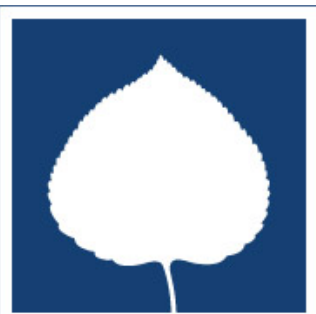


# REAL SAVINGS +

AN AUTOMATIC INVESTMENT OPTION FOR THE AUTOMATIC IRA

THE ASPEN INSTITUTE  
INITIATIVE ON FINANCIAL SECURITY



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## EXECUTIVE SUMMARY

The Obama administration has proposed bold new policies to expand retirement savings. Through a program of Automatic IRAs, the approximately 78 million, largely lower-income, American workers not currently covered by a plan at work would be able to save through automatic individual retirement accounts. The Administration also plans to simplify and expand the Saver's Credit to give eligible lower-income savers a 50 per cent "match" on contributions of up to \$1,000 to qualified retirement accounts. Together, these proposals promise to enhance the retirement security of millions of Americans. They provide both the savings vehicle and the savings incentive to enable more low- and moderate-income households to arrive at retirement with significant financial assets to supplement Social Security.

The administrative issues involved in creating an Automatic IRA policy are significant, but experience in the private pension system and financial services industry provides valuable precedents. In addition, opt-out features and the Saver's Credit should assure a continuous and augmented stream of contributions to increase accounts balances. But as important as the amount of money flowing into the Automatic IRA is, the central test of the policy will be the amount of money available to flow out at retirement. The Automatic IRA program will fail if it merely creates millions of accounts too small to generate substantial retirement income. Arguably, then, the most critical issue is how to provide savers with an investment option that ensures both growth and safety for their savings. That is an issue for which no satisfactory precedent exists.

In this paper, the Initiative on Financial Security at the Aspen Institute proposes an investment option for just that purpose in the Automatic IRA: Real Savings+ (RS+). RS+ combines two widely traded and highly liquid assets – Treasury Inflation Protected Securities (TIPS) and a broad-based equity market index – to provide savers with a personalized, automatic target date investment option. RS+ ensures the preservation of the purchasing power of contributions while at the same time offering the significant – and important – upside potential of market participation. RS+ thus provides low- and moderate-income savers with the opportunity for both growth and safety for their savings. Through an automatic, inexpensive blend of TIPS and the market index, RS+ protects all savers from the three most likely risks to retirement income – inflation, default by the bond issuer, and falling stock prices. By design, RS+ fully protects every dollar saved against economic cycles, market declines and loss of purchasing power.

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*“Americans who work hard their entire lives have earned the right to retire with dignity and security. That’s the promise that each of us wants to be realized within our own families, and it’s a promise that we must keep for all American families.”*

*President Barack Obama, May 18, 2008*

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The Obama Administration has signaled that it soon will move to pursue bold new policies to expand retirement savings. Responding to rising concerns about the retirement security of many moderate- and low-income Americans, the Administration’s proposed policy efforts will create a powerful savings supplement for those currently without an opportunity to save in the workplace. This paper begins by describing the rationale for these policies – the Automatic IRA and the improved Saver’s Credit – and discussing critical issues in their design and implementation. It then focuses on the central test of these policies: how to provide savers both growth and safety for their contributions.

The primary purpose of the paper is to describe a new investment option designed for just that purpose by the Aspen Institute Initiative on Financial Security: Real Savings + (RS+). RS+ preserves the purchasing power of contributions, while at the same time, offering investors the significant – and important – upside potential of market participation. In light of the recent stock market collapse, many workers who have never invested in equities are unlikely to begin now without special inducements, and many who did invest are reluctant to do so again. RS+ combines Treasury Inflation Protected Securities (TIPS) with a broad-based market index, giving savers a personalized target date investment for their chosen retirement date. RS+ thus enables savers to allocate at least some of their retirement savings into equities, which historically have offered better upside-potential over

the long-run than bonds or similar investments, because savers are fully-guaranteed that they will receive at retirement, at a minimum, the full value of their contributions adjusted for inflation. By design, RS+ fully protects every dollar saved against economic cycles, market declines and loss of purchasing power.

### THE AUTOMATIC IRA AND A BETTER SAVER’S CREDIT: EXPANDING THE WORK PLACE SAVING SYSTEM

The central failing of the current retirement savings system is that too many workers have been denied access to a plan at work for too long. According to a recent study, between 2000 and 2008, the percentage of full-time private sector workers whose employers offered them a plan, either a defined benefit or defined contribution plan, fell from 66 per cent to 59 per cent. Among part-time workers, the percentage fell from 45 per cent to 37 per cent.<sup>1</sup> Low-income workers are most likely to be excluded. The GAO reports that, in 2007, some 62 per cent of full-time workers in the lowest-income quartile did not have access to any employer-based retirement plan.<sup>2</sup> And of those employees not offered a plan on the job, only one in ten contributes to a plan of their own.<sup>3</sup>

Ensuring that all workers have access to a savings vehicle at work is a crucial first step in increasing the retirement security of Americans. Thirty-five years ago, Congress passed the Employee Retirement Income Security Act (“ERISA”), building the architecture of today’s employer-sponsored private pension system.

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The Administration's retirement proposals fulfill the promise of ERISA by expanding the nation's pension system to include a streamlined savings program enabling those outside the employer-based system to build their nest eggs. In an effort also to provide more equitable savings incentives for low- and moderate-income households and bolster potential account balances, the Administration plans to reform and expand the Saver's Credit that "matches" the retirement savings of low-income Americans. Automatic, simple, and cost-effective, the Automatic IRA and the enhanced Saver's Credit can be the game changers needed to ensure millions of Americans adequate income in retirement.

## AUTOMATIC IRA

The proposed Automatic IRA would create automatic individual retirement accounts for American workers not currently covered by an employer plan. The Administration estimates that as many as 78 million American workers are not offered a retirement plan through their employers.<sup>4</sup> The Automatic IRA is intended to fill that void by dramatically improving access to and participation in retirement savings vehicles.

The plan is simple. Employers presently not offering plans – and with more than 10 employees and in business for two years or more – would be obligated to allow their employees to utilize the payroll system to direct their earnings to an IRA. Each employee would receive a standard notice of the program and an election form allowing them to choose to save ("opt-in") explicitly, define their rate of savings and their preferred investment option. Equally, employees could choose not to save ("opt-out"). Those who took no action would be treated as having opted-in and automatically enrolled at a default savings rate of 3

per cent of pay, with their contributions flowing to a default investment option, until they explicitly decided to opt-out.<sup>5</sup>

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"Automatic, simple, and cost-effective, the Automatic IRA and the enhanced Saver's Credit can be the game changers needed to ensure millions of Americans adequate income in retirement."

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## SAVER'S CREDIT

Under another Obama Administration proposal, low- and moderate-income savers would also be eligible for a match to their savings through an enhanced Saver's Credit. The Saver's Credit was originally enacted in 2001 as an equitable way to encourage low- and moderate-income households to save for retirement. Designed to provide saving incentives that work for low- and moderate-income individuals, the Saver's Credit effectively sought to "match" low- and moderate-income households' retirement savings with government dollars.

While the Saver's Credit is noble in its intention, further improvements are needed to make it reach more low-income households. In 2007, the government spent an estimated total of \$133.8 billion subsidizing retirement savings through both employer-based plans such as 401(k)s and IRAs. A mere 0.7 per cent of that amount (\$900 million) was spent on the Saver's Credit.<sup>6</sup> Unlike their wealthier counterparts, low- and moderate-income households' rate of government subsidies diminishes as their incomes rise.<sup>7</sup> This "upside down" tax incentive results in only meager, if any, rewards for saving for low-income households, while providing large tax benefits to higher income households -- many of whom would save for retirement regardless of government incentives.

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“In 2007, the government spent an estimated total of \$133.8 billion subsidizing retirement savings through both employer-based plans such as 401(k)s and IRAs. A mere 0.7 per cent of that amount (\$900 million) was spent on the Saver’s Credit.”

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As it stands now, the Saver’s Credit enables households saving for retirement in a 401(k) or an individually directed savings plan to claim a nonrefundable tax credit that “matches” their contributions at variable rates of 50 per cent, 20 per cent, and 10 per cent depending upon the filer(s) income bracket. Yet, the Saver’s Credit only offsets a saver’s actual income tax liability. Consequently, the millions of low- and moderate-income Americans who do save but owe no taxes receive nothing from the Saver’s Credit.

In 2005, it was estimated that 58 million American households had a low enough income to qualify for the Saver’s Credit. Yet, only *one seventh* of that population was able to claim the credit. Moreover, because the credit currently phases out as the income of the tax filer(s) rises, the incentive to save diminishes right at the time a household’s income might allow for more saving.<sup>8</sup> Recognizing these inefficiencies, the Administration proposes to give eligible filers a 50 per cent “match” on contributions of up to \$1,000 to qualified retirement accounts, providing low- and moderate-income households more effective and more equitable incentives to help save for retirement.

To demonstrate the two proposals in action, consider an employee making \$30,000 a year and contributing 3 per cent of his pay every paycheck or \$900 annually to the Automatic IRA. Upon claiming the improved

Saver’s Credit, this saver would receive an additional \$450 in “matching” dollars.<sup>9</sup> The Saver’s Credit would be directly deposited into a retirement savings vehicle, whether an Automatic IRA or an employer-sponsored 401(k) plan. This makes the credit much more similar to a “match” and ensures it is saved. The Saver’s Credit also accelerates the growth in account balances, making the accounts of low- and moderate-income savers more economically attractive for IRA providers to manage. While these annual contribution levels may seem small, they have the potential over time, with an important boost provided by the Saver’s Credit, to add considerably to financial security in retirement.

Together, these two policy proposals – the Automatic IRA and the Saver’s Credit – have the potential to improve the retirement security of millions of Americans significantly. By providing both the savings vehicle and the savings incentive, the Administration’s proposals will enable more low- and moderate-income households to arrive at retirement with substantial savings to supplement Social Security, allowing for both a comfortable and secure retirement.

## THE ARCHITECTURE OF THE AUTOMATIC IRA

### BASIC DESIGN

Although the design of the Automatic IRA program has not been fully fleshed out, its basic architecture is clear. It is structured in the form of a personal retirement savings account, commonly known as an IRA. The IRA was created thirty-five years ago for just this purpose – to give workers without a plan at work a tax-favored vehicle for retirement saving. As of June 30, 2009, 47 million households own IRAs, and IRAs account for over \$3.7 trillion in retirement assets. IRAs

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are widely-available throughout the financial services industry, with mutual fund companies holding 45 per cent of all IRA assets, banks and thrifts nearly 11 per cent, life insurance companies 8 per cent, and with the remaining 36 per cent assets held directly through brokerage accounts. It is important to note, however, that the majority of assets held in IRAs are not those of low and moderate-income workers. Through a secondary, “rollover” function, they accumulate first in employer-based plans and are subsequently rolled over to an IRA when a participant retires or changes jobs.<sup>10</sup> Most workers today save through the well-known and popular 401(k) plan.

IRAs differ from accounts in 401(k) plans in several significant ways. First, an IRA is typically a retail savings vehicle sold to individuals by the private sector.<sup>11</sup> A 401(k) plan is offered by an employer to its workers as a group. In addition to facilitating contributions, the employer is typically responsible for choosing the main features of the plan, such as the investment menu, and deciding when participants can take loans and withdrawals, as well as monitoring the performance of investments and the service providers to the plan. A 401(k) plan has complicated rules and testing and reporting requirements to make sure that contributions are within legal limits and the plan is operated in compliance with government rules.<sup>12</sup> An IRA has a much simpler structure and fewer regulatory requirements. IRA owners choose their investments from the offerings of their IRA provider, which also handles the record keeping, investment information obligations, and most tax reporting requirements of the accounts.

## IMPLEMENTATION ISSUES

Despite the simplicity of the IRA as a savings vehicle,

an Automatic IRA program presents a number of critical implementation issues. The first is obviously the size of the program itself. A savings initiative of 78 million new accounts is unprecedented and would instantaneously create a program almost double the current number of IRAs and seven times the number of 401(k) accounts currently held by Fidelity Investments, the largest holder of such accounts.<sup>13</sup> Past practice, however, indicates the financial services industry has the capability to deliver Automatic IRAs on a wide scale. To serve the needs of American investors, the financial services industry has created a vast infrastructure of supporting systems -- both for the delivery of client services through the front office and for account investment and administration through the back office. In addition to the current IRA and 401(k) markets, the financial services industry provides millions of Americans with investment accounts in banking, brokerage, mutual fund, life insurance, and other financial industry companies.

The second issue is the costs associated with an Automatic IRA. The Administration proposal includes some relief for the administrative and start-up costs that employers may incur. Remaining to be solved is the thorny issue of what costs and charges employees will incur. Individual investment accounts like IRAs seem simple, but operationally they require sophisticated systems for marketing and disclosure, investment options and management, government and client reporting, and account administration (e.g., accepting contributions, allocating contributions to investment options, implementing investment changes, crediting accounts with earnings, issuing account statements, and answering account holder questions). The cost of these administrative services, especially in the start-up phase of an account, can be significant. Certainly

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in the early years, most Automatic IRAs will be small, and this “small balance” issue will present problems for providers. Consider, for example, the \$30,000/year workers who contribute 3 per cent each year and earn a 50 per cent Saver’s Credit. In year one, their Automatic IRAs will receive a total annual contribution of \$1,350. With a total fee of just 1 per cent (100 basis points), this account would generate only \$13.50 to pay for all of these services, including first-year start-up costs. Until account balances grow significantly, it will be hard to reconcile the needs of savers for low-cost accounts with the cost to providers.

The third issue is the extent to which the Automatic IRA will mimic 401(k) plans. This raises a series of highly technical legal questions that have not yet been resolved. Key among them is the role of the employer. The Automatic IRA imposes an employer mandate in a pension system where participation has historically been at the discretion of the employer. What legal obligations will the employer have for Automatic IRAs? Will the employer bear some responsibility for safeguarding accounts and over-seeing investment options as it does for 401(k) plans or will it serve merely a conduit of contributions as it does for many 403(b) plans in the non-profit sector? Will the employer be required to choose and monitor the Automatic IRA provider or merely make its payroll system available as a conduit of contributions to providers?

A significant associated concern is the tax treatment of Automatic IRAs. Will contributions be made on a pre-tax basis where the contribution is allowed to grow tax-free until withdrawal, at which time taxes must be paid on the full amount withdrawn, on an after-tax (Roth) basis in which taxes are taken out before the contribution is made or will account holders be allowed

to choose? Pre-tax contributions are typical in a 401(k) plan and traditional IRA, but Roth treatment is often more appropriate for low- and moderate-income savers who may be in the same or lower tax bracket during their working years than at retirement. Moreover, it is not yet clear how much will workers be able to contribute. In 2009, a worker below age 50 is eligible to contribute up to \$16,500 to a 401(k) or 403(b) plan but only \$5,000 to an IRA. Other important questions concern the withdrawal rules for an Automatic IRA. Saving for retirement implies a long-term investment horizon but the 401(k) plan experience has taught us that access to savings before retirement is important to participants. 401(k) plans may offer loans and withdrawals in the case of certain hardships but otherwise lock-up savings and matches until age 59½. Loans from IRAs, on the other hand, are not permitted but withdrawals are always permitted, subject to tax penalties.

## THE CRITICAL QUESTION OF INVESTMENTS

The administrative issues involved in creating an Automatic IRA policy for 78 million, primarily lower-income, Americans are significant. Given our past experience in the private pension system, however, they are solvable. Arguably the most critical issue is how to specify investments for the Automatic IRA that will build significant assets for retirement. The Automatic IRA program will fail if it merely creates millions of accounts too small to generate substantial retirement income. The opt-out feature should assure a continuous stream of contributions into accounts. As important as money flowing into the Automatic IRA is, the central test of the policy is how much money will be available to flow out at retirement. That puts the role of investments – critical to increasing account balances over time – front and center.

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How to invest Automatic IRA contributions for growth and safety is an issue where there are no good precedents to follow. The most familiar investment model – found in the 401(k) plan – has evolved over time in an ad hoc manner, and its problems are well known. There are no explicit guidelines for what investment options should or should not be in a 401(k) plan menu, and employers typically have responsibility for designating one that is “prudent.” The lion’s share of investment responsibility, however, rests on participants. To avoid liability, employers take a hands-off approach on any assistance that could be deemed investment advice. Also to avoid legal liability, investment providers refrain from offering explicit investment advice.<sup>14</sup> Participants are largely left on their own.

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“But arguably the most critical issue is how to specify investments for the Automatic IRA that will build significant assets for retirement.”

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Experience has taught us that participants find this task difficult. Complex investment menus are inhibiting, financial education leads to little improvement and professional advice can be fraught with conflicts of interest.<sup>15</sup> In addition, the costs associated with various investment options are poorly understood, and plan fees and expenses can be obscure.<sup>16</sup> Congress and federal regulators are currently exploring options for improving 401(k) plan investment menus by requiring more disclosure of fees, mandating an index fund as an investment option, and revisiting rules for when and how financial services companies can give participants investment advice.<sup>17</sup>

This is rather ironic, as Congress believed it had made significant progress in solving the 401(k) investment

problem in the Pension Protection Act of 2006. It authorized the Department of Labor to issue regulations defining “safe harbor” investment options into which an employer could allocate contributions for participants who failed to choose their own. The regulations blessed three types of safe harbor funds: 1) life cycle or target date funds that provided a mix of debt and equities depending on the age of the participant and became more conservative for older participants; 2) a balanced fund with a prudent mix of equities and debt, and 3) an individually-managed account.<sup>18</sup> Provided they choose a prudent safe harbor fund, employers could use these “default” options without fear of lawsuits from participants.

Target date funds immediately became a popular choice among both employers and participants.<sup>19</sup> They seemed to promise savers relief from the need to choose investments from a complicated menu, re-balance their asset allocations in response to changing economic conditions, and re-orient their portfolios to more conservative options as they neared retirement. The Employee Benefit Research Institute reports that, by the end of 2008, 75 per cent of 401(k) plans included target date funds in their investment menus, some 31 per cent of 401(k) participants held at least a portion of their assets in target date funds, and these funds accounted for about 7 per cent of all 401(k) plan assets in its data base of almost 55,000 plans covering 24 million 401(k) accounts.<sup>20</sup>

The ink on the regulations, however, had barely enough time to dry before the financial crisis of 2008 hit. In 2008, equity holdings in IRAs and 401(k) plans lost about \$2 trillion and cut 401(k) account balances by 30 per cent.<sup>21</sup> Although target date funds may have been safe harbors for employers, many participants,

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particularly those approaching retirement age, were shocked to learn the extent of their market risk. Many had an incorrect understanding of their target-date’s “glide path” -- the defined changes in asset allocation a fund follows as participants get closer to their intended retirement age. Most surprised were those with near-dated funds, such as 2010 funds, where holders who were very close to retirement had expected that nearly all of the assets would have already shifted into more conservative, fixed-income securities to reflect their reduced risk-tolerance. Instead, many were still heavily invested in equities and other more risky securities. The result: many funds which had been marketed with a retirement date of 2010 experienced extreme declines in value just as the account holder was set to retire. The four largest providers returned, on average, a loss of 25.7 percent.<sup>22</sup>

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“As important as money flowing into the Automatic IRA is, the central test of the policy is how much money will be available to flow out at retirement.”

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Industry representatives have been quick to point out that a target date’s name (for example, a Lifecycle 2010 fund) is not indicative of its investment strategy but is instead a mile post for when the fund would begin shifting its portfolio balance to allow for “lifelong income.” Without continued equity exposure, industry representatives have asserted, the average investor would have run out of money in retirement. It is not clear if employers or participants understood that the named target date was pointed toward a death date, not a retirement date, or that those on the verge of retirement could be significantly exposed to a market downturn. While target date funds may have protected

employers from litigation, they did not provide a safe harbor for 401(k) participants in the financial storm.

A recent report by the Majority Staff of the Select Committee on Aging of the U.S. Senate concludes that target date funds have not yet fulfilled their promise for 401(k) savers. In addition to wide variability in the proportion of equity holdings in funds with similar target dates, research indicates there is also wide variability in average expense ratios of these funds. Citing Morningstar data, the report finds that average expense ratios range from .19 per cent to 1.82 per cent with more than 50 per cent of target date funds charging more than 1 per cent.<sup>23</sup> Moreover, an analysis by Brightscope, Inc. found that

[T]arget date funds have higher expense ratios than the rest of the core portfolio in 401(k) plans. Their data assessment suggest that target date funds have internal fees that are between 10 to 25 per cent more expensive than other funds on the core menu, which they suggest may be partially explained by management overlay fees—management fees layered on top of the underlying funds’ expense ratio.<sup>24</sup>

Twenty-years of experience with the 401(k) model, in tandem with the financial crisis, leads to the conclusion that investments are its Achilles heel. For decades, pension policy has been focused on getting more workers to save more, providing incentives through tax breaks, preventing premature use of retirement assets, and, recently, making saving simpler. These are all worthy efforts. But, in truth, none of them will matter much if participants do not have access to investments that assure growth and safety to their savings. Again,

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the central test of the Automatic IRA will be how much money is available to flow out at retirement.

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“Twenty-years of experience with the 401(k) model, in tandem with the financial crisis, leads to the conclusion that investments are its Achilles heel.”

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The Automatic IRA will serve a different clientele from the 401(k) world. Millions of low- and moderate-income savers, many of them first-time savers, will be contributing their hard-earned savings. Millions of small accounts will be dispersed throughout the financial services industry. Few participants will have the time or the inclination to become do-it-yourself investors. Yet, the growth of their savings must be assured if the promise of the Automatic IRA is to be fulfilled. The 401(k) model for investments is currently in turmoil, and 401(k) savers are apprehensive about its ability to help them reach their retirement income goals. There is no reason to assume the current model will work better in the Automatic IRA. For the Automatic IRA, we must have something better.

## REAL SAVINGS +: AN AUTOMATIC INVESTMENT OPTION FOR THE AUTOMATIC IRA

### REAL SAVINGS +

For the past year, the Initiative on Financial Security at the Aspen Institute (Aspen IFS) has been exploring the design of an investment product that could provide savers, particularly low-income savers, with both safety and growth for their savings. It now proposes a new investment option: Real Savings+ (“RS+”). By design, RS+ fully protects every dollar saved against economic

cycles, market declines or inflation. RS+ provides savers with both a guarantee and some of the upside potential of equity investing.

RS+ is essentially an automatic, personalized target date fund in the traditional sense. Its target date is each saver’s individually specified retirement date. RS+ combines two widely traded and highly liquid assets – Treasury Inflation Protected Securities (TIPS) and a broad-based equity market index – to create a simple, inexpensive investment option. Figure 1 illustrates how RS+ works.

When Janet’s retirement contribution is received, it is divided into two parts: 1) a portion is used to buy discounted TIPS with a maturity date equal to the planned retirement date, and 2) the remainder (the difference between the contribution and the cost of the discounted TIPS) is invested in a broad market index such as the S&P 500.<sup>25</sup> The allocation of contributions is automatic. The contribution is divided between these two assets according to a mathematical formula, which enables RS+ to guarantee savers that at their chosen retirement date they will receive, at a minimum, all their contributions back, adjusted for inflation. Assuming modest equity returns (based on historical averages), it is expected that RS+’s actual value at retirement will greatly exceed this minimum, guaranteed, level of repayment. Through this simple, inexpensive blend of TIPS and the S&P 500, RS+ protects contributions from the three of the most likely risks to retirement income – inflation, default by a bond issuer, and falling stock prices.

## THE RATIONALE FOR EQUITY INVESTING FOR GROWTH

As Aspen IFS began its work, the central issue was the

### Figure 1. RS<sup>+</sup> in the Real World

Janet Johnson, age 45, has gotten a late start in saving for her retirement. By her calculations, her modest income will allow her to only save \$1,000 every year until retirement at age 65. While Janet recognizes the need to save for retirement, she fears investing in the stock market and losing some or all of her savings. Consequently, she does nothing at all.

In 2009, Janet learns of the “RS<sup>+</sup>” and sees a way forward. Janet plans to contribute 4% of her income every year until retirement. This year her income is \$25,000 so 4% of that comes to \$1,000. Each year a portion of her \$1,000 contribution is used to buy Treasury Inflation Protected Securities (TIPS) for her account, while the remaining portion is invested in the S&P 500 market index.

In 2009, Janet’s deposit of \$1,000 buys her:

- \$673 in 20 year TIPS and
- \$327 in stock in the S&P 500 index

Every year, by diverting some of her contributions into TIPS, Janet insures at retirement she will (at the very least) receive back what she has contributed fully adjusted for inflation. If inflation averages 3% over that time, her “guaranteed” amount invested in TIPS will be worth \$36,122, equal to her total contributions of \$26,870. In addition, Janet’s exposure to the S&P 500 market index would yield an additional \$14,627 in retirement savings (in nominal terms) at a modest historical rate of return of 9%. At age 65, Janet will have a grand total of \$50,749 – having enjoyed the peace of mind of “risk-free” saving, while benefiting from the upside of equity investing.

role that equity investing should play in the Automatic IRA, which will be dominated by low- and moderate-income savers. Arguments *against* equity investing recognize that such savers can ill afford to put at risk the limited savings they manage to accumulate for retirement in volatile economic environments. In contrast to higher income workers, those with low and moderate earnings tend to have fewer financial assets to supplement Social Security income during retirement.

In addition, low and moderate-income workers are less likely than higher income workers to have familiarity with or knowledge of stocks. Data from the 2007 Survey of Consumer Finances indicate there is an “investment gap” in the financial assets held by lower and higher-income Americans. According to the 2007 Survey of Consumer Finances, 91 per cent of American families with the top 10 per cent of income owned stock, directly or through a pension plan, with a median value of \$219,000. This contrasts with stock ownership by just 13.6 per cent of families in the lowest

income quintile (lowest 20 per cent) who owned stock with a median value of just \$6,500.<sup>26</sup>

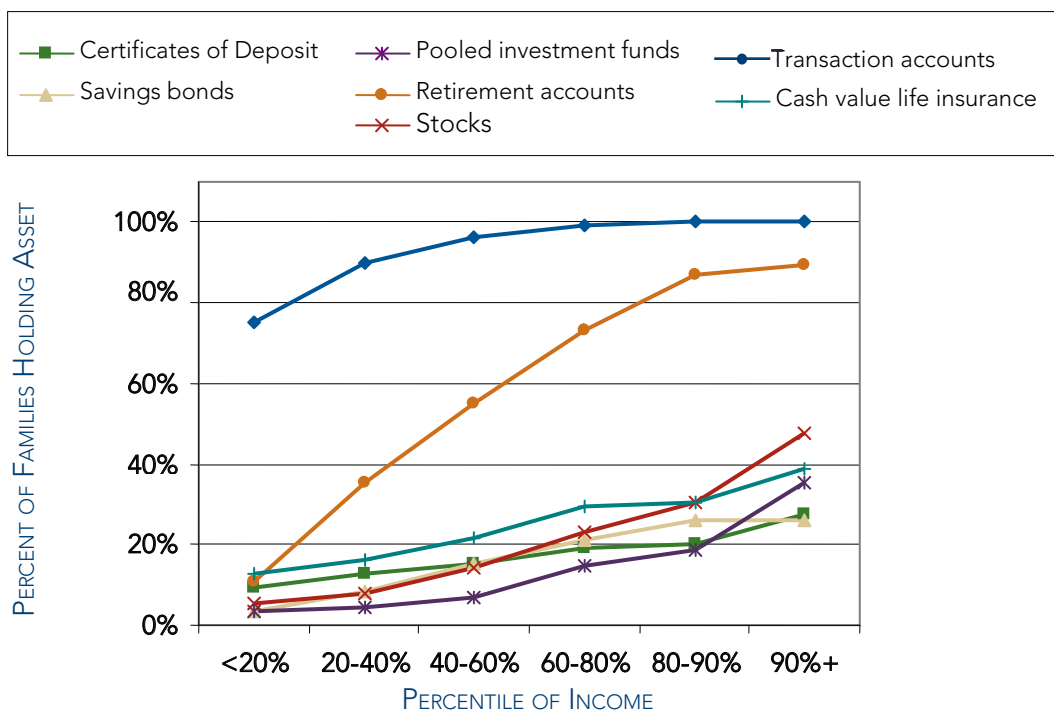
As Figure 2 illustrates, most families in the bottom two income quintiles hold their financial assets in “transaction accounts,” such as checking or savings accounts, certificates of deposit and savings bonds. Families in these income quintiles would primarily invest in equities, if they do so, through their retirement account holdings. As income increases, so does investment in equities. Almost 50 per cent of the wealthiest group (top 10 per cent) holds stocks and 35 per cent hold pooled investment funds such as mutual funds outside of retirement accounts. This compares to the combined lowest three income quintiles (bottom 60 per cent), only about 25 per cent of whom hold stocks and about 15 per cent who hold mutual fund-type investments. In addition, about 90 per cent of the highest income decile has a retirement account as compared to about 10 per cent of the bottom income quintile (bottom fifth).<sup>27</sup>

On the other hand, arguments *for* equity investing recognize that it is the financial assets of low- and moderate-income savers, which need to grow the most if they are to produce meaningful income at retirement. Clearly the most secure investment would be in U.S. Treasury bonds, which are free from default risk and, if held to maturity, are free as well from “basis risk” or loss in value due to increasing interest rates. The downside of holding a portfolio of secure bonds is that they tend to pay returns that are lower than those typically earned on equities.

Returns on bonds are typically lower than those on equities (stocks) because stock returns are riskier. Stock returns, which are highly volatile when held for short periods of time, have also been found to have high volatility over periods of a decade or more.<sup>28</sup> The difference between rates paid on Treasury bonds and

an index of stocks is called the “market risk premium” which must be paid to attract risk-averse investors to switch their savings from secure bonds to stocks. The market risk premium can vary. One recent study finds that “the gap between the annual returns on stocks and bonds has averaged 3.8 percentage points since 1872, and 5 percentage points since 1949.”<sup>29</sup> In addition, Ibbotson Associates has calculated that, from 1926 through March of 2009 (the low point in the current market downturn), returns on stocks averaged 9.44 per cent compared to 5.6 per cent for long-term government bonds.<sup>30</sup> Consider, for example, workers who contribute a modest \$1,000 per year for 40 years. Using the Ibbotson measure of an average 9.44 per cent return for stocks, those workers who invested in stocks would have accumulated \$380,312. If they had invested instead in long-term government bonds at the historical rate, the accumulation would

Figure 2. Percent of Families Holding Various Financial Assets by Income (2007)<sup>27</sup>



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have been \$140,037 or only 36.8 per cent as much.

The tradeoff between risk and return in equities is a significant issue for low- and moderate-income savers. It requires balancing the opportunity to build retirement balances more rapidly but less certainly through investments in stocks or less rapidly but more securely through investments in bonds. Accepting that “equity retains considerable promise for helping savers meet their objectives for building wealth for retirement,” Aspen IFS concluded that low- and moderate-income savers should have the same opportunity for growth in their savings as higher-income savers.<sup>31</sup> The next design issue then focused on how best to limit the inherent risk of equities in an investment option for low- and moderate-income savers.

## THE NEED FOR REAL PRINCIPAL PROTECTION FOR SAFETY

The risk of holding equities is not just a problem for low- income savers or the Automatic IRA. The investment menus of most defined contribution plans – such as 401(k)s, 403(b)s or 457(b)s and even IRAs – prominently feature equity-based investment options. Every market downturn prompts calls for investment products that are less exposed to market risk. But when the market turns around, the urgency subsides. This reflects not a lack of will but the recognition of how difficult a problem this is. Reducing the risks inherent in such investments raises complex issues. For example, what should be guaranteed in these investments: principal, investment return or lifelong income? Who should be the guarantor: an employer, a private financial services firm, or the government?<sup>32</sup> How could a guarantee be provided and might a guarantee change the economics of the defined contribution plan business by favoring one type of firm over another,

say, insurance companies over mutual fund companies?

Aspen IFS took the approach that it was important, as a matter of fairness, to offer low and moderate-income savers a secure return on their savings in the Automatic IRA by building a guarantee directly into an investment product. In addition, the notion of a “guarantee” is one already likely to be familiar to most savers, including low- and moderate-income savers. In particular, a “principal guarantee” or assurance that contributions cannot be lost is both easy to understand and familiar to savers who may not invest in equities but are comfortable with fixed income investments such as certificates of deposits or savings bonds.

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“For the Automatic IRA, we must have something better.”

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The most common investment product providing a principal guarantee to an equity-related investment today is a variable annuity. A variable annuity is a product sold by insurance company that provides payments to investors depending on the market value of their underlying mutual fund investment options. Variable annuities typically include one or more guaranteed payout features, and a number offer “principal guarantees” that would track stock prices but, at worst, would guarantee return of principal if stock prices fall. Because of the built-in guarantees, variable annuities can be expensive.<sup>33</sup> By some estimates, fees for guarantees can be as high as 1.25 per cent, on top of annuity fees of about 1.4 per cent per year plus the fees of the underlying mutual fund options. In addition, insurance companies have lowered the value of the guarantees they offer as a result of the current market meltdown.<sup>34</sup> Variable annuities are also complicated investment

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products, which can be difficult for the unsophisticated investor to understand. Based on these factors, Aspen IFS concluded that a variable annuity structure would not be suitable for many Automatic IRA investors.

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“RS+ ensures the preservation of the purchasing power of contributions while at the same time, offering the significant – and important – upside potential of market participation.”

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On the horizon are income guarantees added to target date funds as money managers respond to calls to reduce the market exposure of 401(k) savings after the financial meltdown.<sup>35</sup> In addition, there is a prominent school of thought that target date funds should include variable annuity-like features to provide investors with significant equity holdings into retirement.<sup>36</sup> Such products are new and will likely face issues of regulatory hurdles and employer acceptance. Furthermore, the attractiveness to savers is not assured, since the products are likely to be more complicated and more expensive than the standard mutual fund offering. Moreover, there are concerns about the ability of insurance companies to deliver the promised guarantees. Insurance products can also be risky in that they are subject to default risk, i.e., that counterparties in the private sector standing behind the guarantee provided by an insurance company will not have the capability of making good on its promises in a severe market downturn. And, insurance companies themselves may fail. One expert believes, for example, that “the cost of a meaningful guarantee – one promising an annual rate of return of, say 4 per cent to 6 per cent - would be prohibitive for the private sector and would bump into insurers’ capacity for transferring risk to other parties through their hedges.”<sup>37</sup>

Moreover, there are few investment products today that protect investors from a very significant risk – the risk that inflation will reduce the purchasing power of their savings. For example, the guarantees provided by variable annuities typically fail to protect against inflation risk. Even though 2009 has been a period of very low (occasionally negative) inflation, the Aspen IFS team sought a method for insuring savers against inflation risk through a “real” guarantee that protects the purchasing power of savings over time. Using TIPS as the vehicle for the principal guarantee, also provides a guarantee that protects savers from inflation.<sup>38</sup> While the real rate of return on TIPS is determined by market supply and demand factors, they have historically returned just over 2 per cent *plus* the rate of inflation. In addition, TIPS eliminate the default risk inherent in private sector insurance products because the US Treasury is the counter-party. Finally, the use of TIPS in RS+ also protects savers against basis risk (fluctuation in bond value) because the bonds will be held to maturity.<sup>39</sup>

## RS+ IN OPERATION

RS+ is designed to meet the needs of low and moderate-income savers. Put simply, RS+ may be seen as a personalized target date fund, geared to the retirement date selected by individual savers. It provides a minimum guarantee that promises savers they cannot lose what they have put in. That guarantee will provide even more. The RS+ guarantee will return the *purchasing power* of their contributions, including as part of these contributions any match by an employer or the government to savers at retirement. In addition, for savers to have the best chance of growing their savings, the portion of their contributions not needed for the guarantee will be invested in a broad stock market index.

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RS+ invests in just two assets – TIPS and an index of common stocks.<sup>40</sup> RS+ is a passively managed investment option. Its allocation of contributions between the two assets will be done through a pre-determined mathematical formula. The TIPS portion of the allocation insures that contributions will, at a minimum, be fully available, adjusted for inflation, at each saver's chosen retirement date. The stock index portion of the allocation is intended to provide savings with the upside potential of equity investing in the expectation that total account values at retirement will exceed the minimum. Thus, RS+ fully protects every dollar contributed and matched by employers or the government against bond defaults, market declines or inflation.<sup>41</sup>

The theory behind RS+ is simple. The goal of RS+ is to insure that the amount of each contribution can be returned to the saver, adjusted for inflation to protect the purchasing power of that contribution, at a specified retirement date. Through the “magic” of discounting, it is possible to purchase TIPS in an amount that will grow to be equal to the inflation-adjusted value of the contribution at retirement, for less than the full amount of that contribution.<sup>42</sup> In order to determine how much such a TIPS will cost, it is necessary to know a) the amount of time until that retirement date and b) the current real rate of interest being paid on TIPS. Through a mathematical formula available in a spreadsheet, the amount needed to purchase the relevant TIPS can be calculated. The amount left over from the contribution is then invested in a broad equity market index. A copy of a sample spreadsheet allocating contributions between TIPS and the market index over a 30-year period of time can be found in the Appendix.

RS+ will work like this. Every time a contribution is

received, it will be divided into two parts. First, a portion of the contribution will be used to purchase TIPS in the amount needed to guarantee the real purchasing power of the contribution at the date of intended retirement. For example, if the current real rate of interest paid on TIPS is 2 percent and the retirement date is 30-years away, \$55.21 of a \$100 contribution will be invested in 30 year TIPS. This \$55.21 will grow to an inflation-adjusted \$100 in 30 years given the 2 percent interest. The difference between the contribution of \$100 and the \$55.21 used to purchase TIPS or \$44.79 will be invested in the S&P 500 or a similar broad market equity index. The longer the time to retirement (i.e., the earlier that workers begin to save), the smaller the contributions that must be invested in TIPS and, hence, the larger the portion of contributions invested in the stock index. Conversely, the closer savers are to their chosen retirement date, the larger is the portion of contributions invested in TIPS.

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“Through this simple, inexpensive blend of TIPS and the S&P 500, RS+ protects contributions from the three most likely risks to retirement income – inflation, default by a bond issuer, and falling stock prices.”

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## EXAMPLE 2

In this very simple example, let's assume that Rebecca contributes 3 percent of her income of \$33,333 for retirement in 30 years. This is equal to \$1,000 the first year and increases in subsequent years with pay increases that are equal to inflation. Let's also assume that she is entitled to a Saver's Credit of 50 per cent, which makes her first year contribution equal to \$1,500. If TIPS are then available with a real rate of interest of 2 per cent (slightly below their historical average), Rebecca needs only to invest \$828 in TIPS to have it

grow to \$1,500 in 30 years. Stated in finance terms, the present value of \$1,500 in 30 years, discounted at 2 per cent, is \$828. So \$828 is used to purchase TIPS the first year. The remaining \$672 is invested in the stock index. Then, if the average stock appreciation (with dividends reinvested) is a historically conservative 9 per cent and inflation averages 3 per cent, at retirement, Rebecca's account balance at retirement will be worth \$201,932. Measured in today's dollars, this would be equal to \$119,630.

Had Rebecca continued to contribute only the original \$1,000, unadjusted for salary increases or inflation, Rebecca would have \$148,640 when she retired which is equal to \$82,973 in today's dollars. This example also illustrates the importance of the Saver's Credit for building retirement assets for low- and moderate-income savers. Without the Saver's Credit, Rebecca's contribution would have been \$1,000 or 2/3 of what it would be with the 50% match. In Rebecca's case, her account balance would be worth at retirement only \$134,265 in nominal dollars and \$79,753 in today's dollar.

It is important to note that the real rate of interest paid on TIPS varies by market conditions. Based on past experience, however, the average return is likely to be more than 2 per cent per year. Since the introduction of TIPS in 2004, the mean rate of 20-year TIPS has been 2.21 per cent and the median 2.22 per cent. Because contributions will most likely be invested monthly, the RS+ guaranteed rate of return would be the weighted average of monthly returns over a career.<sup>43</sup> Example 3 illustrates how RS+ operates in response to changing market conditions.

### EXAMPLE 3

Andrew has been able to contribute \$100 per month to his Automatic IRA to help pay for his retirement in 20 years at the end of October in 2028. Let's take a look how that \$100 contribution will be divided between TIPS and the stock index during the last 3 months of 2008. Interest rates on 20-year TIPS rose from 2.87 per cent in October to 3.00 per cent in November and fell to 2.32 per cent in December.

In October 2008, \$58.78 of Andrew's \$100 monthly

Table 1. Andrew's IRA Contributions Using RS+ From October to December 2008

Month	Years to Retirement	TIPS Rate	Contribution	Amount Invested in TIPS	Amount Invested in S&P500
Oct. 2008	20 years	2.87 %	\$100	\$56.78	\$43.22
Nov. 2008	19.92 years	3.00 %	\$100	\$55.50	\$44.50
Dec. 2008	19.83 years	2.32 %	\$100	\$63.46	\$36.54

contribution is used to purchase TIPS because, at the current rate of 2.87 percent, they are guaranteed to grow to \$100 at Andrew’s retirement in 20 years. Another way of saying this is that the present discounted value of \$100 in 20 years at 2.87 per cent per year is \$56.78. The difference between Andrew’s contribution of \$100 and the \$56.78 needed to buy the TIPS is \$43.22 which is invested in the S&P500 stock index. In November 2008, the return on TIPS has increased to 3 per cent. However, Andrew now has just 19 years and 11 months to retirement. This equals 19.92 years. The presented discounted value of \$100 for 19.92 years at 3 per cent is \$55.50, which is used to purchase TIPS. The remaining \$44.50 is used to invest in the S&P500 stock index. In December 2008, the return on TIPS has fallen to 2.32 per cent. However, Andrew now has just 19 years and 10 months to retirement. This equals 19.83 years. The presented discounted value of \$100 for 19.83 years at 2.32 per cent is \$63.46, which is used to purchase TIPS. The remaining \$36.54 is used to invest in the S&P500 stock index.

To summarize, savers who invest in RS+ will receive at their chosen retirement date the sum of:

- The amount that they contributed to RS+, adjusted for inflation, plus
- The current value of their RS+ investment in the market index.

### NEED FOR EMERGENCY ACCESS TO SAVINGS

Like workers in 401(k) plans, many Automatic IRA savers will want or need access to their savings before retirement. Because the “guarantee” offered by RS+ is based upon holding discounted TIPS to maturity, savers could forfeit the RS+ guarantee if they withdraw funds from the TIPS component of RS+ in certain circumstances before retirement. This is so because even bonds, which are free of default risk, such as Treasuries, are subject to “basis risk” or loss in value due to an increase in market interest rates on the bonds, unless they are held to maturity. The RS+ guarantee

Table 2. The Impact of Various Expense Ratios on the Accumulation of Retirement Savings of \$1,000 per Year for 40 years at 7 Percent

Total Expense Ratio	Retirement Nest Egg	Reduction Due to Expenses
0	\$199,635	0%
.25% (25 basis points)	\$187,213	6.22%
.50% (50 basis points)	\$175,632	12.02%
1.00% (100 basis points)	\$154,761	22.48%
2.00% (200 basis points)	\$120,799	39.49%

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of the real return of contributions will therefore only apply to funds invested in TIPS held until the chosen retirement date.<sup>44</sup> Savers could, however, be allowed access to the portion of their accounts invested in the market equity index without affecting the RS+ guarantee.

## ADAVANTAGE OF RS+ LOW FEES

The automated nature of RS+, which requires no active management, combined with the high liquidity of its components and the absence of need for consumer interaction (no call-in line costs) should make this a very inexpensive product from an investment management perspective. This is a critical issue for low- and moderate-income savers because fees and expenses can significantly reduce account growth. Much of the potential cost advantage of using RS+ is that it is composed of two products, TIPS and S&P500 index funds, which are already available, highly liquid and nearly costless. For example, the expense ratio for S&P500 exchange traded funds offered by i-Shares (symbol IVV) is just 9 basis points (nine one-hundredth of one per cent) and their TIPS ETF (symbol TIP) costs 20 basis points, for an average of about 14.5 basis points<sup>45</sup>. It should be noted that TIPS can be bought at auction without a brokerage fee, potentially reducing the cost even further, although longer-term TIPS auctions are currently held just twice a year.<sup>46</sup>

Because RS+ is composed of two low-cost investments and uses an automatic asset allocation system, it should be an inexpensive product from an investment management perspective. But it will be important to keep the costs charged for other account services and functions low to maximize RS+'s return to savers. Table 2 illustrates how different expense ratios can

affect the value that savers in RS+ ultimately receive. For example, using conservative projections, nominal returns on TIPS might be expected to be about 5 per cent (2 per cent real and 3 per cent inflation), and nominal returns on the S&P500 might conservatively be expected to be about 9 per cent. A portfolio that is equally divided between TIPS and S&P500 stock would, therefore, have an average expected return of about 7 per cent. A contribution of (a nominal) \$1,000 per year for 40 years at 7 per cent would result in a retirement nest egg of \$199,635.

If the total expense ratio charged to accounts were just 1 per cent, the retirement nest egg would be reduced from \$199,635 to \$154,761, a reduction of 22.48 per cent. If the total expense ratio were 2 per cent, the nest egg would be further reduced to \$120,799, a reduction of 39.49 percent. If, however, the total expense ratio were held to just 50 basis points (one half of one per cent), the nest egg would be \$175,632. At 25 basis points, it would be \$187,213. Expense ratios do matter, and we expect that the simplicity of this product will attract private sector firms willing to offer it at the lower expense range.

## SUPERIOR TO TARGET DATE FUNDS

Relative to RS+, target date funds have a number of disadvantages. First, target date funds do not address the risks of inflation, which are particularly acute for low- and moderate-income workers. Second, they are riskier than RS+ since low stock market growth followed by a substantial market decline (similar to the experience during the past decade) can prevent target-date funds investors from recouping even the nominal value of their contributions, let alone the real value. Third, asset allocation is done for large classes of savers (e.g., all those who plan to retire within a five year

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period around 2035) rather than for individual savers whose precise retirement date or stream of earnings are unlikely to match those of other investors in 2035 funds. Finally, target date funds are more expensive because they generally include a surcharge over the combined costs of the underlying funds.

## PERSONALIZED FOR THE SAVER AND SIMPLER FOR THE PROVIDER

A prime benefit of RS+ is that it takes the investment responsibility from the shoulders of savers. It really is a single product made up of two components (TIPS and a stock index), and asset allocation is automatically configured to the unique contribution stream and precise retirement date of each saver. Thus, unlike the 401(k) model, savers need not continually adjust their investments within a complex menu of investment options. RS+ allocates contributions into TIPS and a stock index based upon the individual saver's time to retirement and the current return on TIPS. While this meets the unique needs of each saver, the allocation is determined by a simple computer program and is essentially cost-less. There is no need to ever reallocate assets (unlike target date funds), thereby minimizing the transaction and administrative costs charged to accounts.<sup>47</sup>

## NEXT STEPS

While RS+ could be implemented right now, certain legislative and policy changes would help to make it more attractive. At the current time, 20 and 30 year TIPS are auctioned just twice per year and are sold as coupon bonds in increments of \$1,000. RS+ would be far more useful within the Automatic IRA if (1) auctions were held monthly, (2) purchase increments were lowered, and (3), the smaller increments were offered as zero coupon ("zero") bonds or remained eligible for

stripping into their principal and interest components in Treasury's Separate Trading of Registered Interest and Principal of Securities (STRIPS) program as TIPS are today. Monthly auctions would also be useful because it would enable purchases of TIPS to be made without the bid-ask spread that exists on the secondary market. However, now that TIPS constitute more than 8 per cent of marketable Treasury securities and are largely owned by institutional investors, there is a large and liquid secondary TIPS market that reduces the size of the bid-ask spread.<sup>48</sup>

RS+ would also benefit from decreasing the minimum TIPS increment from \$1,000. This should not be difficult to do since the Treasury already sells zero-coupon electronic EE bonds to the penny, with a minimum purchase of \$25. Zero-coupon or stripped bonds avoid the cost and complexity of posting interest to each bond held in each account. The Treasury also sells inflation-adjusted I-bonds to the penny with a minimum purchase of \$25 through Treasury Direct. Although the Treasury does not currently combine the two options by selling inflation-adjusted bonds at discount and to the penny, it has demonstrated that it has the systems capability to do so.

Currently, the greatest TIPS maturity is 30 years, which is shorter than the working years of many people. The addition of TIPS with 40 or even 50 year maturities would better fit the work horizon of those just entering the workforce, although the work-around in the absence of these longer-maturity TIPS is not difficult. The maturity mismatch does not prevent RS+ from offering a guaranteed return of the purchasing power of retirement contributions for more than 30 years since the proceeds from the first 30 years TIPS can be reinvested in TIPS, preserving purchasing power.

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However, it would be advantageous to be able to buy TIPS of longer maturities since a generally upward-sloping yield curve allows longer-term bonds to offer somewhat higher interest rates than those of shorter term.

The 20 and 30 year TIPS are currently issued only 2 times per year. Anticipating a tripling of the national debt by 2019, the GAO has recently suggested that the Secretary of the Treasury take steps to issue longer-dated maturities along with increasing TIPS liquidity and conducting more frequent auctions.<sup>49</sup> The infrequency of the offering somewhat reduces liquidity which adds to its cost. The Treasury has already accepted one recommendations of the GAO by increasing the longest duration TIPS from 20 to 30 years. If they increase the auction frequency and add even longer-maturity TIPS, they can make the RS+ even more attractive and easier to administer.

It is very likely that the Treasury will take steps to make TIPS more attractive for two reasons. First, a huge increase in the size of the federal debt will force the Treasury to issue more bonds and, to the extent that bond issues meet the needs of prospective bond buyers, the cost of debt can be held lower. Since a large and growing segment of bond buyers prefer TIPS to non-inflation-protected bonds, it is in the Treasury's interest to meet the needs of this segment. Second, the cash flow needed to pay interest on TIPS may correspond to the tax inflows during periods of inflation. An analysis by researchers at the New York Federal Reserve Bank recently concluded that governments can better handle inflation risk by selling TIPS since periods of inflation are often accompanied by increased tax revenues.<sup>50</sup>

In addition to expanding the maturity of TIPS and the number of auctions per year, the RS+ product would

benefit from the creation of TIPS notes ranging in maturity from 1 to 5 years. This would enable a series of TIPS to be purchased that would equal the time to retirement of every saver. For example, if a saver intended to retire in 41 years, a 30-year TIP would be purchased and at its maturity the proceeds would be rolled into another 10 year TIP. At the end of 40 years, funds would be rolled into a 1-year TIP to carry the worker through to retirement. Currently, purchasing TIPS on the secondary market can approximate this process. The downside is that the process is likely to be more costly than buying at auction.

## CONCLUSION

The RS+ investment option designed by the Initiative on Financial Security at the Aspen Institute can help solve the fundamental challenge for the Automatic IRA and the Saver's Credit – delivering meaningful assets at retirement for the low- and moderate-income saver. It is an investment product that the financial services industry can deliver but currently does not. Its asset allocation between TIPS and a stock index fund is unique to each worker yet is fully automated and needs no expensive, active investment management. The entire process is very inexpensive to administer, minimizing the expenses charged against accounts, and therefore maximizing the potential of account growth. It can be the sole option, the default option or one of many options offered in the investment menu in the Automatic IRA. With RS+, the Automatic IRA can do better than the 401(k) model. By providing the RS+, a low cost, widely-available, easily administered, investment option that provides some equity upside as well as a guaranteed return, together the Automatic IRA and the Saver's Credit can fulfill the promise of the Obama Administration to significantly expand the retirement savings of millions of American workers.

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## ENDNOTES

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- 9 Income thresholds for eligible households would be increased to \$65,000 for married couples filing jointly, \$48,700 for head of the household, and \$32,500 for single or married couples filing separately. The \$500 "matching" limit would be indexed for inflation beginning in the taxable year of 2011. See United States Department of the Treasury. (2009, May). *General explanations of the administration's fiscal year 2010 revenue proposals*. Washington, DC: United States Department of the Treasury. Retrieved from <https://treas.gov/offices/tax-policy/library/grnbk09.pdf>
- 10 See Investment Company Institute. (2009, October). *Research Fundamentals: The U.S. Retirement Market, Second Quarter 2009*. (Volume 18, No. 5-Q2). Washington, DC: Investment Company Institute. Retrieved from [http://www.ici.org/pdf/09\\_q2\\_retmrkt\\_update.pdf](http://www.ici.org/pdf/09_q2_retmrkt_update.pdf)
- 11 For purposes of illustrating differences in account attributes, this paper compares the classic, stand-alone IRA to an account in a 401(k) plan. Most IRA assets are held in such accounts, although there are some employer-based plans such as SIMPLE plans that use IRAs and 401(k) and 403(b) plans may now include an IRA account, if the sponsoring employer permits this.
- 12 As has been noted, "Plans are complicated to administer because of regulatory requirements, the sophistication of investment products and services, and the evolving American workplace. The result is a private pension system requiring significant administrative support with associated fees and costs paid to human resource personnel, accountants and auditors, insurance companies, consultants, salespeople, actuarial firms, legal advisors, and financial intermediaries. Such costs tend to lower U.S. output, raise product costs for producing stateside, and lower the net returns from saving to workers." Perun, P., & Steuerle, C. (2008, May). *Why not a "super simple" saving plan for the United States?* (Opportunity and Ownership Project Report No. 3). Washington, DC: The Urban Institute. p. 2. Retrieved from [http://www.urban.org/UploadedPDF/411676\\_simple\\_saving.pdf](http://www.urban.org/UploadedPDF/411676_simple_saving.pdf)
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- 14 In the Pension Protection Act of 2006, Congress broadened the conditions and circumstances under which investment professionals could offer plan participants investment advice without violating pension law. Controversial regulations and a class exemption implementing this legislation issued early in 2009 have been withdrawn and will be revised and reissued by the Department of Labor. See United States Department of Labor. (2009, October). *Testimony of Phyllis C. Borzi, Assistant Secretary of Labor, Employee Benefits Security Administration before the Special Committee on Aging, U.S. Senate on October 28, 2009*. Washington, DC: Department of Labor. Retrieved from <http://www.dol.gov/ebsa/newsroom/ty102809.html> On November 17, 2009, the Department of Labor announced it was delaying the effective day of final regulations on this issue until May 17, 2010. See

74 Fed. Reg. 59092, 11/17/2009. In addition, the United States Department of Labor (DOL) has announced new enforcement priorities, stressing the DOL's focus on reigning in distorted pension fee structures and conflicts of interest with regards to investment advice. Plan fee and expense disclosure guidelines are expected to be issued in the "near future".

15 See Iyengar, S., Jiang, W., & Huberman, G. (2003). *How much choice is too much: Contributions to 401(k) retirement plans*. (Pension Research Council Working Paper No. 2003-10). Philadelphia, PA: University of Pennsylvania, The Wharton School, Pension Research Council. Retrieved from <http://rider.wharton.upenn.edu/~prc/PRC/WP/WP2003-10.pdf> See also Tang, N., Mitchell, O. S., Mottola, G. R. & Utkus, S. P. (2009, September). *The efficiency of sponsor and participant portfolio choices in 401(k) plans*. (Pension Research Council Working Paper No. 2009-08). Philadelphia, PA: University of Pennsylvania, The Wharton School, Pension Research Council. Retrieved from [http://papers.nber.org/papers/w15317.pdf?new\\_window=1](http://papers.nber.org/papers/w15317.pdf?new_window=1)

16 See Tang, op. cit. See also U.S. Government Accountability Office. (2009, September). *Better Information and Sponsor Guidance Could Improve Oversight and Reduce Fees for Participants*. (GAO-09-641). Washington, DC: Government Accountability Office. Retrieved from <http://www.gao.gov/new.items/d09641.pdf>

17 Representative Andrews (D-NJ) has introduced the Conflicted Investment Advice Prohibition Act of 2009 (H.R. 1988) which prescribes stricter requirements for investment advice programs, most notably requiring independent plan advisers, before providing investment advice, to provide a written notification: (1) of the past performance and historic rates of return of investment options available to the plan, together with comparisons to relevant benchmarks; and (2) that such investment adviser is acting as a fiduciary of such plan. Retrieved from [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:h1988ih.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1988ih.txt.pdf)

18 These regulations can be found at 29 Code of Federal Regulations § 2550.404c-5.

19 See DiCenzo, J. (2009, April). *How Participants are Using Target-Date Funds*. Evanston, IL: Behavioral Research Associates, LLC. Retrieved from <http://ssrn.com/abstract=1407564> See also Government Accountability Office. (2009, October). *RETIREMENT SAVINGS: Automatic Enrollment Shows Promise for Some Workers, but Proposals to Broaden Retirement Savings for Other Workers Could Face Challenges*. (GAO-10-31). Washington, DC: Government Accountability Office. Retrieved from <http://www.gao.gov/new.items/d1031.pdf>

20 See VanDerhei, J., Holden, S., & Alonso, L. (2009, October). *401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2008*. (EBRI Issue Brief, No. 335, October 2009). Washington, DC: Employee Benefit Research Institute. Retrieved from <http://ssrn.com/abstract=1486127> See also Copeland, C. (March 2009). *Use*

*of Target-Date Funds in 401(k) Plans, 2007*. (EBRI Issue Brief, No. 327, March 2009). Washington, DC: Employee Benefit Research Institute. Retrieved from <http://ssrn.com/abstract=1368291>

21 See Munnell, A. H., Kopcke, R.W., Golun-Sass, F. & Muldoon, D. (2009, November). *An Update on 401(k) Plans: Insights from the 2007 Survey of Consumer Finance*. (Center for Retirement Research Working Paper 2009-26). Chestnut Hill, MA: Boston College, Center for Retirement Research. Retrieved from [http://crr.bc.edu/images/stories/Working\\_Papers/wp\\_2009-26.pdf](http://crr.bc.edu/images/stories/Working_Papers/wp_2009-26.pdf) See also VanDerhei, J. (2009, February). *The Impact of the Recent Financial Crisis on 401(k) Account Balances*. (EBRI Issue Brief No. 326, February 2009). Washington, DC: Employee Benefit Research Institute. Retrieved from <http://ssrn.com/abstract=1350568>

22 The four largest providers (Fidelity, Vanguard, T-Rowe Price, and Principal Life-Time) had, on average, an equity exposure of 51 per cent in their respective 2010 dated funds. See Craig, I. (2009, April). *Are Target-Date Funds Failing?* New York, NY: Bank Investment Consultant. Retrieved from [http://www.bankinvestmentconsultant.com/bic\\_issues/2009\\_4/are-target-date-funds-failing-2661354-1.html](http://www.bankinvestmentconsultant.com/bic_issues/2009_4/are-target-date-funds-failing-2661354-1.html)

23 Majority Staff of the Special Committee on Aging, U.S. Senate. (2009, October). *Target Date Retirement Funds: Lack of Clarity Among Structures and Fees Raises Concerns*. Washington, DC: Special Committee on Aging United States Senate. Pp. 13-16. Retrieved from <http://www.aging.senate.gov/letters/targetdatecommitteeprint.pdf>

24 *Idem.*, p. 16.

25 "Discounted" means the present value of an amount of TIPS, which will mature to equal the worker's inflation-adjusted contribution.

26 Bucks, B., Kennickell, A., Mach, Traci., & Moore, K. (2009, February). *Changes in U.S. Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances Federal Reserve Bulletin*. (p. A27). Washington, DC: Federal Reserve Board. Retrieved from <http://www.federalreserve.gov/pubs/bulletin/2009/pdf/scf09.pdf> Families were interviewed just as the current economic crisis was beginning to unfold, however, so the data do not reflect any crisis-related changes in behavior or loss of wealth. It is also important to note that, in order to depict the "wealth gap" accurately, the SCF has divided the top income quintile into two groups: those who could be called the very wealthy, those in the 80-90 percentile of income; and those who could be called the wealthiest, those in the 90+ percentile of income.

27 Based on authors' calculations from Bucks op. cit. p. A18.

28 Kopcke, R. & Muldoon, D. (2009, November) *Why are Stocks so Risky?* (Number 9-23). Chestnut Hill, MA: Boston College, Center for Retirement Research. Retrieved from <http://crr>

29 *Op. cit.* p. 2.

30 While the market risk premium has been sizeable over this period, there have been specific periods of time in which the market risk premium has disappeared. One such period was the 40 year span ending precisely at the market low in March 2009 during which long-term government bonds performed about as well as stocks. The subsequent market recovery has resulted in a positive market risk premium for the trailing 40-year period. See Ibbotson, R. & Chen, P. (2009, July). *Are Bonds Going to Outperform Stocks Over the Long Run? Not Likely*. Chicago, IL: Ibbotson Associates. Retrieved from <http://corporate.morningstar.com/ib/documents/MediaMentions/AreBondsGoingToOutPerformStocks.pdf>

31 Kopecke, R. *op. cit.*, p. 5.

32 See Vanderhei, J. (2009, September). *An Evaluation of the Adequacy and Structure of Current U.S. Voluntary Retirement Plans, With Special Emphasis on 401(k) Plans*. (Testimony presented to the U.S. Department of Labor Advisory Council on Employee Welfare and Pension Benefit Plans). Washington, DC: Employee Benefits Research Institute. Retrieved from <http://www.ebri.org/pdf/publications/testimony/T-162.pdf>

33 Construction of traditional guaranteed products is expensive because they rely on the purchase of non-exchange-traded options from private counterparties, such as investment banks and/or engage in dynamic hedging to cover the ever-changing cost of their guarantee.

34 See Lankford, K. (2009, May). *Variable Annuities with Guarantees Lose Appeal*. Washington, DC: Kiplinger. Retrieved from [www.kiplinger.com/columns/ask/archive/2009/q0518.htm](http://www.kiplinger.com/columns/ask/archive/2009/q0518.htm) See also FINRA. (2009). *Principal-Protected Funds—Security Has a Price*. Washington, DC: Financial Industry Regulatory Authority. Retrieved from <http://www.finra.org/Investors/ProtectYourself/InvestorAlerts/MutualFunds/p006007> The online reference tool provided by the FINRA Investor Education Foundation, indicates that “many principal-protected funds carry an expense ratio (the total annual fees deducted from your holdings) that typically is higher than that of non-protected funds. Fees range from 1.5 per cent to nearly 2 per cent, of which .33 per cent to .75 per cent typically pays for the principal guarantee. In addition, many funds also impose sales charges, plus redemption/penalty fees for early withdrawals that may be significant.”

35 See Nash, J. (2009, October). *New Twist on Annuities in 401(k)s*. Pensions and Investments. Retrieved from <http://www.pionline.com/article/20091005/PRINTSUB/310059973> See also Scism, L. (2009, May). *Insurance to Protect 401(k)s: The Trick is to Figure Out How*. Wall Street Journal. Retrieved from <http://online.wsj.com/article/SB20001424052970204475004574127212146832496.html> See also Shilder, L. (2009, January). *Crisis Fuels Interest in 401(k)*

*Guaranteed Products*. Investment News. Retrieved from <http://www.investmentnews.com/article/20090114/FREE/901149997>

36 See Vanguard. (2009, December). *The Debate over Target Date Glide Paths*. Vanguard Institutional Investor. Retrieved from <https://institutional.vanguard.com/VGApp/iip/site/institutional/researchcommentary/article?File=NewsJATarget>

37 See Scism, L. (2009, May). *Insurance to Protect 401(k)s: The Trick is to Figure Out How*. Wall Street Journal. Retrieved from <http://online.wsj.com/article/SB20001424052970204475004574127212146832496.html> See also Munnell, A. H., Golub-Sass, A., Kopecke, R. W. & Webb, A. (2009) *What Does it Cost to Guarantee Returns? (Brief Number 9-4)*. Chestnut Hill, MA: Boston College, Center for Retirement Research. Retrieved from [http://crr.bc.edu/images/stories/Briefs/ib\\_9-4.pdf](http://crr.bc.edu/images/stories/Briefs/ib_9-4.pdf)

38 TIPS bonds pay a set amount of interest based on the face value of the bond. Historically, this rate has averaged more than 2 per cent. While this is less than the rate paid by Treasuries, which are not adjusted for inflation, the TIPS have another feature in which their face value increases with inflation (the Consumer Price Index Urban Non-Seasonally Adjusted (CPI-U NSA) lagged by 3 months). This means that the face value of the bond (which is returned at maturity) keeps going up with inflation. In addition, since interest is paid as a percentage of the bond's face value rather than its purchasing price, the interest that is paid is also adjusted for inflation. To illustrate, if you purchase a \$1,000 TIPS bond that pays 2.5 per cent interest, you will initially receive \$25 per year in interest. However, if inflation in the first year is 10 per cent, the face value of the bond increases to \$1,100 and interest will now be 2.5 per cent of \$1,100 or \$27.50.

39 If purchased at a discount and held to maturity, TIPS also eliminate “reinvestment rate risk” which is the risk that the rate paid on the TIPS already purchased will go down forcing the saver to reinvest interest at lower rates.

40 While we generally use the term “market index” to refer to the S&P500, other, broader, highly liquid indices could be chosen instead. These might include the Russell 5000 index of US equities or the Morgan-Stanley Capital World Index, which includes international as well as US stocks.

41 The guarantee provided by RS+ is backed by the U.S. Treasury, unlike principal-guaranteed products offered by many insurance companies, which typically rely on the options market with uncertain counterparties. Since the “guaranteed” portion of the investment will be 100 per cent in TIPS held to maturity, it is not only protected from inflation risk but also from default risk as well as basis risk (the risk that the value changes as the result of changing interest rates or other market conditions).

42 Discounting means calculating the present value of a future amount. The magic of discounting means the opposite of the

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magic of compounding.

43 If auctions continue to be offered just twice per year, monthly purchases would have to be done primarily on the secondary market. There is currently a problem of divisibility in that coupon TIPS bonds are sold in minimum units of \$1,000 and TIPS strips are sold in minimum units of the present value of \$1,000. However, RS+ envisions the creation by the Treasury of TIPS bonds in smaller denominations, ideally as low as \$1 but at least in increments of \$25 or \$50 so that worker contributions can be invested monthly and do not have to be accumulated. These issues are addressed in greater detail later in the paper.

44 In an extreme situation, if a saver made contributions when the real return on TIPS increased from a low rate to a higher one and needed to withdraw funds before retirement, it is possible that 100 per cent of the real value of the contributions could not be returned. However, since real interest rates vary far less than nominal interest rates (because much of the variation of bond rates is based on anticipated inflation), the basis risk is not likely to be very great. The only principal loss possible as the result of premature distribution would occur as the result of a sizeable increase in real interest rates accompanied by a sizeable decrease in stock prices.

45 Note that a TIPS fund or ETF cannot be used with RS+ since fluctuations in the secondary market will not make a guarantee possible

46 Currently, TIPS are only offered with maturities of 5, 10, 20 and 30 years.

47 It would be possible, however, to include an option, which would allow workers who are approaching retirement with a large proportion of assets in the stock index (due to very favorable stock market performance) to transfer some portion of their portfolio from the stock index to TIPS to increase the guaranteed portion of their retirement nest egg.

48 See Government Accountability Office. (2009, September). *DEBT MANAGEMENT: Treasury Inflation Protected Securities Should Play a Heightened Role in Addressing Debt Management*. (GAO-09-932) Washington, DC: Government Accountability Office. Retrieved from <http://www.gao.gov/new.items/d09932.pdf>

49 *Ibid.*

50 Dudley, W., Roush, J., & Ezer, M. (2009, July). *The Case for TIPS: An Examination of the Costs and Benefits*. New York, NY: FRBNY Economic Policy Review. Retrieved from <http://www.newyorkfed.org/newsevents/speeches/2009/dud090210.html>

## APPENDIX

**A Detailed View of RS+ Accumulation Over 30 Years  
For a Worker Contributing an Inflation-Adjusted \$1,000 per Year  
if the Interest Rate on TIPS is 2%, the S&P Returns 9% and Inflation is 3%**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Year	Contribution	Cost of TIPS	Nominal Value of TIPS at Retirement	Real Value of TIPS at Retirement	Amount Invested in S&P500	Nominal Value of S&P500 at Retirement	Real Value of S&P500 at Retirement
1	1,000	552	2427	1000	448	5943	2448
2	1,030	580	2427	1030	450	5477	2324
3	1,061	609	2427	1061	452	5042	2204
4	1,093	640	2427	1093	453	4636	2087
5	1,126	673	2427	1126	453	4257	1974
6	1,159	707	2427	1159	453	3903	1864
7	1,194	742	2427	1194	452	3573	1758
8	1,230	780	2427	1230	450	3266	1655
9	1,267	819	2427	1267	447	2979	1555
10	1,305	861	2427	1305	444	2712	1458
11	1,344	904	2427	1344	439	2463	1364
12	1,384	950	2427	1384	434	2232	1273
13	1,426	998	2427	1426	428	2017	1185
14	1,469	1049	2427	1469	420	1817	1099
15	1,513	1102	2427	1513	411	1631	1016
16	1,558	1158	2427	1558	400	1458	936
17	1,605	1216	2427	1605	389	1298	858
18	1,653	1278	2427	1653	375	1150	783
19	1,702	1342	2427	1702	360	1013	710
20	1,754	1410	2427	1754	343	886	640
21	1,806	1482	2427	1806	324	768	572
22	1,860	1557	2427	1860	304	660	506
23	1,916	1635	2427	1916	281	559	442
24	1,974	1718	2427	1974	255	467	380
25	2,033	1805	2427	2033	228	382	320
26	2,094	1896	2427	2094	197	304	262
27	2,157	1992	2427	2157	164	232	206
28	2,221	2093	2427	2221	128	166	152
29	2,288	2199	2427	2288	89	106	99
30	2,357	2310	2427	2357	46	50	49
Total	47,575	37,059	72,818	47,575	10,516	61,447	32,178

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## YEAR 1

The first year's contribution is \$1,000. Of that amount, \$552<sup>1</sup> is used to purchase 30 year TIPS [column (c)]. At 2 percent interest, \$552 will grow to be \$1,000 in 30 years [column (e)]. Since TIPS adjust their value by the rate of inflation, a three percent annual rate of inflation will cause the nominal (non-inflation-adjusted) value of the TIPS to be \$2,427 in 30 years [column (d)] or \$1,000 in "real," inflation-adjusted, or current year (all synonyms) dollars [column (e)].

The difference between the contribution of \$1,000 and the \$552 needed to buy TIPS is \$448 [column (f)] which is invested in the S&P500 stock index. At an assumed rate of return of 9 percent on stocks, this \$448 would be expected to grow to be \$5,943 [column (g)] in 30 years. In real or current year dollars, this would be equal to \$2,448 [column (h)].

## YEAR 2

The second year's contribution is \$1,030 [column (b)] since the original contribution of \$1,000 has grown with the 3 percent increase in salaries that corresponds, in this example, to the 3 percent rate of inflation. Of that amount, \$580 is used to purchase 29 year TIPS [column (c)]. At 2 percent interest, \$580 will grow to be \$1,000 in 29 years [column (e)]. Since TIPS adjust their value by the rate of inflation, a three percent annual rate of inflation will cause the nominal (non-inflation-adjusted) value of the TIPS to be \$2,427 in 29 years [column (d)] or \$1,030 in "real," inflation-adjusted, or current year<sup>2</sup> (all synonyms) dollars [column (e)].

The difference between the contribution of \$1,030 and the \$580 needed to buy TIPS, is \$450 [column (f)] which is invested in the S&P500 stock index. At an assumed rate of return of 9 percent on stocks, this \$450 would be expected to grow to be \$5,477 [column (g)] in 29 years. In real or current year (Year 2) dollars, this would be equal to \$2,324 [column (h)].

## YEAR 30

The last year's (Year 30) contribution will be \$2,357 [column (b)] which is equal to the original contribution of \$1,000 inflated by 3 percent each year for 30 years. Of that amount, nearly all of it (\$2,310) must be used to buy TIPS [column (c)] since they have only the final year to earn the 2 percent interest to grow to the real value of \$2,357 at retirement [column (e)]. Note that \$2,357 is merely the original contribution of \$1,000 adjusted for an annual inflation of 3 percent. The nominal value of \$2,310 used to purchase TIPS at the beginning of Year 30 is equal to \$2,427 at retirement (at the end of Year 30) since the value has grown by the real 2 percent return on TIPS as well as the 3 percent rate of inflation in that last year. The difference between the contribution of \$2,357 and the \$2,310 needed to buy TIPS is \$46 [column (f)] which is invested in the S&P500 stock index for one final year. At an assumed rate of return of 9 percent on stocks, this \$46 would be expected to grow to be \$50 at year

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1 Pennies in this table have been truncated to keep the table easier to read.

2 Year 2

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end [column (g)]. In real or current year (Year 30) dollars, this would be equal to \$49 [column (h)].

## Total Accumulation

The worker has contributed a total of \$47,575 nominal dollars [column (b)] over his or her work life. At retirement, this will be worth (in Year 30 dollars) \$72,818 in TIPS [column (d)] plus \$61,447 in S&P500 stock [column (g)] for a total nominal value of \$134,265. It is interesting to note that if the entire contribution was placed in TIPS, instead of being divided between TIPS and S&P500 stocks, the nominal value at retirement would have been \$100,439.





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