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**Using Financial Innovation to Support Savers:
From Coercion to Excitement**

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Abstract

In this paper, we review a wide variety of programs that are used to support savings by families, in particular by low- and moderate-income families. These programs range from ones that literally compel families to save, to those that make it hard not to save, make it easier to save, provide financial incentives to induce savings, leverage social networks to support savers, and finally, to programs that excite people to saving. These programs involve a number of different stakeholders, including governmental entities, social intermediaries, non-profit organizations, and formal financial institutions. They embody a number of different assumptions about incentives, drawing from rational economics, psychology, and sociology. We describe examples of each program and provide some information on their economics and effectiveness. Our goal is not to identify the “best” program, but rather to underscore the range of possibilities that exists to meet the needs of heterogeneous savers.

I. Introduction

In certain stylized economic models, household savings emerges mechanically and effortlessly as informed rational agents optimize lifetime consumption in light of their likely income streams, needs, and the hazards they might encounter. In other models, households are massively confused about intertemporal tradeoffs. They employ a set of “hyperbolic” discount rates to evaluate options that vary greatly from period to period and their resultant decisions may be time inconsistent. While these are both useful observations about household decision making, they abstract away from the messiness of savings. Families, and of particular interest to us here, low-income families, save for a wide varieties of reasons, including identifiable reasons such as education and retirement and others that they can’t even articulate (like rainy days or mad money). Definitions of what constitutes “enough”—enough material possessions, enough services, enough savings—vary widely from person to person.

In this messy world, where companies never exhort us to “Spend Less!” savings is hard work and it is no surprise that household savings is weak. Some are pessimistic about the potential to address this problem. Providing sufficient financial incentives to encourage low- and moderate-income families to save is too expensive and politically unlikely. And there’s no way that the private sector will jump on board, because there’s not enough money to make it worth their while.

While these concerns are real, we believe they are not the end of the story. Given that societal pressures to consume are not likely to abate, what realistically can other stakeholders—governments, nonprofits, social institutions, and financial institutions—do to help families to save? Given the diversity among people, it is unlikely that there is a single solution to the savings problem. Rather, we lay out a continuum of solutions in this paper, many of which have great promise in supporting household savings. The continuum ranges from solutions that force families to save (coercion) to others that seek to work consumers into a frenzy about savings (excitement.) These varied solutions emphasize different elements of human behavior or impediments to savings. Some require massive government policy, some require small changes in existing regulations, and still others are completely market oriented. Some require large subsidies, while others might be profitable on their own. We discuss each program from the perspectives of would-be savers as well as from that of other key stakeholders.

Our notion of savings in this piece is explicitly broad: Savings is the deferral of consumption today to enable the use of funds at a later period. That later period may be decades away, as in retirement. Or, in low-income communities, the deferral may only be a matter of weeks or months or until a water heater breaks. We make no value judgments that only “long term” savings can be helpful to families. To the contrary, short term savings can be critical. An emergency fund that allows a family to quickly repair a car needed to get to work can be essential. Also, while most of the concepts we discuss could apply to people of all incomes, our emphasis is on savings structures that would be relevant to low- to moderate-income households, rather than high net worth households. For example, we discuss “excitement” as a means to foster savings, but emphasize lottery-like structures rather than the rush of a ten-bagger hedge fund investment unavailable to low-income families.

The Savings Continuum: From Coercion to Excitement

Beyond merely listing a number of savings programs, our work attempts to create a typology of savings along two dimensions. The first dimension of this typology is the mechanism by which the innovation changes the ability or motivation of the saver. At one extreme, families may not save because they simply do not have the financial resources after caring for necessities. In these instances, outright transfers may be necessary to create savings or one might force families to save through government coercion. Short of coercion, other innovations may make it easier to save, or harder not to save. Still other families may have the potential ability to save, but may not value savings enough. In these instances, innovations may increase the benefits of saving, either by adding monetary incentives, social incentives, or psychological incentives. In general, this first dimension ranges from involuntary to voluntary processes for stimulating savings. In the following sections, we will discuss each of these in turn:

- a) Coercing saving
- b) Making it hard not to save
- c) Making it easier to save
- d) Bribing people to save
- e) Leveraging social networks
- f) Making saving exciting

The second dimension of our typology addresses which stakeholders are involved in offering the innovation. While many parties might indirectly be affected by family savings

decisions, by “stakeholder” we mean a decision maker who would be required to act to implement the innovation. Some programs involve governmental entities, for example, programs that deliver financial incentives via the tax system or change eligibility for government benefits. Other programs involve financial institutions, such as those that bundle savings with other financial products. Still others involve nonprofits or social networks, leveraging relationships to spur on savings.

Lurking behind these dimensions is a set of notions about the fundamental nature of would-be-savers. If individuals are rational and have well defined utility functions, then some of these programs are relatively simple to explain. If people simply prefer more to less, financial incentives should induce more savings. If individuals’ tastes and preferences are more pliable and multidimensional, then programs may address their behavioral quirks, such as their tendency to misestimate low probability events, be overly optimistic about their own abilities, or to draw mental fences around otherwise comparable activities.

This chapter is about innovations, but we use the word broadly and charitably. In financial services, there is rarely anything that is truly new. Rather, seemingly new ideas are sometimes updated versions of old programs (such as the prize linked savings concept we discuss, which goes back to 1694) or build upon other innovations. Merton (1992) speaks of an innovation spiral, whereby the existence of one financial innovation permits another. The innovation of debit cards in the 1960s ultimately made possible bundled products like the Bank of America Keep the Change program, which combines this payment system device with a savings component.

In each section below, we briefly describe the class of savings innovation, provide a few examples, and give a sense of the success of the programs, both from the point of view of generating savings, as well as from the point of view of the stakeholder. For government-organized programs, this cost might be the governmental outlays required; for the private sector it is the cost and profitability of each product or program. Unfortunately, much of this data is somewhat sketchy as formal evaluations have not been done for most of these programs, and firms are reluctant to release product line profitability data. Nevertheless, our intent is to provide a tour of the options, hopefully leaving the reader with optimism that while increasing savings may be hard work for all concerned, it is not an impossible task. And, in some cases, it may actually be fun.

Exhibit 1 summarizes the various savings steps.

II. Coercing Saving

The first class of innovations literally compels individual savings, under the assumption that without paternalistic government intervention, individuals would fail to accumulate adequate savings. Often, these programs offer universal participation to redistribute individual savings so as to lessen inequality and build a political base of support. Involuntary programs tend to fall into two categories, those which force families to spend less to save, or those which give families additional funds but only in the form of savings. These two ideas are exemplified by two innovations, one relatively old, one quite new.

Taxing to Force Savings: Social Security

While not savings in the “traditional” sense, Social Security provides the functional equivalent of savings. The savings is coerced in that the only way not to participate is not to work or to break the law. There is a substantial literature about social security, and the economics of the particular pay-as-you-go US program, and a review of that literature is beyond the scope of this chapter. However, it is important to note a few things about this means of saving. First, as a program that literally forces people to save, it requires government action. Second, it is difficult to determine the incremental savings this program (or other programs) generates, as it is hard to observe hypothetical savings in the absence of the program. Third, it is largely a retirement focused program, unlike some of the other programs, which focus on less distant savings goals.

Giving to Force Savings: The Child Trust Fund

The United Kingdom’s Child Trust Fund (CTF) is an involuntary program as well, but takes a different tack, giving savings rather than mandating it. The 2003 CTF ensures that all British children have savings upon becoming 18. Additionally, it was designed to facilitate the development of savings habits (HM Treasury, 2003). It meets these goals through a policy of “progressive universalism” – one that is broadly inclusive with benefits apportioned according to need (Barr and Sherraden, 2005).

Beginning in April 2005 every British child born after September 1st, 2002 received a grant of at least £250 at birth and will receive subsequent grants of similar value at age 7. Children born into households with annual incomes of less than £14,000 receive awards twice as

large (Sodha, 2006). A voucher for these initial funds (of either £250 or £500) is provided to parents after the birth of a child. Voucher in hand, parents can choose from three different types of accounts; an interest bearing savings account, a shares account (invested in equities), or a “stakeholder” account (conservatively invested equities). Vendors are approved by the government, but accounts are offered privately by banks, building societies, or brokerages (Mensah and Schneider, 2004). As of 2006, 119 providers offered some type of account (HM Treasury, 2006).

If parents fail to select an account within one year of receiving the voucher, a stakeholder account is automatically opened for the child by the government (with the provider chosen on a rotating basis). Once a CTF account is established, relatives, the children themselves, or others can deposit up to £1,200 (in after tax pounds) each year. These additional deposits are not subject to income or capital gains taxes. Deposits cannot be withdrawn until the child reaches the age of 18. At that point, he or she may withdraw the funds without limitation (Mensah and Schneider, 2004).

The costs of the CTF can be viewed from the perspective of account holders or the government. Stakeholder account owners pay a 1.5% management fee per annum on the account. Annual fees are also assessed on share accounts, but these fees are not capped by the government (UK Parliament, 2007). Savings accounts do not carry explicit annual fees, but the interest rate paid builds in a spread for the vendor. These expenses are revenue sources for financial service vendors.

From the perspective of a taxpayer, the costs of the CTF are considerable. The Department of Inland Revenue reported that the initial administration costs would be £114 million for the period 2004 through 2007, tapering off to £15 million per year through 2010. Much larger costs arise from government contributions to CTF accounts, estimated at £240 million per year through the first several years of the program and then roughly doubling to £480 million once the first cohort of enrollees begins to qualify for the age seven top-up contributions (HM Treasury, 2006).

As of June 2007, approximately 2.85 million CTF accounts had been opened, including 2.2 million accounts opened within one year of the receipt of voucher by parents and the rest opened by Treasury upon the expiration of unredeemed vouchers. (HM Treasury, June 2007). A substantial share of families (35%) received the bonus funds due to lower-income households

(HM Treasury, 2006). While many parents successfully opened a CTF account, preliminary analysis indicates that they were uneasy about choosing an account, with half of all parents feeling they did not know enough to choose one of the three products (Kempson, Atkinson, and Collard, 2006). Nevertheless, most chose some kind of account. By 2006, 74% of the 1.7 million accounts then open were Stakeholder accounts, 22% savings accounts, and 4% were of other design (including share accounts) (HM Treasury, 2006).

Comprehensive data on performance and deposit activity for CTF accounts is not yet available. However, early data suggests that approximately one-quarter of accounts were receiving regular monthly voluntary contributions. However, it seems that higher-income families are much more likely to make such deposits than lower-income families. Data obtained in May of 2006 from the five largest providers of accounts (all of whom offered only equity and stakeholder accounts) representing 40% of the CTF market show that a third of higher income parents (those not eligible for the bonus contribution) and about 20% of lower income parents were making regular monthly deposits, averaging £24 and £16 respectively. Another 5% to 10% of children received lump sum deposits. For these deposits, the difference in average deposit size by family income was less pronounced (Sodha, 2006). Data from the Tax Incentivised Savings Association (TISA), a British trade group, largely confirms this description. Based on data on 62% of extant accounts, TISA (2007) reported that 23% of accounts had regular monthly deposits, averaging £21 and 6% had lump sum deposits, averaging £404.

This early data is in some ways encouraging. Advocates make the case that 75% of parents choosing an account (rather than triggering the auto-enrollment) speaks to high levels of parental support. One account provider has gone so far as to claim that “there is absolutely no doubt that child trust fund is transforming the nation’s saving habits and fundamentally changing the way parents think about saving for their children” (White, 2006).

However, the CTF raises a number of issues. First, deposits may simply reflect a re-shuffling of assets in family financial portfolios. Kempson, Atkinson, and Collard (2006) find that prior to the introduction of the CTF, nearly 70% of children had some kind of savings instrument worth a median of £404. But these authors also document that prior to the CTF, while 88% of children in households with a monthly income of £3,000 or more had accounts, only 50% of children in households with monthly incomes up to £999 had savings. At a minimum, the CTF almost surely increased the likelihood of savings among the poor who did not

previously save. But further, even if it appears that the CTF simply reshuffles household savings, it would seem important to determine if the CTF, in labeling certain savings explicitly for children, changes the way in which savings are used.

Second, though designed to be equity-enhancing, the CTF may in fact raise a number of equity issues. In focus groups, CTF eligible parents expressed concerns over how savings and opportunity would be kept equal between siblings, the younger of whom (born after 2003) would qualify for the CTF and the older of whom would not (Prabhakar, 2006). Future evaluators should be attuned to whether families increase saving as a result of the CTF, but perhaps do so by making deposits to accounts they establish for CTF-*ineligible* children. Also, although the CTF may increase the absolute level of asset-ownership among low-income children, it may spur greater contributions among more well-off families than among poorer, increasing differences among these groups.

Finally, some commentators have expressed concerns about “stake-blowing,” that upon turning 18, CTF-holders will gain access to their funds and promptly squander them, possibly as side-effect of the funds being granted rather than consciously accumulated (White, 2004). One parent interviewed by Prabhakar (2006) conjectured that, “they’ll say 18 grand, I know what I’m going to do with that, go out Saturday night, get absolutely bladdered, holiday, get a car, and then they’ll be in debt.” These concerns have led to proposals for government-imposed restrictions on account use, such as limiting the funds to asset-development purposes like buying a home or seeking education (Paxton and White, 2006). Interestingly, parents sought a different sort of control, arguing not for state paternalism, for parental control. Prabhakar (2006) finds that “parents wanted parents rather than government to frame these restrictions” (p. 24).

Though the U.S. does not have an analogous program to the CTF, advocates have pressed for Congress to pass the ASPIRE act which would create a similar system of national accounts for children. Accounts would be established for all children at birth and endowed with a \$500 initial deposit, more for children in low-income families. These funds could be augmented over the child’s life by up to \$1,000 a year with matching funds available to encourage saving by low-income parents. Funds could only be used for asset-development purposes, such as purchasing a home, paying for education, or saving further for retirement (Cramer, 2006). While the bill has been stalled legislatively, private-sector efforts to establish children’s savings accounts have moved forward. Established in 2003, the Saving for Education, Entrepreneurship, and Downpayment (SEED)

program is a partnership between national academic and policy organizations, local not-for-profit groups, financial institutions, and foundations. These groups offer a mix of savings accounts, 529 accounts, and investment accounts to participating children in twelve states and territories. The accounts are endowed with an initial deposit of between \$500 and \$1,000 with further deposits by participants and their relations matched by the program (CFED, 2006). These account terms and product structure are quite similar to those proposed in the ASPIRE act as SEED is designed to provide preliminary evidence on the efficacy of such a policy.

The CTF (and various American proposals along the same lines) compel savings, but do so in a way so as not to inspire much complaint – they simply give savings away. Nonetheless these policies are coercive. But, these innovations differ from a program like Social Security in that they incorporate design elements, like auto-enrollment, which are derived from other theories of saving. We take up one of these approaches, the next along our continuum of savings, below.

III. Making it Hard Not to Save

In the prior example, it is nearly impossible not to save except by not working or not being born. Closely related would be the concept of making it difficult for people *not* to save, i.e., making *not* saving an affirmative decision. In this section and the following, we present a set of innovations that are slightly less coercive than either granting savings or forcing people to save. First, we discuss those that make it hard not to save through the use of defaults and bundling and then we turn to those that make it easy to save (or harder to dissave), through commitment savings products and by lowering the impediments to savings.

Innovations of this sort proceed from a slightly different set of behavioral assumptions than coercive savings innovations. People are subject to certain behavioral biases such as a susceptibility to procrastination, problems of self-control, orientations towards the status-quo and other behavioral foibles that have a powerful effect on human action (see Shafir and Mullainathan in this volume). If behavioral flaws predominate, Thaler and Sunstein's (2003a & 2003b) concept of libertarian paternalism sketches out a philosophical basis for exploiting these flaws. Arguing that humans are generally "irrational" decision makers, Thaler and Sunstein (2003a) argue that intervention by third parties in decision making is difficult to avoid and that, when designed carefully, policy can thus guide choices in a way that is beneficial (and so is

paternalistic) yet still leaves room for individual choice (and so libertarian). We see this embodied in 401(k) defaults and opt-outs.

Defaults and Opt-Ins/Opt-Outs

Inertia makes us “go with the flow” continuing on the same course or avoiding decisions, especially when faced with complex or unpleasant choices. By setting up products where the inertial or default behavior is “savings,” savings increases. This idea is popular in the area of retirement savings, although the setting of defaults has a long heritage. An increasing number of U.S. companies are changing their 401(k) enrollment policies from requiring employees to “opt-in” to plan participation to new policies where employees are automatically enrolled upon hire and are required to affirmatively choose not to participate, or “opt-out” if they would like to avoid enrollment.

Companies’ interest in opt-out plans is partly driven by a desire to help their employees to save for retirement. But, other considerations also enter into the calculus, in particular, employers may face significant costs if their retirement programs are not in compliance with government non-discrimination rules. Firms must increase participation among lower-paid employees to avoid limiting retirement benefits for executives (Madrian and Shea, 2001).

Broadening plan participation may create new administration costs. Anderson and Atlee (2001) outline how automatic enrollment may increase employee participation, but because default contribution rates are generally quite low, also create a large number of new small-balance accounts whose cost to serve on a per dollar basis will be high.

A number of studies have assessed the effect of automatic enrollment plans, generally with an eye towards participation rates, contribution rates, and asset allocations (Madrian and Shea, 2001; Vanguard, 2001; Choi, Laibson, Madrian, and Metrick, 2006). These evaluators conclude that automatic enrollment dramatically increases participation, raising initial enrollment rates significantly above both initial and subsequent rates for standard opt-in plan. For example, Choi, Laibson, Madrian, and Metrick (2004) find that plan enrollment rates rose to 90% at three companies adopting automatic enrollment plans, versus previous rates of 20% to 40% at 6 months tenure or 60% at 36 months tenure.

Automatic enrollment leverages inertia to dramatically increase participation rates. However, defaults also exert a powerful effect on contribution rates and investment allocations.

Large shares of employees enrolling in plans under automatic enrollment tend to stay at the default contribution rate (Choi, Laibson, and Madrian 2004). For example, Choi, Laibson, Madrian, and Metrick (2004) find that a large plurality of employees at one company hired under auto enrollment maintained the default rate – in this case shifting the modal rate from 6% before auto enrollment to the new default rate of either 2% or 3% after auto enrollment. The literature finds that most employees also stick with the initial investment choices (Beshears, Choi, Laibson, and Madrian, 2007). Newer concepts build in automatic adjustments in contributions and some automatic rebalancing, which can also be accommodated through life-cycle investing products.

Nationally, retirement account ownership is highly correlated with household income. In 2004, only 10% of households in the lowest income quintile and 30% in the second quintile had retirement accounts compared with between 70% and 90% of households in the top two quintiles (Bucks, Kennickell, and Moore, 2006). Nevertheless, the 401(k) defaults literature does present some interesting findings with regard to low-income families. Madrian and Shea (2001) find that auto enrollment seems to equalize participation across income and racial groups, raising participation rates for lower-paid and African American and Latino employees far more than for their higher-paid and white colleagues. Lower-income participants were also more likely to maintain default contribution rates than other employees. Choi, Laibson, Madrian, and Metrick (2004) find that auto enrollment has ambiguous effects on aggregate account balances; they are driven up by increased enrollment but driven down by low contribution defaults. However, defaults increase balances for those who would otherwise not participate.

There has been little research that examines defaults in the context of overall household saving, which is a general challenge that can be leveled against many savings programs. Madrian and Shea (2001) suggest that automatic enrollment likely does not simply reshuffle workplace saving, pointing to evidence that participation in company stock plans is unaffected by opt-outs.

The concept of defaults can be used far beyond retirement saving. Businesses have long used the concept of defaults to affect consumer behavior, for example capitalizing on inertia to keep us with the same phone service, cable TV or subscriptions. If defaults can be used to increase consumption, their use to increase savings seems quite natural. But, there are a number of high level questions surrounding defaults. First, how does one ensure that the defaults are in the best interests of consumers? In particular, how does a default strategy work for very

heterogeneous consumers who might need different defaults? Second, what is the liability of the program designer if the participant complains ex post? While new regulations begin to address this question, it remains a broader concern than the immediate change in pension reform.

Bundling

A second strategy makes it difficult to avoid saving by *bundling* saving with a product or service that consumers would typically otherwise purchase such as shopping, using a credit or debit card, or borrowing. This strategy is simply embodied in amortizing mortgages. A person who wants to buy a house can get a loan whereby over time the borrower essentially “pays herself” or saves by investing in the equity in her home as the loan is paid off. Each month, the mortgage bill not only covers interest, tax and insurance escrows, but is also effectively a “savings bill,” which cannot be ignored (Campbell and Henretta, 1980; Parcel, 1982; Chen and Jensen, 1985; Moore, Beverly, et al, 2001).

Similarly, certain loyalty programs bundle spending and savings. In the past, some grocery stores paid shoppers “S&H Green Stamps” for each purchase, which could be used to make future purchases. By shopping, one could support future consumption of certain items, i.e., save. Credit card and airline loyalty programs, whereby use of a card or service gives rise to rewards are common; those that offer cash rewards are most savings-like.

The basic logic of bundling is to leverage demand for highly desirable activities to spur less enjoyable savings. Given natural complementarities, many bundled savings products are offered by financial service firms, although loyalty programs are more widely offered. When these schemes work, individuals get a product and a bonus of savings and firms differentiate their offerings, generate profits and perhaps customer loyalty.

Bundling: Keep the Change and Upromise

In October of 2005, Bank of America introduced the “Keep the Change” program. Designed to enhance debit card usage while spurring savings, the program allows enrollees to authorize the bank to automatically round-up the value of every debit-card purchase to the nearest dollar and transfer the difference from their checking account to a traditional savings account. Under the terms of the program, Bank of America matches these transfers at 100% for the first three months of enrollment and at 5% thereafter, up to an annual maximum of \$250

(Enrich, 2005). In spirit, the program is a successor to the both home mortgage structures and loyalty programs. Like a home mortgage, the customer is essentially paying herself. Yet, like a loyalty structures, savings is proportional to customer activity.

Modern versions of S&H Greenstamps are very common. Some allow you to “save” for consumption of a single type of item (like additional airline travel), while others offer less constrained savings. For example, some reward programs will pay back cash, use the rewards to buy savings bonds, or invest it in long term savings accounts. An example of the latter is Upromise. Launched in 2001, Upromise enables users to save for college by earning rebates of up to 10% on consumer purchases from local and national partners including AT&T, McDonald’s, ExxonMobil, and General Motors. Participants sign up through Upromise, the company collects the rebates, and invests the funds in a 529 college savings account (Kim, 2006; Bulkeley, 2001). The firm also offers a loyalty credit card in conjunction with CitiBank with rewards deposited into a 529 plan.

Products of this kind have had some success. Bank of America attributes 1.8 million new savings accounts to the Keep the Change program (Mierzwa, 2007) and as of April 2007, its 4.3 million program participants had saved approximately \$400 million collectively or about \$93 on average – a steady rise from average savings of \$30 in April 2006 and \$67 in October of 2006 (McGeer, 2007; Davis, 2006; Tescher, 2006). Part of this uplift likely comes from the general increase in the use of debit cards over time, and from the initial appeal of matching. It is too early to measure long-run impact on total savings, but we suspect that the program may be attractive as a commercial proposition.

Enrollment in Upromise has grown rapidly since its inception, reportedly by as much as 50% a year to 8 million in mid-2007 (Chaker, 2004; UPromise, 2007). While Keep the Change is credited for being relatively easy to join, critics point out that Upromise has had a more involved enrollment process whereby customers must register their credit cards and pre-existing company-specific loyalty cards with Upromise (Davis, 2001). Further, given current reward rates and annual caps on rebates, savings accumulation for any family may be modest (Wyatt, 2001).

There are no direct costs for customers of either program. Nevertheless, both programs offer their parent corporations several revenue streams. Upromise receives a portion of the member rebate, per-enrollment fees from some partners, and the float on consumer rebate funds

that are not yet invested in 529 accounts (Sahlman, 2003). As an indication of its profitability, Upromise was acquired by Sallie Mae in 2006 for \$308 million (Sallie Mae, 2006, page F-33).

The Keep the Change program also appears to have fairly attractive economics. Bank reports indicate that the program is a valuable customer acquisition tool, bringing in 1.8 million new savings accounts and 1.3 million new checking accounts over 19 months of program operation (Mierzwa, 2007). The program has the potential to increase debit card use, can reduce bank costs associated with processing paper checks, and generate incremental interchange revenues from each debit card transaction (Editor, 2006; Lubasi, 2005). While the deposits generated by Keep the Change pale relative to Bank of America's total assets of \$1.46 trillion, the funds currently earn an interest rate of just 0.20% in the bank's regular savings account permitting the bank to profit from the net interest margin (Bauerlein, 2007; Freeman, 2005; Bank of America, 2007).

While fascinating examples, Keep the Change and Upromise programs raise some concerns. As a psychological matter, they may further confuse consumers. In recent market research that we have done with low-income consumers, there was a general confusion between saving (in the form of putting money away) and saving (in the form of paying less for goods.) Consumer advocates fear that these programs may encourage people to spend more, to ignore the need to accumulate more substantial savings, or to further conflate savings and spending (Singletary, 2005; Enrich, 2005, Singletary, 2001).

Bundling: The Salary Advance Loan

The North Carolina State Employees Credit Union (NCSECU) offers an innovation which bundles savings and credit. NCSECU entered the \$40 to \$50 billion payday lending market in 2001 with the Salary Advance Loan (SALO). The Credit Union offers the SALO at 12% APR, far less the 400% to 1000% APRs standard in the industry (Stegman, 2007). Loans of \$500 or less are available with a maximum term of one month and with fees capped at \$5 per loan. The program is available to members with direct payroll deposit. Repayments are due at time of the next payroll payment.

There has been significant demand for these loans, with nearly \$400 million loaned out since the program's inception in 2001. Each month, approximately \$12 to \$13 million is loaned to individuals in the pool of 53,000 SALO-registered members (out of 1.25 million total

members). The bundled saving element was added in 2003, with all SALO borrowers required to deposit 5% of each loan into a share account. The bundled cash account makes SALO borrowers save, with the goal of helping them to accumulate sufficient savings “to break the payday loan cycle” (North Carolina State Employees Credit Union, 2006). The share account also secures the payroll loan. While the account is interest bearing, withdrawals must be approved by a lending official. Under the terms of the contract, withdrawals can trigger suspension of borrowing privileges on the Salary Advance Loan. Observers report that in practice withdrawals lead to ineligibility for SALOs for six months (Fellowes and Brooks, 2006).

In terms of its economics, though the SALO is priced much below the vast majority of payday loan products, CEO Jim Blaine claims that the SALO is “the most profitable loan” made by the credit union (Kuehner-Hebert, 2007). The Credit Union has earned \$2.5 million in interest income on loans of \$400 million with charge-offs of just 0.27% combined with overhead and funding costs of 2.00% and 2.75% respectively (Stegman, 2007).

In terms of its scale, both the payday loan balances and savings in the SALO program have grown. The 53,000 enrolled members have grown their savings deposits from \$5.5 million in June of 2004 to approximately \$9.7 million in June of 2006 (North Carolina State Employees Credit Union, 2004 – 2006). These savers (and borrowers) are predominately low-income and low-asset with annual earnings usually below \$25,000 and savings of about \$130 on average (Stegman, 2007). About 75% of SALO users said that the funds which have accumulated in their SALO accounts make this the “first time in their lives that they have had any significant savings” (Fellowes and Brooks, 2006).

Like an amortizing mortgage, the SALO encourages borrowers to pay themselves, in the form of the bundled share account. Like the home in a mortgage, the SALO provides the bank with some security. The withdrawal restriction presumably prevents careless dissaving (discussed more below), but the denial of loans to savers making withdrawals may raise interesting issues. In particular, it is important to see whether participants tap other credit sources to maintain their access to SALO rather than draw down their savings, and if so, to assess the total impact on the entire family balance sheet. If the program, like other secured credit programs, encourages consumers to borrow high and lend low, its overall impact might be unclear.

Making It Hard To Dissave: Withdrawal Commitments

While the spirit of this section is about innovations that make it hard not to save through defaults and bundling, there is a complementary set of products which make it hard to dissave through withdrawal commitments. These commitments take many forms, such as the requirement for bank officer signoff for saving withdrawals in the SALO, term deposits in banks with early withdrawal penalties, tax advantaged programs (like IRAs) that have withdrawal penalties, or private equity investments with limited opportunities for exit by limited partners. If the key behavioral problem causing a lack of savings is self control, then bonding in the form of commitment savings products can provide a solution. The lack of self control can come from the saver, or it can arise from the demands placed upon the saver by his or her social network of family and friends. Ashraf, Gons, Karlan and Yin (2003) review the evidence on commitment savings products (including both withdrawal commitments and savings commitments, which we discuss elsewhere in this section.) Ashraf, Karlan and Yin (2007) then conducted a randomized study of a withdrawal commitment project in the Philippines. About 28% of those offered took up the restricted withdrawal product, and after a year saved 81% more than the control group.

From the perspective of financial service firms, withdrawal commitment products may be attractive in a variety of ways. In particular, the need to respond to redemptions forces banks to hold liquid assets and plan for the uncertainty of asset runoff. Commitment savings products offer a form of core deposits that many banks find attractive, both to model and to hold.

At the same time that withdrawal commitment savings programs are seen as a way to discourage dissaving, there may be seemingly contradictory evidence that easy access to funds can, under some circumstances, increase savings. Some have argued that the increases in holdings of money market funds are partly attributable to making the funds easier to liquidate, in the form of adding features like check-writing to the product. Similarly, there is some evidence that 401k programs which allow loans are more attractive to potential savers. Specifically, being able to take a loan against 401k deposits seems to increase contributions, with estimates ranging from a less than one percentage point increase to a ten point increase (Holden and VanDerhei, 2001; Munnell, Sunden and Taylor, 2000; and Mitchell, Utkus, and Yang, 2005). By giving would-be savers the assurance that they can gain access to their funds if they need them, these innovations might increase the demand for certain savings products.

These two observations need not be contradictory. Different people may have varying preferences for commitment versus liquidity. Furthermore, the increased saving may come from the relative attractiveness relative to the baseline product. Some products are framed as having substantial withdrawal restrictions while others are framed as being nearly as liquid as cash. Suppose the “optimal” product was somewhere in between these extremes, offering some liquidity and some element of commitment. Adding an element of commitment to an otherwise liquid product or adding some liquidity to an otherwise illiquid product could both enhance saving by moving closer to the preferred product.

IV. Make it easy for people to save

Innovations that make it easy for people to save still require individuals to make a conscious, unbundled savings decision, but simply lower the impediments to savings. Making saving easy involves making savings products available when and where people can save, i.e., where they have “free” money. In the following we briefly discuss three strategies and associated savings innovations for “going where the free money is,” the workplace, tax preparation sites, and retail point of sale. These innovations typically open up new convenient distribution channels and make savings less of a hassle. In the extreme, consider how quickly one can walk into a retailer and spend \$2000. The spirit of these innovations is to make it just as simple to save that money.

The Workplace as a Distribution Channel

For most Americans, the primary source of savable funds comes from their employment income. Workplace saving options, whether in the form of retirement plans, tax deferred annuities, on-site banks or credit unions, or employer-based savings bond distribution all attempt to divert funds at this source. Groups such as the Employee Benefit Research Institute and the Center for Business and Poverty at the University of Wisconsin, as well as firms such as pension administrators, occupational credit unions, and start ups like Education (Tufano and Schneider 2005), focus on the potential of the workplace as a channel for providing financial services.

One clever innovation in the workplace is Bernartzi and Thaler’s (2004) SMarT plan which allows people to save easily with “free” money, i.e., their future raises. Behavioral research has shown that individuals may have perverse discount rates for far-off cash flows, and

furthermore, may act differently with “house money” such as unanticipated winnings. First implemented in 1998, SMarT leverages these behaviors by allowing workers to pre-commit to saving a portion of *future* salary raises. Enrollment occurs well before the salary increase takes place because employees often discount future funds quite heavily and thus the dollars committed to savings feel less “real” than present dollars. Furthermore, as the raises might be considered windfalls, they might be spent differently than current income. Once enrolled in the program, employees may opt-out, but given inertia, such decisions are uncommon (Thaler and Benartzi, 2004). In essence, the program is designed to mitigate or capitalize on well-known behavioral phenomena in order to increase savings.

Assessing three implementations of SMarT, Thaler and Benartzi (2004) find strong take-up and that participants’ savings increased dramatically relative to pre-take-up levels and relative to other employees. Take-up varied with the level of marketing and the enrollment process. At one firm where employees met one-on-one with a financial advisor, take-up rates were as high as 80%. However, at a second firm where marketing was limited, take-up was lower, at about 18% of 401(k) participants and 10% of non-participants. At a third company, take-up rates were about 25%, but varied considerably by employee characteristics. Lower-income workers had higher take-up rates than more highly paid employees at 36% (compared with 29% to 20% among higher paid workers). Madrian and Shea (2001) hypothesize that workers, especially those less financially skilled, may interpret changes to company savings programs as advice, perhaps explaining these disparities.

SMarT participants saved more in their 401(k) accounts. In the first administration of the program, participants had a pre-enrollment savings rate of 3.5%, lower than those workers who did not participate at all and those that attended an initial meeting but declined to participate. But participants increased their saving more than any other group – up to 13.6% after four pay raises. Thaler and Benartzi (2004) found similar, though not as dramatic, results at two other research sites. While these savings rates are a dramatic increase over prior levels, the research on SMarT to date lacks a baseline survey of household assets and savings and so it is difficult to determine if these deposits into 401(k)s represent new household savings dollars.

With regard to its economics, for participants, the SMarT plan is purposefully inexpensive. There are no participation fees and transaction costs, in dollars, time, and mental energy are kept low. Employers face relatively few costs as well. Vanguard, a large 401(k) administrator,

classifies SMarT plans as administrative features of 401(k) plans rather than as a benefit under IRS tax code, freeing employers from administrative requirements for lengthy notification and plan amendment (Utkus, 2002). Direct employer costs are concentrated around outreach. Thaler and Benartzi (2004) report that initial employer investment in the plan ranged from hiring a financial consultant to meet with every employee to sending a single mailing to employees. More intensive outreach strategies apparently boost take-up, but the cost-benefit tradeoff has not been established. The SMarT plan may appeal to employers concerned with passing plan discrimination tests, as it raises the savings of lower-compensated employees. However, increasing employee 401(k) contributions increases firm costs in terms of matching funds.

While intriguing on its own, SMarT could be joined with an automatic enrollment feature to completely stream-line the savings process – what some have called the autopilot 401(k) (Utkus and Young, 2004), whereby enrollment and increased contributions are determined in advance.

Tax-Preparation Sites as a Distribution Channel

The IRS distributed over \$230 billion in tax refunds in 2005, with \$110 billion to families with Adjusted Gross Incomes (AGI) of less than \$40,000 (Internal Revenue Service, 2007a) due to programs like the Earned Income Tax Credit (EITC) and the Additional Child Tax Credit (ACTC). Large in total, these refunds are also financially meaningful at the family-level. In 2005, over 20 million low to moderate-income families claimed and qualified for the EITC, receiving an average EITC refund of nearly \$1,900 (IRS, 2007b). In light of the per participant savings figures attainable in other programs, such as Keep the Change or Upromise, there is potential to generate meaningful savings through refunds.

These refund dollars may be particularly “savable.” Scholars have hypothesized that lump-sum distributions may be easier to save because individuals mentally account for these funds differently from regular income flows, seeing them as surplus or bonus funds - money that can be saved if processes are in place to facilitate such investment (Shefrin and Thaler, 1988; Thaler, 1994). Refund recipients do some of this saving without any intervention. Research on the uses of the EITC has found that many recipients either save a portion of their refund or use refund dollars to purchase relatively expensive durable goods such as appliances or autos (Smeeding, Ross-Phillips, and O’Conner, 2000; Barrow and McGranahan, 2000; Romich and Weisner, 2000; Robles, 2005; Schneider and Tufano, 2006; Barr and Dokko, 2006).

However, because the large majority of refund recipients file for refunds through intermediaries such as commercial or volunteer income tax assistance programs, this savings could be made even easier (Kneebone, 2007). Specifically, these professionals can both provide filers with access to savings products and allow filers to pre-commit to savings months or weeks before refund receipt. By agreeing to save well before having dollars in hand, filers may be more likely to save if they evaluate choices using extremely high mental discount rates. In this sense, refund pre-commitment programs tap into the behavioral logic driving the SMarT plan.

Scholars and practitioners as well as businesses have made several efforts to facilitate this type of tax time saving. One set of efforts has focused on using the tax preparation process and the eventual receipt of a refund to motivate unbanked filers to open savings accounts. A series of pilot tests at Volunteer Income Tax Assistance (VITA) sites around the country have demonstrated that many low-income tax filers have a demand for savings accounts and are interested in opening accounts during the tax preparation process. For instance, Rhine, Su, Osaki, and Lee (2005) found a 15% take-up rate for savings accounts among the unbanked in New York and Beverly, Tescher, and Romich (2004) report a 20% take-up rate in Chicago. While most account holders in the Chicago pilot quickly drew down their account balances, a small percentage began to accumulate balances. We note however that declining balances may not indicate failure, but rather saving for short-term goals. There is a larger movement at VITA sites towards combining tax refunds and savings (see Beverly, Schneider, and Tufano, 2006 for a partial listing of such programs). Additionally, some private firms, most notably H&R Block, offer savings programs at tax time. Block's 15.5 million retail clients can open IRAs and in 2007, the company reported that it had opened 120,000 of its new Easy IRA and Easy Savings accounts since May of 2006 and had opened a total of 600,000 such accounts between 2001 and 2005 (H&R Block, 2007a; H&R Block, 2007b; H&R Block, 2006).

However, the mechanics of the tax filing process have limited the efficacy of these efforts. Until recently, the IRS required that all refund dollars be sent to a single destination. Filers could elect to receive their entire refund in the form of a check, or have it all deposited to a checking or savings account. But, filers were not able to earmark a portion of their refund for spending (in say a checking account) and another portion for saving (in a savings account). While this might seem like a minor issue, decision making biases could make it a significant hurdle to saving. An analogous problem might be if employers gave employees their entire

paycheck, and then left it up to them to contribute to their 401k program after receiving their pay, rather than offering automatic contributions.

In the not-for-profit sector, D2D Fund and the Community Action Project of Tulsa County (CAPTC) piloted a split refund option in 2004. This small test found relatively high take-up rates, on the order of 20%, and participants made initial savings allocations worth 47% of refund dollars on average. However, while these participants proved to be more effective savers than members of comparison group without access to the splitting service, account balances still diminished significantly over time (Beverly, Schneider, and Tufano, 2006). In the private sector, H&R Block has also created a way for its clients to split their refunds. In that case, clients generally divide their funds between a savings product, such as an IRA or savings account and deposits to a checking account or a paper check (Tufano and Schneider, 2004).

While these not-for-profit and private-sector initiatives have found a way to split refunds for some tax filers, the process is generally cumbersome and costly. However, these efforts have sparked policy advocacy and in turn, starting in January 2007, the IRS facilitated multiple destinations for refunds with its introduction of Form 8888. This policy change substantially lowered the administrative and technical costs that not-for profit and business groups previously faced in trying to facilitate split-refunds to spur savings (Barr, 2007). There are some indications that filers will be interested in using this new split refund capability. Barr and Dokko (2006) report that nearly two-thirds of low- and moderate-income filers surveyed in Detroit expressed interest in using the split refund option.

To realize the potential for refund splitting to spur savings, additional steps are necessary. First, financial institutions need to do a better job of tapping the potential of using split refunds to fund current year IRA accounts. With split refunds, a filer could direct a portion of the refund to fund a current year IRA account. To facilitate this same-year tax benefit, financial institutions would need to accommodate the receipt of tax refunds from Form 8888 into their processes. Previously, unless the refund was exactly the same size as the desired IRA contribution, same-year refund funding was impractical or cumbersome.

Second, to fully exploit the potential of split refunds, government must clarify the legal obligations faced by banks and other financial institutions under customer identification requirements. Although Form 8888 facilitates paying yourself first, often accounts must be opened at tax time, especially for new savers. A variety of regulations restrict tax preparers from

opening accounts. To offer certain security products, the tax preparer would need to pass various licensing exams, such as the FINRA (formerly NASD) certifications. A tax preparer offering products on behalf of a bank may be slightly less constrained, but Know Your Customer (KYC) requirements have not addressed the specifics of remote account opening procedures. Finally, technological constraints and privacy issues can affect the time and security of information transfers from tax sites to financial institutions. While these problems are all solvable, they hinder the full use of refund splitting to spur savings.

Finally, low-income refund recipients who lack existing accounts need a simple universal savings option. Even if systems are able to more easily link tax preparers with depository financial institutions and investment management firms, poor potential savers may still be barred from easily saving at tax time. Often, low-income families are denied the right to save because either (a) they do not have enough money to meet the minimums required by some mutual funds or (b) they have had prior financial management problems and are denied all accounts by depositories (Schneider and Tufano, 2007). A possible solution would be to make a no-frills universal savings alternative easily available. Savings Bonds would fit the bill and, in fact, were easily available to all at tax time as recently as the 1960s when tax filers could buy savings bonds right off of the tax form (Tufano and Schneider, 2005). In many ways the terms of savings bonds are very attractive for low-income savers. The bonds have no fees, are low-risk, earn competitive inflation indexed rates, have no credit or debit check requirement, and can be purchased for as little as \$25.

A series of small pilot tests conducted in partnership between H&R Block, VITA sites and D2D Fund begin to address the operational issues of offering U.S. Savings Bonds at tax time and to gauge consumer interest in Savings Bond purchase. A 2007 pilot at H&R Block sites in Boston and Chicago found a savings bond take-up rate of 5.9% of those eligible clients offered the product, significantly above the take-up rate for other H&R Block savings products such as Easy IRA. Bond buyers saved an average of \$228, investments that were made on behalf of other people, such as children or grandchildren, in about half of all cases. Bond buyers were also more likely to receive the EITC than non-purchasers and more likely to have had a savings account previously, but not currently – raising the possibility that these clients were barred by ChexSystems (Maynard, 2007). A contemporaneous test at five VITA sites found a 6.0% to 9.6% take-up rate. These bond purchasers invested an average of \$185, mostly on behalf of

children or grandchildren. These deposits, though fairly small, were significant savings for many participants. Thirty-five percent of purchasers lacked a savings account and 55% reported having no savings or investments. Interestingly, when the bond offer was subsidized so that it appeared that the bonds were offered at “20% off,” take-up rose significantly, to 15% of eligible filers (Zinsmeyer and Flacke, 2007).

Retail Point of Sale

Think of how many steps you need to go through to buy almost anything except for a house or a car. You give the merchant your money (or a credit card) and you either walk out with the product or arrange for its delivery. In contrast, to save, you typically have to show various documents, fill out a variety of forms, etc. Would it be possible to create “point of sale (POS) savings” where a consumer could “buy” savings in the same way that he bought a cup of coffee, a pack of cigarettes, or a lottery ticket? This concept is being brought to life in prepaid cards and mobile banking products. More generally, can we make it as easy to “buy” savings as to buy anything else? If so, can we make the economics of POS savings attractive to low-income savers? This would expand the point of sale savings “outlets” from depository institutions to a much wider range of possible places, e.g., supermarkets, convenience stores, Wal-Mart, and other retail locations.

Technologically, payment cards are now able to accommodate some rudimentary savings, in the form of non-interest paying prepaid cards. For example, Green Dot offers a line of prepaid cards that are sold through neighborhood retailers such as Walgreens, CVS and RiteAid or via the internet. MasterCard or VISA branded Green Dot cards are available, and are usable at millions of locations. Fees include a one-time activation fee of \$9.95, retail reload fees of \$4.95, a monthly maintenance fee of \$4.95, and ATM cash withdrawal fees of \$2.40.¹ The structure and economics of this product emphasizes its use as means of effecting payments. However, one could construct an alternative card that emphasized savings; this alternative card might be branded differently, could pay interest², and could restrict withdrawals, earning most of its

¹ See https://www.greendotonline.com/Contents/Products.aspx#Fees_English (visited 9/17/2007).

² Some cards do indeed pay interest. For example, since 2006 NetSpend and FISCA (Financial Service Centers of America, the association of check cashers and payroll lenders) offer a prepaid debit card with an associated savings account. See <https://www.netspend.com/info/pr2006-10-09.shtml> for the announcement.

economics from net interest margin. The appeal, if it could be constructed, would be the ability to “buy savings.”

V. Bribing people to save

Financial economists seem especially fond of monetary incentives (bribery) to change behavior. The private sector is generally less enamored with bribery, but uses it in the form of promotions and discounting. For example, banks will sometimes offer attractive bonuses in the form of teaser rates on CDs and other products. Incentives of this type proceed from a set of behavioral assumptions embodied in the notion of *homo economicus*, the rational economic actor underlying much of neo-classical economics. While recognizing complex utility functions, this perspective judges that most outcomes can somehow be denominated in money.

Savings innovations based on financial incentives are fairly well-studied in economics. We discuss them briefly not because they are unimportant, but rather because they have received considerably more attention than other innovations, and because they tend to require large outlays. In the extreme form, compelling saving through outright grants would be the ultimate bribe. Here, we discuss less extreme bribery, in the form of Individual Development Accounts (IDAs) and the Saver’s Credit. We conclude by discussing a set of very different innovations – anti-bribes that discourage saving among low-income families.

Financial Incentives for Low-Income Asset Building: Individual Development Accounts

In matching the savings deposits of low-income participants, IDAs are an explicit application of financial incentives to encourage poorer households in the United States to save. However, IDAs are only partly matched savings accounts for low-income people; they also include financial education, high-touch case management, and restrictions on the use of accumulated funds. These other features address other institutional impediments to saving, as discussed by Schreiner and Sherraden (2007). A fuller discussion of IDAs can be found in Michael Sherraden’s chapter in this volume. Here we give a general accounting of the policy in order to situate it within our framework of savings innovation.

The IDA field first received governmental funding in 1996 and since then it has grown to encompass between 500 and 1,000 IDA programs serving 15,000 active participants in 2005 (Grinstein-Weiss and Irish, 2007). The low-income predominately female participants in a large

test of IDAs called the American Dream Demonstration (ADD) had mixed savings outcomes. Average monthly net deposits (AMND) (calculated as total deposits plus interest less unmatched withdrawals divided by months of enrollment) were about \$19. But, the median AMND was about half of that and 44% of participants failed to save \$100 or more in matchable funds (Schreiner, Clancy, and Sherraden, 2002). Recent research employing a random-assignment experiment structure reveals that the primary impact of IDAs seems to be in narrowing the Black-White home ownership gap (Mills, Gale, Patterson, and Apostolov, 2006).

At the program level, IDA sponsors administer 50 accounts on average (UNC, 2003). Nationally, though the field has been growing, there are only about 30,000 active IDA accounts and these are spread across hundreds of partner financial institutions (CFED, 2007). The investment these financial institutions make in time and waived fees does not necessarily produce new profitable customers as cross-sales have been quite limited (Mahon, Moy, and Koide, 2005). Moreover, IDA programs also face relatively high administrative costs ranging from \$64 to \$45 per participant per month (Boshara, 2005; and Grinstein-Weiss and Irish, 2007). Given those figures, monthly per participant administrative costs alone are between two and three times greater than the average monthly net deposits of \$19 reported for the American Dream Demonstration project.

There are more efficient ways to administer IDA accounts, such as using technology (as in the OnLine IDA program developed by D2D Fund in conjunction with Sungard.) Furthermore, there are more streamlined ways to conduct financial education and to support savers. Innovations to date have been constrained by limited governmental IDA funding. We suspect that were large scale funding available, many of these more efficient models could emerge.

IDAs are one of the small number of financial incentives for asset building initiatives for low-income consumers. Much of the federal budget for asset building goes to the wealthiest Americans, in fact CFED calculates that less than one percent of the \$335 billion spent by government on incentivizing asset building goes to households in the bottom two income quintiles (Woo, Schweke, Buchholz, 2004). However, there are a few other asset building programs for less well off Americans using financial incentives. For example, HUD's Family Self-Sufficiency Program (FSS) is designed to help residents of public housing increase their savings by abating rent increases to residents' savings accounts (Cramer and Lubell, 2005). But, perhaps the largest program is the Savers Credit, discussed below.

Financial Incentives for Retirement Saving

When asked to list their most important savings purposes, over one-third of households list retirement, more than any other choice (Bucks, Kennickell, and Moore, 2006). The Federal government and private business have put a number of savings incentives in place to try to support this goal. Reviews of the literature on the effectiveness of these innovations by Bernheim (2002), Hubbard and Skinner (1996), and Engen, Gale, and Scholz (1996) generally conclude that IRAs and 401(k)s may have had effects on saving, but, for all of the incentives offered, these effects are likely small. The majority of the tax benefits offered by these savings policies are also targeted to higher-income savers. In an effort to provide lower-income savers with incentives to build retirement assets, Congress passed the Retirement Savings Contribution Credit (the Saver's Credit) in 2001, a progressively structured tax benefit which awards the largest credits to the lowest-income tax payers (Gale, Iwry, and Orszag, 2004).

However, the ability of the credit to serve low-income savers is constrained in part by its non-refundability. Approximately 5 million filers claimed the Saver's Credit in each of its first two years (2002 and 2003) and about one quarter of these claimants had incomes of less than \$10,000. However, these low-income claimants received very little benefit, in large part because they lacked a tax burden for the credit to offset (Gale, Iwry, and Orszag, 2005a). The credit is also hampered by its apparent complexity. Nearly 60 million taxpayers were eligible for the credit in 2002, about twelve times the number who actually claimed the credit, and 2.7 million filers could have claimed the credit given their actual retirement saving failed to do so (Koenig and Harvey, 2005).

A recent pilot experiment attempted to resolve some of these issues, testing the design of a substantially simplified retirement savings credit for low-income households. In 2005, H&R Block partnered with a team of academic researchers to test the effect of offering tax clients a match (of 20% or 50%) on their contributions to IRAs. The presence of a match raised average contributions among participants, but there was no substantial difference in contribution level between those who were matched at 20% and those matched at 50%. However, while a large number of participants seemingly "left money on the table," declining very high match rates, participation was still markedly higher than for the Saver's Credit which also offers high match rates to some filers (Duflo, Gale, Liebman, Orszag, and Saez, 2006).

The Universal 401(k) proposal builds on these insights. It seeks to establish a simple program that matches contributions to retirement savings accounts. One version of the Universal 401(k) would provide a match to retirement savings in the form of a fully refundable tax-credit that would be directly deposited into the tax filer's 401(k), IRA, or new government-sponsored account (Calabrese, 2007).

The Elimination of “anti-bribes”

Financial disincentives to save may also influence low- and moderate-income families. Public assistance programs regulate the amount of assets that recipients may hold in an effort to ensure that only the neediest families are aided. However, asset-building advocates argue that even families receiving public assistance are well served to have emergency savings and that the ownership of certain assets, such as a car, can be crucial for finding work and achieving self-sufficiency (Chen and Lerman, 2005; McDonald, Orszag, and Russell, 2005).

Since 1996, states have had the ability to set their own asset-tests for TANF, food stamps, and Medicaid covering areas such as liquid assets, IDA ownership, and car and home ownership. These thresholds have come to vary considerably, but in general the trend has been towards exempting illiquid assets. For instance, in 2003, 26 states exempted IDAs, 30 exempted homes or businesses, and 29 exempted vehicles from welfare program limits (McKernan and Margrabe, 2007). However, over the same period, the real value of limits on liquid assets has fallen, dropping from an average maximum of \$2,779 for TANF in 1998 to \$2,592 in 2003 (McKernan and Margrabe, 2007).

These limits might be irrelevant if few low-income families could save. However, a number of studies have found evidence that asset-tests of this type do discourage saving among low-income families. An effect of asset-tests on liquid savings is evident in the case of SSI (Neumark and Powers, 1998), public health insurance (Gruber and Yelowitz, 1999), and public assistance (Powers, 1998; Ziliak, 2003; but see Hurst and Ziliak, 2006). Additionally, Sullivan (2006) and Hurst and Ziliak (2006) find evidence that asset-limits effect vehicle ownership. In preliminary qualitative work, O'Brien (2006) suggests that asset-tests may be confusing to welfare recipients and may create a desire to try to conceal assets from public authorities, leading to a resistance to using formal financial institutions for saving and exacerbating the problem of the unbanked. Further, Chen and Lerman (2005) argue that these tests are both costly to

administer and, because household debt and net worth are ignored, are often inequitable – penalizing families with some assets but significant debt.

It seems counterproductive to both encourage and discourage saving through financial incentives. This problem is germane for recipients of public assistance, but it is also more widely relevant. Federal financial aid for college tuition is determined by a complex formula that takes into account both household income and assets, effectively imposing a “tax” on wealth. A number of papers have uncovered some evidence that this tax has an effect on saving (Feldstein, 1995; Dick, Edlin, and Emch, 2003; Monks, 2004; Long, 2003; and Reyes, 2007). However, these effects are most relevant for higher income households as few families earning less than \$25,000 a year face an asset-penalty in financial aid calculations (Reyes, 2007). Similarly, eligibility for certain Medicare benefits for senior citizens include asset tests, forcing seniors to spend down or to create elaborate structures to qualify for benefits. While it may be appropriate to only provide benefits to certain people, we must be mindful of their impact on incentives to save.

VI. Making savings a group activity

Whereas economists tend to see money as a universal motivator, psychologists and sociologists see other quantities as the building blocks of motivation. Whereas behavioral economics tends to view these other factors as leading to various decision making “biases,” other disciplinary perspectives see fear, greed, guilt, excitement, and belonging as the determinants of behavior. These other lenses provide inspiration for a variety of savings programs, including those that leverage groups’ approval and norms.

Leveraging the power of groups, rotating savings and credit associations (ROSCAs) are found in communities around the world. A number of people come together for regular ROSCA meetings. At each meeting, each member of the group contributes funds which are aggregated and presented to one member of the group. These meetings continue until each member has been awarded the pooled sums. For instance, a ten member group may meet weekly. At each meeting every member contributes \$25 dollars. In the first week these funds are awarded to member A, in the second week everyone again contributes \$25 (including A) and are awarded to B. This process continues until all ten members have received the “pot.” In this way members who received the pot early on become debtors to those members who have not (who are

essentially creditors). This basic structure has been modified extensively. The order of receipt can be set by seniority, lottery, or bidding. The amount of the pot can be fixed over time or adjusted to compensate members who receive it later in the process. The group's savings can be regularly distributed, or saved up to serve as capital for loans (Bouman, 1995).

ROSCAs are widespread and membership in many countries is high. ROSCAs are found in South America, Asia, and Africa particularly (Biggart, 2001). Bouman (1995) reports that upwards of 50% of the adult population in Congo and as much as 95% of the population in many rural African areas belongs to a ROSCA. They are also substantial in their economic impact and are essential sources of funds for households to purchase durable goods, invest in business, pay school fees, and meet other asset-development goals (Bouman, 1995).

Some explain ROSCA participation in terms of individual maximizing behavior, particularly in the absence of formal financial institutions. This research posits that a rotating structure increases the welfare of all group members except the last, helping them to get the desired good more quickly than if they were saving alone (Beasley, Coate, and Loury, 1993). But, this formulation breaks down when considering ROSCAs where the order of award is fixed (Anderson and Baland, 2002). It seems that far more than this neo-classical economic approach, behavioral economics and economic sociology matter – with financial transactions embedded in a web of social relations.

From a sociological perspective, ROSCAs may help people to manage intra-family relations. ROSCA members take their free cash out of the home and invest it in a form that is fairly illiquid – at least until they receive the pot. This structure may help members avoid the financial demands of family members without explicitly denying their requests, a form of withdrawal commitment (see Chiteji and Hamilton, 2005 for evidence of the impact of intra-family demands on saving in the U.S.). For instance, Anderson and Baland (2002) find that Kenyan wives protect their income from their husbands by joining ROSCAs. More broadly, Zelizer (2005) suggests that money is often used to define intimate ties. For instance, intra-family transfers may be used to affirm family relationships (e.g., a son may enact his fidelity to parents by giving money). ROSCAs may then be useful because they allow members to keep their money without inflicting overt damage on these relationships.

ROSCAs have a readily apparent financial goal, but may also have an equally important social purpose (Ardner, 1995). In his seminal overview of ROSCAs, Clifford Geertz (1964)

argues that group savings structures allow participants to perform traditional norms about reciprocity and group help – what he calls “rotating communalism.” Perhaps more clearly, ROSCAs are often tied to social occasions. The recipient of the “pot” will frequently be required to host the group at her home and provide food and drink (Biggart, 2001). Burman and Lembete (1995) note that in their study of South African ROSCAs, “meetings were considerable occasions, with impressive party fare and photographs of the six recipients dressed in their most elegant clothes” (p. 34). Gugertry (2003) finds a similar story among ROSCA members in Kenya where establishing a ROSCA was a means by which to “develop unity among members” (p. 10) and not solely a means of building savings. Americans see saving as almost exclusively as a way of earning money. But, elsewhere, social rewards and group feeling (not just peer approval) may be a powerful motivator of savings as well.

Finally, upholding one’s duties as a member of the ROSCA may help participants to situate themselves relative to other group members. ROSCAs may help a member to show responsibility (by contributing regularly), generosity (by joining a ROSCA organized by someone in need), or competence (by setting-up a successful group) (Ardner, 1964). In all cases, savings is not just an end unto itself, but also a means by which individuals establish social standing and define their relationships with others.

Lessons from behavioral economics are also useful in understanding the potential of ROSCAs. Behavioralists identify a lack of saving with self-control problems, and scholars have proposed that ROSCAs function as commitment savings devices, locking members into a fixed savings schedule (Gugerty, 2003; Mullainathan, forthcoming; Ambec and Treich, 2007). People would keep these commitments for a variety of reasons. ROSCAs are deeply embedded in communities and friendship networks, so groups can screen potential members for responsibility and credit-worthiness (Biggart, 2001; Chiteji, 2002). This social embeddedness allows members to impose social sanctions on dead beats (Ardner, 1964; Beasley, Coate, and Loury, 1993; Anderson, Baland, and Moene, 2003; Karlan, 2007). But members can also exploit their social ties to differentiate between defaults due to genuine hardship and those due to fraud (Gugerty, 2003).

The social nature of ROSCAs also provides a measure of peer support, not just peer censure. (Battaglini, Benabou, and Tirole, 2005). Savings is a “not” activity, i.e., not consuming. Other “not” activities are supported by social support. Consider Weight Watchers, AA, and various other cessation programs. For people who have trouble saving, ROSCAs can be

more than a commitment device, also providing social rewards for successful asset-accumulation (Biggart, 2001).

Most of the literature on ROSCAs focuses on developing countries, where formal finance is lacking. However, ROSCAs also exist in the United States, especially in immigrant communities (Light, Kwoun, and Zhong, 1990; Bonnett, 1981). This savings innovation could also be successfully implemented in non-immigrant low-income communities in the United States. Biggart (2001) identifies five factors that should be in place for ROSCAs to function effectively: 1) social structure is communally based, 2) obligations are collective, 3) community members are stable economically and socially, 4) the community is socially and geographic isolated, and 5) members have equal social status. These conditions are likely met where there are dense kin networks, relative isolation from formal financial institutions, and an economically homogenous population.

In the US, there are groups that use peer support to encourage saving, without rotating the savings award. One well-known example of this is the America Saves! campaign. Begun in 2001, the program aims to encourage people to save by setting up city-wide savings campaigns around providing education and encouragement (Fox, Bartholomae, and Lee, 2005). Approximately 67,000 people have enrolled in the program in the United States, making a savings plan and pledging to meet their savings goals (Consumer Federation of America, 2007). These savers are supported by 1,000 organizations in 50 areas around the country (Consumer Federation of America, 2007) with print media, one-on-one meetings, and, interestingly, savers clubs (Consumer Federation of America, 2003). In Cleveland, the first city to sign on, about one-third of families made less than \$30,000 per year (36%) and more than half were non-white. Notably, participants who participated in savings clubs were far more likely to report making progress on their savings goals (Cude and Cai, 2006).

Peer-supported savings has also shown favorable results in the IDA context. Grinstein-Weiss, Wagner, and Ssewamala (2006) report that attendance in peer meetings by IDA participants increased savings by more than any other institutional or personal factor. Though the effect may be due in large part to self-selection, the finding is promising.

For low-income families, savings circles may perform many functions: support, education, fewer demands upon the family saver, peer pressure, and social reward. In addition, for low-income savers, pooling resources might give them access to financial choices that might

otherwise be unavailable. Furthermore, pooling monies may give low-income families an ability to bargain with—or be more attractive to—more financial institutions. Existing social groups, such as tight knit faith-based organizations, might be useful settings for these efforts (Foundation, Tufano and Walker 1999).

VII. Making Savings Exciting or Fun

The savings innovations in the preceding sections take various approaches to trying to help people to save. But, whether they coerce savings, make it difficult to avoid, easy to engage in, or financially lucrative, most of these innovations (perhaps with the exception of group saving) still require that people believe that savings would help them. This is not necessarily an unfair requirement. Americans do seem to desire saving, most can rattle off a list of saving goals and many own some kind of savings product (Bucks, Kennickell, and Moore, 2006). But, a bigger challenge is to find savings products that don't require that people particularly want to save. ROSCAs may appeal to non-savers who want social approval. More boldly, can one create savings products where people save because they simply enjoy it? Is it possible to make savings exciting? Even addictive? Are we willing to experiment with concepts of marketing (including some faddish or gimmicky concepts)? Below, we discuss two innovations in this spirit. One is more than 300 years old. The other exists (as far as we know) only in this paper.

Lottery-Linked Savings

In 1694 the British Government offered investors the chance to join a “Million Adventure.” One million pounds was raised in the U.K, with investors receiving a 10% return and a chance at winning a large raffle prize (Allen and Gale, 1994). That experiment has since spurred more than 300 years of product offerings. The form of the product has settled on a fairly simple construction: investors purchase a savings product with no risk of principal loss and either forfeit or accept reduced interest payments in exchange for the chance to win one or several large prizes allocated randomly.

The “Million Adventure” was followed by prize-bond offerings in France and England during the 18th Century. These offerings were popular, encouraging new investors to purchase bonds, but were relatively costly compared with non-prize government debt and were primarily geared at fairly well-off individuals (Cohen, 1953). Prize-bonds were next offered in 1864 by

the Russian Government. These bonds were offered at a relatively low purchase price and bond holders were eligible for bi-annual prize drawings. The prizes varied in value and volume from a single 200,000 ruble prize (roughly 100 times a middle-class household's income) to approximately two hundred and fifty 500 ruble prizes. The bonds sparked significant public interest at the time and a recent study has documented investors' willingness to pay significantly for the risky bonds – as much as 8 times the expected value (Ukhov, 2002). By the late 19th century, this structure was used throughout continental Europe (Levy-Ullmann, 1896) The 20th century saw governments reintroduce prize bonds across Europe - in Sweden in 1918 (Chacko, Hecht, Dessain, and Sjomann, 2004), in Denmark in 1948 (Florentsen and Rydqvist, 2002), and in Britain in 1956 where they are still offered (Tufano, 2007). Britain's "Premium Bond" is available in denominations of £1 with a minimum purchase of £100. Each bond represents a chance to win a prize, with drawings held monthly and roughly 1.2 million prizes distributed at each drawing. The prizes range in value from two £1 million prizes to more than a million £50 prizes. Ownership of the bonds is widespread with £31.1 billion outstanding held by one-quarter of British households. Tufano (2007) analyzes the determinants of Premium Bond sales in an effort to distill both what drives investments and how consumers view the product. He finds that sales are driven both by factors that correlate with a savings perspective, such as the aggregate interest rate (or prize rate) and by factors that are more gambling oriented, such as the amount of the largest prize.

In addition to bonds retailed by governments, private financial institutions also market prize-linked savings products. Such products are sold with great success internationally, including in Kenya, Mexico, Venezuela, Columbia, and Japan. Focusing on Central and South America, Guillen and Tschoegl (2002) describe the prize-linked deposit products of two banks. Both products offered daily prizes (of a car and of \$22,000 respectively) and larger monthly prizes (of \$220,000 and \$250,000 respectively). The odds of winning were quite low for both, around .000032%. Each also paid reduced interest on the account, between one-half and two-thirds of the standard rate. In general, it appears that the prize-linked accounts were particularly appealing to low-income individuals and served to attract the "unbanked" as well as to take customers from other banks. Data presented for one of the banks shows fairly rapid deposit growth. A Mexican bank reported accounts of 485,000 and deposits of \$178 million over two

years, similar amounts in Columbia over one year, and even larger amounts in Venezuela (697,000 accounts and \$646 million on deposit) over one year (Guillen and Tschoegl, 2002).

A more recent iteration of the Prize Savings concept, in South Africa, also shows evidence of strong demand and illustrates the importance of marketing in making this kind of product offering successful. First National Bank (FNB), one of the four largest retail banks in the South African market, introduced its Million-a-Month-Account (MaMA) in 2005. The MaMA account is a no fee savings account which pays a nominal interest rate, 0.25%, and rewards savers with the one prize entry for every 100 R invested. Prize drawings are held monthly and at each drawing 114 prizes are awarded, ranging in value from 1 million rand to 1,000 rand. Since the product's debut, FNB has opened 750,000 accounts and collected 1.2 billion rand of deposits (Mabuza, 2007).

Modern prize-linked savings products often have very attractive economics. In South Africa, the Million a Month Product was built on an existing 32-day notice account, minimizing new product development expenses. The prize structure is also invariant to deposit amounts, so in effect, the price of the deposits for FNB has been declining as balances increase. Initially, the roughly 1.5 million rand in monthly prizes represented a fairly high interest rate, because balances were low. However, with balances of over 1.2 billion rand (as of April 2007) and prizes fixed at 1.5 million a month, the effective annual interest rate in line with Guillen and Tschoegl's (2002) estimate of a 1.2% to 1.6% interest rate paid by lottery linked accounts in Argentina (Nyamakanga, 2007). Unlike many other savings products, the MaMA account is heavily advertised on television and in print media, and we suspect that advertising costs add substantially to the product's costs. Guillen and Tschoegl (2002) point out that lottery-linked accounts are essentially a scale business, becoming profitable when the benefits from a large amount of cheap deposits outweigh investments in marketing, new administrative systems, and legal and compliance costs.

There is extensive evidence that low-income families in the United States play lotteries, and recent survey evidence suggests that they believe they are more likely to get rich from playing lotteries than by saving. In 2003 alone, U.S. residents spent nearly \$80 billion on legalized forms of gambling (Kearney, 2005). Though large shares of the U.S. population engage in some form of gambling annually, evidence suggests that low-income Americans are likely to spend a larger percentage of their income on such gambling activities as state jackpots.

This lottery playing may actually substitute for savings for many families. Research conducted in 1999 suggests that low-income individuals may see gambling and saving as closely related. Some low-income respondents thought it was fruitless to save and so concluded that their best chance of accumulating wealth lay in winning jackpots or bets (Holton, 2000). More recent surveys confirm this perception. Asked if they would be more likely to accumulate \$500,000 by saving or by playing the lottery, 38% of low-income adults felt that they stood a better chance of reaching that savings level by playing the lottery, compared with just 30% who picked savings (Consumer Federation of America, 2006). In some sense this data speaks to difficulty low-income families may face in trying to motivate themselves to save – putting away \$10 or \$20 dollars a month may just not feel like it will amount to enough to bother. Lotteries on the other hand hold out the promise, however remote, of accumulating truly life-changing sums of money.

Lottery linked programs permit an interesting blend of classical economic and behavioral element. As emergency savings vehicles, these structures can offer no principal loss and liquidity. Leveraging the concept of loss aversion, they offer a highly asymmetric payout: Heads you win and tails you don't lose. While they don't offer the familiar and powerful concept of compound interest, this tradeoff may be appropriate for savers who would (a) otherwise earn very low nominal returns otherwise due to the size of the account and their demands for liquidity—and thus have to wait years for material accumulation through interest-on-interest; (b) have relatively short and uncertain holding periods, thus leaving little time for the monies to compound.

A number of current research projects, including those we are engaged in, are studying lottery linked products in the U.K. and in South Africa. Currently, exact structures of the type used in these countries would likely be deemed in violation with most state laws that prohibit private lotteries. We are engaged in research experiments in the US using similar structures to test whether low- and moderate-income Americans respond to these incentives like savers elsewhere in the world. If so, changes in state and federal law could permit, rather than prohibit, these potentially interesting structures. However they raise interesting issues. For example, while this product might be appropriate for certain savers, it is less appropriate for others, say people with a thirty year horizon and saving for retirement.

Wilder Concepts

People react to sight, smell, taste and touch—yet while life is tangible, much of our thinking about savings is ethereal. Perhaps there is a way to make saving more concrete. Taking this concept literally, the cement maker CEMEX designed Patrimonio Hoy, a savings program for poor families (see Segel, Chu and Herrero 2006). The program has many elements discussed elsewhere in this paper: it leverages a ROSCA-like structure, combines savings with credit, and offers new saver-friendly distribution channels. At the heart of the program is the requirement that families band together to save to purchase construction materials to expand their small homes. After making some progress toward saving (but before paying for all the materials), savings materialize in the form of building materials on site. The program appears to be quite successful, by many metrics. Although CEMEX advances credit, default rates are reported to be extremely low, with only 0.4% of sales written off in 2003 (Segel, Chu and Herrero 2006). The quality of housing has improved and the efficiency of building has increased. While it is difficult to attribute the program success to any one element, one wonders if making savings tangible had a role in its success. Savers could see and touch the product of their saving.

While American savers might not be motivated by deliveries of cement blocks, one can imagine other tangible manifestations of savings that might work. For example, some people are very motivated by the concept of collectibles, whether stamps, plates, Beanie Babies, beer labels, or other things. Could one create a collectible savings program, whereby each increment to savings was marked by a physical object and the goal was to “collect them all”? Before rejecting this concept, consider the satisfaction (now largely gone) of getting enough entries on a passbook savings account that you moved to the next page or flipping through a stamped passport to remind you of international travel. By setting concrete, incremental, and so achievable goals, we might set up families for success, rather than the failure of always falling short of large lifetime aspirations. With a physical marker, it might be possible for savers to keep track of their progress easily. With an attractive physical collectible, the item itself might keep savers motivated. While faddish, newer concepts like this might be useful in supporting savings. Furthermore, while the economics of the program would need to be addressed, the private sector might be able to bring its formidable marketing skills to bear.

VIII. Conclusion

Our goal in writing this chapter was to acknowledge the wide range of solutions to the problem of low family savings. All too often, it is easy to myopically focus on one type of savings (such as retirement or education) or one type of program (such as a tax credit or a default scheme) without acknowledging the breadth of families' savings goals or the range of available savings mechanisms. Some solutions are best suited to government action (savings bonds at tax time), others to the private sector (collectibles or point of sale) and some to social groups or NGOs (social network savings). Some solutions might appeal to lower-income families, other to more moderate-income families. Some might appeal to “analytic types” (e.g., inflation indexed savings bonds), while others might appeal to savers with other preferences (collectible savings or prize-linked savings.)

In future work, we need to compare these innovations from the perspectives of those involved (would-be savers, for-profit businesses, NGOs, government bodies.) The cost-benefit equation for these partners must be clear, considering direct and indirect costs (including opportunity costs) as well as benefits, which might be revenues or customer retention (for private sector firms), progress towards mission objectives (for NGOs), or impact on national savings or public assistance programs (for governments).

Whichever innovation is considered, it is important to research its impact on total *saving*. Just because a product is adopted does not mean that it is increasing saving—it could be cannibalizing savings from elsewhere. While measuring savings levels may be the primary goal, it is important to adopt a broad perspective when measuring “impact.” If seen as a long-run investing vehicle, then measuring wealth impact may be appropriate. If seen as a short-run emergency buffer, then the measurement of success may be very different. Furthermore, it is critical to consider saving in the context of other financial decisions, especially credit management. Were we to induce families to take out debt at high rates to save at low rates, we might be working against the best interests of families.

Furthermore, while this chapter looks at savings broadly, we did not fully consider the interplay between other government programs and savings. We should. From a purely economic perspective, a dollar in potential government benefits may offset the need for a dollar in savings. From a psychological or sociological perspective, however, these may not be the

same at all. We suspect that while a dollar of TANF grants might offset a dollar of drawn down savings, from an emotional level, they might be experienced quite differently.

Furthermore, researchers need research to lead the way in providing guidance about how much savings, and what type, is optimal for families. While there is some research on this topic for long-horizon retirement savings, we need to focus the same level of attention and rigor on the full range of saving. In doing so, we must be sensitive to the needs of low- and moderate-income families, whose concerns about short term emergencies are just as legitimate as their needs to plan for a retirement that may be decades away.

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Exhibit 1: Summary of Savings Continuum Alternatives

	Force to Save	Hard Not to Save	Easier to Save	Bribe to Save	Social Support	Fun or Exciting Savings
Current barrier	All (ability and will)	Institutional impediments, inertia		Savings not "worth it"; Change savings equation		
Saver's Role	No choice	Must refuse to save	Given more opportunities, but must decide	Given different savings opportunities, but must decide		
Intervention	Change the savings decision making-process		Change the time and place for savings	Change the cost-benefit of savings itself		
Likely partner	Government	Workplace, Govt, Vendors of products and services	Retail sector, workplace, tax sites, schools	Government, Foundations	Communities	For profit financial service firms (Government OK)
Cost or Profit Potential	High cost (grants); medium cost (mandate)	Generally low cost	Medium cost (new channels); low cost (tax channel)	High cost (matches, bonuses)	Low \$ cost; high effort by community	Potential for profits
Typical savings horizon	Long horizon	Varies	Varies	Long horizon	Short horizon	Short horizon
Example	Mandate (Social Security); Grant (Child Trust)	Opt ins; Bundling; Commitment Products	New distribution Channels; SMaRT; buying savings	401k, IDAs, Savers Credit	ROSCAs	Prize linked saving, collectible savings