

# Saving for a Bleaker Tomorrow

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iOMe Challenge 2010

This essay is written in response to the iOMe Challenge 2010:

Demonstrate and support three significant differences that will exist in our economy forty years from today if the U.S. personal saving rate is sustained at 6% versus the rate that has prevailed for the past decade.

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## **Executive Summary**

The Millennial generation in the U.S. faces greater expected retirement needs, yet it has come of age in a period of declining household savings. A combination of reduced defined benefit availability, threats to Social Security and Medicare, increasing public debt, rising taxes, reduced expectations of economic growth and asset yields, and increasing longevity suggest that Millennials need to save more than prior generations. Evidence from nationally representative surveys suggests that 20-somethings are saving less now than in the recent past, and may have fallen even further behind during the Great Recession after loading up on housing debt. There is also ample evidence that individual investors in general do not have the knowledge or patience to make effective investment decisions within discretionary retirement accounts. Perhaps of even more concern is the widening disparity in saving among the Millennials due to greater individual responsibility for funding retirement income coupled with low financial literacy and an increasingly complex financial marketplace.

To increase savings rates, we suggest an emphasis on improving financial knowledge and marketing that highlights the consequences of low retirement savings to help young people visualize the tradeoff from the choices they make today. In addition to generating increased awareness of the benefits from saving, the entire system of retirement saving in the U.S. needs to be simplified in order to improve participation rates, tax efficiency and investor performance. We propose improved disclosure that allows investors to see how their savings translates into an annuity stream at retirement, simplified investment options that allow the average investor to make better choices and more realistic employer participation rates that will lead to a more progressive, portable retirement savings system that is more likely to provide an adequate retirement income for a greater proportion of today's young investors.

## Introduction

The Millennial generation - also known as Gen Y (to follow Gen X) or Generation Next (for the same reason) or the Net Gen - faces a set of unique retirement savings challenges. For Millennials, retirement may seem like a distant concept both in years and in relative importance. Not thinking about or planning for an event so far into the future may be understandable and even rational,<sup>1</sup> considering the multitude of more immediate demands. However, we recognize the need for everyone to financially prepare for their retirement, and this includes us, the Millennial generation. This essay is our attempt to help our fellow young Americans recognize the need to make changes and we identify some simple ways these changes can be accomplished. We also share suggestions for improvement in public policy as it relates to retirement preparation.

Before we dive into how the economy is going to look in forty years if things continue as they have in the recent past, we think it would be appropriate to understand a little more about household saving. The declining personal saving rate over the last few decades has shifted as a response to economic uncertainty. To set the stage for our analysis, we begin with an overview and critique of the personal saving rate and its use as a measure for retirement preparation. We then share three main differences that will exist if the Millennial generation does not start saving more than they are. We conclude by outlining the changes we feel will help this generation better prepare for their golden years.

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<sup>1</sup> Hanna, S., Fan, J. X. & Chang, Y. R. (1995). Optimal life cycle savings. *Financial Counseling and Planning*, 6, 1-15.

## Overview of the Personal Saving Rate

The calculation of personal saving is essentially any personal income that is left after expenses and taxes.<sup>2</sup> However it involves more than the saving simply of individuals. It includes entities that serve as major sources of household reserves outside of liquid financial accounts. Because of their pass-through tax structure, personal saving also includes the savings of proprietorships and partnerships.<sup>3</sup> In addition, personal saving includes "...nonprofit institutions that primarily serve households, life insurance carriers, private noninsured welfare funds, private noninsured pension plans, publicly administered government employee retirement plans, and private trust funds."<sup>4</sup>

To calculate the personal saving rate, aggregate personal saving is divided by aggregate disposable personal income (DPI).<sup>5</sup> DPI is simply personal after-tax income. In plain English, the personal saving rate is the ratio of how much a nation's population saves in a given year compared to how much money that nation's population earned.

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<sup>2</sup>Bureau of Economic Analysis. A Guide to the National Income and Product Accounts of the United States. Available at <http://www.bea.gov/national/pdf/nipaguid.pdf>

<sup>3</sup>Ibid.

<sup>4</sup> Ibid., p.12

<sup>5</sup> Ibid.

### History of the Personal Saving Rate

Over the last decade, the personal saving rate in America has averaged roughly 3%, considerably lower than historical averages and other industrialized nations.<sup>6</sup> As shown in



**Figure 1: Historical personal saving rate**

Figure 1, the saving rate has been declining fairly steadily since the early 1980s, when it was roughly 10-12%, and approaching 0% in early 2005. To put things in perspective, the average saving rate for the last fifty years is just over 7%, much closer to where we are today. Most recently the saving rate has been near 6%. Surprisingly, the saving rate took a noticeable increase around the same time that Lehman Brothers collapsed, and the personal saving rate has fluctuated between 5% and 6% since late 2008.

<sup>6</sup>Kotlikoff, Laurence J. "Saving." The Concise Encyclopedia of Economics. Available at <http://www.econlib.org/library/Enc/Saving.html>.

Interestingly, the fairly steady decline in the personal saving rate over the last two decades corresponds with the lifespan of the Millennial generation, meaning that Millennials have lived their entire lives (until very recently) with a declining personal saving rate. Just as the Great Depression had an impact on the financial behaviors of the Depression Babies generation,<sup>7</sup> we would imagine that an entire childhood of declining national savings would also have an impact on Millennials. However, the experiences of the more recent Great Recession may have a larger impact on their financial behavior, but more research needs to be done to know for sure.

Important in this discussion on saving is how the United States compares internationally.<sup>8</sup> Thirty years ago Japan had a saving rate of almost 25%, considerably higher than the 10-12% rate in the U.S. However, it has steadily declined to the point where we are almost in the same situation. Italy experienced a similar decline, although it has not declined nearly as far. Germany has maintained a fairly flat saving rate of 10-15% over the last thirty years. The saving rate in France declined during the '80s, from almost 20% to roughly 8%, but then it rebounded and has been fairly steady around 10-12% since that time. Canada saw a considerable increase in its saving rate through the '70s to a peak of roughly 20%, but it has steadily declined since that time to levels near those in the U.S. The United Kingdom has experienced the most volatile fluctuations over the last thirty years, starting near 5%, increasing to 10% around 1980, and then falling to 0% in the late '80s. The rate rose again in the early '90s, and has been steadily declining since then, now to the point where the saving rate in the U.K. has been negative for a few years. Overall,

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<sup>7</sup> Malmendier, U. and Nagel, S. (2009) Depression babies: Do macroeconomic experiences affect risk taking. Available at: [http://www.econ.berkeley.edu/~ulrike/Papers/DepressionBabies\\_37.pdf](http://www.econ.berkeley.edu/~ulrike/Papers/DepressionBabies_37.pdf)

<sup>8</sup> Hufner, F. & Koske, I. (2010). Explaining household saving rates in G7 countries: Implications for Germany. Organisation for Economic Co-Operation and Development, Economics Department Working Papers No. 754

four of the G7 nations are in a similar plight as the U.S., with lower than desired personal saving rate. Only Germany, France, and perhaps Italy may not be as concerned as the rest.

### **The Personal Saving Rate as a Measure of Retirement Preparedness**

We may be tempted to celebrate the recent increase in our country's personal saving rate. However, changes in that rate may not reflect how well prepared households will be for retirement.<sup>9</sup> What is typically cited as the personal saving rate is based on calculations of the National Income and Products Accounts (NIPAs). Because the focus of the NIPAs is current production, it has some weaknesses in accurately assessing personal saving. For example, the NIPA personal saving rate excludes capital gains even though equity investment is one of the most important components for wealth accumulation and retirement preparation, especially for Millennials who have a long time until retirement.<sup>10</sup> In planning for retirement, capital gains are frequently treated as substitutes for personal saving. Part of the recent decline in the saving rate may be due to the dramatic rise in equity prices (and consequently capital gains) in the '90s.<sup>11</sup> Another part is due to the rise in capital gains within pension plans that made many of these plans overfunded, thereby preventing additional contributions.<sup>12</sup> Reducing contributions to pension funds decreases the personal saving rate but it does not necessarily reflect a decline in retirement preparation.

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<sup>9</sup> Perozek, M., & Reinsdorf, M. (2002). Alternative measures of personal saving. *Survey of Current Business*, April, 13-24.

<sup>10</sup> Kyrychenko, V. (2008). Optimal asset allocation in the presence of nonfinancial assets, *Financial Services Review*, 17(1), 69-86.

<sup>11</sup> Perozek, M., & Reinsdorf, M. (2002). Alternative measures of personal saving. *Survey of Current Business*, April, 13-24.

<sup>12</sup> Bosworth, Barry, *Why Don't Americans Save?* (November 1, 2004). CRR Working Paper No. 2004-25. Available at SSRN: <http://ssrn.com/abstract=1147692>



Other causes may help explain the recent decline in the personal saving rate, although they may not reflect a decline in retirement preparation. Part of the decline could be attributable to the extension of Social Security benefits to employees of state and local governments without a retirement plan. This change in benefits led some states to reduce benefits for new employees, leading to a decline in pension contributions.<sup>13</sup> Another concern is that the NIPA personal saving rate does not include consumer durable goods, which can be viewed as a type of investment.<sup>14</sup> If we include durable goods in the NIPA calculation, the personal saving rate in various years increases between 0.5% to 3.5%.<sup>15</sup>

Another option is to turn the Flow of Funds Accounts (FFA), calculated by the Federal Reserve Board, which may provide a better estimate of retirement preparedness.<sup>16</sup> Based on the FFA, the personal saving rate for the second quarter of 2010 is 9.7%, considerably higher than the 6.1% rate based on NIPA.<sup>17</sup> If we include consumer durables the personal saving rate is 10.9%, which is within the suggested range many experts recommend.

Regardless of how it is calculated, the bottom line is that the personal saving rate is based on aggregate data, meaning that the saving rate is the net difference between those in the country who are saving and those who are spending down their wealth. Essentially, if more households are drawing down their wealth than are contributing to a growing retirement fund, then the saving rate would be negative. Because of its design, the personal

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<sup>13</sup> Ibid.

<sup>14</sup> Perozek, M., & Reinsdorf, M. (2002). Alternative measures of personal saving. *Survey of Current Business*, April, 13-24.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Federal Reserve Board. (2010). Flow of Funds Accounts of the United States. Federal Reserve Statistical Release, September. Available at [www.federalreserve.gov/releases/z1/current/z1.pdf](http://www.federalreserve.gov/releases/z1/current/z1.pdf)

saving rate may not accurately represent the actual saving rate of the average American household. Further complicating this measure is determining how much this saving is being earmarked for retirement, to say nothing about potential differences among cohorts.

Despite the possible explanations of the decline in the personal saving rate, a drop in savings in retirement accounts does account for a considerable portion of the decline in the personal saving rate,<sup>18</sup> which is cause for concern. How do the Millennials fare in retirement preparation? For this particular cohort, the 6% personal saving rate may not be an accurate description. Using calculations from the 1995, 2001, and 2007 administrations of the Survey of Consumer Finances (SCF), we looked at households headed by someone age 21-30. Because the survey does not include information about expenses, it is difficult to calculate how much individuals save. However, we can look at comparisons of net worth and income to assess the ratio of accumulated wealth to income. We find that median net worth to median income steadily declined from 35.4% in 1995 to 22.4% in 2007. Despite the decline, the more startling fact is that accumulated wealth in 2007 is roughly equivalent to 2.5 months income, not even meeting common recommendations for emergency fund levels. If we focus solely on retirement preparation, the median Millennial household has no accumulated retirement savings. This lack of saving may be optimal for some young households who expect a large increase in income,<sup>19</sup> but that may not be the best description of the average Millennial.

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<sup>18</sup> Bosworth, Barry, *Why Don't Americans Save?* (November 1, 2004). CRR Working Paper No. 2004-25. Available at SSRN: <http://ssrn.com/abstract=1147692>

<sup>19</sup> Hanna, S., Fan, J. X. & Chang, Y. R. (1995). Optimal life cycle savings. *Financial Counseling and Planning*, 6, 1-15.

Just how much should a Millennial household have saved for retirement? That is not an easy question to answer. Some argue that deciding on an appropriate saving rate for younger Americans is not possible.<sup>20</sup> Others suggest that even an attempt at adequate retirement saving for this generation is hopeless.<sup>21</sup> The particular measurements of how much they should save may be difficult to identify due to the long time horizon and considerable uncertainties about a number of factors that directly affect retirement preparedness. However, we do feel that some broad assessments can be made. Americans in general are not doing well at retirement preparation, including the Millennial generation, and they need to save more than they are. TIAA-CREF suggests that we should target a true personal saving rate of 10%<sup>22</sup> and actually save 10% of what we earn. Unless some considerable changes are made, the hopeful picture of a pleasant retirement is not likely to occur for many Millennials.

### **Three Main Differences**

We would like to provide a picture of what the retirement horizon may look like for Millennials if they continue to follow their current course of retirement preparation. We have identified three main concerns:

1. If Millennials do not start saving more, the existing entitlement programs will be overburdened and grossly insufficient. Compounding this problem is the

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<sup>20</sup>Skinner, Jonathan. (2007). Are you sure you're saving enough for retirement? *Journal of Economic Perspectives*, 21(3), 59-80.

<sup>21</sup>Christine Weller, of the Economic Policy Institute, quoted in Dugas, Christine. (2002). "Retirement crisis looms as many come up short." *USA Today*, July 19.

<sup>22</sup> The Raise the Rate competition, sponsored by TIAA-CREF. See <http://www.tiaa-cref.org/public/land/raisetherate/index.html> for more information.

- growing government debt burden that will fall on the shoulders of this and future generations.
2. The Millennial generation will be the first generation in the history of America to be less well off than their predecessors. Historically in this country, individuals have achieved a higher standard of living than the previous generation. If changes are not made, this is unlikely to continue for the Millennial generation.
  3. The increasing complexities of financial markets coupled with the increasing individual responsibility for managing retirement assets will create a growing disparity between those who properly manage their wealth and those who do not. If current trends continue, most individual investors will continue to underperform the market.

## **#1: Government Debt and Overburdened Entitlement Programs**

### ***Debt Worries***

Little legislative effort has sought to deal with persistent federal deficit spending. The current generation of retirees may not be exposed to the full consequences of a large national debt. However, future generations have every reason to be concerned about the accumulated federal debt. The national debt has grown considerably larger in the recent past. Two wars, a significant tax cut, economic stimulus programs, and anemic economic growth generating less revenue have all contributed to the problem. The debt level is currently \$13.4 trillion, or 93% of GDP.<sup>23</sup> In June, the Treasury Department reported to

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<sup>23</sup> U.S. Department of the Treasury Bureau of the Public Website (2010). Available at <http://www.treasurydirect.gov/NP/BPDLogin?application=np>

Congress that the U.S. debt is projected to climb to \$19.6 trillion by 2015, 102% of GDP.<sup>24</sup>

In only a few years, the U.S. is targeted to owe more in debt than is produced in the country in an entire year.

As in Europe, the growth in entitlement programs is the primary issue limiting our ability to balance the budget. Recently, federal spending for mandatory programs has reached nearly 60% of federal outlays, up from 27% in 1975.<sup>25</sup> Three programs – Social Security, Medicare, and Medicaid – are responsible for most of this growth. Without sweeping legislative changes, outlays for these programs are expected to increase at a rate greater than inflation over the next 75 years.<sup>26</sup>

Two trends are responsible for the recent and projected spending growth: the rapid growth of per capita health care costs and the aging population. As the Baby Boomer generation retires, the balance between workers and retirees starts shifting. The Congressional Budget Office (CBO) forecasts a 20% increase in Social Security outlays by 2035 and a 80-100% increase in federal spending on health care programs. These programs include Medicare, Medicaid, the Children's Health Insurance Program (CHIP), and various insurance subsidies provided by recent health care legislation.<sup>27</sup>

### ***Consequences for Millennials***

Given the recent developments in Europe, one needs to consider the potential for a fiscal crisis. The U.S. government has long been assumed to be an unconstrained borrower.

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<sup>24</sup> *U.S. debt to rise to \$19.6 trillion by 2015.* (Reuters). June 8, 2010.

<http://www.reuters.com/article/idUSN088462520100608>

<sup>25</sup> A CBO Report: The Long-Term Budget Outlook. June 2010 (Revised August 2010). Available at <http://www.cbo.gov/ftpdocs/115xx/doc11579/06-30-LTBO.pdf>

<sup>26</sup> The 2009 Financial Report of the U.S. Government. U.S. Department of the Treasury. Available at <http://www.fms.treas.gov/fr/09frusg/09frusg.pdf>

<sup>27</sup> A CBO Report: The Long-Term Budget Outlook. June 2010 (Revised August 2010). Available at <http://www.cbo.gov/ftpdocs/115xx/doc11579/06-30-LTBO.pdf>

However, concern is growing that investors may lose confidence in the ability of the government to manage the budget. If this lack of confidence grows, the ability to borrow at affordable rates may diminish. Currently, approximately 7% of federal outlays are devoted to interest payments, which may increase significantly if interest rates rise. A rise in interest rates is highly likely considering the current historical low rates.

If investor confidence shifts abruptly, a fiscal crisis may ensue. Recent developments in Europe have increased awareness about this possibility. The European Central Bank has made aggressive moves to prevent debt contagion from spreading to other member states. Many are drawing parallels between these developments and the current fiscal situation in the U.S.

High debt levels may negatively affect long-term growth. Some economists are now warning that excessive debt will limit future GDP growth. In recent testimony to the bipartisan fiscal commission, University of Maryland Professor Carmen Reinhart summarized his work with Harvard University Professor Kenneth Rogoff.

*“The empirical relationship between (gross central) government debt and real GDP growth is fairly weak for debt/GDP ratios below 90 percent of GDP. At or above 90 percent, growth deteriorates markedly, with median growth rates falling by 1 percent, and average growth rates falling considerably more. Surprisingly, we find that the threshold for public debt is similar in both advanced countries and emerging markets.”<sup>28</sup>*

Public spending growth and economic growth are inversely related, particularly in developed economies. Government size also impacts economic growth.<sup>29</sup> If left

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<sup>28</sup> Kenneth Rogoff. Presentation to the National Commission on Fiscal Responsibility and Reform. May 26, 2010. [http://www.fiscalcommission.gov/meetings/reinhart\\_presentation\\_5-26-2010.pdf](http://www.fiscalcommission.gov/meetings/reinhart_presentation_5-26-2010.pdf)

<sup>29</sup> Afonso, A. & Furceri, D. (2008). Government size, composition, volatility, and economic growth. European Central Bank Working Paper Series, No 849.

unchanged, entitlement growth will undoubtedly lead to higher taxation. Increased taxation will in all likelihood occur at the state and federal level. Large increases in payroll and income taxes will be needed to fund these entitlement programs and other activities of the government. It is important to note that past surpluses in some programs, resulting from favorable demographics, were not earmarked for future expenditures. Instead, these surplus funds were used, at least in part, to fund the other activities of the government.

State budgets have also come under increasing pressures recently. An increasing proportion of state funds have been allocated to paying for the salaries, benefits and retirement of state employees. One estimate of these liabilities is more than \$5 trillion dollars.<sup>30</sup> State and local governments are now considering ways to trim direct and indirect compensation packages. Several states are also considering increasing taxes to cover these liabilities.

Another potential outcome of high debt levels may be a lower equity premium. If we expect low economic growth and higher taxation, future equity returns will likely be lower. It would indeed be unfortunate if younger generations are called on to pay more while having less.

### ***Potential Solutions***

We can easily see that entitlement program reform is needed. Luckily, momentum may be building to make the Social Security program more sustainable. Some ideas being considered include: increasing the full retirement age, increasing the minimum retirement age, reducing inflation adjustments, means testing benefits and increasing payroll taxes.

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<sup>30</sup> Novy-Marx, R. & Rauh, J. (2010). Public pension promises: How big are they and what are they worth? University of Chicago Working Paper.

Most likely, changes will consist of some combination of increased payroll taxes and decreased benefits. We can reasonably assume similar results for Medicare, Medicaid and other health programs.

Increasing personal savings is a critical component of entitlement program reform, especially if necessary adjustments are made to Social Security. Any reform will very likely include a reduction in benefits for younger workers, so those lost benefits will need to be replaced with personal savings. If changes aren't made to personal savings, Millennials will need to adjust their expectations of their target retirement age and of the quality of their retirement.

## **#2: A Reduction in Standard of Living**

Millennials must ask themselves how their retirement savings behavior will impact their lifestyle in retirement. With reduced benefits from entitlement programs and the disappearance of defined benefit (DB) plans, the answer to this question is quite simple. Those who save and plan for retirement will live a much better lifestyle than those who do not. To better understand this scenario, Millennials must be familiar with the basic constructs of defined contribution (DC) plans. Under DC plans, the inputs that determine retirement wealth are: how much is saved, how those savings are invested, and the returns generated by the chosen investments. This is much different than DB plans, which produced benefits based on income and years of service. In fact, if two people start careers with the same company, have identical wages, and retire at the same time, they will likely have very different retirements because of the differences in the three inputs. This indicates that those participating in DC plans are subject to a wide disparity in retirement outcomes caused by their own actions. On a continuum where planners and savers are at



one end of the spectrum and procrastinators and spenders are on the other end, Millennials must embrace the idea of self-reliance and active preparation so that they can be more adequately prepared.

To get a better picture of the current state of retirement preparedness for Millennials, we again use data from the 1995, 2001, and 2007 Survey of Consumer Finances. While this survey is not longitudinal, it is nationally representative and allows us to observe the financial makeup of our population of interest over time. The first significant observation is that the median value of financial assets decreased for both those in their 20s and 30s between 2001 and 2007. As a result, the observed decrease in mutual funds, stocks, and retirement accounts for households in their 30s is not surprising. What is surprising, and of utmost concern, is that those in their 20s have median values of zero for mutual funds, stock, and retirement accounts in all three time periods. This is direct evidence that young households on the aggregate are not saving for retirement. It is interesting to note that while retirement savings appear to be decreasing or non-existent, the percentage of households with defined benefit plans is also decreasing, suggesting an even greater reduction in retirement preparedness.

To get a more complete picture of how Millennials are allocating their resources we also looked at housing wealth, mortgage debt, credit card debt, and net worth. Our observations indicate huge increases in house prices and mortgage debt over the three time periods, while credit card debt is roughly stable. We also observe sharp increases in net worth but attribute this to changes in home equity. When the evidence is viewed together, it becomes apparent that many in their 20s and 30s are overinvesting in housing, which is likely hindering their ability to save for retirement, thereby increasing the

likelihood that they will face significant retirement shortfalls. This problem is likely compounded by the bear market beginning in 2008, which is not captured by our data. If this trend continues, Millennials will not only fall short of meeting their retirement goals, they may also be the first U.S. generation to be worse off than the generation before them.

	1995		2001		2007	
	21-30	31-40	21-30	31-40	21-30	31-40
<b>Financial Assets</b>						
Mean	\$24,478	\$48,858	\$41,739	\$91,611	\$18,937	\$72,077
Median	\$3,380	\$11,491	\$3,509	\$15,906	\$3,400	\$14,220
<b>Mutual Funds</b>						
Mean	\$1,543	\$4,009	\$3,432	\$12,065	\$1,442	\$9,040
Median	\$0	\$0	\$0	\$0	\$0	\$0
<b>Stocks</b>						
Mean	\$1,318	\$3,298	\$11,270	\$17,063	\$2,050	\$9,997
Median	\$0	\$0	\$0	\$0	\$0	\$0
<b>Retirement Quasi-Liquid</b>						
Mean	\$7,491	\$18,472	\$5,748	\$29,790	\$7,410	\$29,025
Median	\$0	\$135	\$0	\$2,924	\$0	\$1,820
Have Pension	43%	58%	39%	59%	36%	56%
<b>Primary Residence</b>						
Mean	\$32,463	\$83,264	\$43,307	\$116,329	\$64,018	\$171,623
Median	\$0	\$40,556	\$0	\$76,024	\$0	\$110,000
<b>Home Equity</b>						
Mean	\$10,250	\$33,930	\$16,213	\$50,838	\$23,881	\$69,114
Median	\$0	\$6,759	\$0	\$11,696	\$0	\$18,000
<b>Total Assets</b>						
Mean	\$78,218	\$186,665	\$120,801	\$295,468	\$143,173	\$354,746
Median	\$27,524	\$107,204	\$23,579	\$130,702	\$20,800	\$187,900
<b>Liabilities</b>						
<b>Mortgage</b>						
Mean	\$22,098	\$48,897	\$26,758	\$64,450	\$39,494	\$99,500
Median	\$0	\$0	\$0	\$25,731	\$0	\$55,000
Credit Card	\$1,685	\$2,624	\$2,009	\$2,741	\$1,725	\$3,664
<b>Total Debts</b>						
Mean	\$33,954	\$63,574	\$41,586	\$84,378	\$57,611	\$134,124
Median	\$10,680	\$27,916	\$11,696	\$48,304	\$12,700	\$80,400
<b>Net Worth</b>						
Mean	\$44,265	\$123,091	\$79,215	\$211,090	\$85,562	\$220,623
Median	\$11,761	\$44,869	\$10,152	\$52,047	\$7,370	\$63,900

Note: All results are in 2007 dollars and have been weighted to be nationally representative.

### **#3: Increased Individual Responsibility and Investor Performance**

Simply stated, the financial marketplace is growing increasingly complex as is the American tax system. At the same time, individuals are increasingly more responsible for their own retirement preparation. These increases in complexity naturally favor those who actually understand them or who have hired professionals (e.g. financial planners, accountants, etc.) to guide them in making more financially-wise decisions. As a result, this combination of complexity and individual responsibility may ultimately create a greater wealth disparity in our country than currently exists. In this section, we have identified a number of areas this wealth disparity problem may be exacerbated by the results of those who properly manage their wealth and those who do not.

#### ***Tax Sheltered Accounts***

By providing a mix of tax-advantaged contributions, growth, and distributions, tax-sheltered accounts are used to incentivize individuals to save for retirement. However, those with greater cognitive abilities are more likely to have tax-sheltered accounts and to contribute a greater proportion of income to those accounts.<sup>31</sup> Due to the complexity of retirement planning, these same individuals may also be more likely to be saving adequately already, suggesting that their use of tax-sheltered accounts merely represents a re-allocation of existing savings into more favorable arrangements.<sup>32</sup> As a result, those with greater cognitive abilities are likely to receive a greater tax benefit from participating in and contributing to tax-sheltered accounts, potentially creating a greater wealth disparity than existed before the availability of tax-advantaged accounts.

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<sup>31</sup> Finke, M. (2009). Cognitive ability and financial decision making. Working paper.

<sup>32</sup> Attanasio, O.P., & DeLeire, T. (2002). The effect of individual retirement accounts on household consumption and national saving. *The Economic Journal*, 112(July), 504-538.

***Investment Decisions***

Financial decisions are rarely simple, and investment decisions demand attention and cognitive resources. Lower cognitive abilities, limited attention, and behavioral biases can lead to poor financial decisions.<sup>33</sup> For example, empirical evidence abounds confirming the soundness of simple advice that investors should invest in low cost, well diversified, passive investments.<sup>34</sup> However, this simple advice is often neglected,<sup>35</sup> and decisions are often based on recent performance, advertisements, and investments that appear in the news.<sup>36</sup> The investment decision is further confounded by questions about the amount to save, asset location (tax efficiency), asset allocation, rebalancing, differences between the accumulation and distribution phase, and the general characteristics of various investment products. The remainder of this section outlines the complexity of the investment process, the various mistakes that individual investors make, and the impact of these mistakes and diminishing cognitive abilities on portfolio decisions over the lifecycle.

***Election, Location, and Amount to Save***

The complex nature of investment decisions begins with the need to elect to save for retirement. In 2007 only 36% of retirement plans had automatic enrollment provisions.<sup>37</sup> Using SCF data from 2007, the authors also find poor participation rates near 30% for

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<sup>33</sup> Frederick, S. (2005) Cognitive reflection and decision making. *Journal of Economic Perspectives*, 19, 25-42.  
Barber, B. & T. Odean (2000) Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, 55, 773-806.

<sup>34</sup> Gruber, M. (1996) Another puzzle: The growth in actively managed mutual funds. *The Journal of Finance*, 51, 783-810. Carhart, M. (1997) On persistence in mutual fund performance. *The Journal of Finance*, 52, 57-82. Barber, B., T. Odean & L. Zheng (2005) Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows\*. *The Journal of Business*, 78, 2095-2120.

<sup>35</sup> Goetzmann, W. and A. Kumar, 2005, "Why Do Individual Investors Hold Under-Diversified Portfolios?" Working paper. Yale University.

<sup>36</sup> Sirri, E. & P. Tufano (1998) Costly search and mutual fund flows. *The Journal of Finance*, 53, 1589-1622.  
Barber, B., & T. Odean (2008) All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *Review of Financial Studies*, 21, 785.

<sup>37</sup> Munnell, Alicia H., Francesca Golub-Sass, Dan Muldoon, and Richard Kopcke. 2009. "An Update on 401(k) Plans: Insights from the 2007 Survey of Consumer Finances." Working Paper 2009-26. Chestnut Hill, MA: Center for Retirement Research at Boston College.

younger individuals with low income (21-30 years old with less than \$20,000 in income). Participation increases with income and age; however, for individuals under the age of 30 the participation rate fails to exceed 90% until salary reaches \$60,000. Lack of participation means the investor foregoes matching employer contributions. Non-participation is seen despite research findings that roughly 90% of employers with over 100 participants offer some level of match.<sup>38</sup> Non-participation is primarily associated with procrastination;<sup>39</sup> specifically, investors procrastinate due to the desire for current consumption and the complexity of the decision, as represented by the negative relationship between fund offerings and participation rates.<sup>40</sup> Once an investor elects to save, the uncertainty of investment returns, longevity, health, and income replacement needs in retirement make the decision of how much to save equally difficult.

Retirement savings are also accumulated in individual retirement accounts and taxable accounts. The complexity of the tax code increases the importance of asset location and loss/gain realization decisions. The disposition effect, or the aversion to realize losses, provides insight on the lack of tax awareness of some individual investors. Tax laws also demand that the investor pay attention to the optimal location of tax-exempt, taxable, equity, and fixed income investments.<sup>41</sup> Optimal distribution strategies during retirement

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<sup>38</sup> Soto, Mauricio, and Barbara A. Butrica. 2009. "Will Automatic Enrollment Reduce Employer Contributions to 401(k) Plans?" Washington, DC: The Urban Institute.

<sup>39</sup> Beshears, J., J. Choi, D. Laibson, & B. Madrian. (2009). The importance of default options for retirement savings outcomes: Evidence from the United States. NBER working paper. Available at <http://www.nber.org/papers/w12009>

<sup>40</sup> Iyengar, Sheena S., and Mark Lepper. 2000. 'When Choice is Demotivating: Can One Desire Too Much of a Good Thing?' *Journal of Personality and Social Psychology* 79: 995-1006.

<sup>41</sup> Dammon, Robert M., Chester S. Spatt, and Harold H. Zhang, 2004, Optimal asset location and allocation with taxable and tax-deferred investing, *Journal of Finance* 59, 999—1037.

add an additional layer of complexity that leads to predictable mistakes.<sup>42</sup> These issues and frequent tax law changes often lead to poor decisions, saving paralysis, and greater wealth disparity been those who have the ability or means to navigate an overly complex tax system.

### ***Asset Allocation, Investment Selection, and Market Timing***

After asset location decisions are made, the investor is confronted with making proper asset allocation choices. Research finds that naïve diversification, home biased investments, and high percentages of company stock limit the effectiveness of asset allocation decisions.<sup>43</sup> In order to make effective asset allocation decisions, individuals must have basic knowledge of the differences between stocks, bonds, and alternative asset classes. This is problematic given research finds that only 56% of respondents know that stocks have a higher return over bonds in the long run.<sup>44</sup> Financial illiteracy can be a significant hindrance to effective investment decisions.

The investor must then decide which investments within each asset class to choose (e.g. mutual funds, ETFs, individual stocks, bonds) and whether passively or actively managed investments are appropriate. Investors appear to be attracted to recent performance<sup>45</sup> despite a lack of persistence in mutual fund returns.<sup>46</sup> The pursuit for

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<sup>42</sup> Horan, Stephen. "Withdrawal Location from Tax-Advantaged Savings Accounts in a Progressive Tax Rate Environment," *Financial Analysts Journal*, September/October 2006.

<sup>43</sup> Coval, J., and T. Moskowitz (1999), "Home bias at home: local equity preference in domestic portfolios", *Journal of Finance* 54:2045–2073. Goetzmann, W. and A. Kumar, 2005, "Why Do Individual Investors Hold Under-Diversified Portfolios?" Working paper. Yale University.

<sup>44</sup> Lusardi, A., O. Mitchell (2007). *Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education*. *Business Economics*, 35-46.

<sup>45</sup> Sirri, E. & P. Tufano (1998) Costly search and mutual fund flows. *The Journal of Finance*, 53, 1589-1622. Goetzmann, W. and A. Kumar, 2005, "Why Do Individual Investors Hold Under-Diversified Portfolios?" Working paper. Yale University.

<sup>46</sup> Berk, J. & R. Green (2004) Mutual fund flows and performance in rational markets. *Journal of Political Economy*, 112, 1269-1295.

superior portfolio management has been estimated to cost investors roughly 80 basis points per year<sup>47</sup>. In addition to these concerns, investors often fail to account for investment fees,<sup>48</sup> despite findings that costs are reliable predictors of future performance.<sup>49</sup>

Individual investors have a tendency to be active in their portfolio decisions, which consists of security selection and market timing. A *dumb money effect* exists due to the herding behavior of individuals in *selecting* investments.<sup>50</sup> The estimated cost of herding is roughly 84 basis points per year. In addition, research on investor *timing* suggests that the typical investor loses 1.35% per year versus a buy and hold strategy.<sup>51</sup> On average, investors tend to reduce their returns by trying to time the market and select superior securities. Excess trading is attributable to overconfidence and can cost over 5% in annual returns.<sup>52</sup> Simply put, the active *investor* is detrimental to wealth accumulation, yet many investors still attempt it.

Making effective investment decisions over the life cycle is challenging for any investor. The complexity of the task, cost of search, knowledge, and behavioral constraints lead to suboptimal and potentially disastrous investment outcomes for individual investors. The cost associated with the continuation of investor mistakes is significant and

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<sup>47</sup> French, K. R. (2008) Presidential Address: The Cost of Active Investing. *Journal of Finance*, 63, 1537-1573.  
Fama, E. & K. French. (2010). Luck versus Skill in the Cross Section of Mutual Fund Alpha Estimates. *Journal of Finance*, 65(5), 1915-1947.

<sup>48</sup> Barber, B., T. Odean & L. Zheng (2005) Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows\*. *The Journal of Business*, 78, 2095-2120.

<sup>49</sup> Carhart, M. (1997) On persistence in mutual fund performance. *The Journal of Finance*, 52, 57-82.

<sup>50</sup> Frazzini, A. & O. Lamont (2008) Dumb money: Mutual fund flows and the cross-section of stock returns. *Journal of Financial Economics*, 88, 299-322.

<sup>51</sup> Friesen, G. & T. Sapp (2007) Mutual fund flows and investor returns: An empirical examination of fund investor timing ability. *Journal of Banking and Finance*, 31, 2796-2816.

<sup>52</sup> Barber, B. & T. Odean (2000) Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, 55, 773-806.



can have a tremendous negative impact on retirement funding adequacy for many investors. In sum, the complexity of the investment process and human fallibility led Benjamin Graham to suggest that “the investor is his own worst enemy.” To better quantify the impact of investor performance, a DALBAR study found that for the 20 years ending December 31, 2008 the average investor experienced negative real rates of return. In other words, over long periods of time it is not uncommon for the average investor to achieve returns below inflation.

### **Recommendations**

We have just discussed what the future may look like for the Millennial generation. Government debt and entitlement program liabilities will have a huge financial impact over the next forty years, likely resulting in higher taxes and lower entitlement benefits for these young Americans. If they do not make some changes in their own retirement preparation, they are likely to experience a serious shortfall in retirement income compared to other recent cohorts. Lastly, the complexity of investment, tax, and retirement planning may contribute to a greater wealth disparity between those who understand how to prepare and those who do not.

Lest we leave any Millennials without hope for their future, this next section is dedicated to ways that their retirement outlook can be improved. We highlight a few simple changes that may help more Millennials see the need to start preparing for retirement.

### **Visualize Retirement and Increase Saliency**

Part of the problem with retirement preparation relates to a divergence between our future self and our current self. Our future self has information about what it wants

our current self to do in order to maximize the satisfaction of our future self. However, our current self may not have this very beneficial information. One recommendation we offer is to find ways to reduce the information asymmetry that exists between our future and current selves.

To accomplish this information alignment, we need to bring the future scenario closer to home. Visualization, or imaging what retirement will be like, is a great way to help our current selves connect with what our future selves would like.<sup>53</sup> By imagining the outcomes of our saving decisions, we can become more future-focused.<sup>54</sup> Moneytopia is an online game designed to aid the player in visualizing the consequences of their financial choices.<sup>55</sup>

An essential component in order for this retirement visualization to impact our decisions is that it needs to evoke emotions.<sup>56</sup> If we can promote the use of words and images to paint a picture of what retirement will look like, young people will have an easier time making decisions that involve consequences in future time periods. The only way we can champion the cause of our future selves is to repeatedly and frequently remind ourselves of our goals “in order to compete with current pleasures.”<sup>57</sup> Because so much marketing is focused on instant gratification and satisfying our current selves, we need more programs like the iOMe Challenge to help Millennials repeatedly and frequently focus more on the benefits of their future selves.

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<sup>53</sup> Becker, G. & Mulligan, C. (1997). The endogenous determination of time preference. *Quarterly Journal of Economics*, 112(3), 729-758.

<sup>54</sup> Ibid.

<sup>55</sup> FINRA Investor Education Foundation. *Manage Your Money*. Available at <http://www.saveandinvest.org/Military/manageMoney/managingCredit/P037943>

<sup>56</sup> Becker, G. & Mulligan, C. (1997). The endogenous determination of time preference. *Quarterly Journal of Economics*, 112(3), 729-758.

<sup>57</sup> Ibid. p.734.

A related concept is the idea of saliency. We tend to focus on items that are the most salient. With that in mind, current bills and lifestyle are much more salient than retirement lifestyle and costs. One reason the future is less salient is because forty years into the future is difficult to imagine. Another reason is that young people lack good metrics against which to measure what they need to do in order to get where they want to be. We hope that some of our recommendations will aid Millennials in preparing for their retirement by addressing some of these concerns.

### **Greater Awareness of the Need to Save**

For Millennials to embrace the idea of saving for retirement at an early age, we must make greater efforts to increase awareness of the need to save. It is not uncommon for young people to be warned against smoking, as the long-term result may be lung cancer. However, we are not providing adequate education or warning about the likelihood of developing financial cancer if young people do not develop healthy savings habits.

Our first efforts should be aimed at promoting financial education and literacy in high schools. The purpose of these programs should be to raise awareness of the benefits of higher education and saving and the consequences of credit, procrastination, and failing to take responsibility for one's financial actions. We also see a need for financial counseling in high schools, as many of the decisions made by graduating seniors have profound financial implications, although they may not fully understand the consequences at the time. Guidance about careers, college majors, and student loans could serve as a positive first step towards building long-term financial success.

An extension of this idea is the need for financial clinics at colleges and universities. Here, students would have a place to go for additional financial education or help dealing

with a specific financial problem. This would not only promote the benefits of financial advice, but also plant the idea that financial success requires thoughtful planning beginning early in the lifecycle.

At the heart of creating awareness of the need to save, we must also create awareness of how current policy may unintentionally encourage young people to establish poor financial habits. College students currently have the ability to borrow large amounts of money to fund their education through student loan programs. From the viewpoint of an economist, these loans provide access to future resources through borrowing that allow students to invest in their human capital. Furthermore, lifecycle theory would suggest this is a rational allocation of resources since resources are transferred to a time where the marginal utility from consumption is quite high. While these are both true, student loans may also promote a short-term financial timeframe and encourage current consumption. The development of these characteristics into habits may lead to excessive borrowing and the over commitment of future resources, causing a reduction in one's willingness and ability to save.

In an effort to promote healthy saving behavior, emergency funds must not be overlooked. Millennials should be educated on the importance of building emergency reserves as a self-insurance policy that prevents the use of costly borrowing during times of financial need.

## Changes to Defined Contribution Plans

As the private retirement benefits structure in the United States has shifted from defined benefit (DB) plans to defined contribution (DC) plans, households find themselves responsible for directing their own retirement assets. Under this type of benefit structure, retirement wealth accumulation is directly related to contribution rates, market returns, and asset allocation decisions. While households recognize that they need to save for retirement, their lack of financial knowledge and self control may result in less than optimal contribution and allocation decisions. These factors, combined with the financial market risk inherent in DC plans, may expose future retirees to higher levels of risk and lead to greater variation in retirement wealth among U.S. households.<sup>58</sup>

Because individuals are ultimately responsible for creating a meaningful retirement benefit for themselves with DC plans, understanding why people save and how they invest have become questions of central importance. Lifecycle theory assumes that individuals are rational planners of their savings and consumption needs over their lifetimes. This assumes that individuals are skilled estimators of retirement needs. However, the uncertainty of lifetime earnings, tax rates, and longevity suggest that individuals are subject to bounded rationality.<sup>59</sup> This, along with sub-optimal behavior, can have a significant impact on the retirement preparedness of individuals. One of the behavioral characteristics that might lead to a lack of retirement preparedness is bounded self control, where individuals try to save for retirement but often prove to be limited in capacity or desire to execute their intentions. While individuals may understand the importance of

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<sup>58</sup> Poterba, J., Rauh, J., Venti, S., & Wise, D. (2007). Defined contribution plans, defined benefit plans, and the accumulation of wealth. *Journal of Public Economics*, 91(10), 2062-2086.

<sup>59</sup> Mitchell, O., Utkus, S. (2003). Lessons from behavioral finance for retirement plan design. Pension Research Council Working Paper, available at <http://fic.wharton.upenn.edu/fic/papers/03/0334.pdf>

saving, they struggle to take action, and when they do it is oftentimes half-hearted and ineffective. Individuals are also subject to hyperbolic discounting, which suggests that they place a lower value on future benefits and overvalue the present.<sup>60</sup> As a result, individuals are subject to forgo delayed consumption in exchange for immediate gratification which creates a conflict between long run preferences and short run behavior.<sup>61</sup>

In order to increase the level of savings, we need to acknowledge that the American system of savings plans needs major improvement. We currently have a disjointed and complex patchwork of plans that are built on tax incentives. As such, the current structure tends to benefit those who are in high marginal tax brackets. Reaching the low and moderate-income population will only be accomplished if savings plans are attractive to those less motivated by tax incentives.

Designing a system to encourage savings behavior will not be easy. Measures to improve savings are well-documented and the goals are clear. Improvements should include:

- Higher contribution rates
- Improved investment performance
- Greater participation among middle and low income earners

Perhaps the best method of achieving these goals is through intelligent plan design. Savers struggle with three major decisions regarding savings: whether to save, how much to save, and how to invest. In recent years, behavioral research has shed light on why people have these difficulties and offers recommendations to overcome these hurdles.

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<sup>60</sup> Ibid.

<sup>61</sup> Angeletos, G., Laibson, D., Repetto, A., Tobacman, J., & Weiberg, S. (2001). The hyperbolic consumption model: Calibration, simulation and empirical evaluation. *Journal of Economic Perspectives*, 15(3), 47-68.

Recent legislation has attempted to capitalize on these insights. Most notably, the Pension Protection Act of 2006 (PPA) incorporates the behavioral findings of the Save More Tomorrow™ program<sup>62</sup> and others.<sup>63</sup> This legislation encourages savings by incentivizing employers who offer 401(k) and 403(b) plans to use automatic enrollment, default contribution levels, annual increases in contributions and default investment options. Designing plans with intelligent default options makes saving and investing easier.

### ***Simplified Plan Statements***

Individuals have difficulty translating lump sum amounts into annuity streams. Investors tend to overestimate investment returns and sustainable withdrawal rates. These shortcomings lead many investors to underestimate the amount of savings required for retirement and other long-term goals. Realistic estimates are critical when creating any rational savings plans. Historically, pension managers have dealt with these complexities. Defined contribution plans pass these responsibilities on to individuals who may need additional assistance than what is presently offered.

Simple tools should be provided to DC plan participants. Simplified estimates of future retirement income should be required for all qualified plans. Just as traditional pension plans provide participants an estimate of expected retirement income, DC plan statements should offer a similar estimate of retirement income. While DC plan providers may naturally be reluctant to provide these estimates, legislation could shield them from liability if established guidelines are followed.

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<sup>62</sup> Thaler, R.H., & Benartzi, S. (2004). Save More Tomorrow™: Using behavioral economics to increase employee saving. *Journal of Political Economy*, 112(1) S164-S187.

<sup>63</sup> Madrian, B.C., & Shea, D.F. (2001). The power of suggestion: Inertia in 401(k) participation and savings behavior. *Quarterly Journal of Economics*, 116(4), 1149-1187.

We propose that regular DC statements include estimates of what an employee's monthly retirement income may look like, given their current balance and growth. These estimates need to be simple and salient. Assumptions should be clearly stated and conservative. While long-range estimates depend heavily on these potentially inaccurate assumptions, providing an estimate will help young savers better visualize the results of their contributions. It will make their retirement picture easier to imagine, and they can better adjust their savings plan along the way if they do not like the picture being portrayed.

An example of a retirement income estimate is provided here. The projected account value is deemphasized. Estimates are put in today's dollars as individuals often overestimate the purchasing power of future dollars. Presumably, many participants will be surprised at the level of sustained income that can be obtained from a seemingly large lump sum account value. We hope that a re-designed retirement plan statement will help Millennials (and others) better visualize their efforts and make appropriate adjustments.



### Estimate of Retirement Income

<b>Current Account Value</b>	<b>\$ 60,000</b>	
<b>Projected Account Value</b>	<b>\$ 476,674</b>	(today's dollars- in 2037)
<b>Estimated Annual Retirement Income</b>	<b>\$ 21,450</b>	(today's dollars - in 2037)

  

<b>Current monthly income Assumptions/Projections</b>	<b>Remarks</b>
Inflation	3.50%
Rate-of-return	8.75%
Rate-of-return (real)	5.07% (after-inflation return)
Income growth rate	4.00%
Future contributions	10.00% of pay
Current age	40
Current annual income	\$60,000
Retirement age	67
Withdrawal rate	4.50%

*Notes:*  
 This estimate of future income is not guaranteed. Estimates are not exact and are based on a series of assumptions. We have attempted to use conservative assumptions and projections. Individual goals and circumstances vary. If you have questions, the Human Resource Department is ready to assist you.

**Changes to Safe Harbor Provisions**

In an attempt to develop an optimal retirement solution for the Millennial Generation, we must acknowledge the existence of bounded rationality and its impact on financial behavior. To the extent that Millennials fail to direct resources toward

retirement, default policy can be used to force a minimum level of retirement savings.<sup>64</sup> Some of the most notable defaults are automatic enrollment, designed to increase retirement plan participation rates, and default savings rates, designed to ensure that retirement plan participants are saving at least at a minimum level. Additionally, match rates are used by many employers to further encourage both participation in and contributions to self-directed retirement accounts. While an employer match may represent an economically sound incentive to increase savings, it may not be very effective incentive. In fact, the presence of an employer match, rather than the level of the match, has the greatest effect on employee contribution behavior.<sup>65</sup> Increased employer matching contributions seem to have only a small impact on additional retirement saving,<sup>66</sup> even though full match utilization on the aggregate would result in real return premiums 1-5% above market returns.<sup>67</sup> Additionally, there is interesting evidence that employer match rates create income and substitution effects.<sup>68</sup> An income effect would serve to decrease employee contributions as the employee would need to contribute less in the presence of a match to reach their goal. Such behavior is consistent with a target saving approach.<sup>69</sup> A substitution effect, on the other hand, would increase employee contributions because the employee would receive more than one dollar in total contributions for each dollar they

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<sup>64</sup> Mitchell, O., Mottola, G., Utkus, S., & Yamaguchi, T. (2009). Default, framing, and spillover effects: The case of life-cycle funds in 401(k) plans, NBER working paper 15108.

<sup>65</sup> Poterba, J.M. (2003). Government policy and private retirement saving. CES-Munich Prize lecture.

<sup>66</sup> Bassett, W., Fleming, M., Rodrigues, A. (1998). How workers use 401(k) plans: The participation, contribution, and withdrawal decisions, *National Tax Journal* 51(2) 263-289.

<sup>67</sup> Mitchell, O., Utkus, S., Yang, T. (2007). Turning workers into savers? Incentives, liquidity, and choice in 401(k) plan design. *National Tax Journal*, 60, 469-89.

<sup>68</sup> Love, D. (2007): What can the life-cycle model tell us about 401(k) contributions and participation? *Journal of Pension Economics and Finance* 6, 147-185.

<sup>69</sup> Papke, L. (1995). Participation in and contributions to 401(k) pension plans: Evidence from plan data. *The Journal of Human Resources*, 30(2), 311-325.

contributed.<sup>70</sup> A recent study found that 20% to 60% of employees contributed less than the employer match threshold, resulting in losses as high as 6% of their annual pay.<sup>71</sup> Another study estimates that the average unused employer match was \$550 and ranged from 1.9-3.7% of annual pay.<sup>72</sup> After adjusting for variations in employee demographics at the plan level, workers in one study were forfeiting up to half of their promised retirement compensation by not maximizing the employer match.<sup>73</sup> Providing employees with information about the money they are leaving on the table as a result of unused match dollars does not seem to initiate a change in behavior.<sup>74</sup>

Given the evidence that match rates are not effective at increasing employee contributions, mandatory employee default contribution rates must be set high enough to ensure some quality of life in retirement. These contributions should be supplemented with mandatory match dollars from the employer, but the match should not be used as an incentive to increase employee savings. If mandatory employee plus employer contributions totaled a retirement savings rate of 10% of the employee's salary, this would serve as a significant increase above current retirement savings rates. While certainly an improvement, the fear of setting a default rate related directly to a common rule of thumb is that people will view the default rate as an endorsement and anchor around it without

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<sup>70</sup> Munnell, A., Sunden, A., Taylor, C. (2001). What determines 401(k) participation and contributions? Mimeo, Boston College.

<sup>71</sup> Choi, J., Laibson, D., Madrian, B. (2007). \$100 bills on the sidewalk: Suboptimal saving in 401(k) plans. NBER Working Paper 11554.

<sup>72</sup> Engelhardt, G., Kumar, A. (2004). Employer matching and 401(k) saving: Evidence from the Health and Retirement Study", Center for Retirement Research Working Paper 2004-18, Boston College.

<sup>73</sup> Mitchell, O., Utkus, S., Yang, T. (2007). Turning workers into savers? Incentives, liquidity, and choice in 401(k) plan design. National Tax Journal, 60, 469-89.

<sup>74</sup> Choi, J., Laibson, D., Madrian, B. (2007). \$100 bills on the sidewalk: Suboptimal saving in 401(k) plans. NBER Working Paper 11554.

considering their individual retirement saving needs. It is our hope that the impact of our solutions in combination will offset these potentially negative effects.

We also see a concern that many retirement plans have high expense ratios, which impacts performance as we previously discussed. We recommend that policy provisions set guidelines for maximum fees and expense ratios that can be charged to investors. We recognize that some large retirement plan administrators have very competitive fees, partially due to economies of scale; however, other plans charge considerably higher expenses for similar investments.<sup>75</sup> This rent extraction is unnecessary and is impacting individual retirement preparedness, and individuals largely do not realize it.

Because we have a relatively more mobile workforce than in the past, we also see a need to enhance the portability of retirement plan savings. Some plans set restrictions on how or when distributions can be transferred from one plan to another. Safe harbor provisions already provide guidance on how assets can be distributed at the end of employment; however, these provisions can be enhanced to increase the likelihood that workers will keep their retirement savings in place.

Other strategies can be considered for defined contribution reform. Because of the benefits of asset allocation, there is an argument that plans must provide access to a minimum number of asset classes. However, people are less likely to participate when the number of fund offerings is large,<sup>76</sup> so there needs to be a balance between access and

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<sup>75</sup> Choi, J., Laibson, D., Madrian, B., 2008. Why does the law of one price fail? An experiment of index mutual funds. Working Paper, Yale University.

<sup>76</sup> Iyengar, Sheena S., and Mark Lepper. 2000. 'When Choice is Demotivating: Can One Desire Too Much of a Good Thing?' *Journal of Personality and Social Psychology* 79: 995-1006.

simplicity. We feel that the recommendations we have outlined in this section will greatly enhance and simplify the retirement planning process for the Millennial Generation.

### **Conclusion**

The Millennial Generation has come of age in a brave new world of self-funded retirement ill equipped to handle the responsibility. Although savings rates have rebounded from a 30-year slide, the average millennial has no retirement saving and is carrying an unprecedented housing debt burden into the worst housing market in U.S. history. Although late at the starting line, today's 20-somethings face a future of low asset yields on savings, high public debt, higher future taxes and reduced entitlement expectations. And they will have to do it on their own with little financial knowledge, a vast and confusing financial marketplace, and a tax system whose complexity hinders effective choice.

To address these issues, we propose solutions that generate awareness through intelligent savings plan design. We emphasize improving financial knowledge that makes well known the consequences of low savings rates that helps people visualize their future. We call for a simplification of the retirement system with the aim of improving participation rates, tax efficiency and investment performance.

These recommendations are intended to take full advantage of the greatest asset of the Millennial Generation – time - while also providing paternalistic guidance aimed at offsetting behavioral shortfalls. When used effectively these tools will improve the financial outlook for the Millennial Generation and help ensure its ability to meet its retirement goals. Improved disclosure, clear and efficient investment options and portable

account design should expand the population of long-term savers and lead to enhanced financial security for millions of Americans.