

How the American Retirement Savings System Magnifies Wealth Inequality

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Economic inequality and wealth concentration have emerged as central issues in the U.S. presidential race. While these concerns appear to have risen to the forefront quite suddenly, forces driving wealth concentration have been building for decades. As more analysts probe the dynamics beneath these once-dormant issues in various policy areas, they may find that America's continuing shift to a defined contribution (DC) retirement system is playing a role in increasing the concentration of wealth.

While the DC system has many merits, it currently creates significant barriers to entry for many people at the lower end of the economic spectrum and those entering the workforce. About one-third of Americans report having no retirement savings at all.¹ More than half of households with DC accounts have very little in them. Among households with DC savings, the median balance in 2013 was \$4,700 for those in the lowest quartile by net worth. The median balance was \$12,100 for those in the next quartile (with net worth of 25 percent to 49.9 percent), almost 40 times less than median balance for those in the top 10 percent. A similar pattern can be seen comparing balances by family income (see Table 1).

Among the factors contributing to the difference in account balances between those at the top and the bottom is that people higher up the economic scale are more likely to have access to a retirement plan at work. People with low incomes wanting to start an IRA outside the workplace face barriers including minimum account balance requirements and high fees.

People with more income put more money into their retirement accounts—so they start from a larger base. By granting tax-favored status to retirement contributions, U.S. policy widens this base somewhat more as people's tax rates rise. The more you make, the bigger your tax break.

One of the most powerful drivers of what may be a widening gap between balances over time is how individuals invest their DC savings. Greater tolerance for

Table 1 Median Combined IRA, Defined Contribution Retirement Plan Balances for Families with Such Accounts, 2010 and 2013

	2010	2013
Total	\$47,155	\$59,000
Family Income		
\$10,000–\$24,999	\$12,860	\$10,300
\$25,000–\$49,999	\$18,219	\$18,000
\$50,000–\$99,999	\$34,294	\$45,000
\$100,000 or more	\$168,257	\$171,000
Age of Head of Household		
35-44	\$33,223	\$42,700
45-54	\$64,302	\$87,000
55-64	\$107,170	\$104,000
65 or older	\$76,091	\$118,000
Net Worth Percentile		
Bottom 25%	\$5,359	\$4,700
25–49.9%	\$12,806	\$12,100
50–74.9%	\$43,940	\$52,000
75–89.9%	\$144,680	\$165,000
Top 10%	\$442,612	\$450,000

Source: Employee Benefit Research Institute estimates of 2010 and 2013 Survey of Consumer Finances. Income and asset values are in 2013 USD. For families with incomes <\$10,000, sample size was not sufficient for reliable estimates.

1 Ruth Helman, Craig Copeland and Jack VanDerhei, "The 2015 Retirement Confidence Survey: Having a Retirement Savings Plan a Key Factor in Americans' Retirement Confidence," Employee Benefit Research Institute Issue Brief, no. 413 (April 2015).

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investment risk can mean much higher return over time. Stocks compared to bonds and cash, for example, tend to generate significantly higher returns over long periods of time, though greater fluctuations can make them riskier in the short run. Therefore, it stands to reason that young

people should put a greater percentage in their retirement accounts in stocks since they have an investment time window of many decades. But data show they tend to do otherwise. As seen in Table 2, 401(k) participants in their 20s are more likely to invest none of their money in stocks

Table 2 Asset Allocation Distribution of 401(k) Participant Account Balance to Equity Funds, by Participant Age, Tenure or Salary (Percentage of Participants, 2012)

Percentage of Account Balance Invested in Equity Funds				
	Zero	1%–20%	>20%–80%	>80%
All	51.2%	6.2%	27.4%	15.0%
Age Group				
20s	68.8%	2.9%	17.1%	11.2%
30s	53.0%	5.0%	26.0%	15.9%
40s	46.2%	6.1%	30.2%	17.5%
50s	46.2%	7.7%	31.6%	14.6%
60s	51.1%	8.4%	28.0%	12.5%
Tenure (years)				
0–2	66.7%	2.7%	19.0%	11.6%
>2–5	59.5%	4.2%	23.0%	13.3%
>5–10	50.2%	6.1%	28.6%	15.2%
>10–20	40.5%	8.1%	33.9%	17.5%
>20–30	37.4%	10.6%	35.6%	16.4%
>30	41.0%	12.1%	33.0%	14.0%
Salary				
\$20,000–\$40,000	61.3%	5.4%	23.2%	10.2%
>\$40,000–\$60,000	51.4%	7.5%	29.3%	11.8%
>\$60,000–\$80,000	44.3%	8.5%	33.9%	13.3%
>\$80,000–\$100,000	38.6%	9.3%	37.9%	14.1%
>\$100,000	30.8%	10.1%	43.0%	16.2%

Note: Row percentages may not add to 100% because of rounding. “Equity funds” include mutual funds, bank collective trusts, life insurance separate accounts and any pooled investment product primarily invested inequities. The tenure variable is generally years working at current employ, and thus may overstate years of participation in the 401(k) plan.

Source: Tabulations from EBRI/ICI Participant-Directed Retirement Plan Data Collection Project. Reprinted by permission.

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compared with older workers. People with lower incomes tend to be similarly risk averse.

People on tight budgets or who are starting out in the work force may have relatively less tolerance for investment risk because they have little capital that they can afford to lose. By necessity, they may perceive a high likelihood of having to draw on funds available for retirement savings for more immediate purposes arising in the event of a job loss, the need for pay for education or the need to make an alternative investment, like a down payment on a house. This is only common sense but differences in long-term rates of return can greatly magnify or diminish retirement account balances over time.

Table 3 illustrates how different levels of risk tolerance can widen the gap between levels of wealth by comparing balances begun by setting aside 10 percent of the income of a worker making \$10,000 a year with the same percentage set aside from the salary of a worker making \$100,000. In this example, the lower-

paid person is assumed to have a 10 percent tax rate and the higher-paid worker a 30 percent tax rate, and they are assumed to re-channel half their respective tax savings back into their retirement funds. Using this assumption, the tax break increases the original differential between account balances a little, moving it from 10-1 to 11-1.

As long as the two accounts earn the same return on investment (ROI), the proportional difference between balances will remain at 11-1 over time. But differences in ROI can change the balance differential dramatically. For example, if the higher-income worker invests in a fund that averages 10 percent ROI annually and the lower-paid worker's account makes 5 percent, then balance differentials generated from the original investment will increase from 11 times to 28 times after 20 years, 44 times after 30 years, 70 times after 40 years and 112 times after 50 years (as shown in Table 3). Balance differentials are far greater if the lower-paid worker's account makes only 3 percent, rising to 152 times after 40 years and 293 times after 50 years.

Table 3 Growth of Retirement Funds Invested by Low- and Higher-Wage Workers, Compared at Different Rates of Return

		Amount Invested	Growth in Balance				ROI
Income	Tax Rate	10% of Salary Plus Half of Tax Savings	20 Years	30 Years	40 Years	50 Years	
\$10,000	10%	\$1,050	\$2,786	\$4,538	\$7,392	\$12,041	at 5% ROI
			\$7,064	\$18,322	\$47,522	\$123,260	at 10% ROI
\$100,000	30%	\$11,500	\$30,513	\$49,702	\$80,960	\$131,875	at 5% ROI
			\$77,366	\$200,668	\$520,481	\$1,349,995	at 10% ROI
How Many Times Greater is One Account Balance Than the Other? (10 = 10 times)							
10 times (before tax break effect)		11 times	11	11	11	11	at 5% ROI
			11	11	11	11	at 10% ROI
			28	44	70	112	\$10K earner at 5%, \$100K earner at 10%
			41	79	152	293	\$10K at 3%, \$100K at 10%
			4.3	2.7	1.7	1.1	\$10K at 10%, \$100K at 5%

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The myRA accounts now being organized by the federal government for people who don't have access to retirement plans channel invested money into derivatives of government-issued bonds guaranteeing an ROI near the rate of inflation. While myRAs may serve a valuable purpose in giving young people a way to accumulate seed capital in a stable environment, investment professionals might argue that they are a questionable choice of long-term investment for people in this age group because of the very low ROI. Something like a myRA, however, could make more sense for the very old living primarily on fixed incomes seeking to protect small accounts from inflation and sudden market fluctuations, especially if it could deliver a somewhat higher yield along with a stream of income protected from inflation.

If the risk-taking behavior is reversed in the above example, the wealth gap closes. If the higher-paid person puts her \$11,500 in a conservative fund earning 5 percent and the lower-paid person puts his \$1,050 in a higher-risk fund that averages 10 percent ROI, then the 11-1 differential diminishes to just over 4 to 1 in 20 years and to almost 3 to 1 in 30 years. The wealth gap virtually disappears after 50 years.

Risk tolerance involves the relationship between what a person has in assets compared to what they can afford to lose. In preparing a report for the Society of Actuaries' 2014 Annual Meeting & Exhibit,² I began developing the equation below to illustrate how retirees' need for funds to meet the basic expenses of living may constrain their ability to tolerate investment risk.

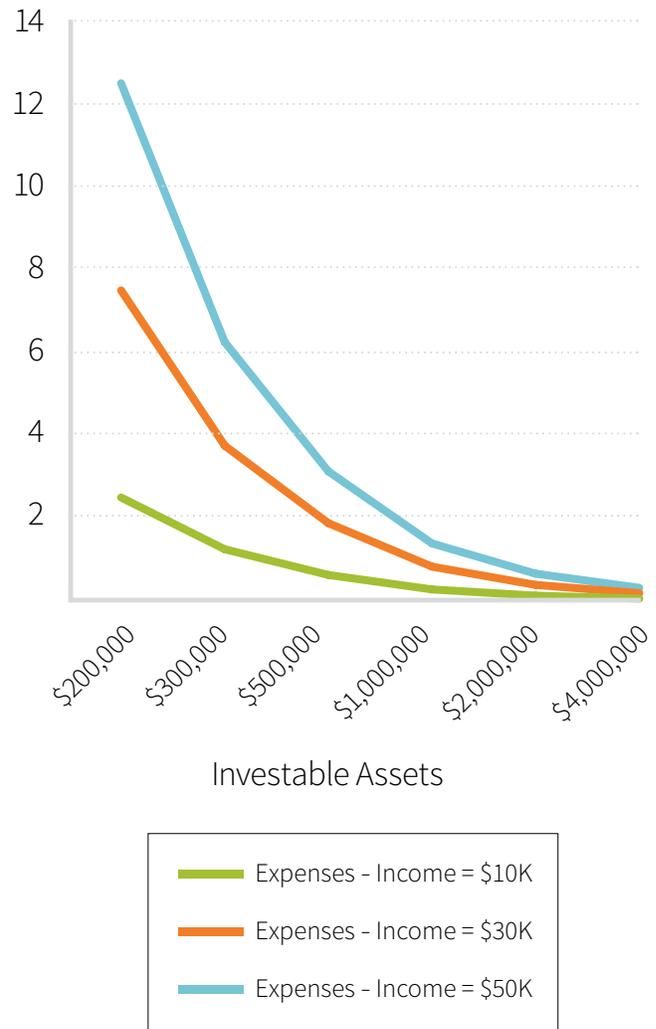
$$\text{Relative Investment Risk} = \frac{\text{What I need}}{\text{What I have} - \$\$ \text{ Risked}}$$

or, when underlying concepts are expanded:

$$\text{Relative Investment Risk} = \frac{\text{Expenses Exceeding Secure Income} \times \text{Expected Years of Life}}{\text{Investable Assets} - \text{Maximum Potential Loss of } \$\$ \text{ Invested}}$$

Figures 1 and 2 use this equation to illustrate the variance in investment risk tolerance for retirees

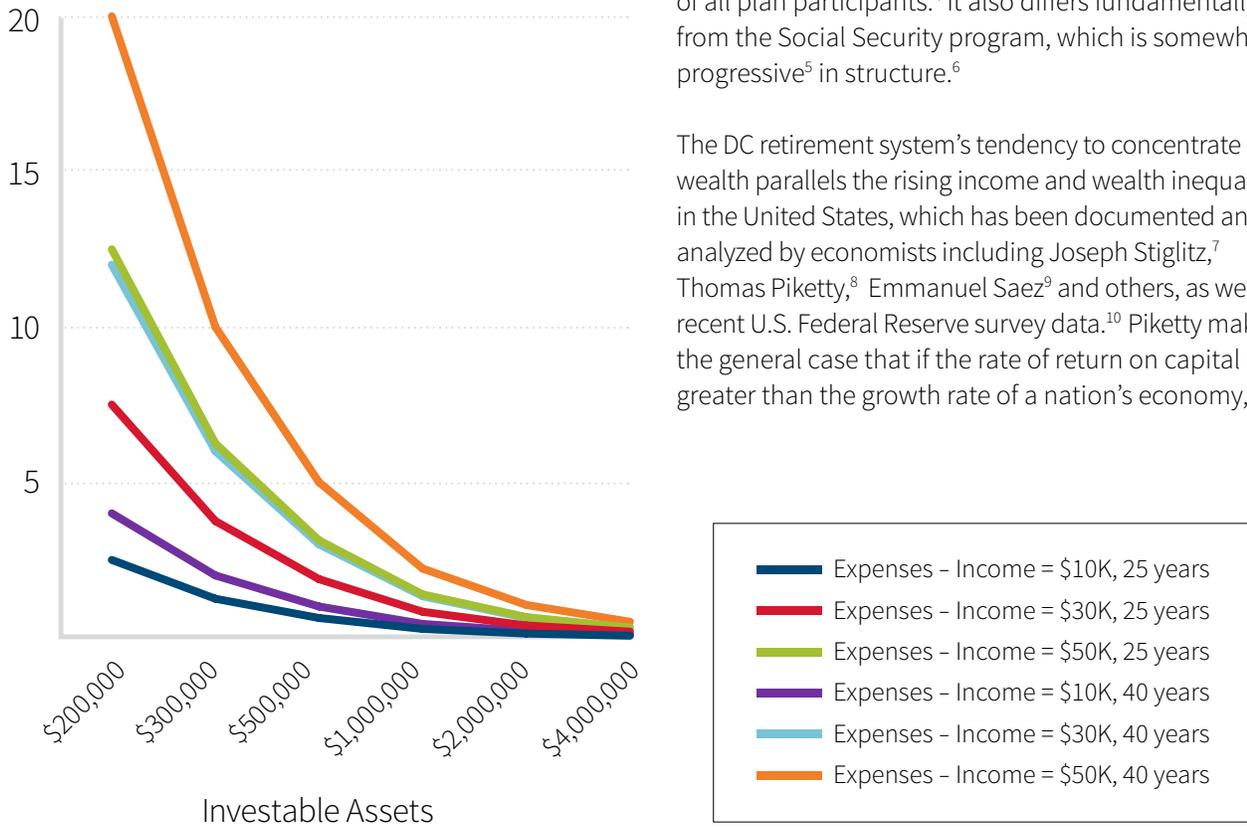
Figure 1 Retiree's Relative Investment Risk: The Higher the Value, the Greater the Perceived Risk (\$100K Investment, 25 Years of Expected Life)



deciding how to invest funds in a retirement account depending on a number of factors. Scale is arbitrary and for illustrative purposes only. In this model, the more that expenses exceed secure income such as Social Security (the numerator), the greater the risk. The greater the difference between total investable assets and total potential losses (the denominator), the less the risk. The more years of expected life, the greater the risk.

2 See Karl Polzer, "Financing Future LTSS and Long Life Through More Flexible 401(k)s and IRAs," *Managing the Impact of Long-Term Care Needs and Expense on Retirement Security Monograph* (Schaumburg, IL: Society of Actuaries, 2014).

Figure 2 Retiree’s Relative Investment Risk: The Higher the Value, the Greater the Perceived Risk (\$100K Investment, 25 & 40 Years of Expected Life)



The DC system magnifies wealth inequality through differences in individual risk tolerance and returns on investment. This contrasts with the disappearing defined benefit system, in which fiduciaries and institutional investors³ manage pooled assets on behalf of all plan participants.⁴ It also differs fundamentally from the Social Security program, which is somewhat progressive⁵ in structure.⁶

The DC retirement system’s tendency to concentrate wealth parallels the rising income and wealth inequality in the United States, which has been documented and analyzed by economists including Joseph Stiglitz,⁷ Thomas Piketty,⁸ Emmanuel Saez⁹ and others, as well as recent U.S. Federal Reserve survey data.¹⁰ Piketty makes the general case that if the rate of return on capital is greater than the growth rate of a nation’s economy,

3 See Alicia H. Munnell et al., “Investment Returns: Defined Benefit vs. 401(k) Plans,” Center for Retirement Research Issue Brief, no. 52 (September 2006).

4 The defined benefit system, however, has issues of its own. For example, most workers do not have access to these traditional pension plans. Vesting periods and benefit formulas can create major barriers for workers changing jobs frequently.

5 Debate continues over whether Social Security is more progressive or regressive in structure (that is, whether the program tends to redistribute funds from the wealthier to the poorer, or vice versa). Progressive characteristics include that Social Security benefits are distributed in a narrower range than individual incomes and asset levels in general. Regressive characteristics include that, unlike the income tax, Social Security tax rates are not adjusted by income and Social Security taxes are not levied on income exceeding a set amount.

6 An argument can be advanced that anticipated income from Social Security, which is indexed to keep up with the cost of living, complements the DC system in that its presence allows individuals to take more investment risk. Furthermore, the barriers to entry, risks and inequity inherent in the DC system, could lead policymakers to consider bolstering Social Security benefits for those at the lower end of the economic spectrum (rather than trying to displace Social Security benefits with private accounts, as has been debated in the past).

7 See Joseph Stiglitz, *The Price of Inequality: How Today’s Divided Society Endangers Our Future* (New York, NY: W.W. Norton, 2013).

8 See Thomas Piketty, *Capital in the Twenty-First Century*, trans. Arthur Goldhammer (Cambridge, MA & London, UK: The Belknap Press of Harvard University Press, 2014).

9 See Emmanuel Saez and Gabriel Zucman, “Wealth Inequality in the United States since 1913,” (October 2014).

10 See Jesse Bricker et al., “Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances,” *Federal Reserve Bulletin* 100, no. 4 (September 2014). The survey is done every three years.

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then wealth will tend to concentrate at the top of the economic spectrum. Growing awareness of this phenomenon has raised many concerns. Without shifts in policy, greater concentration of wealth could lead to a smaller middle class; higher levels of poverty; greater pressure for spending to meet the needs of the elderly, disabled and poor; constrained aggregate demand for goods and services; and less capacity to raise tax revenue.

To gain insight into why people who begin with more capital have higher rates of return, Piketty examined available data on the financial performance of university endowments in the United States and found that returns increase rapidly with the size of the endowment. Portfolios of all sizes endowments were highly diversified. However, the larger endowments were far more likely to use “alternative investment strategies,” including higher-yield strategies such as including shares in private equity funds, unlisted foreign stocks, hedge funds, derivatives, real estate and raw materials, and other relatively high-risk options. He notes these kinds of investments require sophisticated expert advice that is costly and may not be available to smaller portfolio managers.¹¹

Building on Piketty’s insights, this paper suggests that differences in rates of return may result, not only from inability to afford the best investment advice. Lower rates of return can naturally result from the lower risk tolerance of a potential investor who cannot afford to lose savings that may be needed for survival. In theory, the DC system, pinioned on a base of Social Security, could offer all workers an opportunity to share in the benefits of a free-market economy. For this to become reality, however, would require major changes. These include getting all Americans started in the retirement system at an early age and invested in options that provide the best long-term chance of financial security.

In the United States, many ideas have been advanced to help reduce wealth inequality that could be applied to the DC system. The Urban Institute, for example, recently included “establishing automatic savings in retirement plans” and “matched savings such as universal children’s savings accounts” in a list “promising policies to shrink wealth inequality and racial wealth gaps.”¹² Other proposals in the United States include setting up automatic IRAs;¹³ setting up and funding “seed accounts” for newborns;¹⁴ and setting up and funding “starter IRAs” while providing hands-on financial education for young people to prepare them to navigate the DC retirement system.¹⁵

Some states and cities are experimenting with models for universal accounts geared at saving for college and promoting long-term financial inclusion. In Oklahoma’s SEED OK experiment, accounts were opened automatically for every child in a treatment group. A small initial deposit was made and held in state 529 college savings accounts and financial education was provided. Versions of this type of approach have been implemented in Singapore, Canada, Korea, the United Kingdom as well as Maine, Nevada, Connecticut and Rhode Island. In the Oklahoma program, only one family chose not to participate and initial deposits grew by more than 40 percent over seven years, despite initial losses during the Great Recession, according to a recently published evaluation.¹⁶

Many of the United States’ trading partners offer models for near-universal savings and retirement systems. Under the Pensions Act of 2008, Great Britain is setting up a system in which workers must opt-out of retirement savings plans, rather than opt-in. The United Kingdom also has created the [National Employment Savings Trust](#) (NEST) to serve those who do not have an employer pension; NEST will function as a low-fee pension scheme in competition with existing institutions and funds. Features of the new system include automatic enrollment, mandated

11 See Piketty, *Capital in the Twenty-First Century*, 447–51.

12 See “[Nine Charts About Wealth Inequality in America](#),” Urban Institute, accessed March 15, 2016.

13 See David C. John, “[Pursuing Universal Retirement Security Through Automatic IRAs and Account Simplification](#),” Testimony before the Committee on Ways and Means, U.S. House of Representatives (April 17, 2012).

14 See “[Congressman Crowley Announces Plan to Create a Savings and Investment Program for American Families](#),” press release (March 4, 2014).

15 See Karl Polzer, “[Proposal: Create a Universal Retirement Platform Including Starter IRAs](#),” Center on Capital & Social Equity (November 2015).

16 See Sondra Beverly, et al., “[Research Brief: The SEED for Oklahoma Kids Child Development Account Experiment: Accounts, Assets, Earnings, and Savings](#),” Washington University in St. Louis, CSD Research Brief, no. 15–29 (September 2015).

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contributions and a choice of diversified investment funds, including those based on a person's age.¹⁷ Australia's "superannuation" system requires employers to contribute a percentage of employees' income into diversified retirement funds managed by trustees.¹⁸ By 1999, 97 percent of Australia's full-time employees and 76 percent of part-time employees were covered by the superannuation system. Over the years, Australia has increased required contributions and continued to refine the system, which has been credited with raising levels of capital accumulation and improving retirement security.¹⁹

In conclusion, increasing inequality, wealth concentration and economic insecurity have emerged as major issues in the United States and most other Western nations. The United States' defined contribution retirement savings system presents a laboratory that may provide some clues about how wealth is concentrating. Unless major policy changes are made, the American retirement savings system is likely to continue leaving a good share of the population without adequate savings and accelerate growing disparities in wealth.

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17 For a summary of the new U.K. retirement savings requirements, see ["New Pension Rules,"](#) National Employment Savings Trust, retrieved March 14, 2016.

18 See Michael E. Drew and Jon Stanford, ["A Review of Australia's Compulsory Superannuation Scheme after a Decade,"](#) University of Queensland, School of Economics, Discussion Paper, no. 322 (March 2003).

19 Nick Summers, ["In Australia, Retirement Saving Done Right,"](#) *Bloomberg Business*, May 30, 2013.