁸ The geometric mean is the average of a set of numbers multiplied together. The calculation is typically used to determine the results of an investment or a portfolio of investments. It is defined as being the n th root of the product of n numbers, where n is the number of results being examined. The geometric mean is used when working with percentages. Formally, the geometric mean is equal to $(a_1 \times a_2 \times \dots \times a_n)^{1/n}$.

⁹ Only contributions to Traditional and Roth IRAs are examined in this section. SEP/SIMPLE IRA contributions are not included.

¹⁰ The maximum contribution in 2013 was \$5,500 for those younger than age 50 and \$6,500 for those 50 years old or older due to the "catch-up" contribution of \$1,000. In 2012, the maximum contributions were \$5,000 and \$6,000, respectively.

¹¹ In an earlier EBRI publication, the persistence of contributions was investigated. A different formulation of the persistence statistic based on the current-year contributors was used to see what percentage of those contributed in both of the prior years. It was found that 21.8 percent of those making deductible contributions to an IRA in 1998 also made them in 1996 and 1997. Furthermore, three-fourths of those who contributed all three years made the maximum contribution in 1998 compared with 70.4 percent of those who made a deductible contribution in 1998. See Craig Copeland, "IRA Assets and Characteristics of IRA Owners," *EBRI Notes*, no. 12 (Employee Benefit Research Institute, December 2002): 1–9.

¹² Minimum withdrawals (distributions) from a Traditional IRA must commence by April 1 of the calendar year after the year the individual reaches age 70-½. This is referred to as required minimum distributions (RMDs).

¹³ This is calculated from Figure 14. For example, the percentage taking a withdrawal in only one year for those in their 30s (11.4 percent) divided by the percentage of those in their 30s taking a withdrawal in at least one year (18.2 percent) equals 62.8 percent. For those in their 40s, this calculation comes out to 51.4 percent.

¹⁴ The required minimum distribution rules apply only to Traditional IRAs and not to Roth IRAs. See Craig Copeland, "EBRI IRA Database: IRA Balances, Contributions, Rollovers, Withdrawals, and Asset Allocation, 2016 Update," *EBRI Issue Brief*, no. 456 (Employee Benefit Research Institute, August 13, 2018) for more information.

¹⁵ This tolerance level is used to account for possible rounding differences such as to the nearest \$0.01, \$1.00, \$10.00, or \$100.00 for the RMD amount taken out. Therefore, the RMD amount calculated in this study was multiplied by 1.02, 1.05, and 1.10 to compare with reported withdrawal amount from each individual IRA owner. The tolerance choice appeared to have minimal impact on the result.

¹⁶ The 10 percent threshold is used for this comparison.

¹⁷ These individuals could have added rollovers or opened new accounts since 2010, as this sample includes all of the individuals' IRAs from each year. The action of rolling over or opening new accounts may cause the individuals to reassess their asset allocation. The impact of individuals having different IRA types during the study period is examined later in this report. While outside of the scope of this study, making a contribution to IRA in years after its establishment could also impact the overall asset allocation held by the consistent IRA owners.

¹⁸ In this section, the extreme allocations will refer to the endpoints of the possible allocations: zero percent and 100 percent.

¹⁹ This is calculated by taking the percentage that changed from zero percent (5.9 percent) and dividing it by the sum of those who had a zero percent allocation in 2010 (27.6 percent in both years plus the 5.9 percent that changed).

²⁰ This uses the same calculation as described in the previous endnote (19).

²¹ For accounts of less than \$5,000 in private sector employment-based retirement plans, plan sponsors are able to cash out participants from their plans upon job termination. However, for amounts of \$1,000 or above (up to the \$5,000), the plan sponsor must roll over the account balance to an IRA unless the participant specifies otherwise. The default allocation for most of the automatic rollovers is 100 percent to money. Therefore, the purpose of this section is to look at whether the dollars remained in that default allocation or are moved to other asset classes.

²² This is calculated from Figure 27 by using those with 100 percent allocation in each year (39.2 percent) and having a 100 percent allocation in 2010 and an allocation less than 100 percent in 2016 (4.9 percent), $4.9 \text{ percent} / (32.9 \text{ percent} + 4.9 \text{ percent})$ equaling 11.1 percent.