

REINVENTING SAVINGS BONDS: Policy Changes to Increase Private Savings¹

By Peter Tufano and Daniel Schneider²

SUMMARY

Savings bonds have always served multiple objectives: funding the U.S. government, democratizing national financing, and enabling families to save. Increasingly, that last goal has been ignored. A series of efficiency measures introduced in 2003 make these bonds less attractive and less accessible to savers. Public policy should go in the opposite direction: U.S. savings bonds should be reinvigorated to help low- and moderate-income (LMI) families build assets. More and more, those families' saving needs are ignored by private-sector asset managers and marketers. With a few relatively modest changes, the savings bond program can be reinvented to help those families save, while still increasing the efficiency of the program as a debt management device. Savings bonds provide market-rate returns, with no transaction costs, and are a useful commitment savings device. Our proposed changes include (a) allowing federal taxpayers to purchase bonds with tax refunds; (b) enabling LMI families to redeem their bonds before 12 months; (c) leveraging private-sector organizations to market savings bonds; and (d) contemplating a role for savings bonds in the life cycles of LMI families.

INTRODUCTION

In a world in which financial products are largely sold and not bought, savings bonds are a quaint oddity. First offered as Liberty Bonds to fund World War I and then as baby bonds 70 years ago, savings bonds seem out of place in today's financial world. While depository institutions and employers nominally market those bonds, they have few incentives to actively sell them. As financial institutions move to serve up-market clients with higher-profit-margin products, savings bonds receive little if no marketing or sales attention. Even Treasury seems uninterested in marketing them. In 2003 Treasury closed down the 41 regional marketing offices for savings bonds and has zeroed-out the budget for the marketing office, staff, and ad buys from \$22.4 million to \$0 (Block 2003). No one seems to have much enthusiasm for selling savings bonds.

Maybe that lack of interest is sensible. After all, there are many financial institutions selling a host of financial products in a very competitive financial environment. The very name "savings bonds" is out of touch; it is unfashionable to think of ourselves as "savers." We are now "investors." We

¹ This policy brief is an expanded and updated version of our article, "Reinventing Savings Bonds," published in *Tax Notes*, October 31, 2005, pp. 1-20. We would like to thank officials at the Bureau of Public Debt (BPD) for their assistance locating information on the savings bonds program. We would also like to thank officials from BPD and Department of Treasury, Ray Boshara, Reid Cramer, Fred Goldberg, Scott McBride, Andy Olson, Peter Orszag, Jim Poterba, Anne Stuhldreher, Lawrence Summers, John Thompson, Jeremy White, Bernie Wilson, and participants at the New America Foundation/Congressional Savings and Ownership Caucus, the NBER Tax Policy and Economy group, and the Consumer Federation of America/America Saves Programs for useful comments and discussions. Financial support for this research project was provided by the Division of Research of the Harvard Business School. Any opinions expressed are those of the authors and not those of any of the organizations above.

² Peter Tufano is the Sylvan C. Coleman Professor of Financial Management and Daniel Schneider is a Research Associate at Harvard Business School.

buy investment products and hold our “near cash” in depository institutions or money market mutual funds. *Saving* is simply passé, and American families’ savings rate has dipped to its lowest point in recent history.

Even if we put aside the macroeconomic debate on the national savings rate, there is little question that lower-income Americans would be well served with greater savings. Families need enough savings to withstand temporary shocks to income, but a shockingly large fraction don’t even have enough savings to sustain a few months of living expenses (see Table I). Financial planners often advise that families have sufficient liquid assets to replace six months of household income in the event of an emergency. Yet, only 22% of households, and only 19% of LMI households, meet that standard. Fewer than half (47%) of U.S. households, and only 29% of LMI households, have sufficient liquid assets to meet their own stated emergency savings goals. Families do somewhat better when financial assets in retirement accounts are included, but even then more than two-thirds of households do not have sufficient savings to replace six months of income.

And while the financial landscape may be generally competitive, there are low-profit pockets where competition cannot be counted upon to solve all of our problems. While it may be profitable to sell low income families credit cards, sub-prime loans, payday loans or check cashing services, there is no rush to offer them savings products. A not insubstantial number of them may have prior credit records that lead depository institutions to bar them from opening even savings accounts. Many do not have the requisite minimum balances of \$2500 or \$3000 that most money market mutual funds demand. Many of them are trying to build assets, but their risk profile cannot handle the potential principal loss of equities or equity funds. Many use alternative financial services, or check cashing outlets, as their primary financial institution, but these firms do not offer asset building products.

For these families, old-fashioned U.S. savings bonds offer an investment without any risk of principal loss due to credit or interest rate moves, while providing a competitive rate of return with no fees. Bonds can be bought in small denominations, rather than requiring waiting until the saver has amassed enough money to meet some financial institution’s minimum investment requirements. And finally, bonds have an “out-of-sight and out-of-mind” quality, which fits well with the mental accounting consumers use to artificially separate spending from saving behavior.

Despite all of these positives, we feel the savings bond program needs to be reinvigorated to enhance its role in supporting family saving. In the current environment, the burden is squarely on these families to find and buy the bonds. Financial institutions and employers have little or no incentives to encourage savers to buy bonds. The government has eliminated its bond marketing program. Finally, by pushing the minimum holding period up to 12 months, the program is discouraging low-income families, who might face a financial emergency, from investing in them. We feel these problems can and should be solved, so that savings bonds can once again become a strong part of families’ savings portfolios.

At one point in American history, savings bonds were an important tool for families to build assets to get ahead. They were “designed for the small investor – that he may be encouraged to save for the future and receive a fair return on his money” (U.S. Department of the Treasury 1935). While times have changed, this function of savings bonds may be even more important now. Our set of recommendations is designed to make savings bonds a viable asset building device for low- to moderate-income Americans, as well as reduce the cost to sell them to families. The proposal reflects an important aspect of financial innovation. Often financial innovations from a prior generation are reinvented by a new generation. The convertible preferred stock that venture capitalists use to finance high tech firms was used to finance railroads in the nineteenth century. Financiers of these railroads invented income bonds, which have been refined to create trust

preferred securities, a popular financing vehicle. The “derivatives revolution” began centuries ago, when options were bought and sold on the Amsterdam Stock Exchange. Wise students of financial innovation realize that old products can often be re-invented to solve new problems.

Here, we lay out a case for why savings bonds, an invention of the 20th century, can and should be re-imagined to help millions of Americans build assets now. In section 2, we briefly describe why LMI families might not be fully served by private sector savings opportunities. In section 3, we briefly recount the history of savings bonds and fast forward to discuss their role in the current financial services world. In section 4, we discuss our proposal to reinvent savings bonds as a legitimate device for asset building for American families.

AN UNUSUAL PROBLEM: NOBODY WANTS MY MONEY!³

In our modern world, where many of us are bombarded by financial service firms seeking our business, why would we still need or want a seventy year old product like savings bonds? To answer this question, we have to understand the financial services landscape of LMI Americans, which for our discussion can be variously defined as the 41 million American households who earn under \$30,000 a year or the 24 million households with total financial assets under \$500 or the more than 18 million U.S. households making less than \$30,000 a year and holding less than \$500 in financial assets (Survey of Consumer Finances 2001 and Current Population Survey 2002). In particular, we need to understand asset accumulation strategies for these families, their savings goals, and their risk tolerances. But we also need to understand the motives of financial service firms offering asset-building products.

In generic terms, asset gatherers and managers must master a simple profit equation: revenues must exceed costs. Costs include customer acquisition, customer servicing and the expense of producing the investment product. Customer acquisition and servicing costs are not necessarily any less for a small account than for a large one. Indeed, if the smaller accounts are sufficiently “different” they can be quite costly; if held by people who speak different languages, require more explanations, or who are not well understood by the financial institution. The costs of producing the product would include the investment management expenses for a mutual fund or the costs of running a lending operation for a bank.

On the revenue side, the asset manager could charge the investor a fixed fee for its services. However, industry practice is to charge a fee that is a fraction of assets under management (as in the case of a mutual fund which charges an expense ratio) or to give the investor only a fraction of the investment return (in the classic “spread banking” practiced by depository institutions.) The optics of the financial service business are to take the fee out of the return earned by the investor in an “implicit fee” to avoid the sticker shock of having to charge an explicit fee for services. Financial services firms can also earn revenues if they can subsequently sell customers other high-margin products and services, the so called cross-sell.

At the risk of oversimplifying, the asset manager can earn a profit on an account if:

$$Size\ of\ Account \times (Implicit\ Fee\ in\ \%) - Marginal\ Costs\ to\ Serve > 0$$

Because implicit fees are netted from the gross investment returns, they are limited by the size of these returns (because otherwise investors would suffer certain principal loss.) If an investor is

³ Portions of this section are adapted from an earlier paper, Schneider and Tufano, 2004, “New Savings from Old Innovations: Asset Building for the Less Affluent,” New York Federal Reserve Bank, Community Development Finance Research Conference.

risk-averse and chooses to invest in low-risk/low-return products, fees are constrained by the size of the investment return. For example, when money market investments are yielding less than 100 basis points (bp), it is infeasible for a money market mutual fund to charge expenses above 100 bp. Depository institutions like banks or credit unions face a less severe problem, as they can invest in high-risk projects (loans) while delivering low-risk products to investors by virtue of government-supplied deposit insurance.

Given even relatively low fixed costs per client and implicit fees that must come out of revenue, the importance of having large accounts (or customers who can purchase a wide range of profitable services) is paramount. At a minimum, suppose that statements, customer service costs, regulatory costs, and other “sundries” cost \$30 per account per year. A mutual fund that charges 150 bp in expense ratios would need a minimum account size of $\$30/.015 = \$2,000$ to just break even. A bank that earns a net interest margin between lending and borrowing activities of 380 bp would need a minimum account size of $\$30/.038 = \790 to avoid a loss (Carlson and Perli 2004). Acquisition costs make having large and sticky accounts even more necessary. The cost per new account appears to vary considerably across companies, but is substantial. The industry wide average for traditional banks is estimated at \$200 per account (Stone 2004). Individual firms have reported lower figures. TD Waterhouse spent \$109 per new account in the fourth quarter of 2001 (TD Waterhouse 2001). T. Rowe Price spent an estimated \$195 for each account it acquired in 2003.⁴ H&R Block, the largest retail tax preparation company in the United States, had acquisition costs of \$130 per client (Tufano and Schneider 2004). One can justify that outlay only if the account is large, will purchase other follow-on services, or will be in place for a long time.

Against that backdrop, an LMI family that seeks to build up its financial assets faces an uphill battle. Given the risks those families face and the thin margin of financial error they perceive, they seem to prefer low-risk investments, which have more constrained fee opportunities for financial service vendors. By definition, their account balances are likely to be small. Regarding cross-sell, financial institutions might be leery of selling LMI families profitable products that might expose the financial institutions to credit risk. Finally, what constitute inconveniences for wealthier families (for example, a car breakdown or a water heater failure) can constitute emergencies for LMI families that deplete their holdings, leading to less sticky assets.

These assertions about LMI financial behavior are borne out with scattered data. Tables II and III report various statistics about U.S. financial services activity by families sorted by income. The preference of LMI families for low-risk products is corroborated by their revealed investment patterns, as shown by their substantially lower ownership rates of equity products. Low-income families were less likely to hold every type of financial asset than high-income families. However, the ownership rate for transaction accounts among families in the lowest income quintile was 72% of that of families in the highest income decile, while the ownership rate among low-income families for stocks was only 6% and for mutual funds just 7% of the rate for high-income families. The smaller size of financial holdings by the bottom income quintile of the population is quite obvious. Even if they held all of their financial assets in one institution, the bottom quintile would have a median balance of only \$2,000 (*after excluding* the 25.2% with no financial assets of any kind).

The likelihood that LMI family savings will be drawn down for emergency purposes has been documented by Schreiner, Clancy, and Sherraden (2002) in their national study of Individual Development Accounts (matched savings accounts intended to encourage asset building through savings for homeownership, small-business development, and education). They find that 64% of

⁴ Cost per new account estimate is based on a calculation using data on the average size of T. Rowe Price accounts, the amount of new assets in 2003, and annual marketing expenses. Data is drawn from T. Rowe Price (2003), Sobhani and Shteyman (2003), and Hayashi (2004)).

participants made a withdrawal to use funds for a non-asset-building purpose, presumably one pressing enough that it was worth foregoing matching funds. In our own work (Beverly, Schneider, and Tufano 2004), we surveyed a selected set of LMI families about their savings goals. Saving for emergencies was the second most frequent savings goal (behind unspecified savings), while long horizon saving for retirement was a goal for only 5% of households. A survey of the 15,000 participants in the America Saves program found similar results with 40% of respondents listing emergency savings as their primary savings goal (American Saver 2004). The lower creditworthiness of LMI families is demonstrated by the lower credit scores of LMI individuals and the larger shares of LMI families reporting having past-due bills.⁵

Given the economics of LMI families and of most financial services firms, a curious equilibrium has emerged. With a few exceptions, firms that gather and manage assets are simply not very interested in serving LMI families. While their “money is as green as anyone else’s,” the customers are thought too expensive to serve, their profit potential too small, and, as a result, the effort better expended elsewhere. While firms don’t make public statements to that effect, the evidence is there to be seen.

- Among the top 10 mutual funds in the country, eight impose minimum balance restrictions upwards of \$250. Among the top 500 mutual funds, only 11% had minimum initial purchase requirements of less than \$100 (Morningstar 2004). See Table IV.
- Banks routinely set minimum balance requirements or charge fees on low balances, in effect discouraging smaller savers. Nationally, minimum opening balance requirements for statement savings accounts averaged \$97, and required a balance of at least \$158 to avoid average yearly fees of \$26. Those fees were equal to more than a quarter of the minimum opening balance, a management fee of 27%. Fees were higher in the 10 largest Metropolitan Statistical Areas (MSAs), with average minimum opening requirements of \$179 and an average minimum balance to avoid fees of \$268 (Board of Governors of the Federal Reserve 2003). See Table V. While those numbers only reflect minimum opening balances, what we cannot observe is the level of marketing activity (or lack thereof) directed to raising savings from the poor.
- Banks routinely use credit scoring systems like ChexSystems to bar families from becoming customers, even from opening savings accounts that pose minimal, if any, credit risks. Over 90% of bank branches in the U.S. use the system, which enables banks to screen prospective clients for problems with prior bank accounts and to report current clients who overdraw accounts or engage in fraud (Quinn 2001). The ChexSystems database includes information on over 19 million closed-for-cause accounts (eFunds 2004). While ChexSystems was apparently designed to prevent banks from taking losses on checking accounts, we understand that it is not unusual for banks to use it to deny customers any accounts, including savings accounts. Conversations with a leading U.S. bank suggest that policy arises from the inability of bank operational processes to restrict a customer’s access to just a single product. In many banks, if a client with a ChexSystems record were allowed to open a savings account, she could easily return the next day and open a checking account.

⁵ Bostic, Calem, and Wachter (2004) use data from the Federal Reserve and the Survey of Consumer Finances (SCF) to show that 39% of those in the lowest income quintile were credit constrained by their credit scores (score of less than 660) compared with only 2.8% of families in the top quintile and only 10% of families in the fourth quintile. A report from Global Insight (2003), also using data from the SCF, finds that families in the bottom two quintiles of income were more than three times as likely to have bills more than 60 days past due than families in the top two quintiles of income.

- Banks and financial services firms have increasingly been going “up market” and targeting the consumer segment known as the “mass affluent,” generally those with over \$100,000 in investible assets. Wells Fargo’s director of investment consulting noted that “the mass affluent are very important to Wells Fargo” (Quittner 2003) and American Express Financial Advisors’ chief marketing officers stated that, “Mass affluent clients have special investment needs... Platinum and Gold Financial Services (AEFA products) were designed with them in mind” (“Correcting and Replacing” 2004). News reports have detailed similar sentiments at Bank of America, Citi Group, Merrill Lynch, Morgan Stanley, JP Morgan, Charles Schwab, and Prudential.
- Between 1975 and 1995 the number of bank branches in LMI neighborhoods declined by 21%. While declining population might explain some of that reduction (per capita offices declined by only 6.4%), persistently low-income areas, those that were poor over the period of 1975 -1995, experienced the most significant decline - losing 28% of offices, or a loss of one office for every 10,000 residents. Low-income areas with relatively high proportions of owner-occupied housing did not experience loss of bank branches, but had very few to begin with (Avery, Bostic, Calem, and Caner 1997).
- Even most credit unions pay little attention to LMI families, focusing instead on better compensated occupational groups. While that tactic may be profitable, credit unions enjoy tax-free status by virtue of provisions in the Federal Credit Union Act, the text of which mandates that credit unions provide credit “to people of small means” (Federal Credit Union Act 1989). Given that legislative background, it is interesting that the median income of credit union members is approximately \$10,000 higher than that of the median income of all Americans (Survey of Consumer Finances 2001) and that only 10% of credit unions classify themselves as “low income,” defined as half of the members having incomes of less than 80% of the area median household income (National Credit Union Administration 2004) and Tansey 2001).
- Many LMI families have gotten the message and prefer not to hold savings accounts citing high minimum balances, steep fees, low interest rates, problems meeting identification requirements, denials by banks, and a distrust of banks (Berry 2004).
- Structurally, we have witnessed a curious development in the banking system. The traditional payment systems of banks (for example, bill paying and check cashing) have been supplanted by nonbanks in the form of alternative financial service providers such as check cashing firms. Those same firms have also developed a vibrant set of credit products in the form of payday loans. However, those alternative financial service providers have not chosen to offer asset building or savings products. Thus, the most active financial service players in many poor communities do not offer products that let poor families save and get ahead.

This stereotyping of the financial service world obviously does not do justice to a number of financial institutions that explicitly seek to serve LMI populations’ asset building needs. That includes Community Development Credit Unions, financial institutions like ShoreBank in Chicago, and the CRA-related activities of the nation’s banks. However, we sadly maintain that those are exceptions to the rule, and the CRA-related activities, while real, are motivated by regulations and not intrinsically valued by the financial institutions.

We are reminded about one subtle - but powerful - piece of evidence about the lack of interest of financial institutions in LMI asset building each year. At tax time, many financial institutions advertise financial products to help families pay less in taxes: IRAs, SEP-IRAs, and KEOGHs.

Those products are important - for taxpayers. However, LMI families are more likely refund recipients, by virtue of the refundable portions of the earned income tax credit (EITC), the child tax credit (CTC), and refunds from other sources that together provided over \$78 billion in money to LMI families in 2001, mostly around February (refund recipients tend to file their tax returns earlier than payers) (Internal Revenue Service 2001). With the exception of H&R Block, which has ongoing pilot programs to help LMI families save some of that money, financial institutions seem unaware - and uninterested - in the prospect of gathering some share of a \$78 billion flow of assets (Tufano and Schneider 2004).

“Nobody wants my money” may seem like a bit of an exaggeration, but it captures the essential problem of LMI families wanting to save. “Christmas Club” accounts, in which families deposited small sums regularly, have all but disappeared. While they are not barred from opening bank accounts or mutual fund accounts, LMI families could benefit from a low-risk account with low fees, which delivers a competitive rate of return, with a small minimum balance and initial purchase price, and is available nationally and portable if the family moves from place to place. The product has to be simple, the vendor trustworthy, and the execution easy - because the family has to do all the work. Given these specifications, savings bonds seem like a good choice.

U. S. SAVINGS BONDS: HISTORY AND RECENT DEVELOPMENTS

A Brief History of Savings Bonds

Governments, including the U.S. government, have a long tradition of raising money by selling bonds to the private sector, including large institutional investors and small retail investors. U.S. Treasury bonds fall into the former group and savings bonds the latter. The U.S. is not alone in selling small-denomination bonds to retail investors; since the 1910s, Canada has offered its residents a form of Canada savings bonds.⁶ Generally, huge demands for public debt, occasioned by wartime, have given rise to the most concerted savings bond programs. The earliest bond issue by the U.S. was conducted in 1776 to finance the Revolutionary War. Bonds were issued again to finance the War of 1812, the Civil War, the Spanish-American War, and with the onset of World War I, the Treasury Department issued Liberty Bonds, mounting extensive marketing campaigns to sell the bonds to the general public (Cummings 1920). The bond campaign during World War II is the best known of those efforts, though bonds were also offered in conjunction with the Vietnam War and, soon after the terrorist attacks in 2001, the government offered the existing EE bonds as “Patriot Bonds” to allow Americans to “express their support for anti-terrorism efforts” (U.S. Department of the Treasury 2002).

During those wartime periods, bond sales were tied to patriotism. World War I campaigns asked Americans to “buy the “Victorious Fifth” Liberty Bonds the way our boys fought in France – to the utmost” (Liberty Loan Committee 1919). World War II era advertisements declared, “War bonds mean bullets in the bellies of Hitler’s hordes” (Blum 1976).

The success of those mass appeals to patriotism was predicated on bonds being accessible and affordable to large numbers of Americans. Both the World War I and World War II bond issues were designed to include small savers. While the smallest denomination Liberty Bond was \$100, the Treasury also offered Savings Stamps for \$5, as well as the option to purchase Thrift Stamps in increments of 25 cents that could then be redeemed for a Savings Stamp (Zook 1920). A similar system was put in place for the World War II-era War Bonds. While the smallest bond

⁶ Brennan and Schwartz (1979) provide an introduction to Canadian savings bonds as well as the savings bond offerings of a number of European countries. For current information on Canadian savings bonds see http://www.csb.gc.ca/eng/resources_faqs_details.asp?faq_category_ID=19 (visited September 26, 2004).

denomination was \$25, Defense Stamps were sold through post offices and schools for as little as 10 cents and were even given as change by retailers (U.S. Department of the Treasury 1984 and U.S. Department of the Treasury 1981). Pasted in albums, those stamps were redeemable for War Bonds.

The War Bonds campaign went further than Liberty Bonds to appeal to small investors. During World War II, the Treasury Department oriented its advertising to focus on small savers, choosing popular actors and musicians that the Treasury hoped would make the campaign “pluralistic and democratic in taste and spirit” (Blum 1976). In addition to more focused advertising, changes to the terms of War Bonds made them more appealing to those investors. The bonds were designed to be simple. Unlike all previous government bond issues, they were not marketable and were protected from theft (U.S. Department of the Treasury 1984).

Many of those changes to the bond program had actually been put in place before the war. In 1935, Treasury had introduced the “savings bond” (the basis for the current program) with the intention that it “appeal primarily to individuals with small amounts to invest” (U.S. Department of the Treasury 1981). The Savings Bond was not the first effort by the Treasury to encourage small investors to save during a peacetime period. Following World War I and the Liberty Bond campaigns, the Treasury decided to continue its promotion of bonds and stamps. It stated that to:

Make war-taught thrift and the practice of saving through lending to the Government a permanent and happy habit of the American people, the United States Treasury will conduct during 1919 an *intensive movement to promote wise spending, intelligent saving, and safe investment* (U.S. Department of the Treasury 1918).

The campaign identified seven principal reasons to encourage Americans to save including: (1) “advancement,” which was defined as savings for “a definite concrete motive, such as buying a home...an education, or training in trade, profession or art, or to give children educational advantages,” (2) “motives of self interest,” such as “saving for a rainy day,” and (3) “capitalizing part of the worker’s earnings,” by “establishing the family on ‘safety lane’ if not on ‘easy street’” (U.S. Department of the Treasury 1918). Against that background, it seems clear that the focus of savings bonds on the small saver was by no means a new idea, but rather drew inspiration from the earlier “thrift movement” while attempting to tailor the terms of the bonds more precisely to the needs of small savers. However, even on those new terms, the new savings bonds (also called baby bonds) did not sell quickly. In his brief, but informative, summary of the 1935 bond introduction, Blum details how:

At first sales lagged, but they picked up gradually under the influence of the Treasury’s promotional activities, to which the Secretary gave continual attention. By April 18, 1936, the Department had sold savings bonds with a maturity value of \$400 million. In 1937 [Secretary of the Treasury] Morgenthau enlisted the advertising agency of Sloan and Bryan, and before the end of that year more than 1,200,000 Americans had bought approximately 4 1/2 million bonds with a total maturity value of over \$1 billion (Blum 1959).

Americans planned to use those early savings bonds for many of the same things that low-income Americans save for now, first and foremost, for emergencies (Blum 1959). The intent of the program was not constrained to just providing a savings vehicle. The so-called baby-bond allowed all Americans the opportunity to invest even small amounts of money in a government-backed security, which then-Secretary of the Treasury Morgenthau saw as a way to:

Democratize public finance in the United States. We in the Treasury wanted to give every American a direct personal stake in the maintenance of sound Federal Finance. Every man and woman who owned a Government Bond, we believed, would serve as a bulwark against the constant threats to Uncle Sam's pocketbook from pressure blocs and special-interest groups. In short, we wanted to the ownership of America to be in the hands of the American people (Morgenthau, 1944).

In theory, the peacetime promotion of savings bonds as a valuable savings vehicle with both public and private benefits continues. From the Treasury's Web site, we can gather its "pitch" to would-be buyers of bonds focuses on the private benefits of owning bonds:

There's no time like today to begin saving to provide for a secure tomorrow. Whether you're saving for a new home, car, vacation, education, retirement, or for a rainy day, U.S. Savings Bonds can help you reach your goals with safety, market-based yields, and tax benefits (U.S. Department of the Treasury 2004a).

But the savings bond program, as it exists today, does not seem to live up to that rhetoric, as we discuss below. Recent policy decisions reveal much about the debate over savings bonds as merely one way to raise money for the Treasury versus their unique ability to help families participate in America and save for their future. As we keep score, the idea that savings bonds are an important tool for family savings seems to be losing.

Recent Debates around the Savings Bond Program and Program Changes

Savings bonds remain an attractive investment for American families. In Appendix A we provide details on the structure and returns of bonds today. In brief, the bonds offer small investors the ability to earn fairly competitive tax advantaged returns on a security with no credit risk and no principal loss due to interest rate exposure, in exchange for a slightly lower yield relative to large denomination bonds and possible loss of some interest in the event the investor needs to liquidate her holdings before five years. As we argue below and discuss in Appendix B, the ongoing persistence of the savings bond program is testimony to their attractiveness to investors.

As we noted, both current and past statements to consumers about savings bonds suggest that Treasury is committed to making them an integral part of household savings. Unfortunately, the changes to the program over the past two years seem contrary to that goal. Three of those changes may make it more difficult for small investors and those least well served by the financial service community to buy bonds and save for the future. More generally, the structure of the program seems to do little to promote the sale of the bonds.

On January 17, 2003, Treasury promulgated a rule that amends CFR section 31 to increase the minimum holding period before redemption for Series EE and I Bonds from 6 months to 12 months for all newly issued bonds (31 CFR part 21 2003). In rare cases, savings bonds may be redeemed before 12 months, but generally only in the event of a natural disaster (U.S. Department of the Treasury 2004b). That increase in the minimum holding period essentially limits the liquidity of a bondholder's investment, which is most important for LMI savers who might be confronted with a family emergency that requires that they liquidate their bonds within a year. By changing the minimum initial holding periods, Treasury makes it bonds less attractive for low-income families.

The effect that policy change seems likely to have on small investors, particularly those with limited means, appears to be unintended. Rather, that policy shift arises out of concern over rising

numbers of bondholders keeping their bonds for only the minimum holding period to maximize their returns in the short term. Industry observers have noted that given the low interest rates available on such investment products as CDs or money market funds, individuals have been purchasing Series EE bonds and I bonds, holding them for six months, paying the interest penalty for cashing out early, but still clearing a higher rate of interest than they might find elsewhere (Pender 2003). Treasury cited that behavior as the primary factor in increasing the minimum holding period. Officials argue that this amounts to “taking advantage of the current spread between savings bond returns and historically low short-term interest rates,” an activity which they believe contravenes the nature of the savings bond as a long-term investment vehicle (U.S. Department of the Treasury 2003a).

Second, marketing efforts for savings bonds have been eliminated. Congress failed to authorize \$22.4 million to fund the Bureau of Public Debt’s marketing efforts and on September 30, 2003, Treasury closed all 41 regional savings bond marketing offices and cut 135 jobs. This funding cut represents the final blow to what was once a large and effective marketing strategy. Following the Liberty Bond marketing campaign, as part of the “thrift movement” Treasury continued to advertise bonds, working through existing organizations such as schools, “women’s organizations,” unions, and the Department of Agriculture’s farming constituency (Zook 1920). Morgenthau’s advertising campaign for baby bonds continued the marketing of bonds through the 1930s, preceding the World War II era expansion of advertising in print and radio (Blum 1959). Much of that war-time advertising was free to the government, provided as a volunteer service through the Advertising Council beginning in 1942. Over the next 30 years, the Ad Council arranged for contributions of advertising space and services worth hundreds of millions of dollars (U.S. Department of the Treasury, Treasury Annual Report 1950-1979). In 1970, the Treasury discontinued the Savings Stamps program, which it noted was one of “the Bond program’s most interesting (and promotable) features” (U.S. Department of the Treasury 1984). The Advertising Council ended its affiliation with the bond program in 1980, leaving the job of marketing bonds solely to the Treasury (Advertising Council 2004). In 1999, Treasury began a marketing campaign for the newly introduced I bonds. However, that year the Bureau spent only \$2.1 million on the campaign directly and received just \$13 million in donated advertising, far short of the \$73 million it received in donated advertising in 1975 (James 2000 and U.S. Department of the Treasury, Treasury Annual Report 1975).

Third, while not a change in policy, the current program provides little or no incentive for banks or employers to sell bonds. Nominally, the existing distribution outlets for bonds are quite extensive, including financial institutions, employers, and the TreasuryDirect System. There are currently more than 40,000 financial institutions (banks, credit unions, and other depositories) eligible to issue savings bonds (U.S. Department of the Treasury 2004b). In principle, someone can go up to a teller and ask to buy a bond. As anecdotal evidence, one of us tried to buy a savings bond in this way, and had to go to a few different bank branches before the tellers could find the necessary forms, an experience similar to that detailed by James T. Arnold Consultants (1999) in their report on the savings bonds program. That lack of interest in selling bonds may reflect the profit potential available to a bank selling bonds. Treasury pays banks fees of \$0.50 - \$0.85 per purchase to sell bonds and the bank receives no other revenue from the transaction.⁷ In off-the-record discussions, bank personnel have asserted that these payments cover less than 25% of the cost of processing a savings bond purchase transaction. The results of an in-house evaluation at one large national bank showed that there were 22 steps and four different employees involved with the processing of a bond purchase. Given those high costs and miniscule payments, our individual

⁷ Fees paid to banks vary depending on the exact role the bank plays in the issuing process. Banks that process savings bond orders electronically receive \$0.85 per bond while banks which submit paper forms receive only \$0.50 per purchase (US Department of the Treasury 2000, Bureau of Public Debt 2005, private correspondence with authors).

experience is hardly surprising, as are banks' disinterest in the bond program. Savings bonds can also be purchased via the Payroll Savings Plan, which Treasury reports as available through some 40,000 employer locations (U.S. Department of the Treasury 2004c).⁸ Again, by way of anecdote, one of us called our employer to ask about this program and waited weeks before hearing back about this option. Searching the University intranet, the term "savings bonds" yielded no hits, even though the program was officially offered.

Fourth, while it is merely a matter of taste, we may not be alone in thinking that the "front door" to savings bonds, the U.S. Treasury's saving bond Web site,⁹ is complicated and confusing for consumers (though the BPD has now embarked on a redesign of the site geared toward promoting the online TreasuryDirect system). That is particularly important in light of the fact that Treasury has eliminated its marketing activities for these bonds. Financial service executives are keenly aware that cutting all marketing from a product, even an older product, does not encourage its growth. Indeed, commercial firms use that method to quietly "kill" products.

Fifth, on May 8, 2003, Treasury published a final rule on the "New Treasury Direct System." That rule made Series EE bonds available through the TreasuryDirect System (Series I bonds were already available) (31 CFR part 315 2003). That new system represents the latest incarnation of TreasuryDirect, which was originally used for selling marketable Treasury securities (U.S. GAO 2003). In essence, Treasury proposes that a \$50 savings bond investor follow the same procedures as a \$1 million investor in Treasury bills. The Department of the Treasury seeks to eventually completely phase out paper bonds (Block 2003) and to that end have begun closing down certain aspects of the savings bond program, such as promotional giveaways of bonds, which rely on paper bonds. Treasury also recently stopped the practice of allowing savers to buy bonds using credit cards. Those changes seem to have the effect of reducing the access of low-income families to savings bonds or depress demand of their sale overall. By moving toward an only-online system of savings bonds distribution, Treasury risks closing out those individuals without Internet access. Furthermore, to participate in TreasuryDirect, Treasury requires users to have a bank account and routing number. That distribution method effectively disenfranchises the people living in the approximately 10 million unbanked households in the US (Azicorbe, Kennickell, and Moore 2003 and U.S. Census 2002). While there have been a few small encouraging pilot programs in BPD to experiment with making TreasuryDirect more user-friendly for poorer customers, the overall direction of current policy seems to make bonds less accessible to consumers.¹⁰

⁸ This option allows employees to allocate a portion of each paycheck toward the purchase of savings bonds. Participating employees are not required to allocate sufficient funds each pay period for the purchase of an entire bond but rather, can allot smaller amounts that are held until reaching the value of the desired bond (US Department of the Treasury 1993 and US Department of the Treasury 2004d).

⁹ <http://www.publicdebt.treas.gov/sav/sav.htm>

¹⁰ Working with a local bank partner in West Virginia, the Bureau has rolled out "Over the Counter Direct" (OTC Direct). The program is designed to allow savings bond customers to continue to purchase bonds through bank branches, while substantially reducing the processing costs for banks. Under the program, a customer arrives at the bank and dictates her order to a bank employee who enters it into the OTC Direct Web-site. Clients receive a paper receipt at the end of the transaction and then generally are mailed their bonds (in paper form) one to two weeks later. In this sense, OTC Direct represents an intermediate step; the processing is electronic, while the issuing is paper-based. While not formally provided for in the system, the local bank partner has developed protocols to accommodate the unbanked and those who lack Web access. For instance, the local branch manager will accept currency from an unbanked bond buyer, set up a limited access escrow account, deposit the currency into the account, and affect the debit from the escrow account to the BPD. When bond buyers lack an email address, the branch manager has used his own. A second pilot program, with Bank of America, placed kiosks that could be used to buy bonds in branch lobbies. The kiosks were linked to the Treasury Direct Web-site, and thus enabled bond buyers without their own method

Critics of the Savings Bonds program, such as Rep. Ernest Istook (R-OK), charge that the expense of administering the U.S. savings bond program is disproportionate to the amount of federal debt covered by the program. Those individuals contend that while savings bonds represent only 3% of the federal debt that is owned by the public, some three-quarters of the budget of the BPD is dedicated to administering the program (Berry 2003). Thus they argue that the costs of the savings bond program must be radically reduced. Rep. Istook summed up this perspective with the statement:

“Savings Bonds no longer help Uncle Sam; instead the cost him money...Telling citizens that they help America by buying Savings Bonds, rather than admitting they have become the most expensive way for our government to borrow, is misplaced patriotism” (Block 2003).

However, some experts have questioned that claim. In testimony, the commissioner of the Public Debt described calculations that showed that series EE and I savings bonds were less costly than Treasury marketable securities.¹¹

In May 2005, Treasury substantially changed the terms of EE bonds. Instead of having interest on those bonds float with the prevailing five-year treasury rate, they became fixed-rate bonds, with their interest rate set for the life of the bond at the time of purchase.¹² While that may be prudent debt management policy from the perspective of lowering the government’s cost of borrowing, consumers have responded negatively.¹³ We would hope that policy-makers took into consideration the effect this decision might have in the usefulness of bonds to help families meet their savings goals.

Focusing decisions of that sort *solely* on the cost of debt to the federal government misses a larger issue; the savings bond program was not created only to provide a particularly low-cost means of financing the federal debt. Rather, the original rationale for the savings bond program was to provide a way for individuals of limited means to invest small amounts of money and to allow more Americans to become financially invested in government. While that is not to say that the cost of the savings bonds program should be disregarded, this current debate seems to overlook one real public policy purpose of savings bonds: helping families save.

And so while none of those recent developments (a longer holding period, elimination of marketing, and changes to the bond buying process) or the ongoing problems of few incentives to sell bonds or a lackluster public image seem intentionally designed to discourage LMI families from buying bonds, their likely effect is to make the bonds less attractive to own, more difficult to learn about, and less easy to buy.

These decisions about bonds were made on the basis of the costs of raising money through savings bonds versus through large denomination Treasury bills, notes, and bonds.¹⁴ That discussion, while appropriate, seems to lose sight of the fact that savings bonds also have served - and can serve - another purpose: to help families save. The proposals we outline below are intended to

of internet access to purchase bonds. However, the design of this initiative was such that the unbanked were still precluded from purchasing bonds.

¹¹ See testimony by Van Zeck (US House of Representatives (2002)); However, a recent GAO study requested by Rep. Istook (R-OK) cast doubt on the calculations that Treasury used to estimate the costs of the program (US GAO 2003).

¹² See <http://www.publicdebt.treas.gov/com/comeefixedrate.htm>.

¹³ See <http://www.bankrate.com/brm/news/sav/20050407a1.asp> for one set of responses.

¹⁴ For a cost-based view of the savings bond program from the perspective of the BPD see US Department of the Treasury (2002). For an opposing view also from that cost-based perspective, see GAO (2003).

reinvigorate that purpose, in a way that may make savings bonds even more efficient to administer.

REINVENTING THE SAVINGS BOND

The fundamental savings bond structure is sound. As a “brand,” it is impeccable. The I Bond experience has shown that tinkering with the existing savings bond structure can broaden its appeal while serving a valuable public policy purpose. Our ideas are intended to spark debate about how to make the savings bond a valuable tool for LMI families, while ensuring that they continue to be an appropriate debt management tool for the Treasury. Our goal is not to have savings bonds substitute for or crowd out private investment vehicles, but rather to provide a convenient, efficient, portable, national savings platform available to all families. We present these ideas in the spirit of debate, rather than as fully-developed proposals.

1. Reduce the Required Holding Period for Bondholders Facing Financial Emergencies

While Treasury legitimately lengthened the savings bond holding period to discourage investors seeking to arbitrage the differential between savings bond rates and money market rates, the lengthening of the holding period makes bonds less attractive to LMI families. The current minimum required holding period of 12 months is a substantial increase from the original 60 days required of baby bond holders. The longer period essentially requires investors to commit to saving for at least one year. A new Bureau of Public Debt program suggests that this may not be a problem for some investors. In an effort to encourage bond holders to redeem savings bonds that have passed maturity, the Bureau of Public Debt is providing a search service (called “Treasury Hunt”) to find the holders of these 33 million bonds worth \$13.5 billion (Lagomarsino 2005). The program reveals that bonds are an extremely efficient mechanism to encourage long term saving because they have an “out of sight, out of mind” quality - perhaps too much so. So, while many small investors may intend to save for the long term, and many may have no trouble doing so, the new extended commitment could still be particularly difficult for LMI families in that they would be prohibited from drawing on the funds even if faced with financial emergency.

If we want to encourage bond-savings by LMI families, Treasury could either (a) exempt small withdrawals from the required holding periods or (b) set up and publicize existing simple emergency withdrawal rules. Under the first rule, Treasury could allow a holder to redeem some amount (say \$5,000 per year) earlier than 12 months, with or without interest penalty. While that design would most precisely address the need for emergency redemption, it could be difficult to enforce as redeeming banks do not have a real-time link to BPD records and so a determined bondholder could conceivably “game the system” by redeeming \$5,000 bundles of bonds at several different banks. Alternatively, while current rules allow low-income bondholders who find themselves in a natural disaster or financial emergency to redeem their bonds early, that latter provision receives virtually no publicity. The BPD does publicize the rule that allows bondholders who have been affected by natural disasters to redeem their bonds early. Were the BPD to provide a similar level of disclosure of the financial emergency rules, LMI savers might be encouraged to buy savings bonds.

Whether by setting some low limit of allowable early redemptions for all, or merely publicizing existing emergency withdrawal rules, it seems possible to meet the legitimate emergency needs of LMI savers while continuing to discourage arbitrage activity. It seems important to point out that the logic underlying our proposal to shorten the holding period runs counter to much of the prevailing wisdom in the asset-building field. Academics and policy makers have argued that successful long term savings is best facilitated by using commitment products that bind savers,

legally or psychologically, to a long investment term. This work is grounded in behavioral economics and studies of Individual Development Accounts have provided some evidence for this position (see for example Schreiner, Clancy, and Sherraden 2002). However, a second strand of research essentially argues the opposite. For example, Joseph Nocera describes the introduction of a check writing facility on money market mutual fund accounts and documents a sharp increase in deposits (Nocera 1994). He, and others, argue that individuals will be induced to make savings deposits when they can be assured of access to their funds in the event of an emergency (see, for example, Vise 2004). These theories are not necessarily in direct conflict. The access theory holds that savings is best *initiated* by allowing access. The commitment theory holds that savings is best *sustained* by locking in deposits. These divergent theories of savings have not been empirically reconciled. We hope to have the best of both worlds – a product generally thought of as being for long term savings that allows emergency access. However, in orienting savings bonds in this way, we could possibly end up with the unintended effect of a product perceived as locking in deposits (and so discouraging the initiation of savings) that in fact allows for emergency withdrawals (and so discouraging the sustaining of savings).

2. Make Savings Bonds Available to Tax Refund Recipients

The IRS allows filers to direct nominal sums to funding elections through the Federal Election Campaign Fund and permits refund recipients to direct their refunds to pay future estimated taxes. We propose that taxpayers be able to direct that some of their refunds be invested in savings bonds. The simplest implementation of that system - merely requiring one additional line on the form 1040 - would permit the refund recipient to select the series (I or EE) and the amount; the bonds would be issued in the primary filer's name. Slightly more elaborate schemes might allow the filer to buy multiple series of bonds, buy them for other beneficiaries (for example, children), or allow taxpayers not receiving refunds to buy bonds at the time of paying their taxes.¹⁵

The idea of letting refund recipients take their refund in the form of savings bonds is not a radical idea, but rather an old one. Between 1962 and 1968, the IRS allowed refund recipients to purchase savings bonds with their refunds. Filers directed less than 1% of refunds to bond purchase during that period (Internal Revenue Service 1962-1968). Given those results, it might appear that allowing filers to purchase savings bonds with their refunds has little potential, but we feel that historical experience may substantially underestimate the opportunity to build savings at tax time via our refund-based bond sales for two reasons. First, the size of low-income filers' tax refunds has increased from an average of \$636 in 1964 (in 2001 dollars) to \$1,415 in 2001 allowing more filers to put a part of their refund aside as savings (Internal Revenue Service 2001, 1964).¹⁶ Those refunds tend to be concentrated among low-income families, for whom we would like to stimulate savings. Second, the historical experiment was an all-or-nothing program - it did not allow refund recipients to direct only a portion of their refunds to bonds. We expect our proposal will be more appealing since filers would be able to split their refunds and direct only a portion towards savings bonds while receiving the remainder for current expenses.

By allowing that option, Treasury would enable low-income filers to couple a large cash infusion with the opportunity to invest in savings bonds. Perhaps the largest single pool of money on which low-income families can draw for asset building and investment is the more than \$78 billion in refundable tax credits made available through federal and state government each year (Internal Revenue Service 2001). Programs across the country have helped low-income taxpayers build assets by allowing filers to open savings accounts and Individual Development Accounts when

¹⁵ Our proposal would allow taxpayers to purchase bonds with after-tax dollars, so it would have no implications for tax revenues.

¹⁶ We define LMI filers as those with incomes of less than \$30,000 in 2001 or less than \$5,000 in the period from 1962-1968 (which is approximately \$30,000 in 2001 dollars).

they have their taxes prepared. A new program in Tulsa, Oklahoma run by the Community Action Project of Tulsa County and D2D (a Boston-based not for profit organization) has allowed filers to split their refund, committing some to savings and receiving the remainder as a check. That program allowed families to pre-commit to saving their refunds, instead of having to make a saving decision when the refund was in hand and temptation to spend it was strong. While those small sample results are difficult to extrapolate, the program seemed to increase savings initially and families reported that the program helped them reach their financial goals.

The Tulsa experiment used a non-IRS mechanism to affect the split. But, the IRS is apparently committed to implementing splitting functionality for all refund recipients by 2007 (Everson 2005). Several parties, including the New America Foundation, D2D Fund, The Retirement Security Project, the National Community Tax Coalition, and former IRS Commissioner Fred Goldberg (currently of Skadden Arps) have been working with the IRS and Bush Administration to create a formal mechanism that would allow all filers to split their refunds (Cramer 2005). Ideally, the splitting option would be available to all tax filers in the 2007 tax season. However, several technical issues need to be resolved, including the number of accounts that refunds can be divided between and how to handle tax filer errors and IRS offsets that might reduce the amount of the expected refund (and thus change the splitting allocation).

Since the short-lived bond-buying program in the 1960s, the BPD has introduced other initiatives to encourage tax refund recipients to purchase bonds. The first of those, beginning in the 1980s, inserted marketing materials along with the refund checks sent to refund recipients. Though only limited data has been collected, it appears that these mailings were sent at random points throughout the tax season (essentially depending on availability as the BPD competed for “envelope space” with other agencies) and that no effort was made to segment the market, with all refund recipients (low-income and higher-income) receiving the materials. In all, the BPD estimates that between 1988 and 1993, it sent 111,000,000 solicitations with a response rate of a little less than 0.1%. While that rate may appear low, it is comparable to the 0.4% response rate on credit card mailings and some program managers at the BPD deemed the mailings cost effective (Anonymous 2004; U.S. Bureau of Public Debt 2004). Considering that the refund recipient had to take a number of steps to effect the bond transaction (cash the refund and so forth) these results are in some sense fairly encouraging.

A second related venture was tried for the first time in tax season 2004. The BPD partnered with a volunteer income tax preparation (VITA) site in West Virginia to try to interest low-income refund recipients in using the TreasuryDirect System. The tax site was located in a public library and was open for approximately 12 hours per week during tax season. In 2004 the site served approximately 500 people. The program consisted of playing a PowerPoint presentation in the waiting area of the free tax preparation site and making available brochures describing the TreasuryDirect system. Informal evaluation by tax counselors who observed the site suggests that interest was extremely limited and that most filers were preoccupied with ensuring that they held their place in line and were able to get their taxes completed quickly.

While both of those programs attempt to link tax refunds with savings, they do so primarily through advertising, not through any mechanism that would make savings easier. The onus is still on the refund recipient to receive the funds, convert them to cash (or personal check), fill out a purchase order, and obtain the bonds. In the case of the 2004 experiment, the refund recipient had to set up a TreasuryDirect account, which would involve having a bank account and so forth. While those programs remind filers that savings is a good idea, they do not make saving simple.

We remain optimistic in part based on data collected during the Tulsa experiment described above. While the experiment did not offer refund recipients the option of receiving savings bonds, we

surveyed them on their interest in various options. Roughly 24% of participants expressed an interest in savings bonds and nearly three times as large a fraction were interested when the terms of savings bonds were explained (Beverly, Schneider, and Tufano 2004). Our sample is too small to draw a reliable inference from that data, but it certainly suggests that the concept of offering savings bonds is not completely ungrounded. Currently, a family wanting to use its refund to buy savings bonds would have to receive the refund, possibly pay a check casher to convert the refund to cash, make an active decision to buy the bond, and go online or to a bank to complete the paperwork. Under our proposal, the filer would merely indicate the series and amount, the transaction would be completed, and the money would be safely removed from the temptation of spending. Most importantly, because the government does not require savings bond buyers to pass a ChexSystem hurdle, that would open up savings to possibly millions of families excluded from opening bank accounts.

While we hope that refund recipients could enjoy a larger menu of savings products than just bonds, offering savings bonds seamlessly on the tax form has practical advantages over offering other products at tax-time. By putting a savings option on the tax form, all filers - including self-filers, could be reminded that tax time is potentially savings time. Paid and volunteer tax sites wishing to offer other savings options on-site would face a few practical limitations. First, certain products (like mutual funds) could only be offered by licensed broker-dealers which would require either on-site integration of a sales force or putting the client in touch via phone or other means with an appropriately licensed agent. More generally, return-preparers - especially volunteer sites - are operationally challenged by the prospect of opening accounts on-site. While our Tulsa experiment showed that splitting and account opening has strong appeal among refund recipients, subsequent attempts to implement it have yielded more limited results. In part, these reflect the complications of having to open accounts in real time by volunteer tax preparers. However, if a line on the 1040 cued preparers to ask the question “How much of your refund - if any - would you like in savings bonds?” –and if the bond purchase could be effected without any substantial additional paperwork, we suspect bond-based savings would increase dramatically.

Not only would a refund-driven savings bond program make saving easier for families, it would likely reduce the cost of marketing and administering the savings bond program for Treasury. All of the information needed to purchase a bond is already on the filer’s tax return, so there would be less likelihood of error. It should not require substantial additional forms, but merely an additional line or two on the 1040. Treasury would not need to pay banks fees of \$0.50 - \$0.85 per purchase to sell bonds.¹⁷ Further, the refund money would never leave the federal government. If subsequent investigation uncovered some tax compliance problem for a refund recipient, some of the contested funds would be easily traceable. Given annual LMI refunds of \$78 billion, saving bond sales could increase by 9.8% for each 1% of these refunds captured.¹⁸

There might be one additional side benefit from the perspective of the Treasury were bond sales to be made an explicit choice on the 1040 form. The Treasury has explicitly stated that would like customers to use TreasuryDirect as their means of transacting in Treasury securities in order to reduce the costs of operating the bond program (U.S. House of Representatives 2002, p. 86). If bond sales for refund recipients require an *existing* TreasuryDirect account, this would limit sales to current TreasuryDirect holders, which number about 400,000 – 450,000 (Walsh 2005). While

¹⁷ Fees paid to banks vary depending on the exact role the bank plays in the issuing process. Banks that accept bond orders and payment from customers but send those materials to regional Federal Reserve Banks for final processing are paid \$0.50 per purchase. Banks that do this final level of processing themselves, inscription, receive \$0.85 per bond issue (US Department of the Treasury 2000).

¹⁸ Sales of EE and I bonds through payroll and over-the-counter were \$7.9 billion in 2004. Total refunds to LMI filers in 2001 were \$78 billion. Each \$780 million in refunds captured would be a 9.8% increase in Savings Bonds sales.

we have not seen data on the composition of the TreasuryDirect population, we suspect it does not draw heavily from the low to moderate income population we seek to serve. A second alternative would be to ask tax preparers to go through the TreasuryDirect application process at the moment of tax preparation. This is problematic because both private and volunteer preparers might object to lengthening the process of tax prep, and the wait times for others. However, if the savings bond purchase were seamlessly integrated into the tax process, it might be possible to simply open TreasuryDirect accounts at tax time. If the TreasuryDirect application—or the essential elements of it—could be built into the bond purchase instructions, one could not only sell bonds to persons without prior TreasuryDirect accounts, but also do so in a way that would be relatively quick for taxpayers. The net result could be that the Treasury could increase use of TreasuryDirect by making it simple for tax-time savings bond buyers. The alternative would be to not integrate TreasuryDirect with tax-time bond buying. This scenario would have tax filers provide basic information on desired bond purchase and then have Treasury mail these filers paper bonds—although this flies in the face of the Treasury’s apparent desire to phase out paper bonds.

Ultimately, whether refund recipients are interested in buying bonds will only be known if one makes a serious attempt to market to them at refund time. Such an attempt would be most constructively undertaken as part of a rigorous research experiment. While the general question of savings bond take-up has the most immediate application, such research could also examine how marketing and product characteristics affect demand. For instance, is marketing more effective when communicated at the time of tax preparation or before? Which marketing messages yield higher demand, ones relating to patriotism or ones relating to fears about financial emergency? On the product characteristics side, we might ask how demand is affected by the form of the bond, (electronic or paper) or by what other products are also offered (such as IRAs or savings accounts). We have been designing an experiment with a major tax preparer in which we hope will begin to answer the most basic of these questions: Is there demand for savings bonds among tax refund recipients? If so, what are the characteristics of these bond-investors? And, if we generate savings, to what extent is this merely displacing other savings? Even before we have collected any data, we have learned much from this experiment. For example, the mechanics of effecting bond purchases from citizens without bank accounts is quite difficult under the TreasuryDirect system, as it requires a linked bank account to effect the purchase or redemption of bonds. Our thoughts above about simplifying Treasury Direct opening reflect these learnings.

3. Enlist Private Sector Social Marketing for Savings Bonds

Right now, banks and employers have little incentive to market savings bonds. If an account is likely to be profitable, a bank would rather open the account than sell the person a savings bond. If an account is unlikely to be profitable, the bank is not likely to expend much energy selling bonds to earn \$0.50 or \$0.85. With a reinvented savings bond program, Treasury could leverage other private-sector marketing.

First, one can imagine a very simple advertising campaign for the tax-based savings bond program focusing its message on the simplicity of buying bonds at tax time and the safety of savings bond investments. We envision a “RefundSaver” program. Groups like the Consumer Federation of America and AmericaSaves might be enlisted to join in the public service effort if the message were sufficiently simple.¹⁹

With a tax-centered savings bond marketing program, the IRS could leverage paid and volunteer tax preparers to market bonds. If those tax preparers could enhance their “value proposition” they

¹⁹ The Bureau of Public Debt commissioned Arnold Consultants to prepare a report on marketing strategy in 1999. They also cite the potential for a relationship between the BPD and nonprofit private-sector groups dedicated to encouraging savings (James T. Arnold Consultants 1999).

have with their clients by offering them a valuable asset building service at tax time, they might have a strong incentive to participate, possibly without any compensation. If Treasury paid preparers the same amount that it offered to banks selling bonds, that would create even greater incentives for the preparers to offer the bonds, although that might create some perverse incentives for preparers as well.

4. Consider Savings Bonds in the Context of a Family's Financial Life Cycle

As they are currently set up, savings bonds are seen as a means for long-term savings. Bonds are bought and presumably redeemed years (if not decades) later. Treasury data partially bears out this assumption. Of the bonds redeemed between 1950 and 1980, roughly half were redeemed before maturity. Through the mid-1970s, redemptions of unmatured bonds made up less than half of all bond redemptions (41% on average), in the late 1970s that ratio changed, with unmatured bonds making up an increasingly large share of redemptions (up to 74% in 1981, the last year for which the data is reported). However, even without this increase in redemptions (perhaps brought on by the inflationary environment of the late 1970s) early redemptions seem to have been quite frequent. That behavior is in line with the use of bonds as described by the Treasury in the 1950s, as a means of “setting aside liquid savings out of current income” (U.S. Department of the Treasury, Treasury Annual Report 1957). Under our proposal, savings bonds would be a savings vehicle for LMI families who have small balances and low risk tolerances. Over time, those families might grow to have larger balances and greater tolerance for risk; also, their investing horizons might lengthen. At that time, our savings bond investors might find that bonds are no longer the ideal investment vehicle, and our reinvented savings bonds should recognize that eventuality.

We propose that the Treasury study the possibility of allowing savings bond holders to roll over their savings bonds into other investment vehicles. In the simplest form, Treasury would allow families to move their savings bonds directly into other investments. Those investments might be products offered by the private sector (mutual funds, certificates of deposits, and so forth). If the proposals to privatize Social Security became reality, those rollovers could be into the new private accounts. Finally, it might be possible to roll over savings bond amounts into other tax-deferred accounts, although that concept would add complexity, as one would need to consider the ramifications of mixing after-tax and pre-tax investments. The proposal for retirement savings bonds (R-bonds) takes a related approach. Those bonds would allow employers to set aside small amounts of retirement savings for employees at a lower cost than would be incurred by using traditional pension systems. R-bonds would be specifically earmarked for retirement and could only be rolled over into an IRA (Financial Services Roundtable 2004).

5. Make the Process of Buying Savings Bonds More User Friendly

There has been a shift in the type of outlets used to distribute U.S. savings bonds. While there are still more than 40,000 locations at which individuals can purchase savings bonds, those are now exclusively financial institutions. Post offices, the original distribution mode for baby bonds, no longer sell bonds. That shift is of particular concern to low-income small investors. Over the past 30 years, a number of studies have documented the relationship between bank closings and the racial and economic makeup of certain neighborhoods. In a study of five large U.S. cities, Caskey (1994) finds that neighborhoods with large African-American or Hispanic populations are less likely to have a bank branch and that in several of the cities, “low-income communities are significantly less likely to have a local bank than are other communities.” Post offices, on the other hand, remain a ubiquitous feature of most neighborhoods and could again serve as an ideal location for the sale of savings bonds.

Our tax-intermediated bond program should make savings bonds more accessible for most Americans. In addition, just as Treasury allows qualified employers to offer savings bonds, retailers like Wal-Mart or AFS providers like ACE might prove to be effective outlets to reach LMI bond buyers. Wal-Mart alone serves over 100 million customers each week via its 3,500 locations (Krasney 2003). Many of these are LMI customers: in 2004, 40% reported household incomes of less than \$30,000 (Hale 2004) and Wal-Mart believes that 20% of its customers are unbanked (Buckley 2003). The more than 10,000 check-cashing outlets in the U.S. might also serve as an appropriate sales point for bonds (Barr 2004). These outlets not only serve LMI individuals, but given annual volume of approximately 180 million checks worth \$55 - \$60 billion dollars, also present a good opportunity to harness funds for saving (Barr 2004 and Dove Consulting 2000). H&R Block also reaches many LMI individuals and has a large retail footprint. In 2004, the company prepared over 16 million returns and reported that approximately 58% of these clients earned less than \$30,000 annually (Tufano and Schneider 2004). H&R Block's retail presence extends to approximately 10,000 offices (the company claims to have an office within 10 miles of almost every U.S. household) and its competitor, Jackson Hewitt, has about 4,500 locations (Tufano and Schneider 2004). Further, Treasury could work with local public libraries and community based organizations to facilitate access to TreasuryDirect for the millions of Americans without Internet access.

6. Consider changes in the bond return profile

Treasury could consider “enhancing” savings bonds to make them an even more effective tool for encouraging low- and moderate-income families to save. The spirit of these proposals is to use the existing EE and I bonds, but to modify them to make them more attractive savings products to consumers. The following three recommendations seek to alter how low-income families conceive of savings bonds at three points; before purchase, at the time of purchase, and at the time of redemption.

First, many federal public benefits include an “asset-test” that disqualifies applicants based on the amount of their savings. Several researchers have empirically examined the effect of asset-tests on family finances, and while they uncover possible effects, the relationship does not seem definite (see Chen and Lerman 2005 for a recent review). Large programs such as Food Stamps and TANF impose this test, and while relatively illiquid assets such as homes or vehicles are excluded, most financial assets are factored into the limits (Parrish 2005). Leslie Parrish of the New America Foundation has proposed excluding saved EITC funds from this test for up to one year, regardless of where the funds are saved (Parrish 2005). We would extend that proposal to exclude all savings bond holdings, regardless of the source of funds, from federal asset tests. Families who begin their savings by purchasing savings bonds at tax time should be able to continue to buy bonds throughout the year and should not be sent the message that saving might cost them their benefits.

Second, the evidence from Individual Development Accounts and, more recently, from an experiment using IRAs, suggests that providing matches can have a significant impact on LMI individuals' decision to save and the amount of savings. However, such programs are often difficult to administer – requiring a mechanism to effect the match and (in the case of IDAs) an eligibility screen. Similar incentives could be offered to savings bonds buyers more simply. By discounting the purchase price for individuals who purchased savings bonds at tax time, a “match” could be granted based on income.²⁰ For example, an EITC recipient could be offered the option to purchase a \$25 bond (worth \$50 at maturity) for \$20 and her eligibility for this discount would be

²⁰ However, to the extent that the recipient needed to meet other conditions to “earn” the match, this plan would be inadequate. For example, in IDA programs, to enjoy a match, a saver needs to complete a financial education program and use the funds for an asset building purpose.

assessed using her IRS tax data. Further research on the most effective way to frame this discount would be necessary to maximize its incentive value, but operationally, providing this benefit would not be difficult. Also, one would have to analyze the cost-benefit equation for this subsidization versus other means of providing greater incentives for savings.

Finally, by offering matching funds, savings bond holders might be encouraged to use their savings for specific purposes such as home purchase or post-secondary education. Ray Boshara, at the New America Foundation, has proposed augmenting the current set of redemption agents (now almost entirely banks and credit unions) to include educational institutions and home mortgage providers. His idea is that by redeeming their bonds with these agents, low-income families could demonstrate their qualifications for matching funds.²¹ Current rules do not allow for bond holders to assign their savings bonds to a third party, but Treasury regulations could be updated to allow non-financial institutions to become redemption agents.

7. Use Bonds to Help Gulf-Coast Families Rebuild

In mid-September 2005, Senators Mary Landrieu (D-LA) and David Vitter (R-LA) proposed a renewed savings bond marketing effort, aimed at raising funds for the reconstruction of areas damaged by hurricane Katrina (Stone 2005). The senators alluded to the success of the 1940s War Bond program as inspiration. We think they should focus on bonds not only to raise funds to rebuild infrastructure and homes, but also to use the opportunity to help families rebuild their financial lives.

The New America Foundation has proposed re-branding certain bonds as “Katrina Bonds” and coupling that new designation with a tax credit for families affected by the hurricane. These families would be eligible for a \$5,000 credit that could be saved in an IRA, college savings account, or saving bond (Boshara, Cramer, Parrish et al 2005). Our proposal (discussed above) to discount the price of bonds for certain families would fit well with these plans. Were Treasury to enable bond buying at tax time and provide for discounted purchase, “Katrina Bonds” might be offered at a reduced price to families affected by the hurricane, giving them extra help in getting back on their feet.

It may be possible to structure the pricing of these augmented Katrina bonds to make them partially self-funding. Families from hurricane-affected areas would be offered the chance to purchase Katrina “Recovery” Bonds at a discount – say \$20 for a \$25 bond that would be worth \$50 at maturity. These families would effectively receive a higher rate on their bonds and so receive extra encouragement to save. On the other hand, families from non-affected areas might be persuaded to place a portion of their regular savings in Katrina “Assistance” Bonds. These bonds would be priced at a premium – say \$30 for a \$25 bond that would be worth \$50 at maturity. Purchasers of these bonds would still receive a return on their investment, but would effectively pass along a portion of their normal return to families affected by Katrina.

Katrina Recovery and Assistance Bonds would serve a dual role. The Recovery bonds could be used by families affected by the hurricane to save and put their finances in order. The Assistance bonds could be used by non-affected families to contribute to the rebuilding effort by providing funds to the federal government for reconstruction and by providing extra saving incentives to affected families.

²¹ Of course, one would need to ensure that people didn’t buy savings bonds immediately before making such purchases in an attempt to capture “arbitrage” profits by changing the currency they use to pay for these assets. One could avoid this possibility by matching the accrued interest, rather than the principal, on the bonds.

8. Investigate Prize-Linked Savings

The United States is not alone in offering a Savings Bond program targeted at small savers. The United Kingdom, Canada, and Sweden, among many other countries, also have retail bond programs. Given the shared goals of these programs, the U.S. may be able to leverage the experience of these other countries to understand how U.S. Savings Bonds might be tailored to better appeal to consumer preferences and desires. One particularly popular aspect of some bond programs abroad is a prize feature. Bonds in Sweden and in the U.K., as well as private sector savings products around the world, offer investors the chance to win monthly or daily prizes in lieu of interest.

The United Kingdom's National Savings & Investments (NS&I) bond program is in general far more successful than the U.S. Savings Bond program. While the U.K. had a smaller outstanding stock of bonds in 2003 than the U.S. (\$117.5 billion compared with \$193 billion), new investments were far larger in the U.K. at about \$22.5 billion compared with \$8 billion in the U.S. On a per capita basis, the differences are striking. The U.K. had outstandings of about \$2,400 per adult as compared with \$766 in the U.S. and had new investments of \$460 per adult compared with \$32 in the U.S. (NS&I 2001-2005).

Examination of the U.K. bond program data shows that the engine behind this growth is the Premium Bond, the U.K.'s prize-bond product. In 2003, the U.K. reported \$13 billion in Premium Bond sales, accounting for more than 60% of total savings bond sales, and representing a 58% increase over 2002 Premium Bond sales. Net of redemptions, investors put nearly \$8 billion into Premium Bonds in 2003. In comparison, the other U.K. savings bond products experienced aggregate net outflows of nearly \$2 billion.

Premium Bonds are perpetuities sold in £1 denominations with a minimum investment of £100 and an interest rate of 0% (NS&I 2005). Why then do investors favor them above so many other products? It appears that investors are attracted to Premium Bonds by the chance to win prizes. Every month the U.K. Treasury awards more than 1,000,000 prizes to Premium Bond holders, ranging in value from £50 to £1,000,000 (NS&I 2005). In exchange for a chance to win these prizes, investors forfeit any other returns on the bond. In essence, the Treasury collects the interest it would pay in aggregate on the bonds were they standard market instruments and pools it into a single fund that is disbursed as prizes. Investors may win nothing, may win prizes about equal to market value returns, or may become millionaires. Similar products are offered in Sweden, Ireland, Bangladesh, Japan, Columbia, Argentina, Mexico, and other countries. The precise structure of these products varies by the size of the prize, the frequency of the drawings, and the required holding period, but all seem to capitalize on consumer interest in the chance to win a large prize while not putting principal at risk.

While the U.K. experience suggests that a broad demographic of consumers finds this type of product appealing, evidence also suggests it may be of particular interest to low-income families. For instance, in Central and South America, banks offering savings accounts tied to a prize feature found that the unbanked and first-time savers were especially attracted to the product (Guillen and Tschöegl 2003).

The appeal of the prize structure can be understood in the context of other related consumer purchases. In 2003, Americans spent nearly \$80 billion annually on legalized forms of gambling (Kearney 2005). Perhaps this interest in gaming and prizes could be leveraged to help motivate savings and asset-building. Given this potential and the great success of Premium Bonds in the U.K. and of other similar products globally, prize-linked savings deserve greater study and consideration in the U.S. We hope to begin this process by conducting research to evaluate the

introduction of a prize-linked product by private sector financial institutions. The Treasury should also move forward on this front and should begin to research and pilot a prize-linked product while engaging with advocates and policy-makers with interests in asset-building and gambling.

CONCLUSION

Our proposals are very much in the spirit of RE-inventing the savings bond. As a business proposition, one never wants to kill a valuable brand. We suspect that savings bonds – conjuring up images of old-fashioned savings – may be one of the government’s least recognized treasures. It was - and can be again - a valuable device to increase household savings while simultaneously becoming a more efficient debt management tool. The U.S. savings bond program, when first introduced in the early 20th century, was a tremendous innovation that created a new class of investors and enabled millions of Americans to buy homes, durables goods, and pursue higher education (Samuel 1997). In the same way, a revitalized savings bond program, aimed squarely at serving LMI families can again become a pillar of family savings.

FOR MORE INFORMATION

Peter Tufano
Harvard Business School, D2D Fund, and NBER
Soldiers Field
Boston, MA 02163
ptufano@hbs.edu

Daniel Schneider
Harvard Business School
Soldiers Field
Boston, MA 02163
dschneider@hbs.edu

SOURCES

31 CFR Part 21 et al., United States Savings Bonds, Extension of Holding Period; Final Rule, Federal Register, 17 January, 2003.

31 CFR Part 315, et al: Regulations Governing Treasury Securities, New Treasury Direct System; Final Rule, 2003, Federal Register, 8 May, 2003.

Advertising Council, 2004, Historic Campaigns: Savings Bonds, http://www.adcouncil.org/campaigns/historic_savings_bonds/ (last accessed October 12th, 2004).

America Saves, 2004, Savings strategies: The importance of emergency savings, The American Saver http://www.americasaves.org/back_page/winter2004.pdf (last accessed October 12th, 2004).

Anonymous, "Behind 2003's Direct-Mail-Numbers," Credit Card Management, 17(1), April 2004, ABI/INFORM Global.

Aizcorbe, Ana M., Arthur B. Kennickell, and Kevin B. Moore, 2003, Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances, Federal Reserve Bulletin, 1 -32 <http://www.federalreserve.gov/pubs/oss/oss2/2001/bull0103.pdf>

Avery, Robert B., Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner, 1997, Changes in the distribution of banking offices, Federal Reserve Bulletin <http://www.federalreserve.gov/pubs/bulletin/1997/199709LEAD.pdf> (last accessed October 6th, 2004).

Avery, Robert B., Gregory Elliehausen, and Glenn B. Canner, 1984, Survey of Consumer Finances, 1983, Federal Reserve Bulletin, 89; 679-692, <http://www.federalreserve.gov/pubs/oss/oss2/83/bull0984.pdf>

Bankrate.com, 2005, Passbook/Statement Savings Rates, <http://www.bankrate.com/brm/publ/passbk.asp>.

Barr, Michael S., 2004, Banking the poor, *Yale Journal on Regulation*. 21(1).

Berry, Christopher, 2004, To bank or not to bank? A survey of low-income households, Harvard University, Joint Center for Housing Studies, Working Paper BABC 04-3 http://www.jchs.harvard.edu/publications/finance/babc/babc_04-3.pdf (last accessed March 12th, 2004).

Berry, John M., 2003, Savings Bonds under siege, The Washington Post, 19 January 2003, http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed October 12, 2004).

Beverly, Sondra, Daniel Schneider, and Peter Tufano, 2004, Splitting tax refunds and building savings: An empirical test, Working Paper.

Blum, John Morton, 1959, From the Morgenthau Diaries: Years of Crisis, 1928-1938 (Houghton Mifflin Company, Boston, MA).

Blum, John Morton, 1976, V was for Victory: Politics and American Culture During World War II (Harvest/HBJ, San Diego, CA).

Block, Sandra, 2003, An American tradition too unwieldy?, USA Today, September 8th, 2003
http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed September 28, 2004).

Board of Governors of the Federal Reserve, 2003, Annual Report to Congress on Retail Fees and Services of Depository Institutions, <http://www.federalreserve.gov/boarddocs/rptcongress/2003fees.pdf>

Boshara, Ray, Reid Cramer, Leslie Parish, and Anne Stuhldreher, 2005, "A Post Hurricane Policy Response to Poverty in America" New America Foundation,
http://www.assetbuilding.org/AssetBuilding/Download_Docs/Doc_File_1362_1.pdf (last accessed November 2nd, 2005).

Bostic, Raphael W., Paul S. Calem, and Susan M. Wachter, 2004, Hitting the Wall: Credit as an Impediment to Homeownership, Harvard University, Joint Center for Housing Studies, Working Paper BABC 04-5 http://www.jchs.harvard.edu/publications/finance/babc/babc_04-5.pdf (last accessed September 29th, 2004).

Brennan, Michael J. and Eduardo S. Schwartz, 1979, Savings Bonds: Theory and Empirical Evidence, New York University Graduate School of Business Administration, Monograph Series in Finance and Economics, Monograph 1979-4.

Buckley, Neil, 2003, "Wal-Mart to Offer Discount Financial Services," *The Financial Times*, January 7th, http://global.factiva.com/ene/Srch/ss_hl.asp.

Bucks, Brian K., Arthur B. Kennickell, and Kevin B. Moore, 2006, "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances," Federal Reserve Bulletin, A1-A38, <http://www.federalreserve.gov/pubs/bulletin/2006/financesurvey.pdf>.

Caskey, John, 1994, "Bank Representation in Low-Income and Minority Urban Communities," *Urban Affairs Review* 29, 4 (June 1994): 617.

Carlson, Mark and Roberto Perli, 2004, Profits and balance sheet development at U.S. commercial banks in 2003, Federal Reserve Bulletin, Spring 2004, 162-191,
<http://www.federalreserve.gov/pubs/bulletin/2004/spring04profit.pdf> (last accessed September 9th, 2004).

Chen, Henry and Robert Lerman, 2005, "Do Asset Limits in Social Program Affect the Accumulation of Wealth?" The Urban Institute,
http://www.urban.org/UploadedPDF/311223_asset_limits.pdf (last accessed January 30th, 2006).

Correcting and replacing: New ad campaign from American Express Financial Advisors speaks from investor's point of view, 2004, Business Wire, September 27th, 2004,
http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed October 7th, 2004).

Cramer, Reid, 2005, "Splitting Refunds: A Proposal to Leverage The Tax Filing Process to Promote Savings and Asset Building," New America Foundation,
http://www.assetbuilding.org/AssetBuilding/Download_Docs/Doc_File_1363_1.pdf (last accessed November 2nd, 2005).

Cummings, Joseph, 1920, United States government bonds as investments, in *The New American Thrift*, ed. Roy G. Blakey, Annals of the American Academy of Political and Social Science, vol. 87.

Current Population Survey, 2002 March Supplement to the Current Population Survey Annual Demographic Survey, http://ferret.bls.census.gov/macro/032003/hhinc/new06_000.htm

Dove Consulting, U.S. Department of Treasury, 2000, “Survey of Non-Bank Financial Institutions,” <http://www.treas.gov/press/releases/reports/nbfirpt.pdf> (last accessed October 12th, 2004).

eFunds, 2004, Annual Report, <http://library.corporate-ir.net/library/12/122/122648/items/148857/EFUNDS%2004AR.pdf> (last accessed March 13th, 2006).

Everson, Mark, 2005, Letter to Congressman Jim Cooper, March 25th, 2005 (on file with authors).

Federal Credit Union Act, 12 U.S.C. §1786, http://www.ncua.gov/RegulationsOpinionsLaws/fcu_act/fcu_act.pdf (last accessed October 8th, 2004).

Federal Deposit Insurance Corporation (FDIC), 2004, Historical Statistics on Banking, Table CB15, Deposits, FDIC- Insured Commercial Banks, United States and Other Areas, Balances at Year End, 1934 – 2003, http://www2.fdic.gov/hsob/HSOBRpt.asp?state=1&rptType=1&Rpt_Num=15.

Federal Reserve Board, 2005, Federal Reserve Statistics, Selected Interest Rates, Historical Data, <http://www.federalreserve.gov/releases/h15/data.htm>.

Financial Services Roundtable, 2004, The Future of Retirement Security in America, <http://www.fsround.org/pdfs/RetirementSecurityFuture12-20-04.pdf> (last accessed March 3rd, 2004)

Global Insight, 2003, Predicting Personal Bankruptcies: A Multi-Client Study, http://www.globalinsight.com/publicDownload/genericContent/10-28-03_mcs.pdf (last accessed 10/12/04).

Guillan, Mauro and Adrian Tschoegl, 2002, “Banking on Gambling: Banks and Lottery-Linked Deposit Accounts,” *Journal of Financial Services Review* 21(3): 219-231.

Hale, Todd, 2004, Understanding the Wal-Mart Shopper, Consumer Insight, Spring, http://www2.acnielsen.com/pubs/documents/2004_q1_ci_walmart.pdf (last accessed November 1st, 2005).

Hanc, George, 1962, The United States Savings Bond Program in the Postwar Period, Occasional Paper 81 (National Bureau of Economic Research, Cambridge, MA).

Hayashi, Yuka, 2004, First-quarter earnings for T. Rowe Price nearly double, Dow Jones Newswires, April 27th, 2004, http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed October 13th, 2004).

Imoney.net.com, 2005, Money Market Mutual Funds Data Base, data file in possession of authors.

Internal Revenue Service Statistics of Income, 2001, Individual income tax statistics – 2001, Table 3.3 – 2001 Individual income tax, all returns: Tax liability, tax credits, tax payments, by size of adjusted gross income, <http://www.irs.gov/pub/irs-soi/01in33ar.xls>.

Internal Revenue Service Statistics of Income, 1960-1969, Individual income tax statistics, Table 4 –Individual income tax, all returns: Tax liability, tax credits, tax payments, by size of adjusted gross income, <http://www.irs.gov/pub/irs-soi/01in33ar.xls>.

Internal Revenue Service, 2003, Investment Income and Expenses (including Capital Gains and Losses), Publication 550, (Department of the Treasury, Internal Revenue, Washington, D.C.).

James, Dana, 2000, Marketing bonded new life to “I” series, Marketing News, 34(23).

James E. Arnold Consultants, (1999), Marketing Strategy Development for the Retail Securities Programs of the Bureau of Public Debt, Report to the Bureau of Public Debt, on file with the authors.

Kearney, Melissa, 2005, “The Economic Winners and Losers of Legalized Gambling,” *National Tax Journal*, 58(2), , http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed November 17, 2005).

Kennickell, Arthur B., Martha Starr-McLuer, and Brian J. Surette, 2000, Recent changes in U.S. family finances: Results from the 1998 Survey of Consumer Finances, Federal Reserve Bulletin, 88; 1-29, <http://www.federalreserve.gov/pubs/oss/oss2/98/bull0100.pdf>

Kennickell, Arthur and Janice Shack-Marquez, 1992, Changes in family finances from 1983 to 1989: Evidence from the Survey of Consumer Finances, Federal Reserve Bulletin, 78; 1-18, <http://www.federalreserve.gov/pubs/oss/oss2/89/bull0192.pdf>.

Kennickell, Arthur B., Martha Starr-McLuer, 1994, Canges in U.S. family finances from 1989 to 1992: Evidence from the Survey of Consumer Finances, Federal Reserve Bulletin, 80; 861-882, <http://www.federalreserve.gov/pubs/oss/oss2/92/bull1094.pdf>

Kennickell, Arthur B., Martha Starr-McLuer, and Annika E. Sunden, 1997, Family finances in the U.S.: Recent evidence from the Survey of Consumer Finances, Federal Reserve Bulletin, 83, 1-24, <http://www.federalreserve.gov/pubs/oss/oss2/95/bull01972.pdf>

Krasney, David, 2003, “Wal-Mart Dumps Cold Water on U.S. Economic Bulls,” *Reuters*, November 13th, <http://forbes.com/markets/economy/newswire/2003/11/13/rtr1147178.html> (last accessed November 1st, 2005).

Lagomarsino, Deborah, “Locating Lost Bonds Only a ‘Treasury Hunt’ Away,” *The Wall Street Journal*, September 20, 2005, <http://global.factiva.com> (accessed September 23, 2005).

Liberty Loan Committee of New England, 1919, Why Another Liberty Loan (Liberty Loan Committee of New England, Boston, MA).

Morningstar Principia mutual funds advanced, 2004, CD-ROM Data File (Morningstar Inc., Chicago, Ill.).

Morgenthau, Henry, 1944, War Finance Policies: Excerpts from Three Addresses by Henry Morgenthau, (U.S. Government Printing Office, Washington D.C.).

National Credit Union Administration, 2004, NCUA Individual Credit Union Data <http://www.ncua.gov/indexdata.html> (last accessed October 12th, 2004).

- National Savings & Investments, 2005, "Premium Bonds at a Glance," <http://www.nsandi.com/products/pb/index.jsp> (last accessed January 30th, 2006).
- National Savings & Investments, 2004, "National Savings and Investments: Product Accounts 2003/04," http://www.nsandi.com/pdf/product_accounts2004.pdf (last accessed January 30th, 2006).
- Nocera, Joseph, 1994, *A Piece of the Action: How the Middle Class Joined the Money Class* (Simon & Schuster: New York).
- North American Association of State and Provicincal Lotteries, 2005, "Sales and Profits," <http://www.naspl.org/sales&profits.html> (last accessed January 30th, 2006).
- Parrish, Leslie, 2005, "Reforming Asset Limits in Public Assistance Programs to Encourage Low-Income Americans to Save and Build Assets," New America Foundation, http://www.assetbuilding.org/AssetBuilding/Download_Docs/Doc_File_1286_1.pdf (last accessed November 2nd, 2005).
- Pender, Kathleen, 2003, "Screws Tightened on Savings Bonds," San Francisco Chronicle, 16 January 2003, B1
- Projector, Dorothy S., Erling T. Thorensen, Natalie C. Strader, and Judith K. Schoenberg, 1966, *Survey of Financial Characteristics of Consumers* (Board of the Federal Reserve System, Washington DC).
- Quinn, Jane Bryant, 2001, "Checking error could land you on blacklist," The Washington Post, September 30th, 2001, http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed March 12, 2004).
- Quittner, Jeremy, 2003, "Marketing separate accounts to the mass affluent," American Banker, January 8th, 2003, http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed October 7th, 2004).
- Samuel, Lawrence R., 1997, *Pledging Allegiance: American Identity and the Bond Drive of WWII* (Smithsonian Institution Press, Washington DC).
- Schneider, Daniel and Peter Tufano, 2004, "New Savings from Old Innovations: Asset Building for the Less Affluent," New York Federal Reserve Bank, Community Development Finance Research Conference, http://www.people.hbs.edu/ptufano/New_from_old.pdf.
- Schreiner, Mark, Margaret Clancy, and Michael Sherraden, 2002, "Final report: Saving performance in the American Dream Demonstration, a national demonstration of Individual Development Accounts (Washington University in St. Louis, Center for Social Development, St. Louis, MO).
- Sobhani, Robert and Maryana D. Shteyman, 2003, T. Rowe Price Group, Inc. (TROW): Initiating Coverage with a Hold; Waiting for an Entry Point, <http://onesource.com> (last accessed October 7th, 2004) (Citigroup Smith Barney, New York, NY).
- Stone, Adam, 2004, "After some well-placed deposits in media, bank campaign shows positive returns," PR News, March 1st, 2004, http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed October 13th, 2004).

Stone, Andrea, "Republicans Offer Spending Cuts," USA Today, September 20, 2005 available online at www.usatoday.com (last accessed September 23, 2005).

Survey of Consumer Finances, 2001, Federal Reserve Board, 2003, Electronic Data File, <http://www.federalreserve.gov/pubs/oss/oss2/2001/scf2001home.html#scfdata2001> (last accessed June, 2003).

T.D. Waterhouse, 2001, TD Waterhouse Group, Inc. Reports Cash Earnings of \$.01 per Share for the Fiscal Quarter Ended October 31, 2001 www.tdwaterhouse.com (last accessed October 13th, 2004).

T. Rowe Price, 2003, T. Rowe Price 2003 Annual Report: Elements of Our Success, www.troweprice.com (last accessed October 13th, 2004).

Tansey, Charles D., 2001, Community development credit unions: An emerging player in low income communities, Capital Xchange, Brookings Institution Center on Urban and Metropolitan Policy and Harvard University Joint Center for Housing Studies <http://www.brook.edu/metro/capitalxchange/article6.htm> (last accessed October 1st, 2004).

Tufano, Peter and Daniel Schneider, 2004, H&R Block and "Everyday Financial Services," Harvard Business School Case no. 205-013 (Harvard Business School Press, Boston, MA).

U.S. Bureau of Public Debt, 2006, Personal interview with marketing personnel, 13 January 2006.

U.S. Census, 2002, http://ferret.bls.census.gov/macro/032002/hhinc/new01_001.htm.

U.S. House. Committee on Appropriations. *Treasury Debt Management: Hearing before the Subcommittee on Treasury, Postal Service, and General Government Appropriations of the House of Representatives*. 107rd Cong., 2nd sess., 20 March 2002. Washington, D.C.: G.P.O., 2002

United States Department of the Treasury, 1915-1980, Annual Report of the Secretary of the Treasury on the State of the Finances for the Year (Department of the Treasury, Washington, DC).

United States Department of the Treasury, 1918, To Make Thrift a Happy Habit (U.S. Treasury, Washington D.C.).

United States Department of the Treasury, 1935-2003, Treasury Bulletin (Department of the Treasury, Washington, DC).

United States Department of the Treasury, 1935, United States Savings Bonds (U.S. Department of Treasury, Washington, DC).

United States Department of the Treasury, 1981, United States Savings Bond Program, A study prepared for the Committee on Ways and Means, U.S. House of Representatives (U.S. Government Printing Office, Washington, DC).

United States Department of the Treasury, U.S. Savings Bonds Division, 1984, A History of the United States Savings Bond Program (U.S. Government Printing Office, Washington, DC).

United States Department of the Treasury, 1993, Help Your Coworkers Secure Their Future Today, Take Stock in America, U.S. Savings Bonds, Handbook for Volunteers, (United States Department of the Treasury, Washington, D.C.).

United States Department of the Treasury, 2000, Statement: Payment of Fees for United States Savings Bonds, <ftp://ftp.publicdebt.treas.gov/forms/sav4982.pdf> (last accessed October 7th, 2004).

United States Department of the Treasury, 2002, Terrorist attack prompts sale of Patriot Bond, The Bond Teller, 31(1).

United States Department of the Treasury, 2003a, Minimum holding period for EE/I bonds extended to 12 months, The Bond Teller, January 31st, 2003, <http://www.publicdebt.treas.gov/sav/savbtell.htm> (last accessed October 12th, 2004).

United States Department of the Treasury, Fiscal Service, Bureau of the Public Debt, July 2003b, Part 351- Offering of United States Savings Bonds, Series EE, Department Circular, Public Debt Series 1-80.

United States Department of the Treasury, Fiscal Service, Bureau of the Public Debt, July 2003c, Part 359- Offering of United States Savings Bonds, Series I, Department Circular, Public Debt Series 1-98.

United States Department of the Treasury, 2004a, 7 Great Reasons to Buy Series EE bonds, <http://www.publicdebt.treas.gov/sav/savbene1.htm#easy> (last visited September 26th, 2004).

United States Department of the Treasury, 2004b, The U.S. Savings Bonds Owner's Manual, <ftp://ftp.publicdebt.treas.gov/marsbom.pdf> (last accessed March 12th, 2004).

United States Department of the Treasury, 2004c, <http://www.publicdebt.treas.gov/mar/marprs.htm> (last accessed October 12th, 2004).

United States Department of the Treasury Bureau of Public Debt, 2004d, FAQs: Buying Savings Bonds Through Payroll Savings, www.publicdebt.treas.gov.

United States Department of the Treasury, Bureau of Public Debt, 2005, Current Rates (through April 2005), <http://www.publicdebt.treas.gov/sav/sav.htm>.

United States Department of the Treasury, Bureau of Public Debt, 2005, "EE Bonds Fixed Rate Frequently Asked Questions," available online at http://www.treasurydirect.gov/indiv/research/indepth/eefixedrate_faqs.htm, (last accessed June 23rd, 2005).

United States Department of the Treasury, Bureau of Public Debt, 2005, Private Correspondence with Authors, on file with authors.

United States Government Accounting Office, 2003, Savings Bonds: Actions Needed to Increase the Reliability of Cost-Effectiveness Measures (United States Government Accounting Office, Washington, D.C.).

Vise, David A., 2004, "A Card to Borrow Your Future: Can Access to Credit Increase Savings?" *The Washington Post*, <http://www.washingtonpost.com/wp-dyn/articles/A56183-2004Oct23.html> (last accessed November 2nd, 2005).

Walsh, Campion, 2005, "US Tsy To Expand Online Program To Marketable Securities," *Dow Jones Capital Markets Report*, 29th September, http://global.factiva.com/ene/Srch/ss_hl.asp (last accessed March 13th, 2006).

Zook, George F., 1920, Thrift in the United States, in *The New American Thrift*, ed. Roy G. Blakey, *Annals of the American Academy of Political and Social Science*, vol. 87.

Table I: Fraction of U.S. Households Having “Adequate” Levels of Emergency Savings[1]

	Financial Assets (Narrow) [2]	Financial Assets (Broad) [3]
All Households; Savings adequate to		
Replace six months of income	22%	44%
Replace three months of income	32%	54%
Meet emergency saving goal [4]	47%	63%
Household Income < \$30,000; Savings adequate to		
Replace six months of income	19%	28%
Replace three months of income	25%	35%
Meet stated emergency saving goal	29%	39%

Source: Author’s tabulations from the 2001 Survey of Consumer Finances (SCF 2001)

Notes: [1] This chart compares different levels of financial assets to different levels of precautionary savings goals. If a household’s financial assets met or exceed the savings goals, it was considered adequate. The analysis was conducted for all households and for households with incomes less than \$30,000 per year. [2] Financial Assets (Narrow) includes checking, saving, and money market deposits, call accounts, stock, bond, and combination mutual funds, direct stock holdings, US savings bonds, Federal, State, Municipal, corporate, and foreign bonds. [3] Financial Assets (Broad) includes all assets under Financial Assets (Narrow) as well as certificates of deposit, IRA and Keogh accounts, annuities and trusts, and the value of all 401(k), 403 (b), SRA, Thrift, Savings pensions plans as well as the assets of other plans that allow for emergency withdrawals or borrowing. [4] Respondents were asked how much they felt it was necessary to have in emergency savings. This row reports the percentage of respondents with financial assets greater than or equal to that emergency savings goal.

Table II: Percent Owning Select Financial Assets, by Income and Net Worth (2001)

	Savings Bonds	Certificates of Deposit	Mutual Funds	Stocks	Transaction Accounts	All Financial Assets
Percentile of Income						
Less than 20	3.8%	10.0%	3.6%	3.8%	70.9%	74.8%
20 - 39.9	11.0%	14.7%	9.5%	11.2%	89.4%	93.0%
40 - 59.9	14.1%	17.4%	15.0%	16.4%	96.1%	98.3%
60 - 79.9	24.4%	16.0%	20.6%	26.2%	99.8%	99.6%
80 - 89.9	30.3%	18.3%	29.0%	37.0%	99.7%	99.8%
90 – 100	29.7%	22.0%	48.8%	60.6%	99.2%	99.7%
Lowest quintile ownership rate as a percent of top decile ownership rate	12.8%	45.5%	7.4%	6.3%	71.5%	75.0%
Percentile of net worth						
Less than 25	4.3%	1.8%	2.5%	5.0%	72.4%	77.2%
25 - 49.9	12.8%	8.8%	7.2%	9.5%	93.6%	96.5%
50 - 74.9	23.5%	23.2%	17.5%	20.3%	98.2%	98.9%
75 - 89.9	25.9%	30.1%	35.9%	41.2%	99.6%	90.8%
90 – 100	26.3%	26.9%	54.8%	64.3%	99.6%	100.0%
Lowest quintile ownership rate as a percent of top decile ownership rate	16.3%	6.7%	4.6%	7.8%	72.7%	77.2%

Source: Aizcorbe, Kennickell, and Moore (2003).

Table III: Median value of Select Financial Assets among Asset Holders, by Income and Net Worth (2001)

	Savings Bonds	Certificates of Deposit	Mutual Funds	Stocks	Transaction Accounts	All Financial Assets
Percentile of Income						
Less than 20	\$1,000	\$10,000	\$21,000	\$7,500	\$900	\$2,000
20 - 39.9	\$600	\$14,000	\$24,000	\$10,000	\$1,900	\$8,000
40 - 59.9	\$500	\$13,000	\$24,000	\$7,000	\$2,900	\$17,100
60 - 79.9	\$1,000	\$15,000	\$30,000	\$17,000	\$5,300	\$55,500
80 - 89.9	\$1,000	\$13,000	\$28,000	\$20,000	\$9,500	\$97,100
90 – 100	\$2,000	\$25,000	\$87,500	\$50,000	\$26,000	\$364,000
Percentile of net worth						
Less than 25	\$200	\$1,500	\$2,000	\$1,300	\$700	\$1,300
25 - 49.9	\$500	\$500	\$5,000	\$3,200	\$2,200	\$10,600
50 - 74.9	\$1,000	\$11,500	\$15,000	\$8,300	\$5,500	\$53,100
75 - 89.9	\$2,000	\$20,000	\$37,500	\$25,600	\$13,700	\$201,700
90 – 100	\$2,000	\$40,000	\$140,000	\$122,000	\$36,000	\$707,400

Source: Aizcorbe, Kennickell, and Moore (2003). Medians represent holdings among those with non-zero holdings.

Table IV: Minimum Initial Purchase Requirements among Mutual Funds in the United States.

	Min = \$0	Min =< \$100	Min =< \$250
Among all Funds listed by Morningstar			
Number allowing	1,292	1,402	1,785
Percent allowing	8%	9%	11%
Among the top 500 mutual funds by net assets			
Number allowing	49	55	88
Percent allowing	10%	11%	18%
Among the top 100 index funds by net assets			
Number allowing	30	30	30
Percent allowing	30%	30%	30%
Among the top 100 domestic stock funds by net assets			
Number allowing	11	13	24
Percent allowing	11%	13%	24%
Among the top 100 money market funds by net assets			
Number allowing	6	6	6
Percent allowing	6%	6%	6%

Source: Morningstar (2004) and imoney.net.com (2005).

Table V: Average Savings Account Fees and Minimum Balance Requirements, Nationally and in the Ten Largest Consolidated Metropolitan Statistical Areas (CMSAs) (2001)

	Minimum Balance to Open Account	Monthly Fee	Minimum Balance to Avoid Monthly Fee	Annual Fee	Annual Fee as a Percent of Min Balance Requirement
All Respondent					
Banks	\$97	\$2.20	\$158	\$26	27%
New York	\$267	\$3.10	\$343	\$37	14%
Los Angeles	\$295	\$2.80	\$360	\$34	11%
Chicago	\$122	\$3.50	\$207	\$43	35%
District of Columbia	\$100	\$3.20	\$152	\$38	38%
San Francisco	\$275	\$2.80	\$486	\$34	12%
Boston	\$44	\$2.70	\$235	\$33	75%
Dallas	\$147	\$3.20	\$198	\$38	26%
Average 10 Largest CMSAs	\$179	\$2.90	\$268	\$35	20%

Source: Board of Governors of the Federal Reserve (2002)

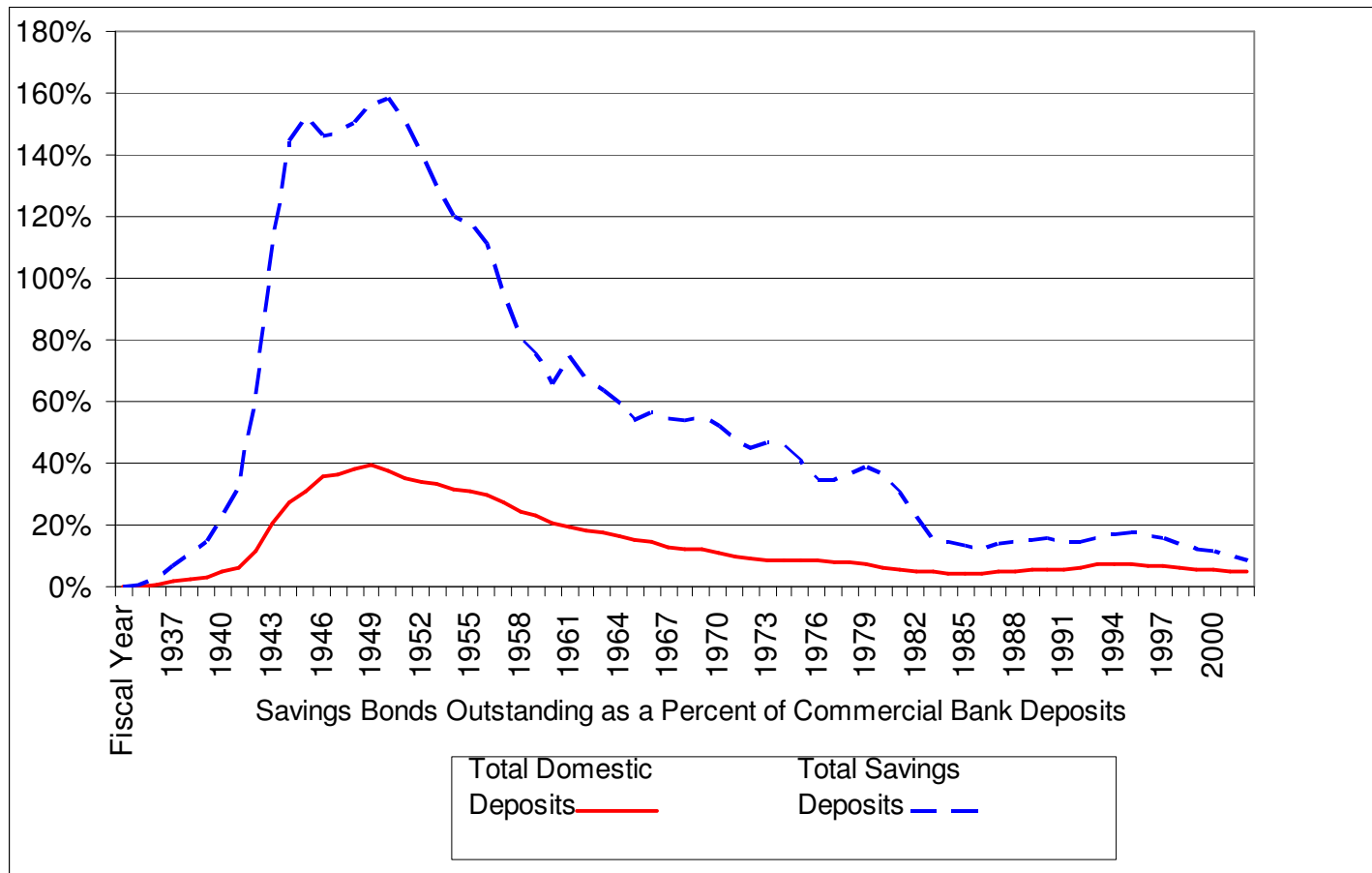
Table VI : Attributes of Common Savings Vehicles, February 9th, 2005

	Savings Bonds	Savings Accounts	Certificates of Deposit	Money Market Mutual Funds
Yield	Series EE: 3.25% (2.44%*) Series I: 3.67% (2.75%*)	1.59%	1-month: 1.16% 3-month: 1.75% 6-month: 2.16%	Taxable: 1.75% Non-taxable: 1.25%
Preferential Tax Treatment	Federal taxes deferred until time of redemption. State and local tax exempt	None	None	None
Liquidity	Required 12 month holding period. Penalty for redemption before 5 years equal to loss of prior three months of interest.	On demand	Penalties for early withdrawal vary: all interest on 30 day CD, 3 months on 18 month CD, 6 months on 2 year or longer CD.	On demand, but fees are assessed upon exit from fund.
Risk	"Full faith and credit of U.S." No principal risk	FDIC insurance to \$100,000	FDIC insurance to \$100,000	Risk to principal, although historically absent for Money Market Funds
Minimum Purchase	\$25	Minimum opening deposit average \$100	Generally, \$500	Generally, \$250 or more
Credit Check	None	ChexSystems sometimes used	ChexSystems sometimes used	None

Sources: bankrate.com, imoney.net, U.S. Department of the Treasury (2005).

* Rate assuming early redemption in month 12 (first redemption date) and penalty of loss of three months of interest.

Table VII: Savings Bonds (all series) Outstanding as a Percent of Total Domestic Deposits and Total Domestic Savings Deposits at Commercial Banks



Source: U.S. Treasury Department, Treasury Bulletin (1936-2003), FDIC (2004)

Table VIII : Ownership of Select Financial Assets (1946 – 2001)

	1946	1951	1960	1963	1970	1977	1983	1989	1992	1995	1998	2001	2004
Checking Accounts	34%	41%	57%	59%	75%	81%	79%	81%	84%	85%	87%	87%	89%
Savings Accounts	39%	45%	53%	59%	65%	77%	62%	n/a	n/a	n/a	n/a	55%	47%
Transaction Account	n/a	n/a	n/a	n/a	n/a	n/a	n/a	85%	88%	87%	91%	91%	91%
Savings Bonds	63%	41%	30%	28%	27%	31%	21%	24%	23%	23%	19%	17%	18%
Corporate Stock	n/a	n/a	14%	14%	25%	25%	19%	16%	18%	15%	19%	21%	21%
Mutual Funds	n/a	n/a	n/a	5%	n/a	n/a	n/a	7%	11%	12%	17%	18%	15%

Source: Bucks, Kennickell, and Moore (2006); Aizcorbe, Kennickell, and Moore, (2003); Avery, Eliehausen, and Canner, (1984); Kennickell, Starr McLuer, and Surette, (2000); Kennickell and Shack -Marquez, (1992); Kennickell and Starr-McLuer, (1994); Kennickell, Starr-McLuer, and Sunden, (1997); Projector, Thorensen, Strader, and Schoenberg, (1966).

Table IX Savings Bond Ownership by Income Quintile, 1957 and 2001

	1957	2001	Percent Decrease
Bottom 20	12.8%	3.8%	70.3%
Second	21.3%	11.0%	48.4%
Third	27.4%	14.1%	48.5%
Fourth	35.9%	17.4%	51.5%
Top 20	44.9%	17.2%	61.8%

Source: Hanc (1962) and Aizcorbe, Kennickell, and Moore (2003)

Appendix A: Savings Bonds Today

Series EE and the Series I bonds are the two savings bonds products now available (Table VI summarizes the key features of the bonds in comparison to other financial products).²² Both are accrual bonds; interest payments accumulate and are payable on redemption of the bond. Series EE bonds in paper form are sold at 50% of their face value (a \$100 bond sells for \$50) and, until May 2005, accumulated interest at a variable “market rate” reset semiannually as 90% of the five-year Treasury securities yield on average over the prior six month period. However, as of May, the interest rate structure for EE bonds changed. Under the new rules, EE bonds earn a fixed rate of interest, set biannually in May and October. The rate is based on the 10-year Treasury bond yield, but the precise rate will be set “administratively” taking into account the tax privileges of savings bonds and the early redemption option.²³ EE bonds are guaranteed to reach face value after 20 years, but continue to earn interest for an additional 10 years before the bond reaches final maturity (U.S. Department of the Treasury (2003b)). Inflation-indexed I Bonds are sold at face value and accumulate interest at an inflation-adjusted rate for 30 years (Treasury (2003c)).²⁴ In terms of their basic economic structure of delivering fixed rates, EE savings bonds resemble fixed rate certificates of deposit (CDs).

Backed by the “full faith and credit of the United States Government,” savings bonds have less credit risk than any private sector investment. (Bank accounts are protected by the FDIC only up to \$100,000 per person) Holders face no principal loss, as rises in rates do not lead to a revaluation of principal, because the holder may redeem them without penalty (after a certain point). Also, interest on I bonds is indexed to inflation rates.

The holder faces substantial short-term liquidity risk, as current rules do not allow a bond to be redeemed earlier than one year from the date of purchase (although that requirement may be waived in rare circumstances involving natural disasters or, on a case-by-case basis, individual financial problems.) Bonds redeemed less than five years from the date of purchase are subject to a penalty equal to three months of interest. In terms of liquidity risk, savings bonds are similar to certificates of deposit more so than to money market mutual fund or money market demand accounts.

Interest earnings on EE and I Bonds are exempt from state and local taxes, but federal taxes must be paid either when the bond is redeemed, 30 years from the date of purchase, or yearly.²⁵ Regarding tax treatment, savings bonds are attractive relative to many private-sector products.

Comparing the actual yields of savings bonds with those of other savings products is not simple. The rates of return on savings bonds vary, as do those on short term CDs. Further, the true yield of savings bonds is influenced by their partially tax-exempt status as well as the penalties associated with early redemption. To get an the most accurate possible estimate of yields, we model realized returns over a five-year period with various assumptions regarding early redemption, yields, and taxes. Generally, EE bond’s performance is on par with that of average certificates of deposit with a six-month, two and one

²² The current income bond, the Series HH, was discontinued in August 2004 (United States Department of the Treasury Bureau of Public Debt, [Series HH/H Bonds](http://www.publicdebt.treas.gov), available online at www.publicdebt.treas.gov).

²³ United States Department of the Treasury, Bureau of Public Debt, “EE Bonds Fixed Rate Frequently Asked Questions,” available online at http://www.treasurydirect.gov/indiv/research/indepth/ee/fix_edratefaqs.htm, last accessed June 23, 2005.

²⁴ This inflation-adjusted rate is determined by a formula that is essentially the sum of a fixed real rate (set on the date of the bond issue) and the lagging rate of CPI inflation

²⁵ Under the Education Savings Bond Program, bondholders making qualified higher education expenditures may exclude some or all of the interest earned on a bond from their federal taxes. That option is income-tested and is available only to joint filers making less than \$89,750 and to single filers making less than \$59,850 (IRS 2003).

half-year, or five-year term or a NOW account.²⁶ While their returns are 10% less than the Treasury securities to which they are pegged, savings bond holders do not face the interest rate exposure and principal risk that holders of Treasury securities face and are able to buy them in small convenient denominations. It is more difficult to evaluate the Series I bonds, as U.S. private sector analogues for those instruments are scarce.

²⁶ Historically, when they were offered in the 1940s to support World War II, savings bonds earned better rates than bank deposits (Samuel 1997). Savings Bonds retained that advantage over savings accounts and over corporate AAA bonds (as well as CDs following their introduction in the early 1960s) through the late 1960s. However, while rates on CDs and corporate bonds rose during the inflationary period of the late 1970s, yields on savings bonds did not keep pace and even by the late 1990s had not fully recovered their competitive position (Federal Reserve 2005).

Appendix B: Patterns and Trends in Bond Ownership

Patterns of bond ownership and purchase have changed over time. Savings bond sales rose rapidly in the early 1940s with the onset of World War II but they slowed substantially in the post-war period. Savings bond holdings benchmarked against domestic deposits in U.S. commercial banks fell from 39% of total domestic deposits in 1949 to 5% of domestic deposits in 2002 (Table VII). In 1946, 63% of households held savings bonds. Over the next 60 years, savings bond ownership declined steadily; dropping to around 40% of households in the 1950s, to approximately 30% through the 1960s and 1970s, and then to near 20% for much of the 1980s and 1990s. The 16.7% 2001 ownership rate appears to be the lowest since World War II. See Table VIII for savings bond and other savings product ownership rates over time.

In 2001, high-income and high wealth households were far more likely to hold savings bonds than low-income and low-wealth households. While gaps nearly as wide or wider appear between income and wealth quintiles for stocks, mutual funds, and CDs (transaction account ownership is closer) the gap for savings bonds is of particular note given the product's original purpose of appealing to the small-saver. Historically, ownership of savings bonds was far more equal. While savings bond ownership is down from the 1950s' levels across households of all incomes, that shift is most pronounced among lower-income households. Table IX summarizes ownership rates by income in 1957 and 2001. Overall, in 2001 savings bond ownership was down 42% from 1957. For those in the lowest income quintile, savings bonds ownership declined by 70%. Interestingly, savings bond ownership was off 62% in the highest income quintile. However, while large shares of high-income households now own stocks and mutual funds, ownership rates for those products are quite low (3% - 4%) among low-income households. If low-income households have moved savings from savings bonds to other products, it has most likely been into transaction accounts, not the more attractive investment vehicles more common among high-income households.

More recent data, from the 2004 Survey of Consumer Finances suggests a general continuation of these trends, with a slight increase in savings bond ownership among the lowest income and net worth segments of the population. Between 2001 and 2004, the share of households in the bottom quintile by income owning savings bond increased from 3.8% to 6.2% and the share of households in the bottom quartile by net worth increased from 4.3% to 6.2%. These gains were far larger than for any other income or net worth segment, but were relatively modest when compared with fluctuations in the rate of savings bond ownership over the past