

ICI RESEARCH REPORT

The IRA Investor Profile: Roth IRA Investors' Activity, 2007–2016

SEPTEMBER 2018



The IRA Investor Database™

The Investment Company Institute maintains an account-level database with more than 17 million individual retirement account (IRA) investors. The aim of this database is to increase public understanding of this important segment of the US retirement market by expanding on the existing household surveys and Internal Revenue Service (IRS) tax data on IRA investors. By tapping account-level records, research drawn from the database can provide important insights into IRA investor demographics, activities, and asset allocation decisions. The database is designed to shed light on key determinants of IRA contribution, conversion, rollover, and withdrawal activity, and the types of assets that investors hold in these accounts.

The Investment Company Institute (ICI) is the leading association representing regulated funds globally, including mutual funds, exchange-traded funds (ETFs), closed-end funds, and unit investment trusts (UITs) in the United States, and similar funds offered to investors in jurisdictions worldwide. ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors, and advisers.

Suggested citation: Holden, Sarah, and Daniel Schrass. 2018. "The IRA Investor Profile: Roth IRA Investors' Activity, 2007-2016." *ICI Research Report* (September). Available at www.ici.org/pdf/rpt_18_ira_roth_investors.pdf.

Copyright © 2018 by the Investment Company Institute. All rights reserved.

Contents

Executive Summary

Roth IRA Investors Had Only a Modest Reaction to Financial Stresses	2
Snapshot of Roth IRA Investors at Year-End 2016 Provides Additional Insight into Roth IRA Investors' Activities	3
<i>New Roth IRAs Often Are Created by Contributions</i>	3
<i>More Than Three in 10 Roth IRA Investors Make Contributions to Their Roth IRAs</i>	3
<i>Roth IRA Conversion Activity Responds to Rule Changes</i>	3
<i>Few Roth IRA Investors Have Rollovers</i>	4
<i>Few Roth IRA Investors Take Withdrawals</i>	4
<i>Roth IRA Balances Tend to Increase with Investor Age</i>	4
<i>Equity Holdings Figure Prominently in Roth IRAs</i>	4
<i>Roth IRA Investors Are Quite Different from Traditional IRA Investors</i>	5

Introduction

The Role of IRAs in US Retirement Planning	10
Sources of IRA Data	11
The IRA Investor Database™	11
Research Agenda for This Report	11

Chapter 1: Following Roth IRA Investors over Time

Financial and Regulatory Developments, 2007-2016	13
Changes in Roth IRA Assets	15
Changes in Consistent Individual Investors' Roth IRA Balances, 2007-2016	16
<i>Contribution Activity for Consistent Roth IRA Investors, 2008-2016</i>	18
<i>Conversion Activity for Consistent Roth IRA Investors, 2008-2016</i>	21
<i>Withdrawal Activity for Consistent Roth IRA Investors, 2008-2016</i>	22
<i>Equity Investing in Roth IRAs Before and After the Financial Crisis</i>	23
Changes in Consistent Individual Investors' Roth IRA Balances Between 2007 and 2016 by Investor Age	28

Chapter 2: Roth IRA Investors' Contribution Activity in 2016	
Contributions Often Were the Source of New Roth IRAs in 2016	31
Contributions to Roth IRAs	32
Contributions to Roth IRAs in 2016 by Investor Age	34
Roth IRA Contribution Amounts in 2016 by Investor Age	35
<i>Roth IRA Investors' Contribution Amounts Varied in 2016</i>	35
<i>Older Roth IRA Contributors Were More Likely to Contribute at the Limit in 2016</i>	38
Persistence in Contribution Activity Among Roth IRA Investors from 2015 to 2016	39
<i>Contributions at the Limit Tend to Persist</i>	40
Chapter 3: Roth IRA Investors' Conversion and Rollover Activity in 2016	
Roth IRA Conversion Activity	41
Roth IRA Conversion Activity in 2016 by Investor Age	42
Roth IRA Conversion Amounts in 2016 by Investor Age	44
Roth IRA Rollover Activity Is Rare	45
Conversions and Rollovers Tend to Have a Positive Impact on Roth IRA Balances	46
Chapter 4: Roth IRA Investors' Withdrawal Activity in 2016	
Roth IRA Withdrawal Activity	47
Roth IRA Withdrawal Activity in 2016 by Investor Age	48
Roth IRA Withdrawal Amounts in 2016 by Investor Age	50
<i>Roth IRA Withdrawal Activity in 2016 by Age and Account Balance</i>	51
Chapter 5: Roth IRA Investors' Balances at Year-End 2016	
Roth IRA Balances in 2016 by Investor Age	53
Distribution of Roth IRA Balances by Size in 2016	54
Chapter 6: Snapshots of Investments in Roth IRAs at Year-End 2007 and Year-End 2016	
Investments in Roth IRAs in 2016 by Investor Age	57
Snapshots of Allocation to Equity Holdings Between 2007 and 2016	61
Appendix	
Role of IRAs in US Household Balance Sheets	65
The IRA Investor Database Contains a Comprehensive Cross Section of IRA Investors	66
Contributions Often Were the Source of New Roth IRAs in 2016	68
Exposure to Equity Holdings Among Roth IRA Investors by Account Size	70
Notes	75
References	81

Figures

Executive Summary

Figure E.1:	Roth IRA Investors Are Younger Than Traditional IRA Investors	5
Figure E.2:	New Roth IRAs Often Are Opened with Contributions; New Traditional IRAs Often Are Opened with Rollovers	6
Figure E.3:	Roth IRA Investors Rarely Take Withdrawals; Traditional IRA Investors Are Heavily Affected by RMDs	7
Figure E.4:	Roth IRA Assets Have a Higher Allocation to Equities	8
Figure E.5:	Roth IRA Investors Have Higher Concentration in Equity Holdings	8

Chapter 1: Following Roth IRA Investors over Time

Figure 1.1:	Financial Events and Changing Rules Surrounding Roth IRAs, 2007-2017	14
Figure 1.2:	Roth IRA Assets and Flows	15
Figure 1.3:	Domestic Stock and Bond Market Total Return Indexes	17
Figure 1.4:	Factors Influencing Changes in Consistent Individual Investors' Roth IRA Balances, 2008-2016	19
Figure 1.5:	Contribution Activity for Consistent Roth IRA Investors, 2008-2016	20
Figure 1.6:	Withdrawal Activity for Consistent Roth IRA Investors, 2008-2016	23
Figure 1.7:	Equity Holdings Account for the Majority of Assets in Roth IRAs	24
Figure 1.8:	Changes in Concentration of Consistent Roth IRA Investors' Equity Holdings Between 2007 and 2016	26
Figure 1.9:	Changes in Zero Allocation to Equity Holdings Among Consistent Roth IRA Investors	27
Figure 1.10:	Changes in 100 Percent Allocation to Equity Holdings Among Consistent Roth IRA Investors	28
Figure 1.11:	Roth IRA Balances Among Consistent Roth IRA Investors	29
Figure 1.12:	Roth IRA Balances of Consistent Roth IRA Investors by Investor Age	30

Chapter 2: Roth IRA Investors' Contribution Activity in 2016

Figure 2.1:	Paths to Roth IRA Ownership Changed as Tax Rules Changed	32
Figure 2.2:	Roth IRA Contribution Rates	33
Figure 2.3:	Contribution Activity of Roth IRA Investors by Investor Age	34
Figure 2.4:	Roth IRA Contribution Amounts by Investor Age	36
Figure 2.5:	Traditional and Roth IRA Contribution Limits Set by the Internal Revenue Code, 2001-2018	36
Figure 2.6:	Nearly Four in 10 Roth IRA Contributors Contributed at the Limit in 2016	37
Figure 2.7:	Older Roth IRA Contributors Were More Likely to Contribute at the Limit in Tax Year 2016	38
Figure 2.8:	Most Roth IRA Investors at the Limit in Tax Year 2015 Continued to Contribute at the Limit in Tax Year 2016	39

Chapter 3: Roth IRA Investors' Conversion and Rollover Activity in 2016

Figure 3.1:	Roth IRA Investors' Conversion Activity Responds to Tax Law Changes	42
Figure 3.2:	Conversion Activity of Roth IRA Investors by Investor Age	43
Figure 3.3:	Roth IRA Investors with Conversions by Investor Age	44
Figure 3.4:	Very Few Roth IRA Investors Have Rollovers	45
Figure 3.5:	Recent Conversions and Rollovers Provide a Boost to Roth IRA Balances	46

Chapter 4: Roth IRA Investors' Withdrawal Activity in 2016

Figure 4.1:	Withdrawal Activity of Roth IRA Investors	48
Figure 4.2:	Withdrawal Activity of Roth IRA Investors in 2016 by Investor Age	49
Figure 4.3:	Roth IRA Withdrawals in 2016 by Investor Age	50
Figure 4.4:	Roth IRA Withdrawal Activity in 2016 by Investor Age and Account Size	51
Figure 4.5:	Median Withdrawal Ratio by Roth IRA Investor Age and Account Size	52

Chapter 5: Roth IRA Investors' Balances at Year-End 2016

- Figure 5.1: Roth IRA Balances in 2016 Tended to Increase with Investor Age 54
- Figure 5.2: Roth IRA Balances by Investor Age 55

Chapter 6: Snapshots of Investments in Roth IRAs at Year-End 2007 and Year-End 2016

- Figure 6.1: Equity Holdings Figure Prominently in Roth IRA Investments 58
- Figure 6.2: Investments in Roth IRAs by Investor Age 59
- Figure 6.3: Number of Target Date Funds Owned by Roth IRA Investors in 2016 . . 60
- Figure 6.4: Share of Roth IRA Balances Allocated to Equity Holdings Has Declined Slightly Since 2007 62
- Figure 6.5: Investor Exposure to Equity Holdings Has Declined Slightly Among Roth IRA Investors Between 2007 and 2016 63

Appendix

- Figure A.1: Role of Roth IRAs in Household Balance Sheet 66
- Figure A.2: The IRA Investor Database Covers All IRA Types 67
- Figure A.3: IRA Investors Represent a Wide Cross Section of Age Groups 68
- Figure A.4: Sources of New Roth IRAs in 2016 by Investor Age 69
- Figure A.5: Exposure to Equity Holdings Among Roth IRA Investors by Account Size, 2007 and 2016 71
- Figure A.6: Roth IRA Investors and Assets in 2016 by Investor Age 73
- Figure A.7: Investments in Roth IRAs in 2016 by Broad Investor Age Group 74

The IRA Investor Profile: Roth IRA Investors' Activity, 2007-2016

Sarah Holden, ICI senior director of retirement and investor research, and Daniel Schrass, ICI associate economist, prepared this report.

Executive Summary

First available in 1998, Roth individual retirement accounts (IRAs) had accumulated \$690 billion in assets by year-end 2016. Congress created Roth IRAs to provide a contributory retirement savings vehicle on an after-tax (nondeductible) basis with qualified withdrawals distributed tax-free. Individuals also may invest in Roth IRAs through conversions—in a conversion, taxes are paid on assets in a non-Roth IRA that move into a Roth IRA. In 2010, income limits on conversion activity were lifted (with special tax treatment of conversions made in 2010 as well). Since 2006, direct rollovers from designated Roth accounts in employer-sponsored retirement plans to Roth IRAs have been permitted, and since 2008, rollovers from non-Roth employer-sponsored retirement plan accounts also have been allowed. Roth IRAs are managed by individuals, and policymakers are interested in how Roth IRA investors fared during and after the financial crisis and how they manage their Roth IRAs.

Analysis of the contribution, conversion, rollover, withdrawal, and asset allocation activity of 2.2 million consistent Roth IRA investors—those with accounts in every year from 2007 through 2016—can show how consistent Roth IRA investors fared during and after the financial crisis. In addition, analysis of a snapshot of 5.9 million Roth IRA investors in 2016 can provide more detailed insight into how individuals manage their Roth IRAs.

Roth IRA Investors Had Only a Modest Reaction to Financial Stresses

Contributions, Conversions, Rollovers, and Withdrawals. Consistent Roth IRA investors showed little reaction to the steep declines in stock values between October 2007 and March 2009, a recession (December 2007 to June 2009), and rising unemployment rates, though contribution activity did decline a bit in the wake of the financial crisis. Forty-nine percent of consistent Roth IRA investors aged 27 or older in 2016 contributed to their Roth IRAs between tax year 2008 and tax year 2016, and about 80 percent contributed in multiple years. Conversion activity increased in response to the change in eligibility, despite the adverse economic backdrop.¹ Rollover activity among Roth IRA investors is extremely rare. Withdrawal rates rose slightly between 2008 and 2016, but still only a very small fraction of Roth IRA investors took money out of their Roth IRAs.

Asset Allocation. From 2007 to 2016, Roth IRA investors' allocation to equity holdings—equities, equity funds, and the equity portion of balanced funds—edged down. For example, consistent Roth IRA investors aged 27 to 59 in 2016 held 85 percent of their Roth IRA assets in equity holdings at year-end 2007, and 83 percent of their Roth IRA assets were invested in equity holdings at year-end 2016. Between year-end 2007 and year-end 2016, few Roth IRA investors changed to or from equity concentrations of zero or 100 percent of their Roth IRA balances. Forty-eight percent of consistent Roth IRA investors had their Roth IRA balances entirely invested in equity holdings at year-end 2007, and that share decreased between year-end 2007 and year-end 2016, to 41 percent.

Account Balances. The movement of Roth IRA balances reflected the impact of investment returns, which relate to asset allocations; investors' contribution, conversion, rollover, and withdrawal activity; and the rules governing Roth IRAs. Consistent Roth IRA investors in all age groups saw their account balances increase on average between year-end 2007 and year-end 2016. Although account balances fell considerably following the stock market decline in 2008, the average Roth IRA balance for consistent Roth IRA investors aged 27 to 69 in 2016 was higher at year-end 2009 than at year-end 2007. Traditional IRA investors, beginning at age 70½, become ineligible to make contributions and typically must begin to take withdrawals. In contrast, Roth IRA investors of the same age may contribute to their Roth IRAs and typically are not subject to required minimum distributions (RMDs).² The average Roth IRA balance for consistent Roth IRA investors aged 70 or older surpassed the year-end 2007 level by year-end 2010.

Snapshot of Roth IRA Investors at Year-End 2016 Provides Additional Insight into Roth IRA Investors' Activities

It also is possible to analyze a snapshot of all Roth IRA investors in the database in any given year. This report primarily focuses on the 5.9 million Roth IRA investors in 2016.

New Roth IRAs Often Are Created by Contributions

Investors open Roth IRAs primarily through contributions. In 2016, seven in 10 new Roth IRAs were opened exclusively with contributions.

More Than Three in 10 Roth IRA Investors Make Contributions to Their Roth IRAs

In any given year, more than three in 10 Roth IRA investors contribute to their Roth IRAs. On average, in recent years, estimates suggest that about \$20 billion of contributions flowed into Roth IRAs per year. In tax year 2016, 31.1 percent of Roth IRA investors aged 18 or older contributed to their Roth IRAs, and nearly four in 10 of these contributors did so at the legal limit. Roth IRA investors display persistence in their contribution activity from year to year. For example, two-thirds of Roth IRA investors who contributed at the limit in tax year 2015 did so again in tax year 2016.

Roth IRA Conversion Activity Responds to Rule Changes

Few Roth IRA investors made conversions into their Roth IRAs, but conversion activity picked up in 2010 when income limits on conversions were lifted and taxpayers could choose to pay the taxes on 2010 conversions in 2011 and 2012. In 2010, more than 5 percent of Roth IRA investors made conversions, up from less than 2 percent in recent prior years. Between 2011 and 2016, Roth conversion activity declined again, to about 3 percent—during this time, there were no income restrictions on conversions, but Roth investors no longer had the special tax payment option. Roth IRAs with recent conversions tend to have larger balances than those without conversions, particularly among older Roth IRA investors.

Few Roth IRA Investors Have Rollovers

In any given year, fewer than 3 percent of Roth IRA investors made rollovers.

Few Roth IRA Investors Take Withdrawals

Withdrawals are rare among Roth IRA investors—only 4 percent of Roth IRA investors took withdrawals in 2016. Unlike traditional IRAs, Roth IRAs have a five-year holding period but do not require distributions to start after the investor turns 70½.³ Similar to traditional IRAs, withdrawals taken from Roth IRAs before the investor reaches age 59½ may incur a penalty, unless an exception applies. Only about 3 percent of Roth IRA investors younger than 60 took withdrawals in 2016, and only about 6 percent of Roth IRA investors aged 60 or older took withdrawals.

Roth IRA Balances Tend to Increase with Investor Age

Roth IRA balances tended to increase with investor age and vary within investor age groups in 2016. More than half of Roth IRA investors aged 18 to 24 had balances less than \$5,000, compared with only 11 percent of Roth IRA investors aged 75 or older.

Equity Holdings Figure Prominently in Roth IRAs

Roth IRAs hold a range of investments, with the largest share of Roth IRA assets invested in equities and equity funds, both in aggregate and across investor age groups. The pattern of investment holdings in Roth IRAs varies with investor age, typically as expected across the life cycle. For the most part, younger Roth IRA investors had a higher proportion of their accounts invested in equity holdings—equities, equity funds, and the equity portion of balanced funds—than did older investors. On average, Roth IRA investors younger than 50 had more than 80 percent of their Roth IRAs invested in equity holdings, while Roth IRA investors aged 60 or older had about 75 percent of their Roth IRAs invested in equity holdings.

Roth IRA Investors Are Quite Different from Traditional IRA Investors

Roth IRA investors tend to be younger than traditional IRA investors. At year-end 2016, 31 percent of Roth IRA investors were younger than 40, compared with 16 percent of traditional IRA investors (Figure E.1). Only 26 percent of Roth IRA investors were 60 or older, compared with 41 percent of traditional IRA investors. This younger age distribution reflects, in part, the rules governing access to Roth IRAs, including income limits on contributions and (until 2010) on conversions, as well as the historically limited scope for rollover activity.

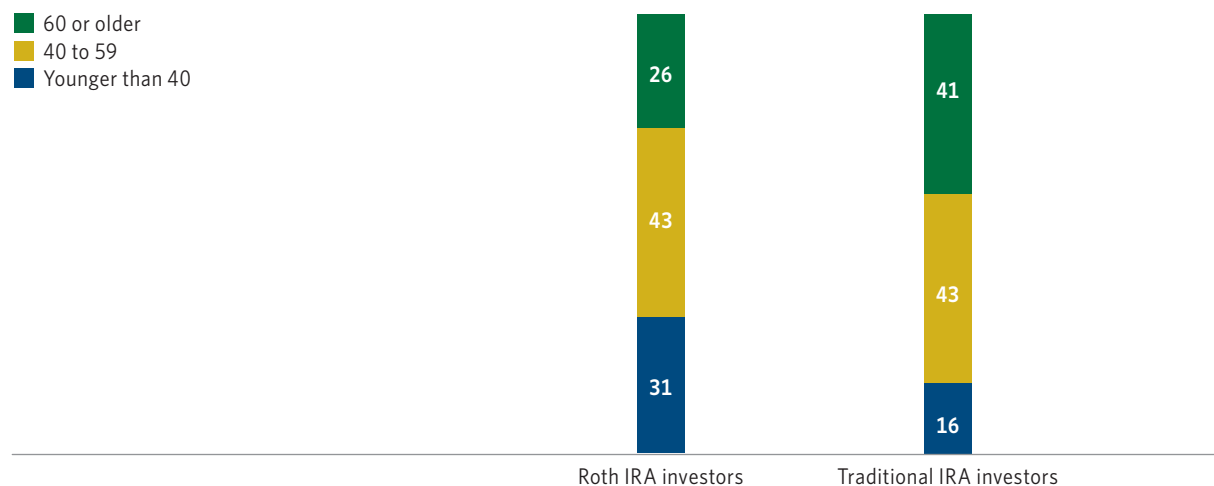
FIGURE E.1

Roth IRA Investors Are Younger Than Traditional IRA Investors

Percentage of IRA investors by type of IRA, year-end 2016

Age of IRA investor

- 60 or older
- 40 to 59
- Younger than 40



Note: The samples are 5.9 million Roth IRA investors aged 18 or older at year-end 2016 and 12.0 million traditional IRA investors aged 18 or older at year-end 2016.

Source: The IRA Investor Database™

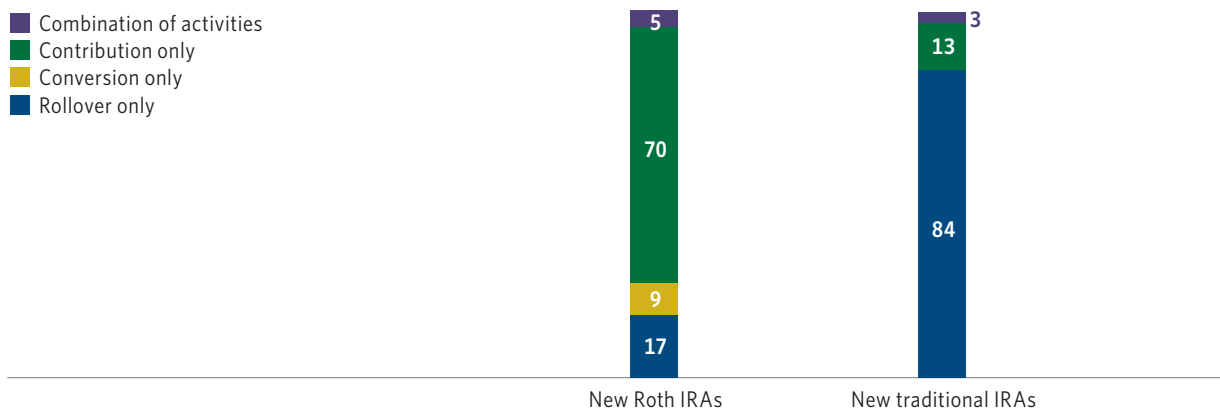
Traditional IRAs were originally created to provide workers with a contributory retirement savings account and a repository for rollovers,⁴ while the main focus of Roth IRAs was after-tax contribution activity and tax-free distribution after a suitable time in the account. With the proliferation of retirement accumulations that can be rolled over, whether from defined contribution accounts or as lump-sum distributions from defined benefit plans, most (84 percent of) new traditional IRAs in 2016 were opened only with rollovers (Figure E.2) and more than half of traditional IRA-owning households in 2017 report having rollovers in their traditional IRAs.⁵ By contrast, rollovers play a less important role in Roth IRAs, and only 20 percent of Roth IRA-owning households in 2017 report that their Roth IRAs contain amounts that were initially rolled over from employer-sponsored retirement plans.⁶

Contribution activity is much more important to Roth IRA investors, with the majority of new Roth IRAs (70 percent) opened only with contributions (Figure E.2). In any given year, Roth IRA investors are more likely to make contributions than traditional IRA investors. In tax year 2016, about three in 10 Roth IRA investors (aged 18 or older) made contributions, compared with fewer than one in 10 traditional IRA investors (aged 25 to 69).⁷

FIGURE E.2

New Roth IRAs Often Are Opened with Contributions; New Traditional IRAs Often Are Opened with Rollovers

Percentage of new IRAs opened in 2016 by type of IRA



Note: New IRAs are accounts that did not exist in the IRA Investor Database in 2015 and were opened by one of the paths indicated in 2016. The calculation excludes IRAs that changed financial services firms. The samples are 0.4 million new Roth IRA investors aged 18 or older at year-end 2016 and 0.8 million new traditional IRA investors aged 25 to 74 at year-end 2016. Components may not add to 100 percent because of rounding.

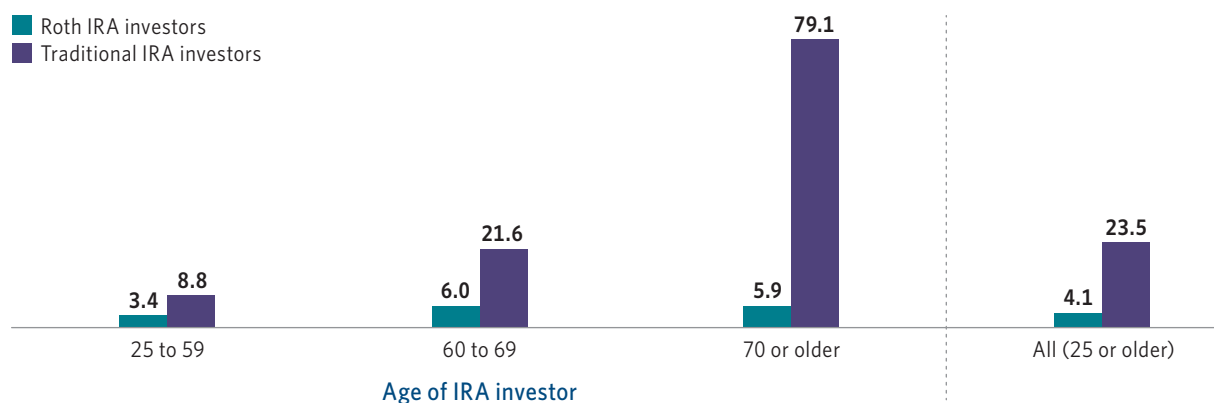
Source: The IRA Investor Database™

In contrast to traditional IRAs, which require investors aged 70½ or older to take RMDs, Roth IRAs have no RMDs (unless the Roth IRAs are inherited). As a result, withdrawal activity is much lower among Roth IRA investors. In 2016, 4 percent of Roth IRA investors aged 25 or older made withdrawals, compared with 24 percent of traditional IRA investors (Figure E.3).⁸ Early withdrawal penalties can apply to both Roth and traditional IRA investors aged 59½ or younger, and withdrawal activity is lower among investors younger than 60 compared with investors aged 60 or older.

FIGURE E.3

Roth IRA Investors Rarely Take Withdrawals; Traditional IRA Investors Are Heavily Affected by RMDs

Percentage of IRA investors with withdrawals by type of IRA and investor age, 2016



Note: The samples are 5.7 million Roth IRA investors aged 25 or older at year-end 2016 and 11.9 million traditional IRA investors aged 25 or older at year-end 2016.

Source: The IRA Investor Database™

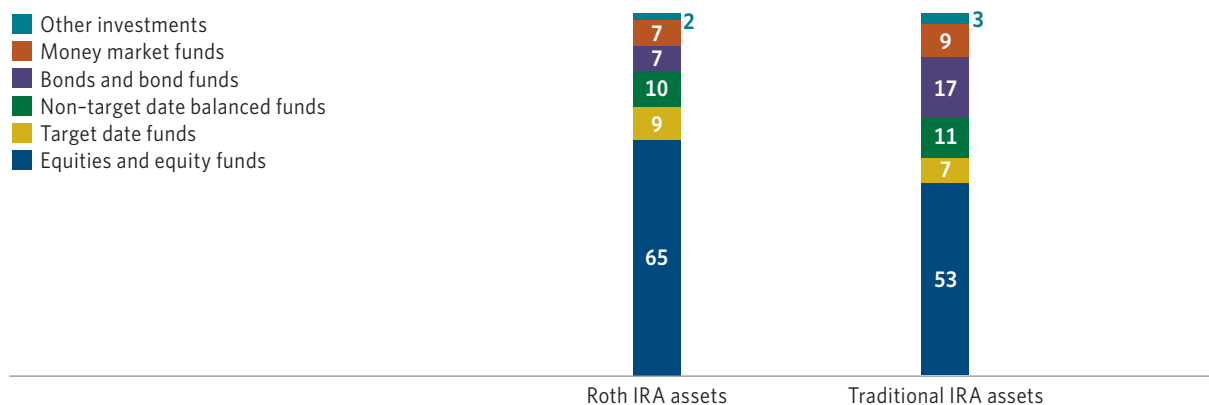
Roth IRA assets are allocated more to equity holdings than are traditional IRA assets. At year-end 2016, 65 percent of Roth IRA assets were invested in equities and equity funds—mutual funds, exchange-traded funds (ETFs), and closed-end funds—compared with 53 percent of traditional IRA assets (Figure E.4). Allocation to target date funds and non-target date balanced funds was similar between Roth IRAs (19 percent) and traditional IRAs (18 percent), but Roth IRAs had less allocated to bonds and bond funds (7 percent) than traditional IRAs (17 percent). Roth IRAs also had lower allocation to money market funds (7 percent) than traditional IRAs (9 percent). Some of the differences in allocation reflect the different age distributions (Figure E.1). Another factor is the impact of default rollover asset allocation to money market funds and deposits in traditional IRAs.⁹

FIGURE E.4

Roth IRA Assets Have a Higher Allocation to Equities

Percentage of IRA assets by type of IRA, year-end 2016

Investments in IRAs



Note: See Figure 6.1 for descriptions of the investment categories. Percentages are dollar-weighted averages. The samples are 5.9 million Roth IRA investors aged 18 or older at year-end 2016 and 11.9 million traditional IRA investors aged 25 or older at year-end 2016.

Source: The IRA Investor Database™

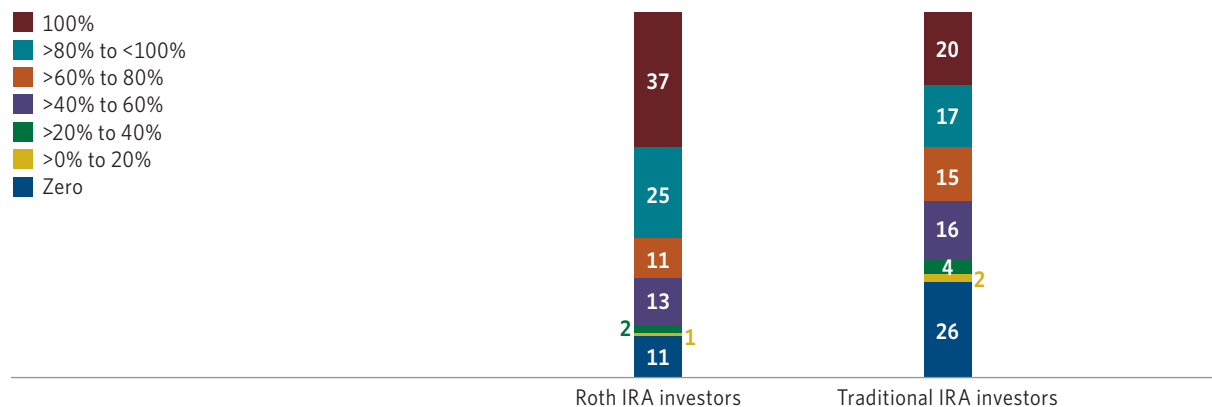
Roth IRA investors have higher concentrations in equity holdings than do traditional IRA investors. At year-end 2016, only 11 percent of Roth IRA investors had no equity holdings (equities, equity funds, and the equity portion of balanced funds), while 26 percent of traditional IRA investors held none (Figure E.5). At the other extreme, 37 percent of Roth IRA investors were 100 percent invested in equity holdings, compared with 20 percent of traditional IRA investors fully invested in equity holdings.

FIGURE E.5

Roth IRA Investors Have Higher Concentration in Equity Holdings

Percentage of IRA investors, year-end 2016

Percentage of account balance invested in equity holdings



Note: Equity holdings are the sum of equities, equity funds, and the equity portion of target date and non-target date balanced funds. The samples are 5.9 million Roth IRA investors aged 18 or older at year-end 2016 and 11.9 million traditional IRA investors aged 25 or older at year-end 2016.

Source: The IRA Investor Database™

Some of this higher average concentration in equity holdings reflects the younger average age of Roth IRA investors compared with traditional IRA investors (Figure E.1) and the tendency of younger investors to hold higher concentrations in equity holdings. However, it also is the case that Roth IRA investors within any given age group tend to have higher concentrations in equity holdings. For example, more than half of traditional IRA investors aged 25 to 29 had no equity holdings in their traditional IRAs at year-end 2016,¹⁰ compared with only about 12 percent of Roth IRA investors aged 25 to 29 (see Figure 6.5). Nearly one-third of traditional IRA investors aged 25 to 29 had more than 80 percent of their traditional IRAs invested in equity holdings at year-end 2016,¹¹ compared with 70 percent of Roth IRA investors aged 25 to 29.

Sixty-eight percent of traditional IRA investors with smaller accounts (a balance of \$5,000 or less at year-end 2016) had no equity holdings at year-end 2016,¹² reflecting in part the impact of default rollover investment rules; in contrast, only 23 percent of Roth IRA investors with smaller Roth IRA balances had no equity holdings (see Figure A.5 in the appendix). Even in larger accounts, where default rollover investment rules are likely to have less of an impact, Roth IRA investors tended to have higher allocations to equity holdings at year-end 2016 compared with traditional IRA investors. For example, at year-end 2016, 63 percent of Roth IRA investors with larger accounts (a balance of more than \$5,000 at year-end 2016) had more than 80 percent of their Roth IRAs invested in equity holdings, compared with about 42 percent of traditional IRA investors with larger accounts, who had more than 80 percent of their traditional IRAs invested in equity holdings.¹³

Introduction

The Role of IRAs in US Retirement Planning

The Employee Retirement Income Security Act of 1974 (ERISA) created individual retirement accounts (IRAs).¹⁴ Forty-four years later, IRAs have become a significant component of US households' retirement assets. All told, 43.9 million US households, or 34.8 percent, owned one or more types of IRAs in mid-2017.¹⁵ Households held \$8.1 trillion in IRAs at year-end 2016, or more than one-quarter of the \$25.4 trillion in total US retirement assets,¹⁶ and IRAs accounted for about 10 percent of US households' total financial assets (see Figure A.1 in the appendix). Traditional IRAs, the first type of IRA created, are the most common type.¹⁷ Over the years, policymakers have changed the rules governing traditional IRAs and introduced other types of IRAs. This report focuses on the Roth IRA, a nondeductible individual retirement savings account created by the Taxpayer Relief Act of 1997.¹⁸ At year-end 2016, Roth IRAs held \$690 billion and accounted for 9 percent of all IRA assets.¹⁹

Roth IRAs, first available in 1998, permit only after-tax (nondeductible) contributions. Individuals 70½ or older may not contribute to traditional IRAs, but Roth IRAs do not have that age restriction. Roth IRAs also can be created through conversions, a process by which non-Roth IRA assets are withdrawn and converted into Roth IRAs. In addition, direct rollovers from designated Roth accounts in retirement plans to Roth IRAs have been permitted since 2006 and direct rollovers of non-Roth qualified retirement plan accumulations into Roth IRAs have been permitted since 2008. Distributions of both principal and earnings generally are not subject to federal income tax if taken after the Roth IRA owner reaches age 59½, dies, or becomes disabled (provided the five-year holding period is met).²⁰ Distributions of principal before the Roth IRA owner reaches age 59½ generally are not subject to tax, but investment earnings may be subject to tax and possibly a 10 percent penalty if taken before age 59½, death, or disability. Like traditional IRAs, there are exemptions to the early distribution penalty for a first-time home purchase, qualified education expenses, and the other exceptions. Unlike traditional IRAs, there are no required minimum distributions (RMDs) during the Roth IRA holder's lifetime.²¹

Whether funded by contributions, conversions, or rollovers, Roth IRAs are managed by individuals, and asset allocation plays an important role in the Roth IRA returns and how they vary by investor. Thus, policymakers and researchers are seeking to better understand the asset allocation of Roth IRA balances across investors, as well as understanding how Roth IRA investors managed their Roth IRAs during and after the financial crisis. In addition, policymakers want to know how people manage these accounts, including how much they are withdrawing before retirement (which is often called leakage) and how they are tapping their Roth IRAs throughout retirement.

Sources of IRA Data

Researchers have relied primarily on household surveys and Internal Revenue Service (IRS) tax data to examine policy questions about IRAs. Several household surveys for analyzing households' retirement savings²² are publicly available; in addition, ICI conducts two annual household surveys that provide information on IRA-owning households.^{23, 24} Though household surveys provide a comprehensive picture of household finances and activities—and can provide insights into the reasoning behind decisions—they can suffer from inaccurate respondent recall, which can cause data problems and reduce the level of detail that can be obtained on some financial assets or activities. In addition, because Roth IRAs are newer than traditional IRAs, sample sizes tend to be smaller than for traditional IRAs.²⁵

The IRS collects a rich array of information about IRAs, including contributions, assets, conversions to Roth IRAs, rollovers into IRAs, and withdrawals from IRAs, from a variety of tax returns (e.g., Form 1040) and information returns (e.g., Form 5498 and Form 1099-R). The IRS Statistics of Income Division publishes tabulations of these data and research reports using the data.²⁶ The tax data, however, do not have information about the types of assets that investors hold in their IRAs.

The IRA Investor Database™

To augment the existing survey information and tax data for IRAs, ICI embarked on a data collection effort—The IRA Investor Database—to examine administrative, or recordkept, data on IRAs. To date, this collection effort has gathered data on IRAs from 2007 through 2016. The IRA Investor Database contains account-level information from a wide range of mutual fund and insurance companies, which provided data for more than 17 million IRA investors in 2016. The database, which contains information about IRA asset levels, investments, contributions, conversions, rollovers, and withdrawals, provides a more complete picture of account-level holdings and activity for IRA investors. Throughout this report, the term IRA investor refers to a unique IRA investor at a given data provider.²⁷ The IRA Investor Database contains data on 17.6 million IRA investors at year-end 2016, of which 69 percent hold traditional IRAs, 34 percent hold Roth IRAs, 8 percent hold SIMPLE IRAs, and 5 percent own SEP or SAR-SEP IRAs (see Figure A.2 in the appendix).²⁸

Research Agenda for This Report

This report provides insight into how Roth IRA investors fared during and after the financial crisis by analyzing data on a group of consistent Roth IRA investors—those holding accounts with the same financial services provider at the end of each year from 2007 through 2016—drawn from The IRA Investor Database. In addition, it analyzes Roth IRA contributions, conversions, withdrawals, asset allocation, and account balances in 2016 by investor age.

After summarizing the financial developments and regulatory changes affecting Roth IRAs, chapter 1 analyzes the contribution, conversion, rollover, and withdrawal activity for 2.2 million consistent Roth IRA investors (those with accounts at the end of each year from 2007 through 2016). The chapter also explores changes in asset allocation and account balances among consistent Roth IRA investors.

The rest of the report focuses primarily on a snapshot of 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Chapter 2 notes that the vast majority of new Roth IRAs opened in 2016 were opened with contributions. It examines contribution activity by investor age, exploring which Roth IRA investors had contributions and how many of them contributed at the maximum legal limit. Chapter 3 looks at how conversion activity varied by investor age in 2016, and briefly touches upon rollover activity, which is rare in Roth IRAs. Chapter 4 explores withdrawals, which very few Roth IRA investors take in any given year, likely discouraged by the five-year holding period and early withdrawal penalties. In addition, in contrast to traditional IRA investors, Roth IRA investors are not required to start distributions at age 70½ (unless the Roth IRA is inherited). Chapter 5 reports variation in Roth IRA balances by investor age. Chapter 6 compares the asset allocation of Roth IRA balances among cross sections of Roth IRA investors at year-end 2007 and year-end 2016, focusing on the changes in allocation to equity holdings by investor age.

CHAPTER 1

Following Roth IRA Investors over Time

The IRA Investor Database contains data on millions of IRA investors from year-end 2007 through year-end 2016, which makes it possible to analyze snapshots, or cross sections, of IRA investors in any given year. In addition, one of the advantages of The IRA Investor Database is that it can show whether investor activities and behaviors are persistent or change from year to year.

This chapter features such an analysis, focusing on the 2.2 million Roth IRA investors who had accounts at the same financial services provider at the end of each year from 2007 through 2016. These Roth IRA investors will be referred to as *consistent Roth IRA investors*. They were aged 27 or older at year-end 2016 (and thus aged 18 or older at year-end 2007, the first year in the database). After reviewing the economic and regulatory influences on Roth IRAs between 2007 and 2016, the chapter examines how consistent Roth IRA investors fared during and after the financial crisis, looking at patterns of contribution, conversion, rollover, and withdrawal activities, as well as changes in asset allocation. The chapter also analyzes the movement of their Roth IRA balances from year-end 2007 to year-end 2016.

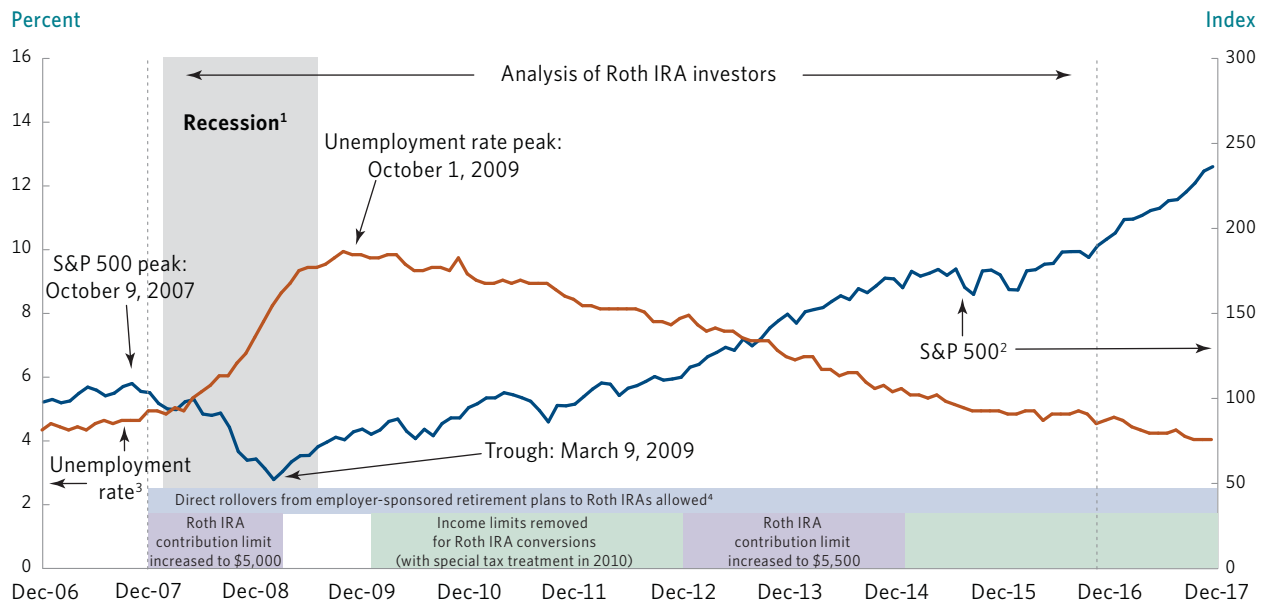
Financial and Regulatory Developments, 2007-2016

Between 2007 and 2016, the United States experienced two dramatic events: a major financial crisis and a deep recession. During that period, large-cap stocks contracted in value, falling 37.0 percent in 2008 (Figure 1.1), an annual drop exceeded only in 1931 when large-cap stock values fell 43.3 percent over the year.²⁹ Large-cap stocks peaked in value on October 9, 2007, and fell 55.3 percent to their record low, which occurred on March 9, 2009.³⁰ Bond market investors also saw rocky returns over this period, as interest rates on many nongovernment fixed-income securities rose, and corporate bond prices declined 22.2 percent between September 9, 2008, and October 17, 2008.³¹

The US economy also contracted sharply, falling into recession between December 2007 and June 2009.³² The unemployment rate rose, peaking at 10.0 percent in October 2009, and disposable personal income fell.³³ The financial crisis and recession weakened household balance sheets during much of this period. In addition, housing values fell more than 25 percent between February 2007 and December 2011.³⁴ From 2010 through 2016, as the economy and financial sector began to recover, household income and net worth began to rise again.

FIGURE 1.1

Financial Events and Changing Rules Surrounding Roth IRAs, 2007-2017



¹ The National Bureau of Economic Research (NBER) dates the most recent recession from December 2007 to June 2009.

² The S&P 500 is an index of 500 stocks chosen for market size, liquidity, and industry group representation. The index is normalized to 100 in December 2006.

³ The unemployment rate is the number of unemployed individuals as a percentage of the labor force and has been seasonally adjusted.

⁴ Since 2006, direct rollovers from designated Roth accounts in employer-sponsored retirement plans to Roth IRAs have been permitted, and since 2008, rollovers from non-Roth employer-sponsored retirement plan accounts also have been allowed.

Sources: Bureau of Labor Statistics, NBER, Standard and Poor's, and ICI summary of legislative changes

Roth IRA assets largely followed the movement of the stock market. Tracked on an annual basis, Roth IRA assets were \$232 billion at year-end 2007, but had fallen to \$177 billion at year-end 2008 despite contributions and conversions (Figure 1.2). Aggregate Roth IRA assets then rose to \$355 billion by year-end 2010, bolstered by \$65 billion in conversions. Roth IRA assets continued to increase, rising to \$625 billion at year-end 2015 and \$690 billion at year-end 2016.

Regulations governing Roth IRAs also changed between 2007 and 2016. In 2008, automatic adjustment for inflation increased the Roth IRA contribution limit for investors younger than 50 from \$4,000 to \$5,000 (Figure 1.1). For investors aged 50 or older, the limit rose to \$6,000 including catch-up contributions (Figure 2.5). In 2010, the income limits on Roth conversions were lifted,³⁵ and taxpayers had the option of paying taxes due on amounts converted in 2010 over two years—2011 and 2012. In addition, 2008 marked the beginning of direct rollovers from non-Roth employer-sponsored retirement plan accounts into Roth IRAs.³⁶ In 2013, automatic adjustment for inflation increased the Roth IRA contribution limit for investors younger than 50 from \$5,000 to \$5,500 (Figure 1.1). For investors aged 50 or older, the limit rose to \$6,500 including catch-up contributions (see Figure 2.5).

FIGURE 1.2

Roth IRA Assets and Flows*Billions of dollars, 1998-2017*

	Inflows			Outflows	Total assets ² Year-end
	Contributions	Rollovers ¹	Roth conversions	Withdrawals	
1998	\$8.6	N/A	\$39.3	N/A	\$56.8
1999	10.7	N/A	3.7	N/A	76.2
2000	11.6	N/A	3.2	\$4.7	77.6
2001	11.0	N/A	3.1	0.3	79.3
2002	13.2	N/A	3.3	1.2	77.6
2003	13.5 ^e	N/A	3.0 ^e	2.3	105.8 ^e
2004	14.7	N/A	2.8	1.9	139.9
2005	18.0	N/A	2.6	0.4	156.1
2006	18.7	N/A	2.8	0.4	196.1
2007	18.7	N/A	2.2	0.4	232.3
2008	18.2	N/A	3.7	3.7	176.6
2009	17.6	\$2.7	6.8	0.5	238.6
2010	18.6	7.8	64.8	0.6	354.9
2011	18.0	4.3	11.3	0.5	359.9
2012	18.7	4.8	18.1	4.1	438.9
2013	21.0	5.5	7.5	4.2	547.7
2014	21.9	5.7	8.3	4.0	599.9
2015	21.7	8.4	9.0	4.4	625.1
2016	N/A	N/A	N/A	N/A	690.0 ^e
2017	N/A	N/A	N/A	N/A	810.0 ^e

¹ Rollovers are primarily from employer-sponsored retirement plans.² Total assets are the fair market value of assets at year-end.^e Data are estimated.

N/A = not available

Sources: Investment Company Institute and Internal Revenue Service Statistics of Income Division

Changes in Roth IRA Assets

Several factors affect the amount of Roth IRA assets investors hold:

- » contributions into Roth IRAs (+);
- » conversions of non-Roth IRA assets into Roth IRAs (+);³⁷
- » rollovers from employer-sponsored retirement plans into Roth IRAs (+);
- » distributions, or withdrawals, out of Roth IRAs (-);³⁸ and
- » returns on investments, which vary with asset allocation.

In a typical year, contributions in aggregate provide the largest inflows into Roth IRAs, running at an average of \$19.5 billion a year between 2008 and 2015 (Figure 1.2). A relatively new activity, rollovers account for only a small amount of inflows into Roth IRAs, averaging \$5.6 billion a year since 2009. Roth conversions have tended to be minor, with the exception of 1998 and 2010, when special tax incentives were available.³⁹ The tax law change lifting income limits on Roth conversion activity starting in 2010 and providing special tax incentives in 2010 increased Roth conversion activity. Between 2009 and 2010, conversions to Roth IRAs increased nearly tenfold, from \$6.8 billion to \$64.8 billion.⁴⁰ Withdrawals are only a small drag on Roth IRA accumulations, because few Roth IRA investors take withdrawals.

Changes in Consistent Individual Investors' Roth IRA Balances, 2007-2016

When analyzing how investor account balances change over time, having a consistent sample is important. Comparing average account balances across year-end snapshots can lead to false conclusions. For example, the addition of a large number of new investors with smaller balances would pull down the average account balance. This could then be mistakenly described as an indication that balances are declining, but actually would reveal nothing about the experiences of individual investors. Because of this, the following analysis covers Roth IRA investors with account balances at the end of each year from 2007 to 2016.

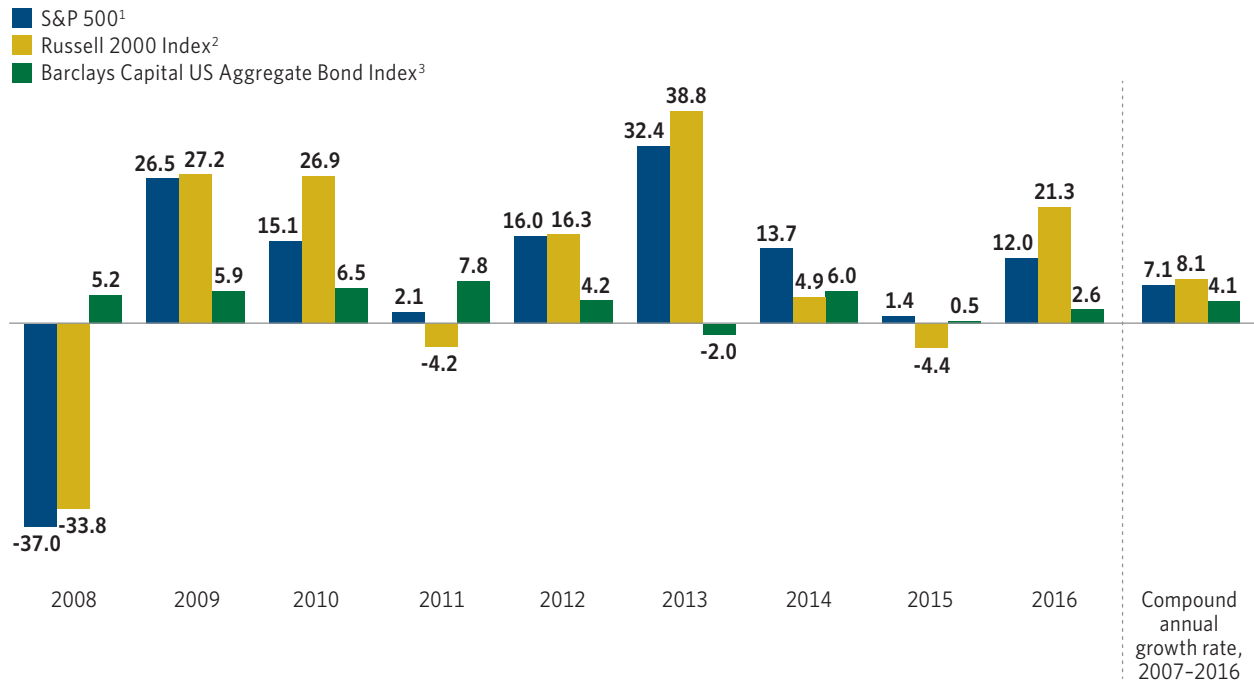
To analyze changes in Roth IRA balances from year-end 2007 to year-end 2016, the flow activity of the Roth IRA investors from 2008 through 2016 needs to be understood. Although detailed information on the exact timing of flows into and out of the Roth IRA balances analyzed is not available, the presence of annual contributions, conversions, rollovers, or withdrawals can be tracked. Because Roth IRA investors younger than 59½ may be subject to penalties if they take withdrawals, they are analyzed as a group. Although all Roth IRA investors aged 59½ or older may withdraw without penalty (provided they meet the five-year holding period), the sample is divided into two additional groups based on age at year-end 2016: 60 to 69, and 70 or older. This enables comparison with traditional IRA investors, who must take withdrawals once they reach age 70½ or be subject to penalty. Contribution, conversion, rollover, and withdrawal activity is analyzed for these three groups of consistent Roth IRA investors.

Finally, investment returns affect the value of assets held in Roth IRAs and will vary depending upon the individual investor's portfolio. Roth IRA investors' concentrations in equity holdings are analyzed from year-end 2007 to year-end 2016. It is not possible to calculate rates of return specific to Roth IRA investors in the database. However, aggregate market return data indicate that from year-end 2007 to year-end 2016, the compound average annual return was 7.1 percent on large-cap equities, 8.1 percent on small-cap equities, and 4.1 percent on bonds (Figure 1.3).

FIGURE 1.3

Domestic Stock and Bond Market Total Return Indexes

Percent change, 2008-2016



¹ S&P 500 is an index of 500 stocks chosen for market size, liquidity, and industry group representation.

² The Russell 2000 Index measures the performance of the 2,000 smallest US companies (based on total market capitalization) included in the Russell 3000 Index (which tracks the 3,000 largest US companies).

³ Formerly the Lehman Brothers US Aggregate Bond Index, the Barclays Capital US Aggregate Bond Index is composed of securities covering government and corporate bonds, mortgage-backed securities, and asset-backed securities (rebalanced monthly by market capitalization). The index's total return consists of price appreciation/depreciation plus income as a percentage of the original investment.

Sources: Bloomberg, Barclays Global Investors, Frank Russell Company, and Standard & Poor's

Contribution Activity for Consistent Roth IRA Investors, 2008–2016

Roth IRA contribution activity slowed a bit in the wake of the financial crisis. Though one might expect a significant reduction in contribution activity in times of financial stress, contribution activity declined only slightly among consistent Roth IRA investors from 2008 through 2016. For example, 20.5 percent of consistent Roth IRA investors aged 27 or older in 2016 made contributions in tax year 2016, while 33.1 percent of them made contributions to their Roth IRAs in tax year 2008, when they were aged 19 or older (Figure 1.4, first panel). The pattern is similar across age groups. For example, 17.9 percent of consistent Roth IRA investors aged 60 to 69 in 2016 made contributions in tax year 2016, while 31.8 percent of them made contributions to their Roth IRAs in tax year 2008, when they were aged 52 to 61 (Figure 1.4, third panel). Some of the decline could have resulted from Roth IRA investors getting older—perhaps moving them to higher incomes and out of eligibility to contribute.

Even during this economically stressful period, Roth IRA contribution activity persisted. For example, 49.1 percent of consistent Roth IRA investors aged 27 or older in 2016 made at least one contribution between tax years 2008 and 2016 (Figure 1.5, first panel). Among those contributing during that period, 19.7 percent contributed in all nine years, 7.2 percent contributed in eight of the nine years, 6.9 percent contributed in seven of the nine years, 7.1 percent contributed in six of the nine years, 7.7 percent contributed in five of the nine years, 8.7 percent contributed in four of the nine years, and 10.1 percent contributed in three of the nine years. Persistent contribution activity was highest among consistent Roth IRA investors aged 27 to 59 in 2016. However, older consistent Roth IRA investors (aged 60 to 69) also had repeat contribution activity, with 49.9 percent making at least one contribution between tax years 2008 and 2016 (Figure 1.5, third panel). Among Roth IRA investors aged 60 to 69 who were contributing, 15.6 percent did so in all nine years. These repeat contributions occurred despite the recession (Figure 1.1) and poor stock market performance during part of the period (Figure 1.3).

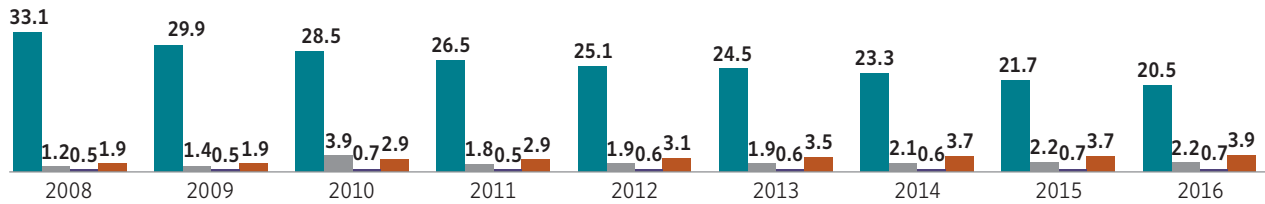
FIGURE 1.4

Factors Influencing Changes in Consistent Individual Investors' Roth IRA Balances, 2008-2016

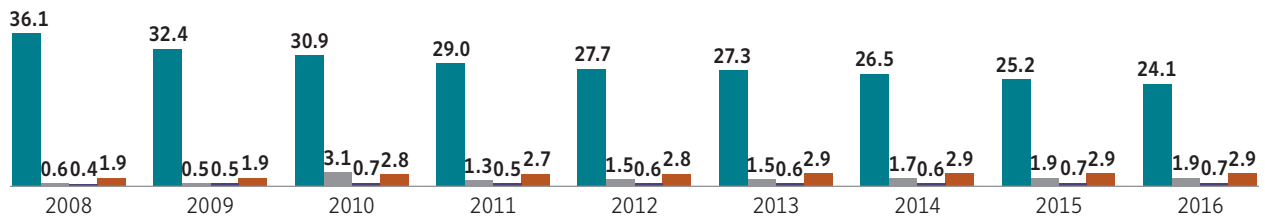
Percentage of Roth IRA investors with account balances at the end of each year from 2007 to 2016

- Contribution
- Conversion
- Rollover
- Withdrawal

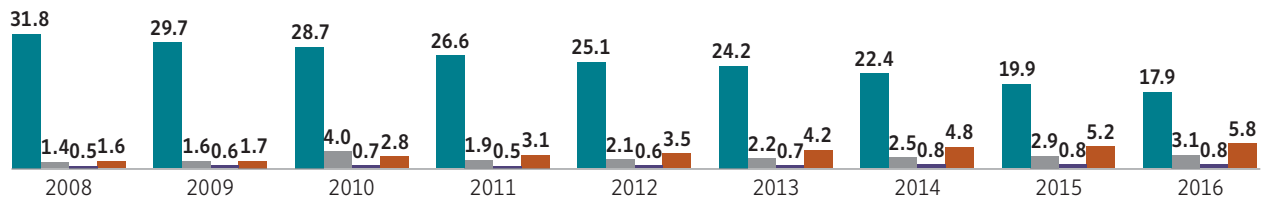
Flow activity among Roth IRA investors aged 27 or older



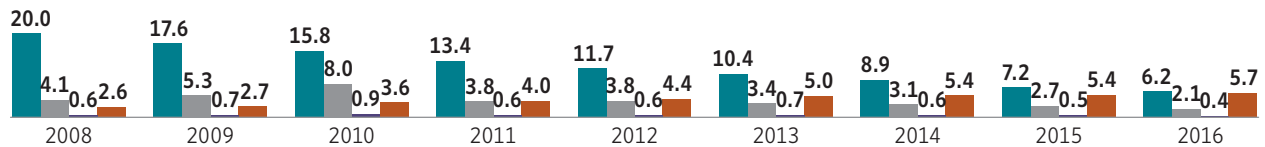
Flow activity among Roth IRA investors aged 27 to 59



Flow activity among Roth IRA investors aged 60 to 69



Flow activity among Roth IRA investors aged 70 or older



Note: The sample is 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016. Age is based on the age of the Roth IRA investor in 2016. Activity is for the tax year indicated.

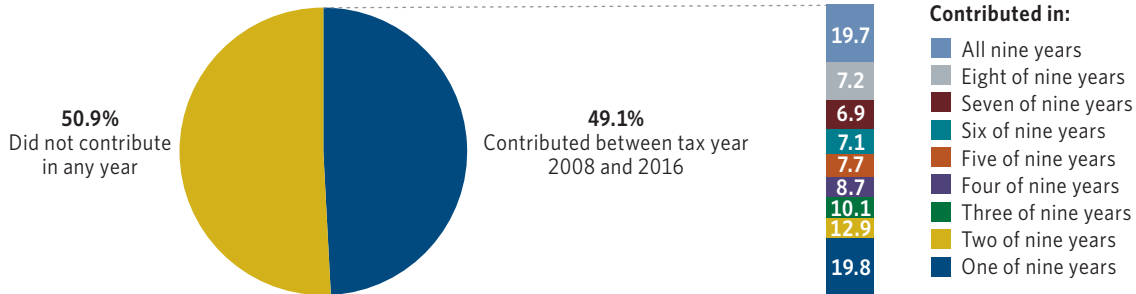
Source: The IRA Investor Database™

FIGURE 1.5

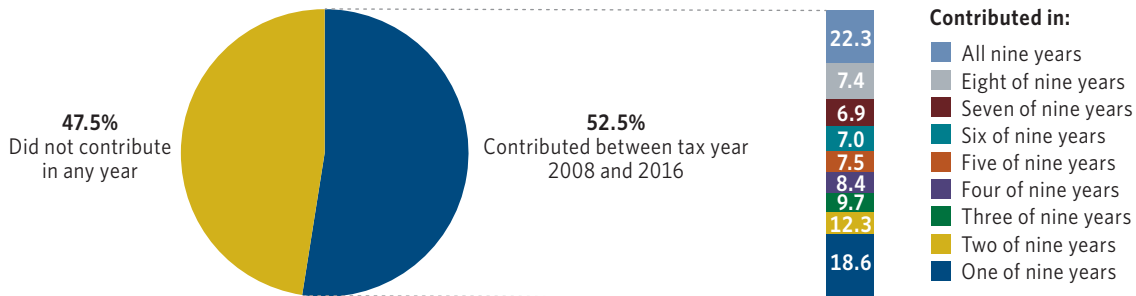
Contribution Activity for Consistent Roth IRA Investors, 2008-2016

Percentage of Roth IRA investors with account balances at the end of each year from 2007 to 2016

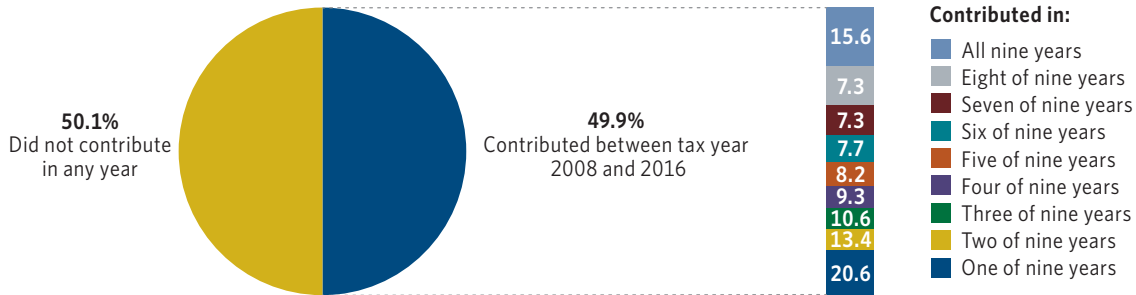
Roth IRA investors aged 27 or older



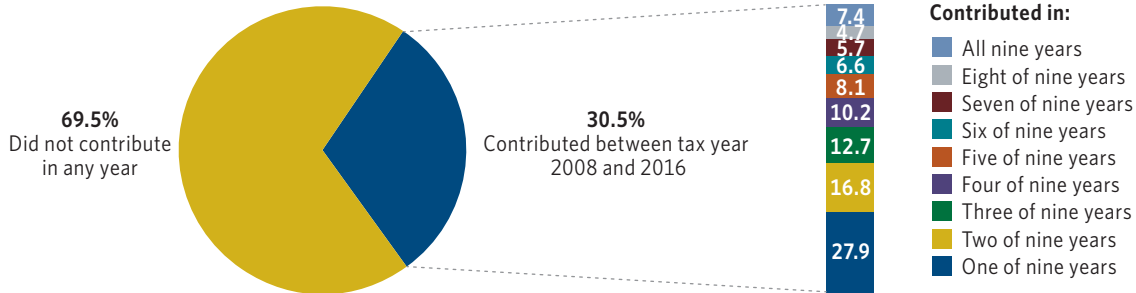
Roth IRA investors aged 27 to 59



Roth IRA investors aged 60 to 69



Roth IRA investors aged 70 or older



Note: The samples are 2.2 million Roth IRA investors aged 27 or older in 2016, 1.4 million Roth IRA investors aged 27 to 59 in 2016, 0.5 million Roth IRA investors aged 60 to 69 in 2016, and 0.3 million Roth IRA investors aged 70 or older in 2016, all holding Roth IRA balances from year-end 2007 through year-end 2016. Age is based on the age of the Roth IRA investor in 2016. Components may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Conversion Activity for Consistent Roth IRA Investors, 2008-2016

A Roth IRA conversion occurs when assets in a non-Roth IRA are transferred to a Roth IRA or redesignated as a Roth IRA.⁴¹ Generally the assets converted are taxable in the year of the conversion. Conversion activity tends to increase when the taxes owed on the amounts converted can be spread over multiple years (Figure 1.2). For example, 3.9 percent of consistent Roth IRA investors aged 27 or older in 2016 made conversions into their Roth IRAs in 2010 (when they were 21 or older), compared with a little more than 1 percent in 2008 and 2009 and about 2 percent in 2011, 2012, 2013, 2014, 2015, and 2016 (Figure 1.4, first panel).⁴² A similar pattern is observed across the 27 to 59 and 60 to 69 age groups, although older Roth IRA investors tended to have higher levels of conversion activity in most years compared with younger ones (Figure 1.4; second, third, and fourth panels). Conversion activity for consistent Roth IRA investors aged 70 or older rose from 4.1 percent making conversions in 2008 (when they were 62 or older) to 8.0 percent in 2010 before falling back to 3.8 percent in 2011, 3.8 percent in 2012, 3.4 percent in 2013, 3.1 percent in 2014, 2.7 percent in 2015, and 2.1 percent in 2016 (Figure 1.4, fourth panel).

Rollovers. Direct rollovers from designated Roth accounts in employer-sponsored retirement plans to Roth IRAs have been permitted since 2006. Before 2008, Roth IRAs generally were not eligible for direct rollovers from non-Roth employer-sponsored retirement plan accounts. The Pension Protection Act of 2006 allowed direct rollovers from non-Roth employer-sponsored plan accounts to Roth IRAs beginning in 2008.⁴³ Less than 1 percent of consistent Roth IRA investors made rollovers in any year in the study, regardless of age group (Figure 1.4).

Withdrawal Activity for Consistent Roth IRA Investors, 2008-2016

If a withdrawal is made from a Roth IRA within five years of the first contribution or made before age 59½, the investment return portion of the withdrawal is generally subject to income tax and may be subject to a 10 percent penalty. For both traditional and Roth IRAs, the 10 percent penalty does not apply to withdrawals made in cases of death or disability; if used for certain medical expenses, first-time homebuyer expenses, qualified higher-education expenses, or health insurance expenses of unemployed individuals; or as part of a series of substantially equal periodic payments (SEPPs) made over the life expectancy of the individual.⁴⁴ In addition, provided the five-year holding period is satisfied, the investment returns portion of withdrawals made before age 59½ from a Roth IRA in cases of death, disability, or qualified first-time homebuyer expenses are not subject to income tax. In contrast to traditional IRAs, Roth IRAs are not subject to RMDs during the account holder's lifetime.⁴⁵

Very few consistent Roth IRA investors took withdrawals in any year during the study period. Few Roth IRA investors younger than 60 took withdrawals in any given year, likely reflecting, in part, the early withdrawal penalty that may apply. This also was the case among the consistent group of Roth IRA investors aged 27 to 59 at year-end 2016. Over 2008 and 2009, about 2 percent took withdrawals (Figure 1.4, second panel), and over 2010 to 2016, about 3 percent took withdrawals in any given year.

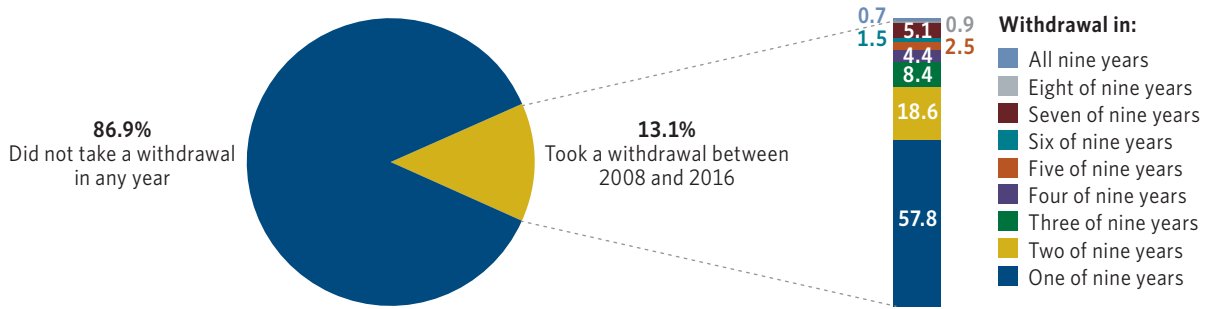
The pattern of withdrawal activity edges up a bit over time among Roth IRA investors aged 60 or older in 2016. In 2008, 1.6 percent of Roth IRA investors aged 60 to 69 in 2016 took withdrawals, when they were aged 52 to 61 (Figure 1.4, third panel). In 2009, 1.7 percent of this group took withdrawals, when they were aged 53 to 62. Withdrawal activity edged up further between 2010 and 2016, rising to 5.8 percent in 2016. Withdrawals for the group aged 70 or older in 2016 also followed a similar pattern (Figure 1.4, fourth panel): 2.6 percent took withdrawals in 2008 and 2.7 percent took withdrawals in 2009. Withdrawal activity then rose over the next seven years to 5.7 percent in 2016.

Withdrawal activity is rare among Roth IRA investors, and financial stresses appear to have caught up with only a small number of Roth IRA investors in the wake of the financial crisis. Among consistent Roth IRA investors aged 27 or older in 2016 (those with accounts at the end of each year from year-end 2007 to year-end 2016), 13.1 percent took withdrawals in at least one year between 2008 and 2016 (Figure 1.6). Among those taking withdrawals, 57.8 percent only took withdrawals in one of the nine years (2008 through 2016), and 18.6 percent only took withdrawals in two of the nine years.

FIGURE 1.6

Withdrawal Activity for Consistent Roth IRA Investors, 2008-2016

Percentage of Roth IRA investors with account balances at the end of each year from 2007 to 2016



Note: The sample is 2.2 million Roth IRA investors aged 27 or older in 2016 with Roth IRA balances from year-end 2007 through year-end 2016. Components may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Equity Investing in Roth IRAs Before and After the Financial Crisis

Because, on average, the majority of Roth IRA assets are invested in equity holdings, the movement of the stock market had a large impact on Roth IRA balances between year-end 2007 and year-end 2016. For example, on average, the sample of consistent Roth IRA investors aged 27 to 59 in 2016, when they were aged 18 to 50 at year-end 2007, had 85.2 percent of their Roth IRA assets invested in equity holdings—equities, equity funds, and the equity portion of balanced funds (Figure 1.7). As stock values declined in 2008 (Figures 1.1 and 1.3), equity holdings fell to 77.7 percent of this group’s Roth IRA assets at year-end 2008 (Figure 1.7). As stock values moved up in 2009 and 2010, equity holdings rose to 81.2 percent of this group’s Roth IRA assets by year-end 2010. At year-end 2011, with relatively flat stock prices for the year, this group’s equity holdings fell to 79.4 percent of their Roth IRA assets, and remained at that level at year-end 2012. Equity holdings for this group edged up in 2013, 2014, and 2015, rising to 83.5 percent at year-end 2015. At year-end 2016, this group’s equity holdings edged down to 82.7 percent.

Older Roth IRA investors generally had lower average allocations to equity holdings, although equity holdings represented significant shares of their assets over the entire period (Figure 1.7). The older investors' average allocation to equity holdings also mirrored the stock market movement. For example, consistent Roth IRA investors aged 60 to 69 in 2016 had 78.6 percent of their Roth IRA assets invested in equity holdings at year-end 2007, when they were aged 51 to 60. Their average allocation to equity holdings fell to 67.8 percent at year-end 2008, before rising to 73.3 percent in 2010, then falling to 70.3 percent at year-end 2011 and 70.1 percent at year-end 2012. At year-end 2013, when the group was aged 57 to 66, their equity holdings increased to 74.3 percent. This group's equity holdings increased to 75.4 percent at year-end 2014, remained at that level at year-end 2015, and edged down to 74.4 percent at year-end 2016.

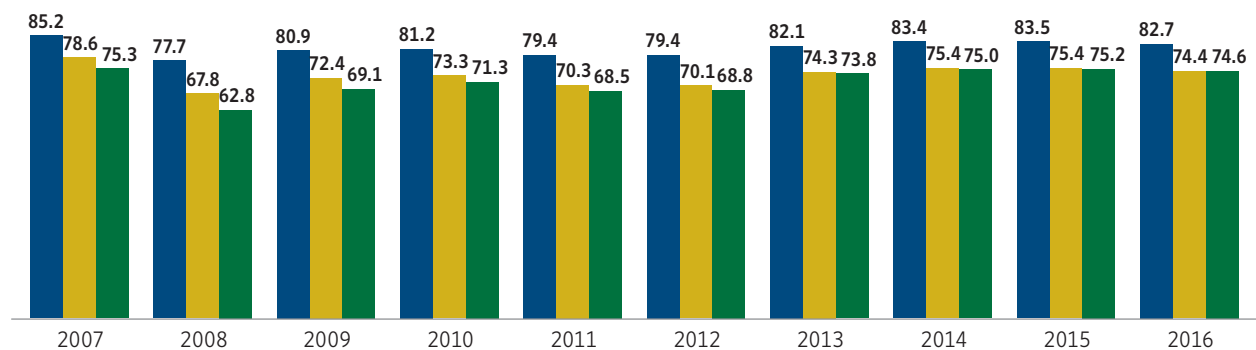
FIGURE 1.7

Equity Holdings Account for the Majority of Assets in Roth IRAs

Percentage of Roth IRA assets¹ invested in equity holdings² by investor age;³ year-end, 2007-2016

Age of Roth IRA investor³

- 27 to 59
- 60 to 69
- 70 or older



¹ Percentages are dollar-weighted averages.

² Equity holdings include equities, equity funds, and the equity portion of balanced funds.

³ Age is based on the age of the Roth IRA investor in 2016.

Note: Consistent Roth IRA investors are 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016.

Source: The IRA Investor Database™

Movement in the share of equity holdings in Roth IRA investors' accounts results from changes in stock values, in addition to reallocation activity by investors. Although information on specific trading activity of Roth IRA investors is not available in the database, activity into or out of zero or 100 percent equity holdings at year-end can be observed.

On these equity concentration measures, there was little activity among Roth IRA investors between year-end 2007 and year-end 2016. For example, analyzing consistent Roth IRA investors aged 27 to 59 at year-end 2016, the data show that 0.6 percent, on net, moved to a zero equity holding allocation—8.6 percent of this group had no equity holdings at year-end 2007 and 9.2 percent had no equity holdings at year-end 2016 (Figure 1.8, upper panel). This net change reflects 3.4 percent of these Roth IRA investors moving from zero equity holdings to at least some, 3.9 percent moving from some to zero, and 5.3 percent sticking with zero holdings in both 2007 and 2016 (Figure 1.9). Older Roth IRA investors displayed slightly higher reallocation activity toward zero equity holdings, but some of their activity could have come in anticipation of retirement rather than in response to financial market movements. Indeed, household survey information indicates that households anticipate rebalancing their portfolios as they age.⁴⁶

Nearly half (48.1 percent) of consistent Roth IRA investors had their entire Roth IRA balances invested in equity holdings at year-end 2007, but that share decreased to 41.1 percent at year-end 2016 (Figure 1.10). To be 100 percent invested in equity holdings, the Roth IRA investor would have allocated their full Roth IRA balance to equities or equity funds.⁴⁷ Analyzing consistent Roth IRA investors aged 27 to 59 at year-end 2016, the data show that 6.7 percent, on net, moved away from a 100 percent equity holding allocation—49.2 percent of this group at year-end 2007 and 42.5 percent at year-end 2016 were 100 percent invested in equity holdings (Figure 1.8, lower panel). This net change reflects 10.5 percent moving away from the 100 percent allocation to something less, 3.8 percent moving to a 100 percent allocation, and 38.7 percent sticking with 100 percent equity holdings in both 2007 and 2016 (Figure 1.10). Roth IRA investors aged 60 to 69 in 2016 displayed slightly higher reallocation activity away from 100 percent equity holdings, but again, some of their activity may have resulted simply from reallocation in anticipation of retirement rather than in response to the financial market movements.⁴⁸

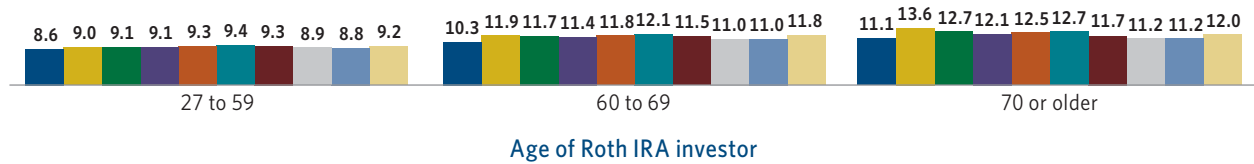
FIGURE 1.8

Changes in Concentration of Consistent Roth IRA Investors' Equity Holdings Between 2007 and 2016



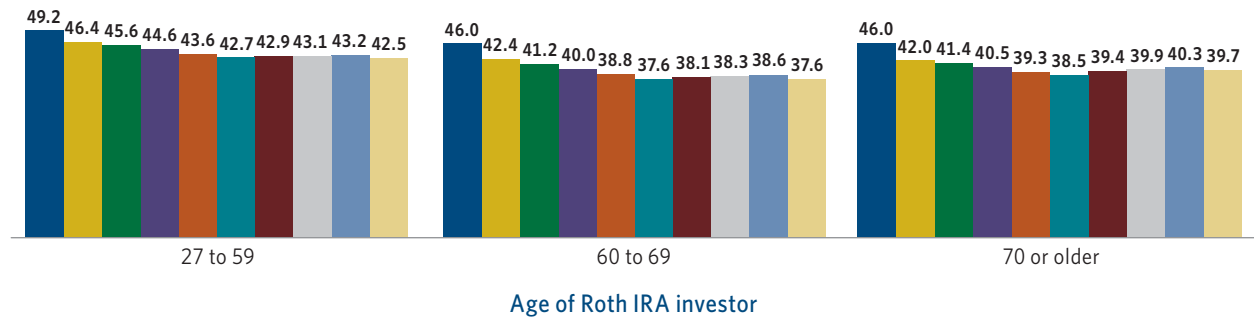
Zero allocation to equity holdings¹

Percentage of Roth IRA investors with no equity holdings¹ by age;² year-end, 2007-2016



100 percent allocation to equity holdings¹

Percentage of Roth IRA investors with 100 percent equity holdings¹ by age;² 2007-2016



¹ Equity holdings include equities, equity funds, and the equity portion of balanced funds.

² Age is based on the age of the Roth IRA investor in 2016.

Note: Consistent Roth IRA investors are 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016.

Source: The IRA Investor Database™

FIGURE 1.9

Changes in Zero Allocation to Equity Holdings Among Consistent Roth IRA Investors

Percentage of Roth IRA investors by age; year-end, 2007 and 2016

Age	Zero in 2007	Moved away from zero by 2016	Remained at zero	Moved to zero by 2016	Net change	Zero in 2016
27 to 29	10.9	-6.7	4.2	2.1	-4.7	6.2
30 to 34	10.0	-5.2	4.8	2.7	-2.6	7.4
35 to 39	8.8	-3.8	5.0	3.3	-0.4	8.4
40 to 44	8.1	-3.0	5.1	3.8	0.8	8.9
45 to 49	7.9	-2.7	5.2	4.0	1.3	9.2
50 to 54	8.4	-3.0	5.4	4.2	1.2	9.6
55 to 59	9.3	-3.4	5.9	4.7	1.3	10.6
60 to 64	10.1	-4.0	6.1	5.4	1.4	11.6
65 to 69	10.6	-4.3	6.2	5.8	1.5	12.0
70 to 74	11.2	-4.8	6.4	5.5	0.8	12.0
75 or older	11.0	-4.3	6.7	5.2	0.9	11.9
All	9.3	-3.7	5.6	4.5	0.8	10.1
27 to 59	8.6	-3.4	5.3	3.9	0.6	9.2
60 to 69	10.3	-4.2	6.2	5.6	1.4	11.8
70 or older	11.1	-4.5	6.6	5.4	0.8	12.0

Note: The sample is 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016. Equity holdings include equities, equity funds, and the equity portion of balanced funds.

Source: The IRA Investor Database™

Changes in Consistent Individual Investors' Roth IRA Balances Between 2007 and 2016 by Investor Age

The impact of the financial crisis on consistent Roth IRA investors aged 27 or older in 2016—and their actions in response—varied by age. Though exposure to equity holdings, on average, was higher for younger Roth IRA investors, only a small share of Roth IRA investors of any age completely eschewed equity holdings between 2007 and 2016 (Figures 1.8, 1.9, and 1.10). Contribution activity edged back only a bit in the wake of the financial crisis (Figure 1.4). Conversion and rollover activity increased as a result of rule changes, and both can provide boosts to Roth IRA balances. Withdrawal activity edged up in 2010, 2011, 2012, 2013, 2014, 2015, and 2016 (Figures 1.4 and 1.6), although very few Roth IRA investors take withdrawals. Altogether, these forces combine to influence the balances held in Roth IRAs.

FIGURE 1.10

Changes in 100 Percent Allocation to Equity Holdings Among Consistent Roth IRA Investors

Percentage of Roth IRA investors by age; year-end, 2007 and 2016

Age	100 percent in 2007	Moved away from 100 percent by 2016	Remained at 100 percent	Moved to 100 percent by 2016	Net change	100 percent in 2016
27 to 29	41.0	-8.6	32.5	4.8	-3.7	37.3
30 to 34	42.5	-9.9	32.6	4.3	-5.6	36.9
35 to 39	44.3	-10.1	34.2	4.0	-6.1	38.2
40 to 44	48.9	-10.2	38.8	3.8	-6.4	42.6
45 to 49	52.1	-10.1	42.0	3.6	-6.5	45.6
50 to 54	52.0	-10.7	41.3	3.6	-7.1	44.9
55 to 59	50.1	-11.8	38.3	3.8	-8.0	42.1
60 to 64	46.8	-12.7	34.1	4.2	-8.5	38.3
65 to 69	45.0	-13.0	32.0	4.8	-8.2	36.8
70 to 74	45.5	-12.1	33.4	5.2	-6.9	38.7
75 or older	46.6	-10.9	35.8	5.0	-5.8	40.8
All	48.1	-11.1	37.0	4.1	-7.0	41.1
27 to 59	49.2	-10.5	38.7	3.8	-6.7	42.5
60 to 69	46.0	-12.8	33.1	4.5	-8.4	37.6
70 or older	46.0	-11.5	34.5	5.1	-6.4	39.7

Note: The sample is 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016. Equity holdings include equities, equity funds, and the equity portion of balanced funds.

Source: The IRA Investor Database™

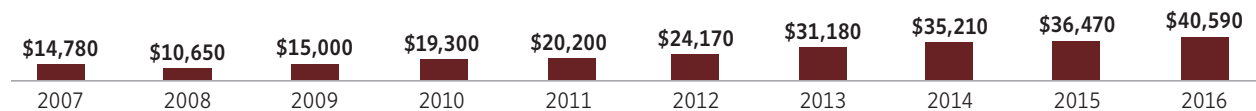
Roth IRA investors generally saw growth in their Roth IRA balances between year-end 2007 and year-end 2016. All told, the average Roth IRA balance among consistent Roth IRA investors aged 27 to 59 at year-end 2016 was \$40,590 at year-end 2016, more than double the year-end 2007 average balance of \$14,780 (Figure 1.11). The average Roth IRA balance among this group fell to \$10,650 in 2008, before rising in 2009 through 2016. Movement in the average account balance is not as dramatic as the changes observed in the stock market because the majority of these investors had at least some non-equity investments in their Roth IRAs.⁴⁹ In addition, in any given year, about three in 10 had contributions, and fewer than one in 25 had withdrawals (Figure 1.4). Changes in the average account balance varied with investor age (Figure 1.12).

FIGURE 1.11

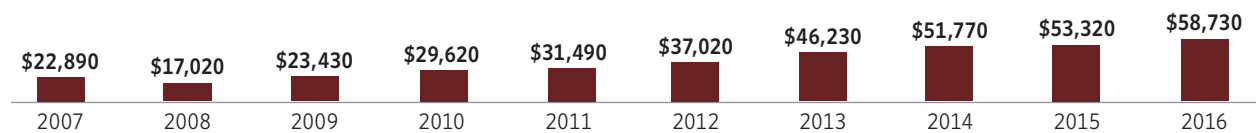
Roth IRA Balances Among Consistent Roth IRA Investors

Average Roth IRA balance for consistent Roth IRA investors; year-end, 2007-2016

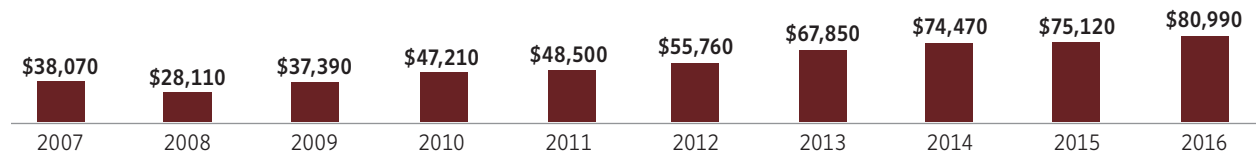
Roth IRA investors aged 27 to 59



Roth IRA investors aged 60 to 69



Roth IRA investors aged 70 or older



Note: Consistent Roth IRA investors are 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016. Age is based on the age of the Roth IRA investor in 2016. See Figure 1.12 for additional detail.

Source: The IRA Investor Database™

FIGURE 1.12

Roth IRA Balances of Consistent Roth IRA Investors by Investor Age*Average Roth IRA balance for consistent Roth IRA investors by age; year-end, 2007-2016*

Age	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
27 to 29	6,130	5,040	7,660	10,010	11,000	13,870	18,730	22,040	23,570	27,420
30 to 34	8,020	6,460	9,910	13,100	14,190	17,640	23,450	27,090	28,510	32,560
35 to 39	10,780	8,160	12,080	15,860	16,790	20,500	26,780	30,420	31,630	35,580
40 to 44	13,140	9,440	13,440	17,630	18,380	22,120	28,630	32,310	33,410	37,230
45 to 49	15,210	10,720	14,980	19,390	20,140	23,990	30,930	34,790	35,900	39,760
50 to 54	17,430	12,290	17,010	21,620	22,430	26,570	34,080	38,320	39,610	43,880
55 to 59	19,260	13,820	18,970	23,930	25,100	29,710	37,870	42,690	44,160	48,820
60 to 64	21,700	15,990	22,130	27,650	29,380	34,640	43,530	48,860	50,360	55,380
65 to 69	24,270	18,220	24,940	31,930	33,960	39,790	49,370	55,170	56,770	62,630
70 to 74	29,200	21,970	29,780	38,710	40,560	47,310	58,070	64,080	64,990	70,490
75 or older	48,070	35,040	45,960	56,790	57,450	65,290	78,870	86,180	86,530	92,830
All	19,520	14,260	19,680	25,110	26,260	30,990	39,120	43,810	45,050	49,660
27 to 59	14,780	10,650	15,000	19,300	20,200	24,170	31,180	35,210	36,470	40,590
60 to 69	22,890	17,020	23,430	29,620	31,490	37,020	46,230	51,770	53,320	58,730
70 or older	38,070	28,110	37,390	47,210	48,500	55,760	67,850	74,470	75,120	80,990

Note: Consistent Roth IRA investors are 2.2 million Roth IRA investors aged 27 or older in 2016 with an account balance from year-end 2007 through year-end 2016. Age is based on the age of the Roth IRA investor in 2016.

Source: The IRA Investor Database™

CHAPTER 2

Roth IRA Investors' Contribution Activity in 2016

Policymakers created Roth IRAs to provide taxpayers with (1) the option of paying taxes now on contributions going into Roth IRAs, (2) the ability to reinvest interest and dividends without being taxed, and (3) the ability to take qualified withdrawals tax-free. There are income restrictions on Roth IRA contribution activity, but in contrast to traditional IRAs, older workers (aged 70½ or older) are permitted to contribute. The majority of new Roth IRAs are opened with contributions. In fact, contributions provide steady inflows into Roth IRAs (see Figure 1.2), and in most years, aggregate contributions to Roth IRAs have been greater than aggregate contributions to traditional IRAs.⁵⁰ This chapter analyzes the contribution activity for a snapshot, or cross section, of Roth IRA investors, primarily focusing on how contribution activity varied in 2016 by investor age.

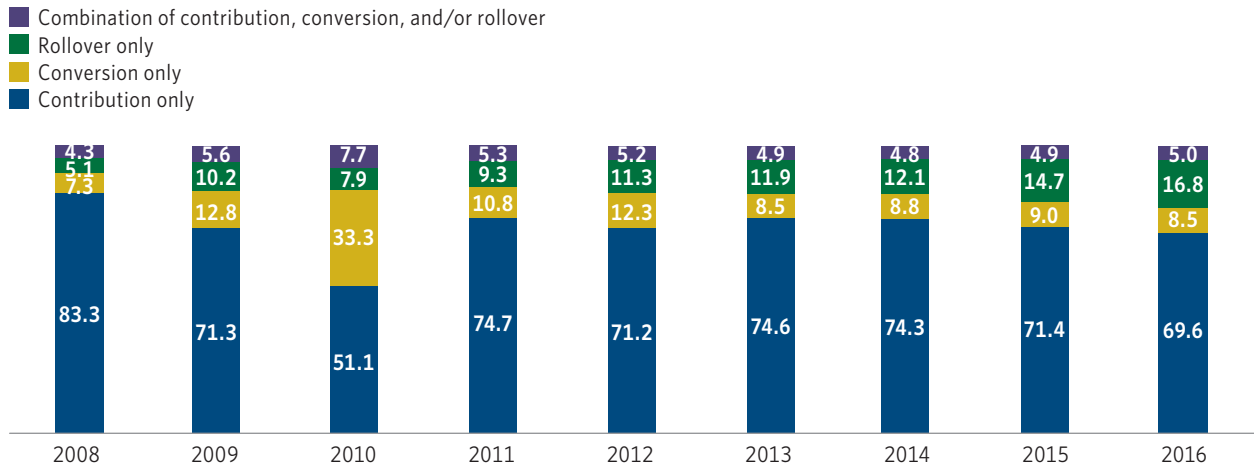
Contributions Often Were the Source of New Roth IRAs in 2016

Roth IRAs can be opened with contributions, conversions, or rollovers, but contributions tend to be the most common source for new Roth IRAs. In 2016, about seven in 10 (69.6 percent) of new Roth IRAs in The IRA Investor Database were opened only with contributions (Figure 2.1). Another 8.5 percent were opened only with conversions, and 16.8 percent were opened only with rollovers. Another 5.0 percent of new Roth IRAs in 2016 were opened through a combination of contributions, conversions, and/or rollovers. Contributions have historically been the most common way to open a new Roth IRA; however, when special tax treatment is available for conversions, they tend to become more important than usual (see chapter 3 for discussion of conversion activity). For example, in 2010, when the income limits on conversions were lifted and individuals could spread the tax bill over the next two years, one-third of new Roth IRAs were opened only with conversions, while about half were opened only with contributions.

FIGURE 2.1

Paths to Roth IRA Ownership Changed as Tax Rules Changed

Percentage of new Roth IRAs, 2008-2016



Note: New Roth IRAs are accounts that did not exist in The IRA Investor Database in the prior year and were opened by one of the paths in the year indicated. The calculation excludes Roth IRAs that changed financial services firms. See Figure A.4 in the appendix for additional information on 2016. Components may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

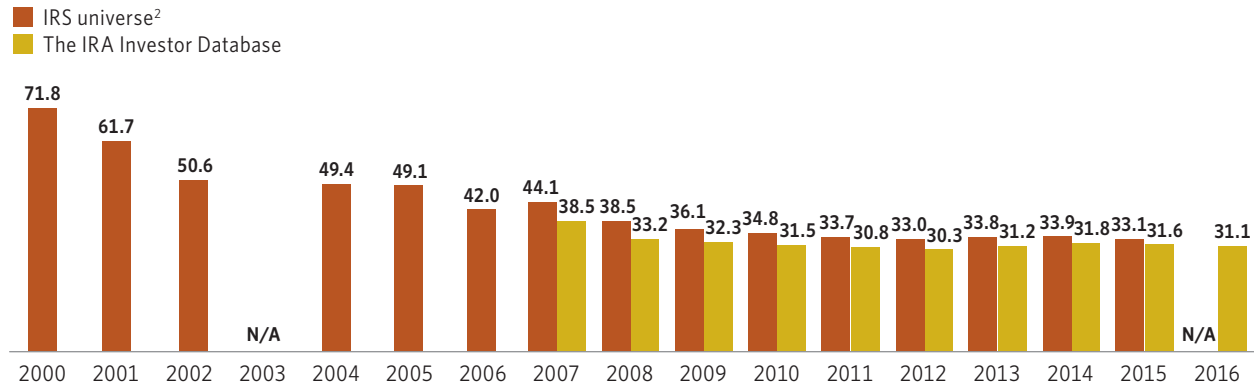
Contributions to Roth IRAs

During the past nine years, about three in 10 Roth IRA investors aged 18 or older have made contributions to their Roth IRAs in any given year (Figure 2.2). For example, in tax year 2016, 31.1 percent of Roth IRA investors aged 18 or older made contributions to their Roth IRAs. This recent contribution activity is slightly lower than for earlier years, likely because of the growing base of Roth IRA investors, among other factors. As the base of Roth IRA investors grows, so too does the likelihood that some investors experience income growth that moves them out of eligibility to contribute to their Roth IRAs.⁵¹ Some Roth IRA investors that were ineligible to contribute may have opened their accounts with conversions. Others may prefer to direct savings into their traditional IRAs.⁵² Nevertheless, contribution activity is higher in Roth IRAs (32.2 percent of Roth IRA investors aged 25 to 69 versus 9.0 percent of traditional IRA investors aged 25 to 69 in tax year 2016).⁵³

FIGURE 2.2

Roth IRA Contribution Rates

Percentage of Roth IRA investors aged 18 or older with contributions,¹ 2000-2016



¹ This group is Roth IRA investors aged 18 or older who made contributions to their Roth IRAs in the tax year indicated.

² In the IRS universe, data are for Roth IRA investors of all ages.

N/A = not available

Sources: The IRA Investor Database™ and Internal Revenue Service Statistics of Income Division

Contributions to Roth IRAs in 2016 by Investor Age

Younger Roth IRA investors were more likely to contribute to their Roth IRAs than were older Roth IRA investors (Figure 2.3). Part of the reason for the lower incidence of contribution activity among older investors is the increased likelihood that some of these investors are no longer eligible to make contributions (having created the Roth IRAs to hold conversions or with contributions made in the past when their incomes were lower and they were eligible to contribute). Among Roth IRA investors aged 18 to 24 making contributions in tax year 2016, 39.8 percent opened their Roth IRA with that contribution. In contrast, only 5.1 percent of Roth IRA investors aged 75 or older in 2016 did the same.

FIGURE 2.3

Contribution Activity of Roth IRA Investors by Investor Age

Number of Roth IRA investors and Roth IRA contributors¹ by age, 2016

Age	Roth IRA investors		Roth IRA contributors ¹		Memo:	
	Number Thousands	Share ² Percent	Number Thousands	Share ² Percent	Percentage of Roth IRA investors who made contributions ¹	Percentage of contributions that created new accounts ³
18 to 24	189.9	3.2%	118.5	6.4%	62.4%	39.8%
25 to 29	419.5	7.1	235.6	12.8	56.2	25.9
30 to 34	591.8	10.0	269.4	14.6	45.5	16.4
35 to 39	642.3	10.9	235.9	12.8	36.7	11.8
40 to 44	609.6	10.3	189.2	10.3	31.0	9.9
45 to 49	646.8	10.9	185.0	10.1	28.6	9.2
50 to 54	638.5	10.8	180.1	9.8	28.2	9.6
55 to 59	646.1	10.9	179.9	9.8	27.8	9.3
60 to 64	575.8	9.7	139.6	7.6	24.2	8.4
65 to 69	454.6	7.7	69.4	3.8	15.3	7.4
70 to 74	284.2	4.8	25.4	1.4	8.9	7.3
75 or older	220.8	3.7	11.5	0.6	5.2	5.1
All	5,920.0	100.0	1,839.7	100.0	31.1	14.6

¹ This group is Roth IRA investors aged 18 or older who made contributions to their Roth IRAs in tax year 2016.

² Share is the percentage of the total.

³ New Roth IRAs are accounts that did not exist in the IRA Investor Database in 2015.

Note: Components may not add to the total because of rounding.

Source: The IRA Investor Database™

The highest level of contribution activity in tax year 2016, 62.4 percent, was observed among Roth IRA investors aged 18 to 24. This level falls across the remaining age groups (Figure 2.3)—for example, in tax year 2016, 31.0 percent of Roth IRA investors in their early forties, 15.3 percent of Roth IRA investors in their late sixties, 8.9 percent of Roth IRA investors in their early seventies, and 5.2 percent of Roth IRA investors aged 75 or older made contributions.

Roth IRA Contribution Amounts in 2016 by Investor Age

In 2016, the Roth IRA contribution limit was \$5,500 for individuals younger than 50 and \$6,500 for individuals aged 50 or older because of catch-up contributions. Even though older Roth IRA investors are less likely than younger investors to make contributions, they tend to make larger contributions. Among Roth IRA contributors aged 18 to 24, the median contribution was \$2,500 in tax year 2016 (Figure 2.4). For Roth IRA contributors aged 45 to 49, the median contribution was \$3,500 in tax year 2016. Among contributors aged 60 or older, the median contribution was \$6,500, meaning that more than half of those who made contributions did so at the full contribution amount, including catch-up contributions (Figure 2.5).

Roth IRA Investors' Contribution Amounts Varied in 2016

Although nearly four in 10 Roth IRA contributors contributed the maximum amount in tax year 2016, the amounts investors contributed varied widely. For example, while 35.3 percent of Roth IRA contributors aged 25 to 69 contributed \$2,000 or less, 24.0 percent contributed \$5,500, and 17.4 percent made at least some portion of a catch-up contribution—contributing more than \$5,500 up to the maximum of \$6,500 (Figure 2.6). Overall, 38.6 percent of all Roth IRA contributors contributed the maximum amount allowed by law, including catch-up contributions for Roth IRA investors aged 50 or older. In fact, 45.1 percent of Roth IRA investors aged 50 or older made the full age-allowed contribution of \$6,500 in tax year 2016.

FIGURE 2.4

Roth IRA Contribution Amounts by Investor Age

Number and amount of contributions¹ to Roth IRAs by age, 2016

Age	Roth IRA contributors ¹		Roth IRA contributions ¹		Roth IRA contribution amount	
	Number Thousands	Share ² Percent	Amount Millions	Share ² Percent	Median	Mean
18 to 24	118.5	6.4%	\$346.8	5.2%	\$2,500	\$2,927
25 to 29	235.6	12.8	792.4	11.9	3,800	3,363
30 to 34	269.4	14.6	890.3	13.4	3,500	3,305
35 to 39	235.9	12.8	749.6	11.3	3,000	3,177
40 to 44	189.2	10.3	607.2	9.1	3,000	3,209
45 to 49	185.0	10.1	612.3	9.2	3,500	3,309
50 to 54	180.1	9.8	717.4	10.8	4,650	3,984
55 to 59	179.9	9.8	775.2	11.7	6,000	4,309
60 to 64	139.6	7.6	647.7	9.7	6,500	4,639
65 to 69	69.4	3.8	332.0	5.0	6,500	4,781
70 to 74	25.4	1.4	122.3	1.8	6,500	4,813
75 or older	11.5	0.6	54.1	0.8	6,500	4,687
All	1,839.7	100.0	6,647.3	100.0	4,000	3,613

¹ This group is Roth IRA investors aged 18 or older who made contributions to their Roth IRAs in tax year 2016.

² Share is the percentage of the total.

Note: Components may not add to the total because of rounding.

Source: The IRA Investor Database™

FIGURE 2.5

Traditional and Roth IRA Contribution Limits Set by the Internal Revenue Code, 2001-2018



Note: After 2008, IRA contributions are indexed for inflation in \$500 increments. IRA catch-up contributions are not indexed for inflation.

Source: ICI summary of US Internal Revenue Code

FIGURE 2.6

Nearly Four in 10 Roth IRA Contributors Contributed at the Limit in 2016

Percentage of Roth IRA contributors¹ contributing the amount indicated by age, 2016

Age	Amount of Roth IRA contribution ²									
	≤\$2,000	>\$2,000 to ≤\$3,000	>\$3,000 to ≤\$4,000	>\$4,000 to <\$5,000	\$5,000	>\$5,000 to <\$5,500	\$5,500 ³	>\$5,500 to ≤\$6,000 ³	>\$6,000 to <\$6,500 ³	\$6,500 ³
18 to 24	46.3	10.2	5.2	2.8	2.2	2.2	31.1	0.0	0.0	0.0
25 to 29	37.9	8.9	4.4	2.8	1.6	4.0	40.3	0.0	0.0	0.0
30 to 34	38.7	9.5	4.7	3.5	1.3	5.2	37.2	0.0	0.0	0.0
35 to 39	40.9	10.2	4.9	4.0	1.3	5.5	33.2	0.0	0.0	0.0
40 to 44	40.0	10.7	5.1	4.3	1.6	5.7	32.8	0.0	0.0	0.0
45 to 49	38.1	10.5	5.1	4.4	1.8	5.6	34.5	0.0	0.0	0.0
50 to 54	33.1	9.8	5.3	3.8	1.8	1.6	1.3	2.5	3.6	37.2
55 to 59	28.4	9.0	5.2	3.0	1.6	1.0	0.6	4.0	3.6	43.5
60 to 64	23.6	8.0	4.6	2.9	1.6	0.9	0.5	4.2	3.2	50.6
65 to 69	21.7	7.1	4.5	2.9	1.7	0.9	0.6	3.9	2.6	54.2
70 to 74	20.9	6.7	4.9	3.1	1.8	1.0	0.7	3.9	2.3	54.7
75 or older	21.9	7.5	5.5	3.1	2.4	1.1	0.6	4.5	2.0	51.4
All	35.7	9.5	4.9	3.5	1.6	3.6	24.0	1.2	1.1	14.9
Memo:										
25 to 69	35.3	9.5	4.9	3.6	1.6	3.8	24.0	1.2	1.1	15.1
50 or older	27.5	8.6	5.0	3.2	1.7	1.1	0.8	3.6	3.3	45.1

¹ This group is Roth IRA investors aged 18 or older who made contributions to their Roth IRAs in tax year 2016.

² The contribution limit in tax year 2016 was \$5,500 for Roth IRA investors younger than 50 and \$6,500 for Roth IRA investors aged 50 or older. Income limits may phase these amounts down for some taxpayers.

³ In total, 38.6 percent of Roth IRA contributors appear to have contributed at the limit. If individuals who were apparently eligible for catch-up contributions, and who contributed at least \$5,500 are included, 41.1 percent of Roth IRA contributors made contributions at the limit.

Note: The sample is 1.8 million Roth IRA investors aged 18 or older with contributions in tax year 2016. Row percentages may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Older Roth IRA Contributors Were More Likely to Contribute at the Limit in 2016

Nearly 40 percent of Roth IRA contributors contributed at the limit in tax year 2016, and older Roth IRA contributors were more likely to contribute at the limit. For example, 31.1 percent of Roth IRA contributors aged 18 to 24 and 37.2 percent of Roth IRA contributors aged 30 to 34 contributed at the \$5,500 limit in tax year 2016 (Figure 2.7). Among contributors aged 65 to 69, 54.2 percent contributed at the full \$6,500 limit, including catch-up contributions. If investors who contributed at least \$5,500 are considered, then 60.7 percent of Roth IRA contributors aged 65 to 69 reached the limit. Overall, 41.1 percent of Roth IRA contributors in tax year 2016 contributed at least \$5,500 to their Roth IRAs.

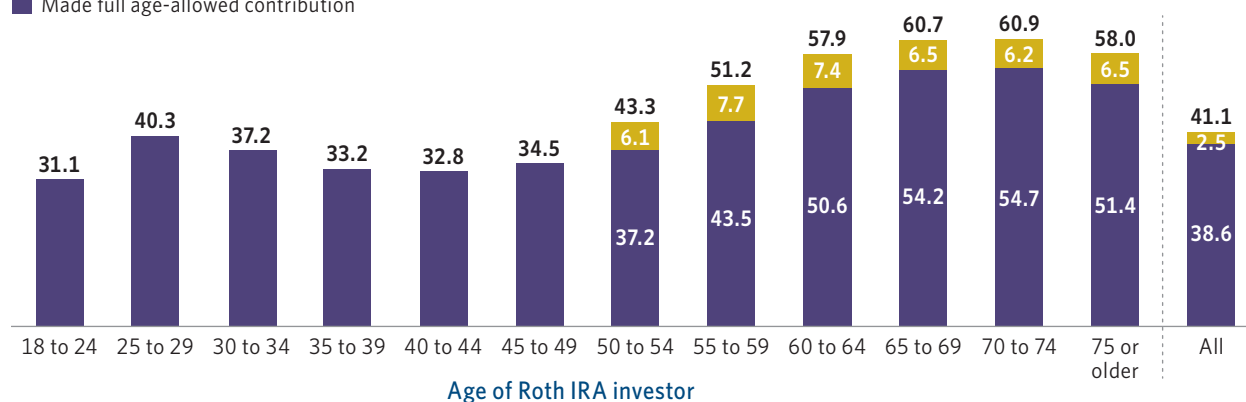
FIGURE 2.7

Older Roth IRA Contributors Were More Likely to Contribute at the Limit in Tax Year 2016

Percentage of Roth IRA contributors¹ contributing at the limit² as a percentage of Roth IRA contributors by age, tax year 2016

Amount of Roth IRA contribution

- Made at least a \$5,500 contribution
- Made full age-allowed contribution



¹ This group is Roth IRA investors aged 18 or older who made contributions to their Roth IRAs in tax year 2016.

² The contribution limit in tax year 2016 was \$5,500 for Roth IRA investors younger than 50 and \$6,500 for Roth IRA investors aged 50 or older. Income limits may phase these amounts down for some taxpayers.

Note: Components may not add to the total because of rounding. The sample is 1.8 million Roth IRA investors aged 18 or older with contributions in tax year 2016.

Source: The IRA Investor Database™

Persistence in Contribution Activity Among Roth IRA Investors from 2015 to 2016

In The IRA Investor Database for 2016, there are 5.4 million Roth IRA investors aged 19 or older who also had Roth IRAs at the same financial services firm in the 2015 database. The tracking of the same individual IRA investors over time makes it possible to analyze persistence in contribution activity. The persistence in both the decision to contribute at all and the decision to contribute at the age-allowed limit is very high. This reinforces a key insight about IRA contributors that emerges from the earlier analysis: for Roth IRA investors who make contributions in a given year, the IRA is likely a key saving vehicle.

The overall persistence in Roth IRA contribution activity between 2015 and 2016 is 80 percent, which means that eight in 10 Roth IRA investors who contributed in tax year 2015 also contributed in tax year 2016 (Figure 2.8).

FIGURE 2.8

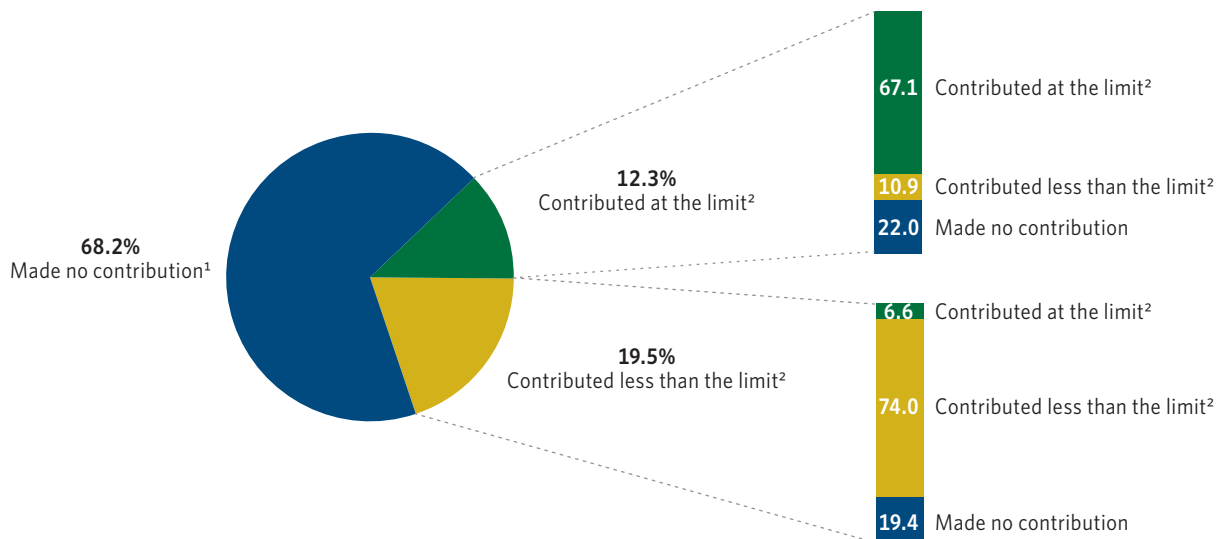
Most Roth IRA Investors at the Limit in Tax Year 2015 Continued to Contribute at the Limit in Tax Year 2016

2015 contribution amount

Percentage of Roth IRA investors present in both 2015 and 2016

2016 contribution amount

Percentage of Roth IRA investors by 2015 contribution amount



¹ Among the 68.2 percent of Roth IRA investors who did not contribute in tax year 2015, 2.4 percent contributed at the limit in tax year 2016 and 2.7 percent contributed below the limit in tax year 2016.

² The contribution limit in tax years 2015 and 2016 was \$5,500 for Roth IRA investors younger than 50 and \$6,500 for Roth IRA investors aged 50 or older. Income limits may phase these amounts down for some taxpayers. Investors were considered at the limit if they contributed their full age-allowed amount.

Note: The sample is 5.4 million Roth IRA investors aged 19 or older in 2016 with Roth IRA balances in both 2015 and 2016.

Source: The IRA Investor Database™

Contributions at the Limit Tend to Persist

Most Roth IRA investors who contributed at the full legal limit in tax year 2015 continued to contribute in tax year 2016—and did so at the limit again. Among Roth IRA investors aged 19 or older in 2016 with account balances in both 2015 and 2016, 31.8 percent contributed to their Roth IRAs in tax year 2015, with 12.3 percent contributing at the limit (Figure 2.8). Among those contributing at the limit in tax year 2015, nearly eight in 10 contributed again in tax year 2016, with 67.1 percent continuing to contribute at the limit. Among those contributing less than the limit in tax year 2015, more than eight in 10 contributed again in tax year 2016, with 74.0 percent continuing to contribute less than the limit, and 6.6 percent increasing their contributions up to the full limit.

CHAPTER 3

Roth IRA Investors' Conversion and Rollover Activity in 2016

When Congress created Roth IRAs, contributions (subject to income limits), conversions (subject to income limits until 2010), and rollovers were allowed. Direct rollovers from designated Roth accounts in retirement plans to Roth IRAs have been permitted since 2006, and direct rollovers of non-Roth qualified retirement plan accumulations into Roth IRAs have been permitted since 2008. Although contributions are the main inflows to, and origin of, Roth IRAs, conversion activity responds to rule changes designed to promote Roth IRAs. A conversion occurs when an individual withdraws money from a non-Roth IRA, pays the taxes due on the withdrawal, and converts the assets into a Roth IRA.⁵⁴ Rollover activity is extremely rare into Roth IRAs to date, but recent rule changes and the increased adoption of Roth features in 401(k) plans may serve to increase Roth rollovers in the future.⁵⁵

This chapter analyzes the conversion activity of Roth IRA investors, focusing on variation in conversion activity in 2016 by investor age. It also briefly examines rollover activity among Roth IRAs, where direct rollovers from non-Roth employer-sponsored plan accounts have only been possible since 2008. Direct rollovers from designated Roth accounts in employer-sponsored retirement plans to Roth IRAs have been permitted since 2006. Finally, it explores the variation in Roth IRA balances in 2016 by the presence of recent conversions and recent rollovers.

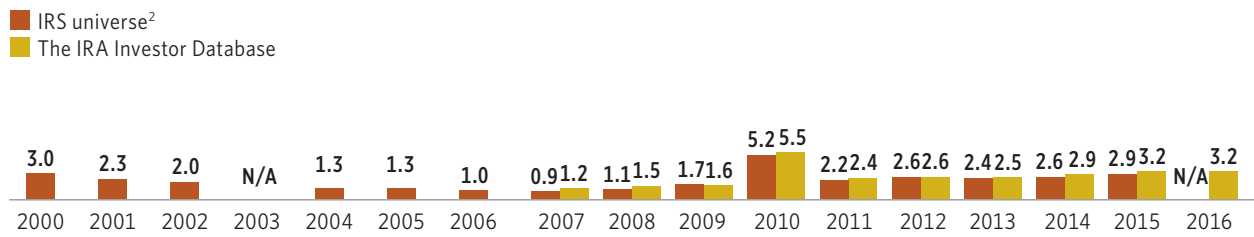
Roth IRA Conversion Activity

Typically, few Roth IRA investors have conversions. Between 2004 and 2009, less than 2 percent of Roth IRA investors had conversions in any given year (Figure 3.1). In 2010, when income limits were lifted for conversions and the taxes owed on amounts converted could be spread over 2011 and 2012,⁵⁶ more than 5 percent of Roth IRA investors had conversions. Since 2010, conversion activity has been higher than before, but is at lower levels now that the special tax payment option is no longer available. In 2016, 3.2 percent of Roth IRA investors had conversions into their Roth IRAs.

FIGURE 3.1

Roth IRA Investors' Conversion Activity Responds to Tax Law Changes

Percentage of Roth IRA investors aged 18 or older with conversions,¹ 2000–2016



¹ This group is Roth IRA investors aged 18 or older who had conversions in the year indicated.

² In the IRS universe, data are for Roth IRA investors of all ages.

N/A = not available

Sources: The IRA Investor Database™ and Internal Revenue Service Statistics of Income Division

Roth IRA Conversion Activity in 2016 by Investor Age

In 2016, 3.2 percent of Roth IRA investors made conversions, and conversion activity varied by investor age, ranging from 1.1 percent of Roth IRA investors aged 18 to 24 to 5.4 percent of Roth IRA investors aged 65 to 69 (Figure 3.2). Roth IRA conversion activity was distributed across all age groups.

The bulk of younger Roth IRA investors making conversions in 2016 did so to open a new account. That includes nearly seven in 10 Roth IRA investors aged 18 to 24 and nearly five in 10 Roth IRA investors aged 25 to 29 with conversions in 2016 (Figure 3.2). Still, even among Roth IRA investors aged 65 to 69 with conversions in 2016, 15.1 percent of those conversions opened new accounts.

FIGURE 3.2

Conversion Activity of Roth IRA Investors by Investor Age

Number of Roth IRA investors and Roth IRA investors with conversions¹ by age, 2016

Age	Roth IRA investors		Roth IRA investors with conversions ¹		Memo:	
	Number Thousands	Share ² Percent	Number Thousands	Share ² Percent	Percentage of Roth IRA investors who made conversions ¹	Percentage of conversions that created new accounts ³
18 to 24	189.9	3.2%	2.1	1.1%	1.1%	66.5%
25 to 29	419.5	7.1	11.1	5.8	2.6	46.1
30 to 34	591.8	10.0	23.3	12.3	3.9	31.2
35 to 39	642.3	10.9	25.8	13.6	4.0	21.9
40 to 44	609.6	10.3	20.7	10.9	3.4	18.4
45 to 49	646.8	10.9	17.7	9.3	2.7	17.4
50 to 54	638.5	10.8	16.1	8.5	2.5	18.1
55 to 59	646.1	10.9	15.4	8.1	2.4	18.6
60 to 64	575.8	9.7	18.6	9.8	3.2	19.0
65 to 69	454.6	7.7	24.5	12.9	5.4	15.1
70 to 74	284.2	4.8	9.0	4.8	3.2	10.6
75 or older	220.8	3.7	5.3	2.8	2.4	10.0
All	5,920.0	100.0	189.6	100.0	3.2	21.5

¹ This group is Roth IRA investors aged 18 or older who converted traditional IRA assets to a Roth IRA in tax year 2016.

² Share is the percentage of the total.

³ New Roth IRAs are accounts that did not exist in the IRA Investor Database in 2015.

Note: Components may not add to the total because of rounding.

Source: The IRA Investor Database™

Roth IRA Conversion Amounts in 2016 by Investor Age

Conversion amounts tend to rise with investor age, reflecting the longer amount of time that older investors have had to build retirement accumulations outside of Roth IRAs.⁵⁷ The median conversion amount among Roth IRA investors aged 18 to 24 with conversions in 2016 was \$2,177, rising to \$20,000 for Roth IRA investors aged 65 to 69, before falling to \$12,026 for investors aged 75 or older (Figure 3.3). Mean conversion amounts rose from \$3,581 among Roth IRA investors aged 18 to 24 with conversions in 2016, to \$33,613 among those aged 65 to 69, before falling to \$27,091 for investors aged 75 or older. Although Roth IRA investors aged 50 or older accounted for nearly half of conversions, nearly three-quarters of the money converted in 2016 came from this group. In fact, Roth IRA investors aged 65 to 69 accounted for more than one-quarter of all conversion money, reflecting their high average conversion amounts as well as the large number of conversions that came from this age group.

FIGURE 3.3

Roth IRA Investors with Conversions by Investor Age

Number and amount of conversions¹ to Roth IRAs by age, 2016

Age	Roth IRA investors with conversions ¹		Roth IRA conversions ¹		Roth IRA conversion amount	
	Number Thousands	Share ² Percent	Amount Millions	Share ² Percent	Median	Mean
18 to 24	2.1	1.1%	\$7.5	0.2%	\$2,177	\$3,581
25 to 29	11.1	5.8	69.2	2.3	5,500	6,264
30 to 34	23.3	12.3	170.7	5.6	5,500	7,321
35 to 39	25.8	13.6	199.5	6.6	5,500	7,729
40 to 44	20.7	10.9	180.7	5.9	5,500	8,723
45 to 49	17.7	9.3	174.9	5.7	5,500	9,906
50 to 54	16.1	8.5	194.9	6.4	6,500	12,124
55 to 59	15.4	8.1	261.6	8.6	6,501	17,028
60 to 64	18.6	9.8	547.8	18.0	13,043	29,378
65 to 69	24.5	12.9	824.8	27.1	20,000	33,613
70 to 75	9.0	4.8	268.6	8.8	15,000	29,698
75 or older	5.3	2.8	143.9	4.7	12,026	27,091
All	189.6	100.0	3,044.2	100.0	6,500	16,053

¹ This group is Roth IRA investors aged 18 or older who converted traditional IRA assets to a Roth IRA in tax year 2016.

² Share is the percentage of the total.

Note: Components may not add to the total because of rounding.

Source: The IRA Investor Database™

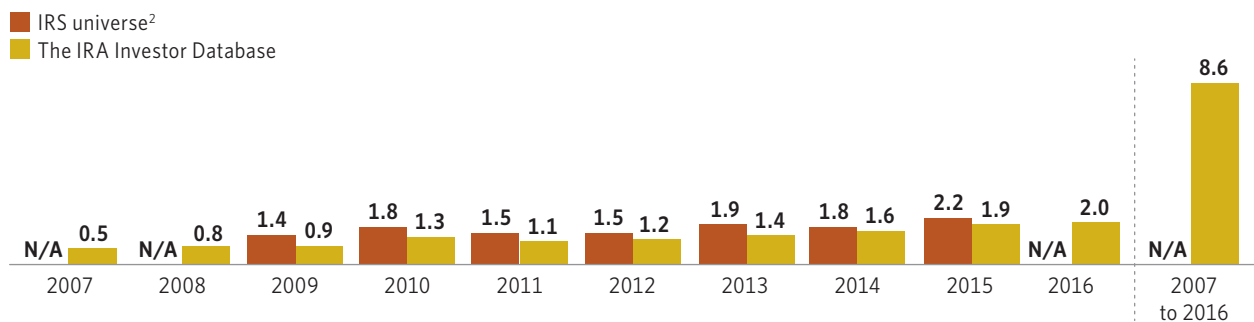
Roth IRA Rollover Activity Is Rare

Roth IRAs have always been permitted to accept rollovers from other Roth IRAs, and since 2006 they have been able to accept rollovers directly from designated Roth accounts in employer-sponsored retirement plans (which could be established starting in 2006). Direct rollovers of non-Roth qualified retirement plan accumulations into Roth IRAs have been permitted since 2008. In the database, rollovers between IRAs generally are not reported as rollovers; rather, it tends to capture rollovers from employer-sponsored retirement plans to IRAs. In any given year, only about 2 percent of Roth IRA investors had rollovers into their Roth IRAs (Figure 3.4). This low number could be explained by the fact that rollovers tend not to be repeated from year to year—but even when rollover activity is aggregated from 2007 to 2016, only 8.6 percent of Roth IRA investors at year-end 2016 had made rollovers into their Roth IRAs.⁵⁸

FIGURE 3.4

Very Few Roth IRA Investors Have Rollovers

Percentage of Roth IRA investors aged 18 or older with rollovers,¹ 2007-2016



¹ This group is Roth IRA investors aged 18 or older who had rollovers into their Roth IRAs in the year or years indicated.

² In the IRS universe, data are for Roth IRA investors of all ages.

Note: Rollovers made prior to 2007, as well as rollovers made prior to a change in financial services providers, cannot be identified in the database.

N/A = not available

Sources: The IRA Investor Database™ and Internal Revenue Service Statistics of Income Division

The low level of rollover activity in Roth IRAs is in stark contrast to the high rollover activity in traditional IRAs. Traditional IRAs most often are opened with rollovers from employer-sponsored retirement plans (defined benefit and defined contribution), and in any given year about one in 10 traditional IRA investors have rollovers.⁵⁹ In 2015, \$459.9 billion in rollovers flowed into traditional IRAs,⁶⁰ compared with rollovers of \$8.4 billion into Roth IRAs (see Figure 1.2). Rollovers tend to occur as individuals change jobs or retire, and thus, typically different groups of individuals have rollovers each year.⁶¹ Household survey data indicate that 57 percent of traditional IRA-owning households in 2017 had rollovers in their traditional IRAs, while only 20 percent of Roth IRA-owning households indicated that some of the assets in their Roth IRAs initially were employer-sponsored retirement plan assets.⁶²

Conversions and Rollovers Tend to Have a Positive Impact on Roth IRA Balances

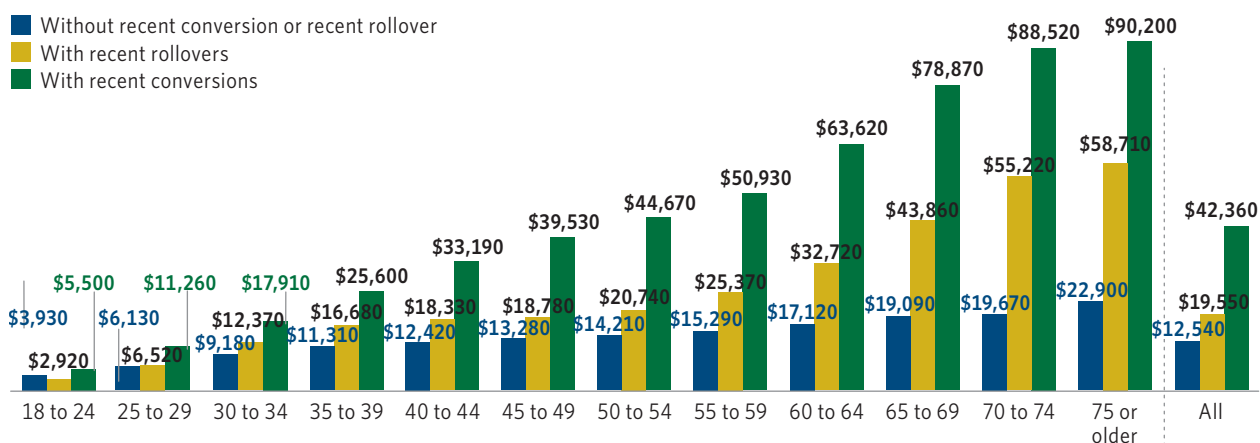
Conversions into Roth IRAs appear to have a substantial, positive impact on the size of account balances.⁶³ The impact of recent conversions can be seen most clearly among older Roth IRA investors. For example, among Roth IRA investors aged 70 to 74 with conversions between 2007 and 2016, the median Roth IRA balance at year-end 2016 was \$88,520, compared with \$19,670 for those without recent conversions or rollovers (Figure 3.5). Household survey data also find a substantial effect of conversions on Roth IRA balances.⁶⁴ Recent rollovers into Roth IRAs also have a positive impact on the size of account balances, especially among older Roth IRA investors.

FIGURE 3.5

Recent Conversions and Rollovers Provide a Boost to Roth IRA Balances

Median account balances among Roth IRA investors by age, year-end 2016

Recent Roth IRA activity



Note: Recent conversions and rollovers are those that occurred between 2007 and 2016. Conversions made prior to 2007, as well as conversions or rollovers made prior to a change in financial services provider, cannot be identified in the database. Roth IRA investors with both recent conversions and recent rollovers are counted in both the recent conversion and recent rollover groups. The sample is 5.9 million Roth IRA investors aged 18 or older at year-end 2016. At year-end 2016, 10.9 percent of Roth IRA investors had made conversions into their Roth IRAs between 2007 and 2016 and 8.6 percent of Roth IRA investors had made rollovers into their Roth IRAs between 2007 and 2016. See Figure 3.2 for sample counts by age group.

Source: The IRA Investor Database™

CHAPTER 4

Roth IRA Investors' Withdrawal Activity in 2016

IRA investors can decide when and how to draw down the assets they hold inside their Roth IRAs, although IRS penalties or distribution requirements may apply. This chapter first briefly reviews the distribution, or withdrawal, rules governing Roth IRAs. It then analyzes the withdrawal activity of Roth IRA investors, primarily focusing on variation in withdrawal activity in 2016 by investor age and size of Roth IRA balance.

The main distribution rules governing access to Roth IRAs involve whether five years have elapsed since the tax year of the first contribution to the Roth IRA and the investor's age.⁶⁵ For investors younger than 59½, distributions from Roth IRAs may be subject to a 10 percent penalty. However, as with traditional IRAs, there are some exceptions to the penalty, including distributions for the purchase of a first home (up to \$10,000) or certain qualified higher-education expenses.⁶⁶ Unlike traditional IRAs, income tax typically is not due on qualified Roth IRA distributions and there are no RMDs for the original Roth IRA investor. However, inherited Roth IRAs must be distributed pursuant to RMD rules.⁶⁷

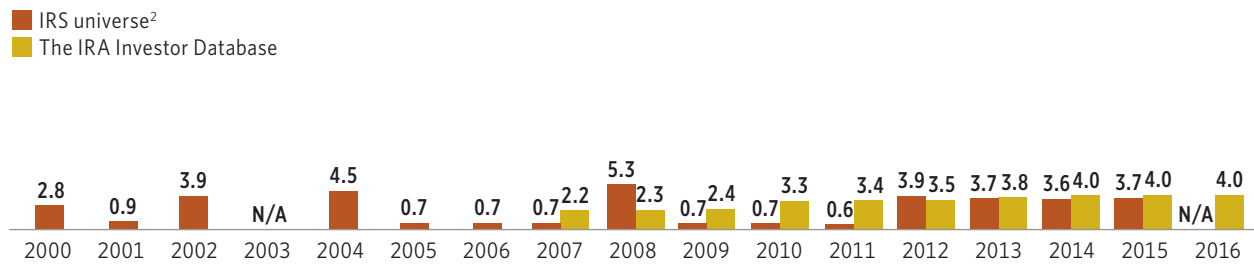
Roth IRA Withdrawal Activity

Very few Roth IRA investors take withdrawals from their Roth IRAs in any given year. Nevertheless, the percentage of Roth IRA investors taking distributions from their Roth IRAs in any given year has risen somewhat in the wake of the financial crisis. Analysis of Roth IRA investors in The IRA Investor Database in 2007, 2008, and 2009 shows that nearly 2.5 percent of Roth IRA investors had distributions in each of those years (Figure 4.1). The percentage taking distributions edged up to 3.3 percent in 2010, 3.4 percent in 2011, 3.5 percent in 2012, 3.8 percent in 2013 to 4.0 percent in 2014, 2015, and 2016.

FIGURE 4.1

Withdrawal Activity of Roth IRA Investors

Percentage of Roth IRA investors with withdrawals,¹ 2000-2016



¹ The figure reports the percentage of Roth IRA investors aged 18 or older at year-end who had withdrawals from their Roth IRAs in the tax year indicated.

² In the IRS universe, data are for Roth IRA investors of all ages.

N/A = not available

Sources: The IRA Investor Database™ and Internal Revenue Service Statistics of Income Division

Roth IRA Withdrawal Activity in 2016 by Investor Age

Not only do few Roth IRA investors take withdrawals in any given year, but withdrawal activity varies little across investor age. In The IRA Investor Database, only 4.0 percent of Roth IRA investors took withdrawals from their Roth IRAs in 2016, and withdrawal activity ranges from 2.4 percent of Roth IRA investors aged 18 to 24 to 6.0 percent of Roth IRA investors aged 75 or older (Figure 4.2). Withdrawal activity does not vary much between Roth IRA investors facing the age-related penalty (those younger than 59½) and those older. On average, 3.4 percent of Roth IRA investors younger than 60 took withdrawals, compared with 6.0 percent of Roth IRA investors aged 60 or older. Withdrawal activity of the oldest Roth IRA investors varied little from the others, as RMDs generally do not apply (unless the Roth IRAs are inherited).

FIGURE 4.2

Withdrawal Activity of Roth IRA Investors in 2016 by Investor Age*Number of Roth IRA investors and Roth IRA investors with withdrawals¹ by age, 2016*

Age	Roth IRA investors		Roth IRA investors with withdrawals ¹		Memo: percentage of Roth IRA investors who had withdrawals ¹
	Number Thousands	Share ² Percent	Number Thousands	Share ² Percent	
18 to 24	189.9	3.2%	4.5	1.9%	2.4%
25 to 29	419.5	7.1	12.8	5.4	3.1
30 to 34	591.8	10.0	19.5	8.2	3.3
35 to 39	642.3	10.9	21.2	8.9	3.3
40 to 44	609.6	10.3	20.3	8.5	3.3
45 to 49	646.8	10.9	22.9	9.5	3.5
50 to 54	638.5	10.8	23.3	9.7	3.7
55 to 59	646.1	10.9	23.4	9.8	3.6
60 to 64	575.8	9.7	33.6	14.0	5.8
65 to 69	454.6	7.7	28.0	11.7	6.2
70 to 74	284.2	4.8	16.7	7.0	5.9
75 or older	220.8	3.7	13.3	5.6	6.0
All	5,920.0	100.0	239.5	100.0	4.0
Memo:					
25 to 59	4,194.7	73.2	143.4	61.0	3.4
60 to 69	1,030.3	18.0	61.6	26.2	6.0
70 or older	505.0	8.8	30.0	12.8	5.9
25 or older	5,730.1	100.0	235.0	100.0	4.1

¹ This group is Roth IRA investors aged 18 or older who had withdrawals from their Roth IRAs in tax year 2016.

² Share is the percentage of the total.

Note: Withdrawals resulting from excess contributions generally are excluded. Components may not add to the total because of rounding.

Source: The IRA Investor Database™

Roth IRA Withdrawal Amounts in 2016 by Investor Age

Roth IRA withdrawal amounts tend to be higher among older Roth IRA investors (Figure 4.3). In 2016, the median distribution among Roth IRA investors aged 18 to 24 with withdrawals was \$1,000, for those 25 to 29 it was \$2,000. The median withdrawal among Roth IRA investors aged 30 to 59 was less than \$3,000, while those aged 60 or older typically took more than \$4,000 in withdrawals. The average Roth IRA withdrawal amounts increased with investor age, rising from \$2,526 among the youngest Roth IRA investors to \$15,397 among the oldest.

FIGURE 4.3

Roth IRA Withdrawals in 2016 by Investor Age

Number and amount of withdrawals¹ from Roth IRAs by age, 2016

Age	Roth IRA investors with withdrawals ¹		Roth IRA withdrawals ¹		Roth IRA withdrawal amount	
	Number Thousands	Share ² Percent	Amount Millions	Share ² Percent	Median	Mean
18 to 24	4.5	1.9%	\$11.4	0.6%	\$1,000	\$2,526
25 to 29	12.8	5.4	48.9	2.5	2,000	3,814
30 to 34	19.5	8.2	104.8	5.4	2,686	5,361
35 to 39	21.2	8.9	127.3	6.5	2,900	6,004
40 to 44	20.3	8.5	127.7	6.5	2,700	6,298
45 to 49	22.9	9.5	155.5	7.9	2,772	6,801
50 to 54	23.3	9.7	160.9	8.2	2,714	6,899
55 to 59	23.4	9.8	175.5	9.0	2,800	7,500
60 to 64	33.6	14.0	349.0	17.8	5,000	10,401
65 to 69	28.0	11.7	296.1	15.1	4,500	10,570
70 to 75	16.7	7.0	194.9	10.0	4,200	11,695
75 or older	13.3	5.6	204.7	10.5	5,000	15,397
All	239.5	100.0	1,956.8	100.0	3,150	8,171

¹ This group is Roth IRA investors aged 18 or older who had withdrawals from their Roth IRAs in tax year 2016.

² Share is the percentage of the total.

Note: Withdrawals resulting from excess contributions generally are excluded. Components may not add to the total because of rounding.

Source: The IRA Investor Database™

Roth IRA Withdrawal Activity in 2016 by Age and Account Balance

In the IRA Investor Database for 2016, there are 5.4 million Roth IRA investors aged 19 or older who also had Roth IRAs at the same financial services firm in the 2015 database. The tracking of the same individual IRA investors over time makes it possible to analyze the size of Roth IRA withdrawals in relation to year-end 2015 Roth IRA balances. Few Roth IRA investors take withdrawals in any given year, and withdrawal activity varies little across investor age and account size (Figure 4.4). In The IRA Investor Database, only 4.2 percent of Roth IRA investors aged 19 or older who also had Roth IRAs at the same financial services firm in the 2015 database took withdrawals from their Roth IRAs in 2016. Withdrawal activity among Roth IRA investors tends to be low because RMDs generally do not apply (unless the Roth IRAs are inherited).

FIGURE 4.4

Roth IRA Withdrawal Activity in 2016 by Investor Age and Account Size

Percentage of Roth IRA investors with account balances in both 2015 and 2016 who took a withdrawal in 2016 by age and account balance

Age	Size of Roth IRA balance at year-end 2015							
	Less than \$5,000	\$5,000 to <\$10,000	\$10,000 to <\$20,000	\$20,000 to <\$30,000	\$30,000 to <\$40,000	\$40,000 to <\$70,000	\$70,000 to <\$100,000	\$100,000 or more
19 to 24	2.4	2.3	3.0	4.5	5.4	6.2	6.4	14.9
25 to 29	3.7	3.0	2.8	2.8	2.6	2.5	3.5	9.2
30 to 34	4.1	3.4	3.3	3.0	2.7	2.3	2.0	4.5
35 to 39	4.2	3.6	3.2	3.0	2.8	2.4	2.0	2.4
40 to 44	4.4	3.5	3.2	3.0	2.7	2.5	2.0	2.4
45 to 49	4.5	3.6	3.4	3.4	3.3	2.8	2.4	3.0
50 to 54	4.4	3.7	3.7	3.5	3.4	3.2	2.8	3.3
55 to 59	4.2	3.6	3.6	3.7	3.5	3.3	3.0	3.8
60 to 64	5.3	5.1	6.1	6.5	6.4	6.5	5.7	6.7
65 to 69	5.1	5.2	6.4	6.9	6.9	6.7	6.4	7.2
70 to 74	4.5	4.8	5.7	6.3	6.4	6.2	6.3	7.6
75 or older	4.1	4.3	5.1	5.8	5.9	6.4	6.9	8.7

Note: The sample is 5.4 million Roth IRA investors aged 19 or older in 2016 with Roth IRA balances in both 2015 and 2016. Age is based on the age of the Roth IRA investor in 2016. Account balance is based on the account balance of the Roth IRA investor in 2015.

Source: The IRA Investor Database™

Overall, the median percentage of the account balance withdrawn in 2016 decreases with the size of the Roth IRA balance (Figure 4.5). Among Roth IRA investors aged 19 or older with withdrawals in 2016 who also had Roth IRAs at the same financial services firm in the 2015, a median of 23.9 percent of the account balance was withdrawn. The withdrawal ratio is higher for accounts with less than \$5,000 and decreases as the size of the account balance increases. The impact of the rules surrounding inherited IRAs can also be seen in the amounts that Roth IRA investors withdraw. Younger Roth IRA investors with withdrawals in 2016 most likely reflect inherited Roth IRAs, which are subject to the RMD rules. For example, Roth IRA investors aged 25 to 29 with withdrawals in 2016 withdrew a median of 1.6 percent of their prior year's account balance for those with account balances of \$100,000 or more (Figure 4.5). This is significant, because IRS rules require investors aged 25 to 29 with inherited Roth IRAs to withdraw a minimum of 1.7 percent to 1.8 percent (depending on age) of the prior year's account balance.⁶⁸ Similarly, the IRS requires individuals aged 30 to 34 to withdraw a minimum of 1.9 percent to 2.0 percent of the prior year's balance, which corresponds to the median percentage withdrawn of 1.8 percent for Roth IRA investors aged 30 to 34 in 2016 with account balances of \$100,000 or more.

FIGURE 4.5

Median Withdrawal Ratio by Roth IRA Investor Age and Account Size

Median percentage of year-end 2015 account balance withdrawn among Roth IRA investors with account balances in both 2015 and 2016 and withdrawals in 2016 by age and account balance

Age	Size of Roth IRA balance at year-end 2015							
	Less than \$5,000	\$5,000 to <\$10,000	\$10,000 to <\$20,000	\$20,000 to <\$30,000	\$30,000 to <\$40,000	\$40,000 to <\$70,000	\$70,000 to <\$100,000	\$100,000 or more
19 to 24	48.8	29.8	19.3	16.8	5.6	4.2	1.5	1.5
25 to 29	57.8	42.7	33.4	26.3	15.5	9.2	1.6	1.6
30 to 34	58.0	44.1	38.0	29.1	22.1	17.0	6.6	1.8
35 to 39	58.2	41.9	34.8	28.2	22.3	18.1	11.2	2.0
40 to 44	56.7	37.6	32.7	24.4	22.4	16.3	11.9	3.0
45 to 49	52.9	33.5	29.4	22.4	19.8	14.8	10.2	4.0
50 to 54	50.8	28.7	26.4	20.7	18.9	12.7	9.3	3.0
55 to 59	45.7	25.4	24.3	18.3	14.7	12.5	7.5	3.6
60 to 64	49.7	34.1	29.0	21.7	19.3	15.1	10.9	5.8
65 to 69	46.2	29.0	24.0	18.3	14.8	11.6	8.8	5.4
70 to 74	39.9	23.4	18.6	15.1	12.1	9.5	7.5	5.7
75 or older	29.1	21.0	16.9	13.9	13.7	10.4	9.1	5.8

Note: The sample is 0.2 million Roth IRA investors aged 19 or older who took a withdrawal in 2016 and had an account balance at both year-end 2015 and year-end 2016. Age is based on the age of the Roth IRA investor in 2016. Account balance is based on the account balance of the Roth IRA investor in 2015.

Source: The IRA Investor Database™

CHAPTER 5

Roth IRA Investors' Balances at Year-End 2016

The amounts accumulated in Roth IRAs depend on contributions, conversions, rollovers, withdrawals, and investment returns, which are based on how the assets are allocated. Contribution, conversion, rollover, and withdrawal activity in Roth IRAs is governed by Internal Revenue Code regulations. Roth IRA investors have access to a wide range of investment options available in the retail financial services market.⁶⁹ This chapter analyzes the variation in Roth IRA balances in 2016 by investor age.

Roth IRA Balances in 2016 by Investor Age

Older investors tend to have larger Roth IRA balances. The median Roth IRA balance was \$14,190 at year-end 2016, but the amount invested varied widely across investors (Figure 5.1).⁷⁰ Roth IRA balances tend to increase with investor age. The median Roth IRA balance for investors aged 18 to 24 was \$3,900, compared with \$31,090 for investors aged 75 or older.

Roth IRA balances varied even among Roth IRA investors of similar ages, as evidenced by the difference between the 25th percentile, median (50th percentile), and 75th percentile for individual age groups. For example, among Roth IRA investors aged 60 to 64, the median balance was \$20,060 at year-end 2016, but the 25th percentile balance was \$7,210, and the 75th percentile balance was \$53,370 (Figure 5.1). This range reflects the variety of histories for these IRA investors, which are affected by variation in factors such as timing and patterns of contribution, conversion, and rollover activity; asset allocations; withdrawals; and lengths of time investing in Roth IRAs.⁷¹

FIGURE 5.1

Roth IRA Balances in 2016 Tended to Increase with Investor Age

25th percentile, median, and 75th percentile account balances among Roth IRA investors by age; year-end 2016

Age	25th percentile	Median	75th percentile
18 to 24	\$1,480	\$3,900	\$8,370
25 to 29	\$2,570	\$6,280	\$15,390
30 to 34	\$3,830	\$10,160	\$24,050
35 to 39	\$4,700	\$12,410	\$31,450
40 to 44	\$5,120	\$13,830	\$35,540
45 to 49	\$5,400	\$14,720	\$38,740
50 to 54	\$5,860	\$15,750	\$42,200
55 to 59	\$6,500	\$17,240	\$46,270
60 to 64	\$7,210	\$20,060	\$53,370
65 to 69	\$8,450	\$24,370	\$63,660
70 to 74	\$9,560	\$26,940	\$69,600
75 or older	\$10,850	\$31,090	\$84,470
All	\$5,310	\$14,190	\$38,580

Note: The sample is 5.9 million Roth IRA investors aged 18 or older at year-end 2016.

Source: The IRA Investor Database™

Distribution of Roth IRA Balances by Size in 2016

Perhaps reflecting their limited history (Roth IRAs were first available in 1998) and the restrictions placed on Roth IRAs (e.g., income restrictions on contributions, income restrictions on conversions until 2010, restrictions on rollovers), Roth IRA balances tend to be small.⁷² At year-end 2016, 23.7 percent of Roth IRA balances in The IRA Investor Database were less than \$5,000, and another 16.9 percent were between \$5,000 and \$10,000 (Figure 5.2). However, there is a wide distribution of the Roth IRA balances; for example, 7.4 percent of Roth IRA investors had account balances of \$100,000 or more. Some of the variation in Roth IRA balances is explained by differences in contribution, conversion, and rollover activity; differing withdrawal activity and asset allocations also contribute to the variation.

The range of Roth IRA balances is most pronounced by investor age. Younger Roth IRA investors were more likely than older Roth IRA investors to have small balances in 2016. For example, although 56.4 percent of Roth IRA investors aged 18 to 24 had balances of less than \$5,000, that percentage fell for each successive age group, reaching a minimum of 11.1 percent of Roth IRA investors aged 75 or older (Figure 5.2). At the other extreme, while a negligible number of younger Roth IRA investors had balances of \$100,000 or more, this percentage rose with age, and 21.4 percent of Roth IRA investors aged 75 or older had such large balances.

FIGURE 5.2

Roth IRA Balances by Investor Age

Percentage of Roth IRA investors by age, year-end 2016

Age	Size of Roth IRA balance at year-end 2016								
	Less than \$5,000	\$5,000 to <\$10,000	\$10,000 to <\$20,000	\$20,000 to <\$30,000	\$30,000 to <\$40,000	\$40,000 to <\$70,000	\$70,000 to <\$100,000	\$100,000 to <\$200,000	\$200,000 or more
18 to 24	56.4	22.1	14.6	3.5	1.3	1.4	0.5	0.2	(*)
25 to 29	39.2	22.2	21.2	8.1	4.1	4.0	0.9	0.3	(*)
30 to 34	29.9	19.7	20.8	10.1	6.3	8.9	3.1	1.2	0.1
35 to 39	26.1	17.5	19.6	10.6	7.0	11.2	4.9	2.8	0.3
40 to 44	24.4	16.8	18.8	10.7	7.2	11.8	5.5	4.3	0.6
45 to 49	23.2	16.4	18.6	10.5	7.1	12.0	5.9	5.4	1.0
50 to 54	21.5	16.5	18.1	10.6	7.0	12.1	6.3	6.3	1.6
55 to 59	19.3	16.4	18.0	10.7	7.1	12.4	6.6	7.2	2.2
60 to 64	16.8	15.5	17.6	10.7	7.3	13.3	7.2	8.5	3.1
65 to 69	14.5	14.0	16.5	10.5	7.6	14.3	8.1	9.8	4.7
70 to 74	12.8	13.1	16.5	10.4	7.7	14.6	8.1	10.1	6.6
75 or older	11.1	12.2	15.6	10.2	7.4	14.2	7.9	11.3	10.1
All	23.7	16.9	18.4	10.1	6.7	11.2	5.5	5.4	2.0

Note: The sample is 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Row percentages may not add to 100 percent because of rounding.

(*) = less than 0.05 percent

Source: The IRA Investor Database™

CHAPTER 6

Snapshots of Investments in Roth IRAs at Year-End 2007 and Year-End 2016

IRA investors allocate their IRA assets to individual securities (e.g., stocks and bonds), mutual funds, ETFs, closed-end funds, annuities, deposits, and other investments.⁷³ This chapter analyzes the average dollar-weighted asset allocation of Roth IRA balances at year-end 2016 by investor age. Snapshots of Roth IRA asset allocations at year-end 2016 are compared with the asset allocation at year-end 2007. In addition, snapshots of individual Roth IRA investors' concentrations in equity holdings—that is, the percentage of individual Roth IRA balances invested in equities, equity funds, and the equity portion of balanced funds—between year-end 2007 and year-end 2016 also are compared.

On average, equities and equity funds represent the largest investment category among Roth IRA investors. At year-end 2016, on average, equities and equity funds were 65.3 percent of Roth IRA assets held by individuals aged 18 or older (Figure 6.1). Balanced, or hybrid, funds—which invest in a mix of equities and fixed-income securities and include target date funds⁷⁴—were the next largest component, accounting for 18.9 percent of Roth IRA assets. At year-end 2016, 7.1 percent of Roth IRA assets were held in bonds and bond funds, and 6.7 percent of Roth IRA assets were invested in money market funds.

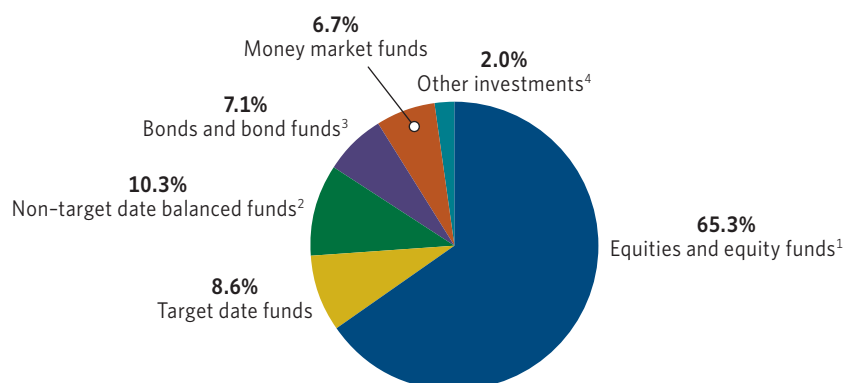
Investments in Roth IRAs in 2016 by Investor Age

Equities and equity funds were the largest component of Roth IRA investors' accounts, on average, representing 65.3 percent of Roth IRA assets at year-end 2016 (Figure 6.2). Investors also may hold equities through balanced funds; at year-end 2016, more than three-quarters (77.8 percent) of Roth IRA assets were invested in equity holdings (equities, equity funds, and the equity portion of balanced funds). As expected by financial theory and other research, older investors tended to have lower shares in equity holdings. Roth IRA investors younger than 50 had about 83 percent of their assets invested in equity holdings, on average. The share invested in equity holdings generally declined through the age groups, with those aged 45 to 49 having 82.3 percent of their assets invested in equity holdings and those aged 75 or older having 74.3 percent of their assets invested in equity holdings.

FIGURE 6.1

Equity Holdings Figure Prominently in Roth IRA Investments

Percentage of Roth IRA balances, year-end 2016



¹ Equity funds include equity mutual funds, equity closed-end funds, and equity ETFs.

² Balanced funds invest in a mix of equities and fixed-income securities.

³ Bond funds include bond mutual funds, bond closed-end funds, and bond ETFs.

⁴ Other investments include certificates of deposit and unidentifiable assets.

Note: The sample is 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Percentages are dollar-weighted averages.

Source: The IRA Investor Database™

Younger Roth IRA investors tended to have more of their assets invested in target date funds, compared with older Roth IRA investors. At year-end 2016, 20.1 percent of the Roth IRA assets held by investors aged 18 to 24 were invested in target date funds, on average, and 23.4 percent of the assets held by those aged 25 to 29 were invested in target date funds (Figure 6.2). The share of target date funds then fell by age to 1.2 percent among Roth IRA investors aged 75 or older. This pattern of target date fund use was expected because target date funds are relatively new investment products and younger investors are more likely to have been introduced to them if they recently opened their IRAs, or in their 401(k) plans.⁷⁵

At year-end 2016, target date funds were 8.6 percent of Roth IRA assets and 15.2 percent of Roth IRA investors in The IRA Investor Database owned target date funds.⁷⁶ Among Roth IRA investors who owned target date funds, nearly all owned one target date fund, and the bulk of the remainder owned two (Figure 6.3). At year-end 2016, 96.1 percent of Roth IRA investors aged 18 or older who owned target date funds owned one, and another 3.4 percent owned two target date funds. Only 0.5 percent of Roth IRA investors holding target date funds owned three or more.

FIGURE 6.2

Investments in Roth IRAs by Investor Age

Percentage of Roth IRA balance by investor age, year-end 2016

Age	Equities and equity funds ¹	Balanced funds ²				Bonds and bond funds ³	Money market funds	Other investments ⁴	Memo: equity holdings ⁵
		Equity portion		Non-equity portion					
		Target date	Non-target date	Target date	Non-target date				
18 to 24	59.2	17.5	5.9	2.6	4.1	1.7	4.8	4.3	82.6
25 to 29	57.2	20.4	5.3	3.0	3.7	2.1	4.9	3.4	82.9
30 to 34	59.8	19.6	4.8	2.9	3.3	2.8	4.7	2.2	84.2
35 to 39	63.4	16.2	4.8	2.5	3.3	3.3	5.0	1.6	84.4
40 to 44	67.3	11.5	4.8	2.2	3.4	3.8	5.4	1.7	83.6
45 to 49	68.9	8.3	5.1	2.2	3.6	4.4	5.9	1.6	82.3
50 to 54	68.2	6.1	5.7	2.5	4.0	5.3	6.4	1.8	80.0
55 to 59	65.2	4.6	6.7	2.8	4.6	6.9	7.1	2.1	76.5
60 to 64	63.0	3.2	7.3	2.7	5.1	8.9	7.6	2.3	73.5
65 to 69	63.5	1.8	7.4	2.1	5.1	10.1	7.8	2.3	72.7
70 to 74	66.1	0.9	6.6	1.3	4.5	10.6	7.9	2.1	73.6
75 or older	67.8	0.4	6.1	0.8	4.2	11.2	7.7	1.8	74.3
All	65.3	6.4	6.1	2.2	4.2	7.1	6.7	2.0	77.8

¹ Equity funds include equity mutual funds, equity closed-end funds, and equity ETFs.

² Balanced funds invest in a mix of equities and fixed-income securities. The bulk of target date and lifestyle funds is counted in this category.

³ Bond funds include bond mutual funds, bond closed-end funds, and bond ETFs.

⁴ Other investments include certificate of deposits and unidentifiable assets.

⁵ Equity holdings are the sum of equities and equity funds and the equity portion of target date and non-target date balanced funds.

Note: The sample is 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Percentages are dollar-weighted averages. Row percentages may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

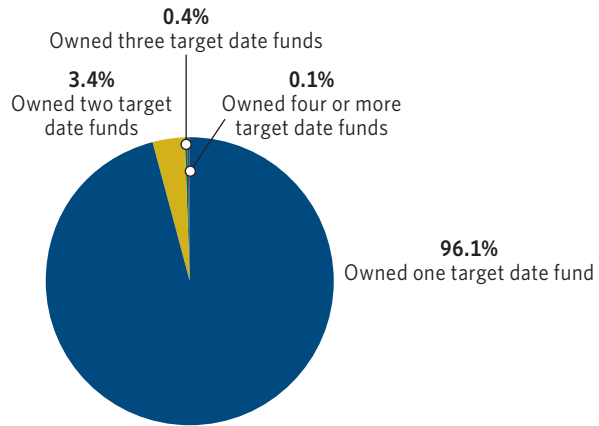
Older Roth IRA investors had higher allocations to bonds and bond funds in their Roth IRAs than younger investors, which follows the typical age-based pattern of bond investing seen in other research.⁷⁷ At year-end 2016, 1.7 percent of the Roth IRA assets held by investors aged 18 to 24 were invested in bonds and bond funds, compared with 11.2 percent of the assets held by those aged 75 or older (Figure 6.2).

Money market fund allocations in Roth IRAs generally followed a rising pattern by age (Figure 6.2). At year-end 2016, Roth IRA investors younger than 40 had about 5 percent of their Roth IRA assets invested in money market funds. Roth IRA investors in their fifties had about 7 percent of their Roth IRA assets invested in money market funds, and those aged 70 or older had nearly 8 percent in money market funds.

FIGURE 6.3

Number of Target Date Funds Owned by Roth IRA Investors in 2016

Among Roth IRA investors owning target date funds,* percentage of Roth IRA investors by number of target date funds owned; year-end 2016



* A target date fund typically rebalances its portfolio to become less focused on growth and more focused on income as it approaches and passes the target date of the fund, which is usually included in the fund's name.

Note: The sample is 0.9 million Roth IRA investors aged 18 or older who owned target date funds at year-end 2016.

Source: The IRA Investor Database™

Snapshots of Allocation to Equity Holdings Between 2007 and 2016

Since 2007, the percentage of Roth IRA balances invested in equity holdings (equities, equity funds, and the equity portion of balanced funds) has declined a bit. At year-end 2007, 80.6 percent of Roth IRA balances held by investors aged 18 or older was invested, on average, in equity holdings (Figure 6.4). By year-end 2016, that share had edged down to 77.8 percent. This decline occurred in the category of equities and equity funds, while the share of Roth IRA balances allocated to the equity portion of target date funds and non-target date balanced funds edged up from 10.3 percent at year-end 2007 to 12.5 percent at year-end 2016. This analysis looks at dollar-weighted averages, and some of the change reflects the relative performance of equity holdings over time.

In addition to observing how Roth IRA balances are invested in aggregate, another way to explore the changes in allocation to equity holdings is to look at the distribution of shares in equity holdings held by individual investors. Looking at the data this way shows that, while the share of balances invested in equity holdings has edged down, this is partly a move toward more-diversified portfolios. For example, at year-end 2007, 66.4 percent of Roth IRA investors had more than 80 percent of their balances invested in equity holdings, compared with 61.7 percent of Roth IRA investors at year-end 2016 (Figure 6.5). Some of this decline was balanced by an increase in more moderate allocations to equity holdings. At year-end 2007, 24.0 percent of Roth IRA investors had some equity holdings, but allocated no more than 80 percent of their account balances to equity holdings. That share rose to 27.6 percent by year-end 2016. The share of Roth IRA investors with no equity holdings only increased a bit, from 9.6 percent at year-end 2007 to 10.6 percent at year-end 2016.

FIGURE 6.4

Share of Roth IRA Balances Allocated to Equity Holdings Has Declined Slightly Since 2007

Percentage of Roth IRA balance by investor age, year-end 2007 and year-end 2016

Age	2007				2016			
	Equities and equity funds ¹	Equity portion of target date funds	Equity portion of non-target date balanced funds ²	Total	Equities and equity funds ¹	Equity portion of target date funds	Equity portion of non-target date balanced funds ²	Total
18 to 24	63.6	13.4	6.7	83.7	59.2	17.5	5.9	82.6
25 to 29	66.0	14.5	5.2	85.7	57.2	20.4	5.3	82.9
30 to 39	73.2	8.3	5.0	86.6	61.9	17.6	4.8	84.3
40 to 49	73.8	4.6	5.7	84.2	68.2	9.7	5.0	82.9
50 to 59	69.1	2.9	7.0	79.0	66.6	5.3	6.2	78.1
60 to 69	68.4	1.1	6.5	76.0	63.3	2.5	7.3	73.1
70 or older	67.9	0.2	5.8	73.9	66.9	0.6	6.3	73.9
All	70.4	4.2	6.1	80.6	65.3	6.4	6.1	77.8

¹ Equity funds include equity mutual funds, equity closed-end funds, and equity ETFs.

² Balanced funds invest in a mix of equities and fixed-income securities.

Note: The samples are 3.1 million Roth IRA investors aged 18 or older at year-end 2007 and 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Percentages are dollar-weighted averages. Percentages may not add to the total because of rounding.

Source: The IRA Investor Database™

FIGURE 6.5

Investor Exposure to Equity Holdings Has Declined Slightly Among Roth IRA Investors Between 2007 and 2016

Percentage of Roth IRA investors by age, year-end 2007 and year-end 2016

Age	Percentage of account balance invested in equity holdings						
	2007						
	Zero	>0% to 20%	>20% to 40%	>40% to 60%	>60% to 80%	>80% to <100%	100%
18 to 24	10.5	0.3	0.9	2.0	16.6	27.0	42.6
25 to 29	9.3	0.5	1.1	2.4	13.0	30.5	43.3
30 to 39	8.2	0.6	1.2	2.4	12.5	25.0	50.1
40 to 49	8.7	0.8	1.5	2.7	20.8	13.8	51.6
50 to 59	10.4	1.1	2.1	5.9	20.2	13.3	47.0
60 to 69	11.7	1.3	2.6	7.0	17.5	13.2	46.6
70 or older	12.7	1.8	4.0	4.5	16.7	13.8	46.6
All	9.6	0.9	1.8	4.0	17.3	18.1	48.3

Age	2016						
	Zero	>0% to 20%	>20% to 40%	>40% to 60%	>60% to 80%	>80% to <100%	100%
	18 to 24	11.9	0.8	1.2	9.7	4.6	34.5
25 to 29	11.5	1.0	1.4	9.9	6.0	36.8	33.5
30 to 39	9.7	0.9	1.4	9.4	7.1	35.9	35.5
40 to 49	9.8	1.0	1.6	9.9	9.0	28.6	40.0
50 to 59	10.5	1.3	2.1	13.8	17.0	17.0	38.1
60 to 69	11.6	1.8	3.4	22.7	11.4	16.0	33.2
70 or older	11.7	1.9	5.8	17.5	10.7	16.2	36.1
All	10.6	1.2	2.3	13.5	10.6	25.1	36.6

Note: The samples are 3.1 million Roth IRA investors aged 18 or older at year-end 2007 and 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Equity holdings are the sum of equities, equity funds, and the equity portion of balanced funds. Row percentages may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Appendix

Role of IRAs in US Household Balance Sheets

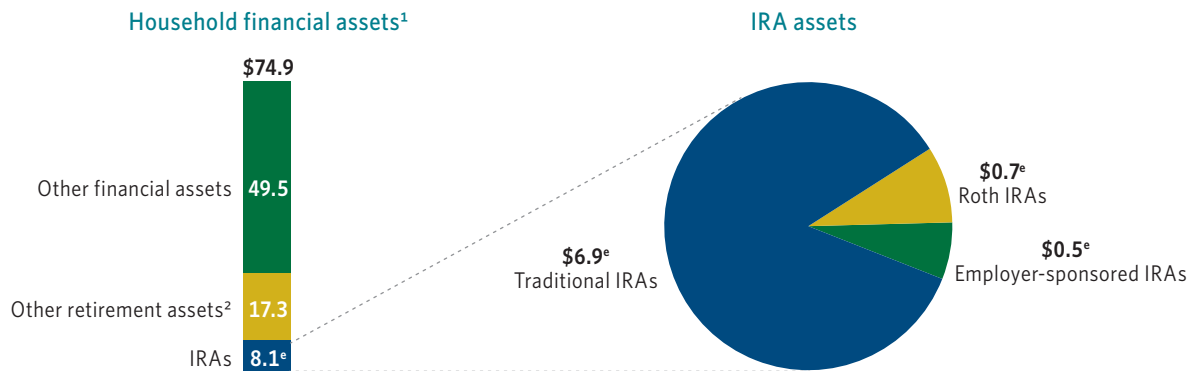
Traditional IRAs, the first type of IRA, were created under the Employee Retirement Income Security Act of 1974 (ERISA).⁷⁸ IRAs provide all workers with a contributory retirement savings vehicle and, through rollovers, give workers leaving jobs a means to preserve the tax benefits and growth opportunities that employer-sponsored retirement plans provide. Policymakers have since changed the rules governing traditional IRAs and have added more types of IRAs—employer-sponsored IRAs (SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs) and after-tax IRAs (Roth IRAs).

Households held \$8.1 trillion in IRAs at year-end 2016 (Figure A.1). IRAs accounted for about 10 percent of US households' total financial assets. At year-end 2016, assets in traditional IRAs (the most common type of IRA) were \$6.9 trillion, or 85 percent of all IRA assets. At year-end 2016, Roth IRA assets were \$690 billion and accounted for 9 percent of all IRA assets. Assets in employer-sponsored IRAs were \$490 billion and were 6 percent of all IRA assets at year-end 2016.

FIGURE A.1

Role of IRAs in US Household Balance Sheets

Trillions of dollars, year-end 2016



¹ Household financial assets include deposits, fixed-income securities, stocks, retirement savings, mutual funds, equity in noncorporate business, and other financial assets. Financial assets of nonprofit organizations are also included. Household financial assets do not include the household's primary residence.

² Other retirement assets include annuities and employer-sponsored defined benefit and defined contribution plans.

³ Employer-sponsored IRAs include SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs.

^e Data are estimated.

Sources: Investment Company Institute and Federal Reserve Board; see Investment Company Institute 2018

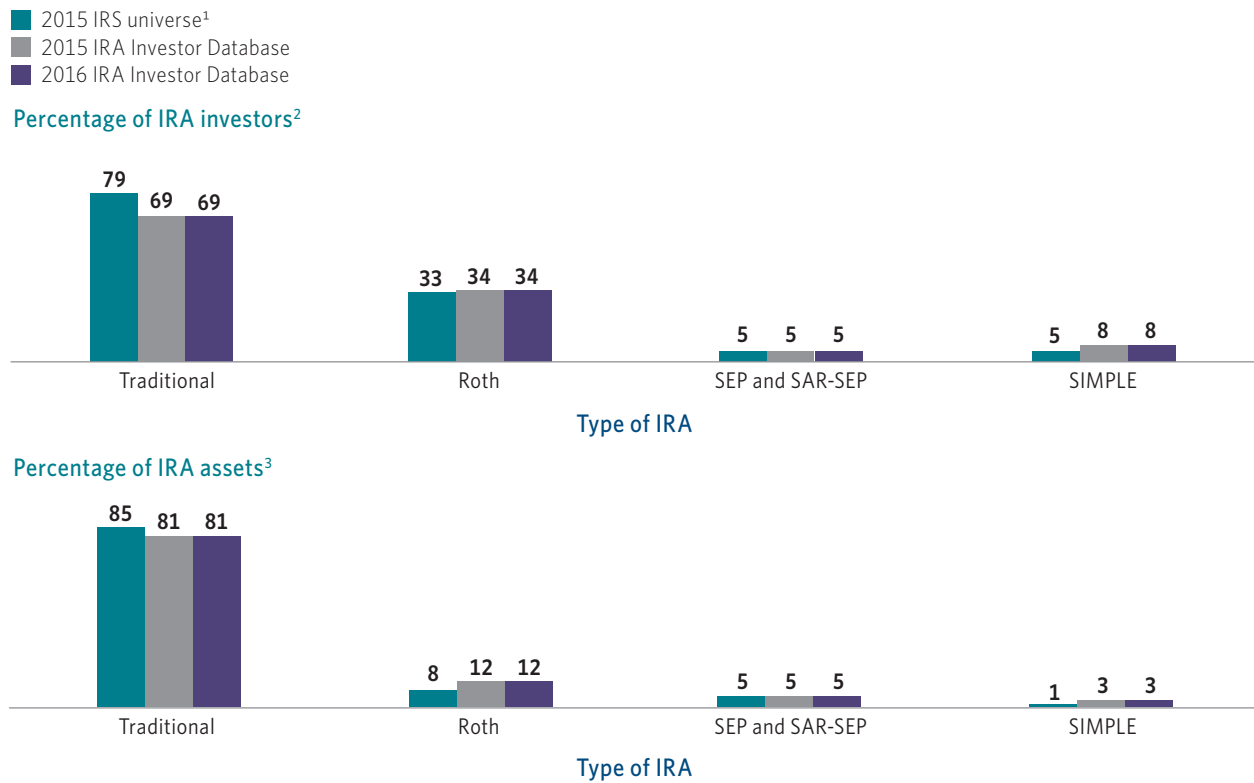
The IRA Investor Database Contains a Comprehensive Cross Section of IRA Investors

The IRA Investor Database contains a comprehensive and representative sample of IRA investors, which provides important insights into many IRA investor activities. The bulk (69 percent) of the IRA investors in the database held traditional IRAs and 81 percent of all IRA assets were in traditional IRAs at year-end 2016 (Figure A.2). Nearly 6 million Roth IRA investors (34 percent of IRA investors) held 12 percent of all IRA assets in the database. Employer-sponsored IRAs (SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs) represented the remainder. The distribution of IRA investors and IRA assets by type of IRA in the database is similar to the universe of IRAs tabulated by the IRS Statistics of Income Division for earlier years.⁷⁹

FIGURE A.2

The IRA Investor Database Covers All IRA Types

Distribution of IRA investors and assets, percentage of total, year-end 2015 and year-end 2016



¹ In the IRS universe, data are for IRA investors of all ages.

² These percentages add to more than 100 percent because investors may own more than one type of IRA.

³ These percentages do not add to 100 percent because of rounding.

Note: The 2015 IRS universe includes 58.4 million IRA investors with \$7,477 billion in assets at year-end 2015. The 2015 IRA Investor Database includes 16.9 million IRA investors with \$1,591 billion in assets at year-end 2015. The 2016 IRA Investor Database includes 17.6 million IRA investors with \$1,754 billion in assets at year-end 2016.

Sources: The IRA Investor Database™ and Internal Revenue Service Statistics of Income Division

The IRA Investor Database contains investors from a wide range of ages (Figure A.3). The analysis of Roth IRA activity in this report focuses on all Roth IRA investors across both the working-age and retired populations—aged 18 or older. The bulk of investors who own Roth IRAs in the database are in their peak earning and saving years. At year-end 2016, 64 percent of Roth IRA investors were between the ages of 30 and 59. Another 17 percent were aged 60 to 69, and the remaining 19 percent were aged 18 to 29 or aged 70 or older.

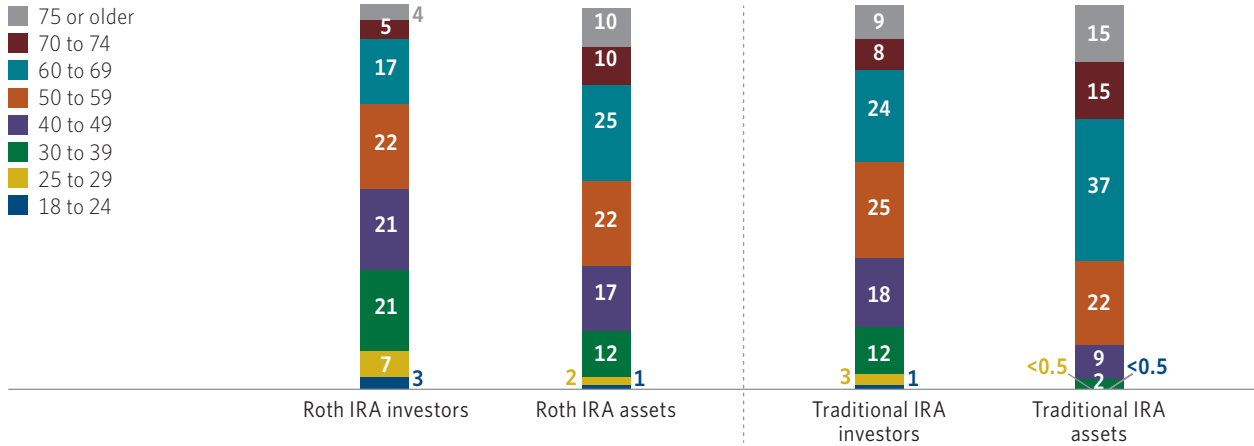
Roth IRA investors tend to be younger than traditional IRA investors. For example, at year-end 2016, 52 percent of Roth IRA investors were younger than 50, compared with 34 percent of traditional IRA investors (Figure A.3). Thirty-two percent of the assets in Roth IRAs were held by Roth IRA investors younger than 50, whereas about 11 percent of traditional IRA assets were held by traditional IRA investors younger than 50.

FIGURE A.3

IRA Investors Represent a Wide Cross Section of Age Groups

Percentage of total, year-end 2016

Age of IRA investor



Note: The sample is 5.9 million Roth IRA investors (aged 18 or older) holding \$212.7 billion in Roth IRA assets at year-end 2016 and 12.0 million traditional IRA investors (aged 18 or older) holding \$1,403 billion traditional IRA assets at year-end 2016. Components may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Contributions Often Were the Source of New Roth IRAs in 2016

Roth IRAs can be opened with contributions, conversions, or rollovers, but contributions tend to be the most common source for new Roth IRAs. In 2016, more than half (53.3 percent) of new Roth IRAs in The IRA Investor Database were opened with just a contribution (Figure A.4, upper panel). In 2016, 6.5 percent of new Roth IRAs were opened with just a conversion, 12.9 percent were opened with just a rollover, and another 3.9 percent were opened with some combination of a contribution, conversion, or a rollover. The remaining new Roth IRAs (23.5 percent) were transfers from one financial services firm to another and thus were unlikely to represent new Roth IRAs. If these transfer accounts are excluded, 69.6 percent of new Roth IRAs in 2016 were opened exclusively with contributions (Figure A.4, lower panel).

FIGURE A.4

Sources of New Roth IRAs in 2016 by Investor Age

Roth IRA activity of new Roth IRA investors,¹ 2016

Age	New Roth IRA investors ¹		Source of new account ^{1,2}				
	Number Thousands	Share ³ Percent	Only contribution	Only conversion	Only rollover	Combination of contribution, conversion, or rollover	Changed financial services firm ⁴
18 to 24	57.4	12.1%	79.9%	1.1%	4.2%	2.5%	12.4%
25 to 29	82.4	17.4	69.0	3.5	10.6	5.4	11.5
30 to 34	68.6	14.5	59.5	7.6	11.8	5.3	15.9
35 to 39	48.8	10.3	53.0	9.1	12.5	4.3	21.1
40 to 44	36.5	7.7	48.2	8.5	13.7	3.5	26.1
45 to 49	35.6	7.5	45.1	7.0	15.0	2.9	29.9
50 to 54	37.4	7.9	43.4	6.1	16.0	3.2	31.2
55 to 59	38.8	8.2	40.5	5.9	17.5	2.9	33.3
60 to 64	33.4	7.1	32.0	8.7	21.0	3.4	34.8
65 to 69	21.0	4.4	21.9	15.5	18.0	3.2	41.4
70 to 74	8.9	1.9	19.1	9.4	15.6	2.1	53.9
75 or older	5.1	1.1	10.8	9.8	7.9	0.9	70.7
All	474.0	100.0	53.3	6.5	12.9	3.9	23.5

Excluding Roth IRA investors who changed financial services firms⁴

18 to 24	50.3	10.6%	91.1	1.3	4.7	2.8
25 to 29	72.9	15.4	78.0	4.0	12.0	6.1
30 to 34	57.7	12.2	70.7	9.0	14.1	6.3
35 to 39	38.5	8.1	67.2	11.6	15.9	5.4
40 to 44	27.0	5.7	65.2	11.5	18.6	4.7
45 to 49	25.0	5.3	64.4	10.0	21.3	4.2
50 to 54	25.7	5.4	63.1	8.9	23.3	4.7
55 to 59	25.9	5.5	60.7	8.9	26.2	4.3
60 to 64	21.8	4.6	49.2	13.3	32.3	5.2
65 to 69	12.3	2.6	37.3	26.4	30.8	5.5
70 to 74	4.1	0.9	41.4	20.3	33.8	4.5
75 or older	1.5	0.3	36.7	33.4	26.9	2.9
All	362.7	76.5	69.6	8.5	16.8	5.0

¹ New Roth IRAs are accounts that did not exist in the IRA Investor Database in 2015.

² Row percentages may not add to 100 percent because of rounding.

³ Share is the percentage of the total.

⁴ These accounts are often asset transfers to a new provider and thus are unlikely to represent a new Roth IRA investor.

Source: The IRA Investor Database™

Exposure to Equity Holdings Among Roth IRA Investors by Account Size

Between 2007 and 2016, the share of Roth IRA balances with high concentrations in equity holdings decreased in Roth IRAs with balances of \$5,000 or less and in Roth IRAs with balances of more than \$5,000 (Figure A.5). Although the share of balances with high concentrations in equity holdings has decreased, this is partly a move toward more-diversified portfolios. For example, at year-end 2007, 65.8 percent of Roth IRA investors with Roth IRA balances of \$5,000 or less had more than 80 percent of their balances invested in equity holdings, compared with 56.8 percent at year-end 2016. For Roth IRA investors with Roth IRA balances of more than \$5,000, 68.9 percent had more than 80 percent of their balances invested in equity holdings at year-end 2007, compared with 63.3 percent at year-end 2016. Some of this decline was balanced by an increase in more moderate allocations to equity holdings for both groups of Roth IRA investors. At year-end 2007, 17.8 percent of Roth IRA investors with Roth IRA balances of \$5,000 or less had some equity holdings, but allocated no more than 80 percent of their account balances to equity holdings. That share rose to 19.8 percent by year-end 2016 for this group. For Roth IRA investors with Roth IRA balances of more than \$5,000, 24.6 percent had some equity holdings, but allocated no more than 80 percent of their account balances to equity holdings at year-end 2007. By year-end 2016, that share rose to 30.1 percent. The share of Roth IRA investors with no equity holdings increased slightly for Roth IRA investors with Roth IRA balances of \$5,000 or less between year-end 2007 and year-end 2016. For Roth IRA investors with Roth IRA balances of more than \$5,000, the share of Roth IRA investors with no equity holdings was about the same between year-end 2007 and year-end 2016.

FIGURE A.5

Exposure to Equity Holdings Among Roth IRA Investors by Account Size, 2007 and 2016*Percentage of Roth IRA investors by age, year-end 2007 and year-end 2016*

Equity holdings in all Roth IRAs								
Age		Zero	>0% to 20%	>20% to 40%	>40% to 60%	>60% to 80%	>80% to <100%	100%
18 to 24	2007	10.5	0.3	0.9	2.0	15.1	27.0	44.2
	2016	11.9	0.8	1.2	9.7	4.6	34.5	37.3
25 to 29	2007	9.2	0.5	1.1	2.4	11.5	30.4	44.9
	2016	11.5	1.0	1.4	9.9	6.0	36.8	33.5
30 to 39	2007	8.1	0.6	1.2	2.4	11.0	25.0	51.7
	2016	9.7	0.9	1.4	9.4	7.1	35.9	35.5
40 to 49	2007	8.7	0.8	1.5	2.7	19.2	13.8	53.2
	2016	9.8	1.0	1.6	9.9	9.0	28.7	40.0
50 to 59	2007	10.3	1.1	2.1	5.9	18.5	13.3	48.8
	2016	10.5	1.3	2.1	13.8	17.1	17.1	38.1
60 to 69	2007	11.7	1.3	2.6	7.0	16.4	13.2	47.8
	2016	11.6	1.7	3.4	22.5	11.5	16.0	33.2
70 or older	2007	12.6	1.7	3.9	4.4	16.1	13.9	47.3
	2016	11.7	1.9	5.8	17.3	10.9	16.3	36.1
All	2007	9.6	0.9	1.7	3.9	15.9	18.1	49.8
	2016	10.6	1.2	2.3	13.5	10.6	25.2	36.6
Equity holdings in Roth IRAs with balances of \$5,000 or less								
Age		Zero	>0% to 20%	>20% to 40%	>40% to 60%	>60% to 80%	>80% to <100%	100%
18 to 24	2007	14.5	0.2	0.4	1.1	17.2	25.9	40.6
	2016	16.3	0.8	0.8	9.1	3.1	33.0	37.0
25 to 29	2007	15.8	0.4	0.6	1.3	11.7	26.6	43.7
	2016	20.6	1.1	0.9	10.1	3.5	29.3	34.5
30 to 39	2007	15.6	0.5	0.7	1.4	10.4	21.0	50.4
	2016	22.4	1.0	0.9	10.4	3.8	24.4	37.1
40 to 49	2007	15.9	0.5	0.7	1.3	19.2	8.8	53.6
	2016	23.8	1.0	1.0	10.6	4.9	18.9	39.9
50 to 59	2007	17.0	0.6	0.9	3.6	15.9	8.4	53.6
	2016	24.7	1.1	1.0	13.6	10.9	10.2	38.6
60 to 69	2007	19.0	0.6	0.9	4.4	13.2	8.6	53.4
	2016	27.2	1.2	1.6	20.8	4.3	9.9	34.9
70 or older	2007	21.6	0.6	2.2	1.3	12.8	7.5	54.1
	2016	31.2	1.4	4.1	15.4	3.6	10.0	34.5
All	2007	16.3	0.5	0.7	2.0	14.6	15.1	50.7
	2016	23.4	1.0	1.2	12.3	5.3	19.5	37.3

Continued on next page

FIGURE A.5 CONTINUED

Exposure to Equity Holdings Among Roth IRA Investors by Account Size, 2007 and 2016*Percentage of Roth IRA investors by age, year-end 2007 and year-end 2016*

		Equity holdings in Roth IRAs with balances of more than \$5,000						
Age		Zero	>0% to 20%	>20% to 40%	>40% to 60%	>60% to 80%	>80% to <100%	100%
18 to 24	2007	5.2	0.5	1.5	3.2	12.5	28.3	48.8
	2016	6.3	0.8	1.8	10.5	6.5	36.5	37.6
25 to 29	2007	4.3	0.6	1.5	3.2	11.4	33.4	45.7
	2016	5.6	0.9	1.7	9.7	7.6	41.7	32.8
30 to 39	2007	4.1	0.7	1.4	2.9	11.4	27.1	52.3
	2016	4.9	0.9	1.6	9.0	8.4	40.3	34.9
40 to 49	2007	5.5	0.9	1.8	3.4	19.3	16.1	53.1
	2016	5.5	1.0	1.8	9.7	10.3	31.7	40.1
50 to 59	2007	8.1	1.3	2.5	6.7	19.4	15.0	47.1
	2016	6.9	1.4	2.4	13.9	18.6	18.8	38.0
60 to 69	2007	9.6	1.5	3.1	7.7	17.3	14.6	46.2
	2016	8.7	1.9	3.8	22.8	12.9	17.1	32.9
70 or older	2007	10.7	2.0	4.3	5.1	16.8	15.3	45.8
	2016	9.1	2.0	6.0	17.5	11.9	17.1	36.3
All	2007	6.6	1.1	2.2	4.8	16.5	19.4	49.5
	2016	6.7	1.3	2.7	13.8	12.3	26.9	36.4

Note: The samples are 3.1 million Roth IRA investors aged 18 or older at year-end 2007 and 5.9 million Roth IRA investors aged 18 or older at year-end 2016. There are 1.0 million Roth IRA investors aged 18 or older with Roth IRA balances of \$5,000 or less at year-end 2007 and 1.4 million at year-end 2016. There are 2.1 million Roth IRA investors aged 18 or older with Roth IRA balances of more than \$5,000 at year-end 2007 and 4.5 million at year-end 2016. Equity holdings are the sum of equities, equity funds, and the equity portion of balanced funds. Row percentages may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Figure A.6 provides additional detail for Figure A.3, presenting the number of Roth IRA investors and Roth IRA assets by different age groups. The bulk of investors who own Roth IRAs in the database are in their peak earning and saving years (Figure A.6). At year-end 2016, 64 percent of Roth IRA investors were between the ages of 30 and 59. Another 17 percent were aged 60 to 69, and the remaining 19 percent were aged 18 to 29 or aged 70 or older. About one-third of the assets in Roth IRAs were held by Roth IRA investors younger than 50, and the remaining two-thirds were held by Roth IRA investors aged 50 or older.

FIGURE A.6

Roth IRA Investors and Assets in 2016 by Investor Age

Number of Roth IRA investors and Roth IRA assets by age, 2016

Age	Roth IRA investors		Roth IRA assets	
	Number Thousands	Share* Percent	Amount Billions	Share* Percent
18 to 24	189.9	3.2%	1.4	0.7%
25 to 29	419.5	7.1	5.0	2.4
30 to 34	591.8	10.0	11.0	5.2
35 to 39	642.3	10.9	15.4	7.2
40 to 44	609.6	10.3	16.9	7.9
45 to 49	646.8	10.9	20.1	9.5
50 to 54	638.5	10.8	22.3	10.5
55 to 59	646.1	10.9	25.5	12.0
60 to 64	575.8	9.7	26.8	12.6
65 to 69	454.6	7.7	26.3	12.4
70 to 74	284.2	4.8	20.4	9.6
75 or older	220.8	3.7	21.6	10.1
All	5,920.0	100.0	212.7	100.0

* Share is the percentage of the total.

Note: Components may not add to the total because of rounding.

Source: The IRA Investor Database™

Figure A.7 presents the data displayed in Figure 6.2 by broader age groups. At year-end 2016, younger Roth IRA investors tended to have more invested in equities, equity funds, and target date funds, on average, than older Roth IRA investors (Figure A.7). Roth IRA investors in their thirties had, on average, 20.3 percent of their assets in target date funds, while Roth IRA investors in their sixties had 4.9 percent. By contrast, Roth IRA investors in their sixties had 29.6 percent of their assets in money market funds (7.7 percent), bonds and bond funds (9.5 percent), and non-target date balanced funds (12.4 percent). Roth IRA investors in their thirties held less than one-fifth of their assets in these three asset categories.

FIGURE A.7

Investments in Roth IRAs in 2016 by Broad Investor Age Group

Percentage of Roth IRA balance by investor age, year-end 2016

Age	Equities and equity funds ¹	Balanced funds ²				Bond and bond funds ³	Money market funds	Other investments ⁴	Memo: equity holdings ⁵
		Equity portion		Non-equity portion					
		Target date	Non-target date	Target date	Non-target date				
18 to 29	57.6	19.8	5.4	2.9	3.7	2.0	4.9	3.6	82.8
30 to 39	61.9	17.6	4.8	2.7	3.3	3.1	4.9	1.9	84.3
40 to 49	68.2	9.7	5.0	2.2	3.5	4.1	5.7	1.6	82.9
50 to 59	66.6	5.3	6.2	2.7	4.3	6.2	6.8	2.0	78.1
60 to 69	63.3	2.5	7.3	2.4	5.1	9.5	7.7	2.3	73.1
70 or older	66.9	0.6	6.3	1.0	4.4	10.9	7.8	2.0	73.8
All	65.3	6.4	6.1	2.2	4.2	7.1	6.7	2.0	77.8

¹ Equity funds include equity mutual funds, equity closed-end funds, and equity ETFs.

² Balanced funds invest in a mix of equities and fixed-income securities. The bulk of target date and lifestyle funds is counted in this category.

³ Bond funds include bond mutual funds, bond closed-end funds, and bond ETFs.

⁴ Other investments include certificate of deposits and unidentifiable assets.

⁵ Equity holdings are the sum of equities and equity funds and the equity portion of target date and non-target date balanced funds.

Note: The sample is 5.9 million Roth IRA investors aged 18 or older at year-end 2016. Percentages are dollar-weighted averages. Row percentages may not add to 100 percent because of rounding.

Source: The IRA Investor Database™

Notes

- ¹ Prior to 2010, there were restrictions on conversions based on household income. In 2010, the income limits for Roth conversions were lifted. For additional detail, see Internal Revenue Service 2011.
- ² Individuals with inherited Roth IRAs must take distributions from the accounts. See note 67 and Internal Revenue Service 2018b.
- ³ Individuals with inherited Roth IRAs must take distributions from the accounts. See note 67 and Internal Revenue Service 2018b.
- ⁴ See Holden et al. 2005.
- ⁵ See Holden and Bass 2018 and Holden and Schrass 2017a and 2017b.
- ⁶ See Holden and Schrass 2017b.
- ⁷ See Holden and Bass 2018.
- ⁸ For more information on traditional IRA withdrawal activity, see Holden and Bass 2018 and Holden and Schrass 2017a and 2017b. For information on retirement plan participants' reactions to the RMD suspension of 2009, see Brown, Poterba, and Richardson 2014. For a discussion of how RMD rules affect traditional IRA withdrawals, see Mortenson, Schramm, and Whitten 2016.
- ⁹ See Holden and Bass 2018.
- ¹⁰ Ibid.
- ¹¹ Ibid.
- ¹² Ibid.
- ¹³ Ibid.
- ¹⁴ For a history of IRAs, see Holden et al. 2005.
- ¹⁵ For additional discussion of IRA-owning households, see Holden and Schrass 2017a and 2017b.
- ¹⁶ ICI reports total IRA assets and total retirement market assets on a quarterly basis. For additional information on the US retirement market through 2018:Q1, see Investment Company Institute 2018.
- ¹⁷ See Holden and Schrass 2017a and Investment Company Institute 2018.
- ¹⁸ For a history of IRAs, see Holden et al. 2005. For a discussion of the changes to IRAs included in the Taxpayer Relief Act of 1997, see Joint Committee on Taxation 1997 (page 43), which indicates that Roth IRAs were created because "Congress believed that some individuals would be more likely to save if funds set aside in a tax-favored account could be withdrawn without tax after a reasonable holding period for retirement or certain special purposes. Some taxpayers might find such a vehicle more suitable for their savings needs."
- ¹⁹ See Investment Company Institute 2018.
- ²⁰ See Internal Revenue Service 2018b for the complete requirements for qualified Roth distributions.
- ²¹ Individuals with inherited Roth IRAs must take distributions from the accounts. See Internal Revenue Service 2018b.

²² One of the frequently analyzed household surveys is the Survey of Consumer Finances (SCF), which is administered by the Federal Reserve Board. The SCF is a triennial interview survey of US families sponsored by the Board of Governors of the Federal Reserve System and the US Department of Treasury. The sample design of the survey aims to measure a broad range of financial characteristics. The sample has two parts: (1) a standard geographically based random sample and (2) a specially constructed oversampling of wealthy families. Weights are used to combine the two samples to represent the full population of US families. The 2016 SCF interviewed 6,254 families, which represent 125.8 million families. For an overview of the 2016 SCF results, see Bricker et al. 2017.

For a full description of the SCF and recent SCF data, see www.federalreserve.gov/econresdata/scf/scfindex.htm.

For an overview of the 2013 SCF results, see Bricker et al. 2014. For an overview of the 2010 SCF results, see Bricker et al. 2012. For a special panel analysis that resurveyed households from the 2007 SCF in 2009, see Bricker et al. 2011. For an overview of the 2007 SCF results, see Bucks et al. 2009. For an analysis of changes in retirement wealth, see Devlin-Foltz et al. 2015.

Researchers interested in the behavior of older households use another publicly available household survey, the Health and Retirement Study (HRS), which is administered by the University of Michigan. For an extensive bibliography of papers using HRS data, see www.umich.edu/~hrswww/pubs/biblio.html.

Another household survey that is often used is the Survey of Income and Program Participation (SIPP), which is administered by the US Census Bureau. For a complete description, see www.census.gov/sipp.

²³ ICI conducts the Annual Mutual Fund Shareholder Tracking Survey each year to gather information on the demographic and financial characteristics of mutual fund-owning households in the United States. The most recent survey was conducted from May to July 2017 and was based on a dual frame sample of 5,000 US households. Of these, 2,500 households were from a landline random digit dial (RDD) frame and 2,500 households were from a cell phone RDD frame. Of the households contacted, 1,740 (34.8 percent) owned IRAs. All interviews were conducted over the telephone with the member of the household who was either the sole or the co-decisionmaker most knowledgeable about the household's savings and investments. The standard error for the 2016 sample of households is ± 1.4 percentage points at the 95 percent confidence level. For the 2017 survey results, see Holden, Schrass, and Bogdan 2017. For reporting of 2017 IRA incidence, see Holden and Schrass 2017a.

²⁴ ICI typically conducts the IRA Owners Survey each year to gather information on the characteristics and activities of IRA-owning households in the United States. The most recent survey was conducted in June 2017 using the KnowledgePanel[®], a probability-based online panel designed to be representative of the US population. The KnowledgePanel[®] was designed and administered by GfK, an online consumer research company. The 2017 sample of IRA owners included 3,205 representative US households owning traditional IRAs or Roth IRAs. All surveys were conducted online with the member of the household aged 18 or older who was the sole or co-decisionmaker most knowledgeable about the household's savings and investments. The standard error for the total sample is ± 1.7 percentage points at the 95 percent confidence level. In 2017, households owning traditional or Roth IRAs were surveyed, and thus households only owning employer-sponsored IRAs (SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs) or Coverdell Education Savings Accounts (formerly called education IRAs) are not included. For results from the 2017 survey, see Holden and Schrass 2017a and 2017b.

²⁵ For example, in the 2016 Survey of Consumer Finances, 12.0 percent of US households owned Roth IRAs, based on 925 respondents indicating they had Roth IRAs. In the 2017 ICI Annual Mutual Fund Shareholder Tracking Survey, 19.7 percent of US households indicated they owned Roth IRAs, and in the 2017 ICI IRA Owners Survey, 1,869 respondents had Roth IRAs.

- ²⁶ For the latest published tabulations, see Bryant and Gober 2013. For the 2011 through 2015 data, see Internal Revenue Service, Statistics of Income Division 2018.
- ²⁷ Though it is possible to track the same individuals over time within the same data provider, it is not possible to link individuals across providers. Therefore, it is possible that some IRA investors will be counted more than once if they own IRAs across multiple service providers. For additional detail on the variables collected and the data collection methodology, see Holden and Bass 2012.
- ²⁸ These percentages add to more than 100 percent because individuals may hold more than one type of IRA.
- ²⁹ Another significant annual drop occurred in 1937, when large-cap stocks contracted 35.0 percent in value. See Ibbotson et al. 2018.
- ³⁰ This change is based on the S&P 500 total return index.
- ³¹ See Citigroup corporate 10+ year bond index.
- ³² See National Bureau of Economic Research 2010.
- ³³ For unemployment statistics, see US Bureau of Labor Statistics 2018. For information on households' balance sheets and disposable personal income, see US Federal Reserve Board 2018.
- ³⁴ See Standard & Poor's Case-Shiller Home Price Indices.
- ³⁵ The ability to contribute to Roth IRAs is restricted based on household income. Prior to 2010, there were restrictions on conversions based on household income; starting in 2010, the income limits for Roth conversions were lifted. For additional detail, see Internal Revenue Service 2011 and 2018a.
- ³⁶ The ability to roll over non-Roth employer-sponsored retirement plan accounts to Roth IRAs was initially subject to the same income restrictions as conversions. Income restrictions on conversions were lifted in 2010. See Internal Revenue Service 2009 and 2011.
- ³⁷ Some of the amounts converted include amounts originating in employer-sponsored retirement plans that were rolled over to traditional IRAs and then converted.
- ³⁸ Distributions also can result from recharacterization of contributions, but statistically, these amounts have been negligible.
- ³⁹ In 1998, individuals doing Roth IRA conversions could spread the tax bill generated over four years (1998 to 2001). In 1998, \$39.3 billion was converted (see Figure 1.2). For more information, see discussion in Campbell, Parisi, and Balkovic 2000. In 2010, individuals doing Roth IRA conversions could choose to pay the taxes in 2011 and 2012. For more information, see Internal Revenue Service 2011.
- ⁴⁰ See Bryant and Gober 2013. For the 2011 through 2015 Roth IRA conversion data, see Internal Revenue Service, Statistics of Income Division 2018.
- ⁴¹ See note 35.
- ⁴² Conversion rates are lower among these consistent Roth IRA investors than in the annual cross-sectional snapshots (see Figure 3.1) because conversions can open new Roth IRAs (see Figures 3.2 and 2.1). The consistent Roth IRA investors have existing Roth IRAs by 2008.
- ⁴³ For a complete discussion of the specific rules and the change, see Internal Revenue Service 2009.
- ⁴⁴ See Internal Revenue Service 2018b.
- ⁴⁵ Inherited Roth IRAs are subject to RMD rules. See Internal Revenue Service 2018b.
- ⁴⁶ See Sabelhaus, Bogdan, and Schrass 2008.
- ⁴⁷ Because no target date funds have a 100 percent equity allocation, investors with a 100 percent allocation to target date funds would not be counted as having 100 percent equity holdings.
- ⁴⁸ See Sabelhaus, Bogdan, and Schrass 2008.

- ⁴⁹ At year-end 2007, 50.8 percent of consistent Roth IRA investors aged 27 to 59 at year-end 2016 had less than a full allocation to equity holdings, including 8.6 percent who had no equity holdings at all (see Figures 1.9 and 1.10). At year-end 2016, 57.5 percent had less than a full allocation to equity holdings, including 9.2 percent who had no equity holdings at all (see Figures 1.9 and 1.10).
- ⁵⁰ See Investment Company Institute 2018.
- ⁵¹ There are income limits on eligibility to make Roth IRA contributions. See Internal Revenue Service 2018a.
- ⁵² For example, in 2016, contribution rates among Roth IRA investors aged 25 to 69 increased from 32.2 percent to 36.6 percent if contributions to traditional IRAs at the same financial services firm were included.
- ⁵³ For traditional IRA contribution activity in 2016, see Holden and Bass 2018.
- ⁵⁴ Some of the amounts converted include amounts originating in employer-sponsored retirement plans that were rolled over to traditional IRAs and then converted. Generally, the assets converted are taxable in the year of the conversion to the Roth IRA. See Internal Revenue Service 2018a.
- ⁵⁵ A Roth IRA rollover may include the transfer of an investor's assets from a designated Roth account such as a Roth 401(k) to a Roth IRA—due to changing jobs, for instance—without tax consequences. A Roth IRA rollover also may include the transfer of non-Roth employer-sponsored retirement plan accounts into Roth IRAs (which is generally taxable in the year of the rollover).
- ⁵⁶ See Internal Revenue Service 2011.
- ⁵⁷ The investor may have a traditional IRA that has been open for many years, or may have rollovers from employer-sponsored retirement plans in the traditional IRAs. The EBRI/ICI 401(k) database finds that 401(k) balances tend to rise with investor age and job tenure (see Holden et al. 2018). In addition, at retirement, defined contribution plan account owners often choose to roll over their balances to IRAs. See Sabelhaus, Bogdan, and Holden 2008 and Utkus and Young 2018.
- ⁵⁸ This statistic undercounts the percentage of Roth IRA investors in 2016 with rollovers in their Roth IRAs because some may have had rollovers prior to 2007 and those rollovers cannot be identified in the database. In addition, rollovers made at a prior financial services firm cannot be identified in the database.
- ⁵⁹ See Holden and Bass 2018.
- ⁶⁰ See Investment Company Institute 2018; Bryant and Gober 2013; and Internal Revenue Service, Statistics of Income Division 2018. In addition, \$4.3 billion was rolled over into SEP IRAs, SAR-SEP IRAs, and SIMPLE IRAs in 2015.
- ⁶¹ See Sabelhaus and Schrass 2009; Holden, Sabelhaus, and Bass 2010b; and Holden and Bass 2018.
- ⁶² See Holden and Schrass 2017a and 2017b.
- ⁶³ Individuals may have significant accumulations outside of Roth IRAs, perhaps through the higher contribution limits for employer-sponsored retirement plans, the steady buildup of assets that can occur in these plans over the course of a career, and the longer availability of traditional IRAs. Though direct rollovers from employer-sponsored retirement plans to Roth IRAs have not always been permitted, individuals have had (and still have) the option of rolling over those accumulations into a traditional IRA and then converting the traditional IRA into a Roth IRA. Household survey information indicates that 20 percent of Roth IRA-owning households reported that some of their Roth IRA assets were initially in an employer-sponsored retirement plan; see Holden and Schrass 2017b.
- ⁶⁴ See Holden and Schrass 2017b.
- ⁶⁵ For the complete rules governing distributions from Roth IRAs, see Internal Revenue Service 2018b.

- ⁶⁶ For more information, see Internal Revenue Service 2018b.
- ⁶⁷ Individuals with inherited Roth IRAs must take distributions from the inherited Roth IRA. In general, the entire balance of the inherited Roth IRA must be distributed by the end of the fifth calendar year after the year of the owner's death unless the balance is paid out to the beneficiary over the life or life expectancy of the beneficiary. See Internal Revenue Service 2018b.
- ⁶⁸ Among those Roth IRA investors with inherited Roth IRAs with withdrawals taking less than the self RMD amount, it is possible that they used a Roth IRA at another financial services firm to fulfill the RMD. In addition, some may not be required to take RMDs yet. See Internal Revenue Service 2018b.
- ⁶⁹ See Internal Revenue Service 2018a for investment restrictions. Roth IRA investors can generally select from the full range of mutual funds, ETFs, closed-end funds, stocks, bonds, bank, and annuity products.
- ⁷⁰ Though the IRS Statistics of Income Division is able to aggregate IRAs across financial services providers for a given taxpayer, The IRA Investor Database is not. Nevertheless, The IRA Investor Database has comparable average Roth IRA balances. For example, at year-end 2015, the average Roth IRA balance in the database is \$33,380, compared with \$32,475 reported by the IRS (2015 is the latest published IRS data available). See Internal Revenue Service, Statistics of Income Division 2018.
- ⁷¹ In The IRA Investor Database it is not possible to determine the tenure of existing IRAs. ICI household surveys find that traditional and Roth IRA balances tend to increase with length of IRA ownership (see Holden and Schrass 2017b). Similarly, 401(k) balances tend to increase with job tenure (see Holden et al. 2018).
- ⁷² The IRS Statistics of Income data also find that taxpayers with Roth IRAs have, on average, lower account balances than taxpayers with traditional IRAs. At year-end 2015, the average balance among taxpayers with Roth IRAs was \$32,475, compared with an average of \$137,550 in traditional IRAs. See Internal Revenue Service, Statistics of Income Division 2018.
- ⁷³ Household survey data indicate that Roth IRA-owning households hold their Roth IRAs at a variety of financial services firms. In 2017, 72 percent of Roth IRA-owning households held their Roth IRAs through investment professionals (e.g., full-service brokers, independent financial planning firms, bank or savings institutions, or insurance companies) and 30 percent held their Roth IRAs through direct sources (e.g., mutual fund companies or discount brokers). See Holden and Schrass 2017b.
- ⁷⁴ A target date fund pursues a long-term investment strategy, using a mix of asset classes, or asset allocation, that the fund provider adjusts to become less focused on growth and more focused on income as the fund approaches and passes the target date, which is usually mentioned in the fund's name. The asset allocation path that the target date fund follows to shift its focus from growth to income is typically referred to as the glide path. Because discussions of asset allocation usually focus on the percentage of the portfolio invested in equities, the glide path generally reflects the declining percentage of equities in the portfolio as it approaches and passes the target date. The target date generally is the date at which the typical investor for whom that fund is designed would reach retirement age and stop making new investments in the fund. For additional information on target date funds, see ICI's Target Retirement Date Funds Resource Center at www.ici.org/trdf.
- ⁷⁵ For the pattern of use of target date funds in 401(k) plans, see Holden et al. 2018.
- ⁷⁶ Target date fund use is more widespread among 401(k) plan participants. At year-end 2016, more than half of 401(k) plan participants invested at least some of their accounts in target date funds (including target date mutual funds and target date collective investment trusts); see Holden et al. 2018. Target date fund use is similar among traditional IRA investors and Roth IRA investors, despite more direct influence of rollovers on traditional IRAs. At year-end 2016, 12.7 percent of traditional IRA investors held target date funds, and target date funds were 6.8 percent of traditional IRA assets; see Holden and Bass 2018.

⁷⁷ For a discussion of how US household investments change over the life cycle, see Sabelhaus, Bogdan, and Schrass 2008. For the pattern of equity versus bond investing across 401(k) participants by age, see Holden et al. 2018. For the pattern of equity versus bond investing across traditional IRA investors by age, see Holden and Bass 2018.

⁷⁸ For a history of IRAs, see Holden et al. 2005.

⁷⁹ See Bryant and Gober 2013; and Internal Revenue Service, Statistics of Income Division 2018.

References

Brady, Peter J., Steven Bass, Jessica Holland, and Kevin Pierce. 2017. "Using Panel Tax Data to Examine the Transition to Retirement." SOI Working Paper (April). Washington, DC: Internal Revenue Service. Available at www.irs.gov/pub/irs-soi/17rptransitionretirement.pdf.

Bricker, Jesse, Brian Bucks, Arthur Kennickell, Traci Mach, and Kevin Moore. 2011. "Surveying the Aftermath of the Storm: Changes in Family Finances from 2007 to 2009." FEDS Working Paper, no. 2011-17. Washington, DC: Federal Reserve Board (March). Available at www.federalreserve.gov/pubs/feds/2011/201117/201117pap.pdf.

Bricker, Jesse, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Lindsay Jacobs, Kevin B. Moore, Sarah Pack, John Sabelhaus, Jeffrey Thompson, and Richard A. Windle. 2017. "Changes in US Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 103, no. 3 (September). Available at www.federalreserve.gov/publications/files/scf17.pdf.

Bricker, Jesse, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Kevin B. Moore, John Sabelhaus, Jeffrey Thompson, and Richard A. Windle. 2014. "Changes in US Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 100, no. 4 (September). Available at www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf.

Bricker, Jesse, Arthur B. Kennickell, Kevin B. Moore, and John Sabelhaus. 2012. "Changes in US Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 98, no. 2 (June). Washington, DC: Federal Reserve Board. Available at www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf.

Brown, Jeffrey R., James Poterba, and David Richardson. 2014. "Do Required Minimum Distributions Matter? The Effect of the 2009 Holiday on Retirement Plan Distributions." NBER Working Paper, no. 20464. Cambridge, MA: National Bureau of Economic Research. Available at www.nber.org/papers/w20464.

Bryant, Victoria L. 2008. "Accumulation and Distribution of Individual Retirement Arrangements, 2004." *Statistics of Income Bulletin* (Spring): 90-101. Washington, DC: Internal Revenue Service Statistics of Income Division. Available at www.irs.gov/pub/irs-soi/04inretirebul.pdf.

- Bryant, Victoria L. 2012. "Accumulation and Distribution of Individual Retirement Arrangements, 2008." *Statistics of Income Bulletin* (Spring): 89-104. Washington, DC: Internal Revenue Service Statistics of Income Division. Available at www.irs.gov/pub/irs-soi/12insprbulretirement.pdf.
- Bryant, Victoria L., and Jon Gober. 2013. "Accumulation and Distribution of Individual Retirement Arrangements, 2010." *Statistics of Income Bulletin* (Fall): 193-210. Washington, DC: Internal Revenue Service Statistics of Income Division. Available at www.irs.gov/pub/irs-soi/13inirafallbul.pdf.
- Bryant, Victoria L., and Peter J. Sailer. 2006. "Accumulation and Distribution of Individual Retirement Arrangements, 2001-2002." *Statistics of Income Bulletin* (Spring): 233-254. Washington, DC: Internal Revenue Service Statistics of Income Division. Available at www.irs.gov/pub/irs-soi/02iraart.pdf.
- Bucks, Brian K., Arthur B. Kennickell, Traci L. Mach, and Kevin B. Moore. 2009. "Changes in US Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 95 (February). Washington, DC: Federal Reserve Board. Available at www.federalreserve.gov/pubs/bulletin/2009/pdf/scf09.pdf.
- Campbell, David, Michael Parisi, and Brian Balkovic. 2000. "Individual Income Tax Returns, 1998." *Statistics of Income Bulletin* (Fall): 8-46. Washington, DC: Internal Revenue Service Statistics of Income Division. Available at www.irs.gov/pub/irs-soi/98indtr.pdf.
- Citigroup corporate 10+ year bond index. New York: Citigroup.
- Devlin-Foltz, Sebastian, Alice M. Henriques, and John Sabelhaus. 2015. "The Evolution of Retirement Wealth," FEDS Working Paper, no. 2015-009. Washington, DC: Federal Reserve Board (February). Available at www.federalreserve.gov/econresdata/feds/2015/files/2015009pap.pdf.
- Holden, Sarah, and Steven Bass. 2011. "The IRA Investor Profile: Traditional IRA Investors' Asset Allocation, 2007 and 2008." *ICI Research Report* (September). Available at www.ici.org/pdf/rpt_11_ira_asset.pdf.
- Holden, Sarah, and Steven Bass. 2012. "The IRA Investor Profile: Traditional IRA Investors' Withdrawal Activity 2007 and 2008." *ICI Research Report* (July). Available at www.ici.org/pdf/rpt_12_ira_withdrawals.pdf.
- Holden, Sarah, and Steven Bass. 2013. "The IRA Investor Profile: Traditional IRA Investors' Activity, 2007-2011." *ICI Research Report* (October). Available at www.ici.org/pdf/rpt_13_ira_investors.pdf.

- Holden, Sarah, and Steven Bass. 2014. "The IRA Investor Profile: Traditional IRA Investors' Activity, 2007-2012." *ICI Research Report* (March). Available at www.ici.org/pdf/rpt_14_ira_traditional.pdf.
- Holden, Sarah, and Steven Bass. 2016. "The IRA Investor Profile: Traditional IRA Investors' Activity, 2007-2014." *ICI Research Report* (August). Available at www.ici.org/pdf/rpt_16_ira_traditional.pdf.
- Holden, Sarah, and Steven Bass. 2017. "The IRA Investor Profile: Traditional IRA Investors' Activity, 2007-2015." *ICI Research Report* (June). Available at www.ici.org/pdf/rpt_17_ira_traditional.pdf.
- Holden, Sarah, and Steven Bass. 2018. "The IRA Investor Profile: Traditional IRA Investors' Activity, 2007-2016." *ICI Research Report* (September). Available at www.ici.org/pdf/rpt_18_ira_traditional.pdf.
- Holden, Sarah, Kathy Ireland, Vicky Leonard-Chambers, and Michael Bogdan. 2005. "The Individual Retirement Account at Age 30: A Retrospective." *Investment Company Institute Perspective* 11, no. 1 (February). Available at www.ici.org/pdf/per11-01.pdf.
- Holden, Sarah, and Brian Reid. 2008. "The Role of Individual Retirement Accounts in US Retirement Planning." In *Recalibrating Retirement Spending and Saving*, edited by John Ameriks and Olivia S. Mitchell: 81-111. Oxford: Oxford University Press for the Wharton School, University of Pennsylvania, Pension Research Council.
- Holden, Sarah, John Sabelhaus, and Steven Bass. 2010a. "The IRA Investor Profile: Traditional IRA Investors' Contribution Activity, 2007 and 2008." *ICI Research Report* (July). Available at www.ici.org/pdf/rpt_10_ira_contributions.pdf.
- Holden, Sarah, John Sabelhaus, and Steven Bass. 2010b. "The IRA Investor Profile: Traditional IRA Investors' Rollover Activity, 2007 and 2008." *ICI Research Report* (December). Available at www.ici.org/pdf/rpt_10_ira_rollovers.pdf.
- Holden, Sarah, and Daniel Schrass. 2017a. "The Role of IRAs in US Households' Saving for Retirement, 2017." *ICI Research Perspective* 23, no. 10 (December). Available at www.ici.org/pdf/per23-10.pdf.
- Holden, Sarah, and Daniel Schrass. 2017b. "Appendix: Additional Data on IRA Ownership in 2017." *ICI Research Perspective* 23, no. 10A (December). Available at www.ici.org/pdf/per23-10a.pdf.

- Holden, Sarah, Daniel Schrass, and Michael Bogdan. 2017. "Ownership of Mutual Funds, Shareholder Sentiment, and Use of the Internet, 2017." *ICI Research Perspective* 23, no. 7 (October). Available at www.ici.org/pdf/per23-07.pdf.
- Holden, Sarah, Jack VanDerhei, Luis Alonso, and Steven Bass. 2018. "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2016." *ICI Research Perspective* 24, no. 6, and *EBRI Issue Brief*, no. 436 (September). Available at www.ici.org/pdf/per24-06.pdf.
- Ibbotson, Roger G., Roger J. Grabowski, James P. Harrington, and Carla Nunes. 2018. *2018 SBBi Yearbook: Stocks, Bonds, Bills, and Inflation—US Capital Markets Performance by Asset Class 1926–2017*. Hoboken: John Wiley & Sons, Inc.
- Internal Revenue Service. 2009. Publication 590, *Individual Retirement Arrangements (IRAs): For Use in Preparing 2008 Returns*. Available at www.irs.gov/pub/irs-prior/p590--2008.pdf.
- Internal Revenue Service. 2011. Publication 590, *Individual Retirement Arrangements (IRAs): For Use in Preparing 2010 Returns*. Available at www.irs.gov/pub/irs-prior/p590--2010.pdf.
- Internal Revenue Service. 2013. *Individual Income Tax Returns 2011, Publication 1304* (Rev. 082013, July). Washington, DC: Internal Revenue Service Statistics of Income Division. Available at www.irs.gov/pub/irs-soi/11inalcr.pdf.
- Internal Revenue Service. 2018a. *Publication 590-A, Contributions to Individual Retirement Arrangements (IRAs) for Use in Preparing 2017 Returns*. Available at www.irs.gov/pub/irs-pdf/p590a.pdf.
- Internal Revenue Service. 2018b. *Publication 590-B, Distributions from Individual Retirement Arrangements (IRAs) for Use in Preparing 2017 Returns*. Available at www.irs.gov/pub/irs-pdf/p590b.pdf.
- Internal Revenue Service, Statistics of Income Division. 2018. *SOI Tax Stats: Accumulation and Distribution of Individual Retirement Arrangements (IRA)*. Available at www.irs.gov/statistics/soi-tax-stats-accumulation-and-distribution-of-individual-retirement-arrangements.
- Investment Company Institute. 2018. "The US Retirement Market, First Quarter 2018" (June). Available at www.ici.org/research/stats/retirement.
- Joint Committee on Taxation. 1997. "General Explanation of Tax Legislation Enacted in 1997" (December). Washington, DC: US Government Printing Office. Available at www.jct.gov/publications.html?func=startdown&id=1215.
- Joint Committee on Taxation. 2009. "General Explanation of Tax Legislation Enacted in the 110th Congress" (March). Available at www.jct.gov/publications.html?func=startdown&id=1990.

Mortenson, Jacob A., Heidi R. Schramm, and Andrew Whitten. 2016. "The Effect of Required Minimum Distribution Rules on Withdrawals from Traditional Individual Retirement Accounts" (May). Available at <http://ssrn.com/abstract=2764435>.

National Bureau of Economic Research. 2010. US Business Cycle Expansions and Contractions (September 20). Available at www.nber.org/cycles.html.

Sabelhaus, John, Michael Bogdan, and Sarah Holden. 2008. *Defined Contribution Plan Distribution Choices at Retirement: A Survey of Employees Retiring Between 2002 and 2007*. Washington, DC: Investment Company Institute. Available at www.ici.org/pdf/rpt_08_dcdd.pdf.

Sabelhaus, John, Michael Bogdan, and Daniel Schrass. 2008. *Equity and Bond Ownership in America, 2008*. Washington, DC: Investment Company Institute (December). Available at www.ici.org/pdf/rpt_08_equity_owners.pdf.

Sabelhaus, John, and Daniel Schrass. 2009. "The Evolving Role of IRAs in US Retirement Planning." *Investment Company Institute Perspective* 15, no. 3 (November). Available at www.ici.org/pdf/per15-03.pdf.

Sailer, Peter J., and Sarah E. Nutter. 2004. "Accumulation and Distribution of Individual Retirement Arrangements, 2000." *Statistics of Income Bulletin* (Spring): 121-134. Washington, DC: Internal Revenue Service. Available at www.irs.gov/pub/irs-soi/00retire.pdf.

Sailer, Peter J., Michael E. Weber, and Kurt S. Gurka. 2003. "Are Taxpayers Increasing the Buildup of Retirement Assets? Preliminary Results from a Matched File of Tax Year 1999 Tax Returns and Information Returns." In *Proceedings: Ninety-Fifth Annual Conference on Taxation*, edited by Ranjana Madhusudhan: 364-369. Washington, DC: National Tax Association. Available at www.irs.gov/pub/irs-soi/petenta.pdf.

Standard & Poor's Case-Shiller Home Price Indices. New York: Standard & Poor's. Available at us.spindices.com/index-family/real-estate/sp-corelogic-case-shiller.

US Bureau of Labor Statistics. 2018. "Labor Force Statistics from the Current Population Survey." Available at <https://data.bls.gov/timeseries/LNS14000000>.

US Federal Reserve Board. 2018. *Financial Accounts of the United States: Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts, First Quarter 2018, Z.1 Release* (June). Washington, DC: Federal Reserve Board. Available at www.federalreserve.gov/releases/z1/20180607/z1.pdf.

Utkus, Stephen P., and Jean A. Young. 2018. *How America Saves 2018: Vanguard 2017 Defined Contribution Plan Data*. Valley Forge, PA: The Vanguard Group, Vanguard Center for Retirement Research. Available at https://pressroom.vanguard.com/nonindexed/HAS18_062018.pdf.

Sarah Holden



Sarah Holden, ICI senior director of retirement and investor research, leads the Institute's research efforts on investor demographics and behavior and retirement and tax policy. Holden, who joined ICI in 1999, heads efforts to track trends in household retirement saving activity and ownership of funds as well as other investments inside and outside retirement accounts. She is responsible for analysis of 401(k) plan participant activity using data collected in a collaborative effort with the Employee Benefit Research Institute (EBRI), known as the EBRI/ICI Participant-Directed Retirement Plan Data Collection Project. In addition, she oversees The IRA Investor Database™, which contains data on more than 17 million IRA investors and allows analysis of IRA investors' contribution, rollover, conversion, and withdrawal activity, and asset allocation. Before joining ICI, Holden served as an economist at the Federal Reserve Board of Governors. She has a PhD in economics from the University of Michigan and a BA in mathematics and economics, *cum laude*, from Smith College.

Daniel Schrass



Daniel Schrass is an associate economist in the retirement and investor research division at ICI. At the Institute, he focuses on investor demographics and behavior as well as trends in household retirement saving activity. His detailed research includes analysis of IRA-owning households and individual IRA investors in the IRA Investor Database™, which includes data on more than 17 million IRA investors. He also conducts research with government surveys such as the Survey of Consumer Finances, the Current Population Survey, and the Survey of Household Economics and Decisionmaking. Before joining ICI in October 2007, he served as an economist at the US Bureau of Labor Statistics. He has an MA in applied economics from the Johns Hopkins University and a BS in economics from the Pennsylvania State University.