Decision Risks and Individual Development Accounts: An Alternative View*

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Abstract

This article analyzes the impact of risk on decisions made by the poor within the context of the Individual Development Account (IDA) program. IDA is a matched savings program designed to help low-income households invest in appreciating assets. For these households the risk involved with participation in IDA relates to the sacrifice they make by reducing current consumption - sometimes in a significant way, in order to be able to save. But the program does not offer a match on savings per se; rather, it offers the match only when savings are invested in certain assets. Since, at the time of enrollment, there is no guarantee that IDA savings will be converted into assets qualified for the IDA match, participation in the program is characterized as an inherently risky decision, which is governed by different sets of behavioral factors, including the risk-taking preferences of low-income households. Consideration of risk provides an alternative explanation for issues related to program take-up, inactivity, and attrition rates. It also offers new and simple ideas on how to improve results.

In addressing these problems, the article recommends using a Hybrid IDA model that includes a flexible match component to insure against the risk of unmatched savings and complement the existing IDA match structure. Simple modifications to current policy will maintain the total cost of IDA match at the existing levels. Introduction of a flexible match may mitigate the risk of decision to participate in IDA for the most vulnerable group of participants. It can also potentially reduce the percentage of inactive accounts while improving the overall retention rates in the program. Moreover, the recommended changes would not alter the nature of the IDA program as the flexible match would only amount to a fraction of the total asset investment match.

Keywords: Asset building, expected utility theory, asset match, flexible match, Hybrid IDA Individual Development Account, intertemporal choice, poverty, risk aversion, saving, subsidized interest rate, welfare loss.

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Introduction:

In the past two decades, the field of community economic development has experienced a dramatic shift by recognizing the need to complement the prevalent income maintenance strategies with a more broad-based, growth-oriented, asset-building approach. A number of strategies have emerged as a result, one of the most salient of which is the Individual Development Account (IDA). Pioneered by Sherraden in 1991, IDAs are special savings accounts offered to low-income households. These accounts allow the holder to save a nominal amount of money regularly over time (usually for up to five years) and receive a match on the saved dollars. However, the match can only be used if the IDA savings are invested in an appreciating asset, typically a first home, business, or postsecondary education. Experience with IDA programs has generally confirmed the hypothesis that a carefully imposed program structure, dovetailed with the incentive to receive matched dollars can help individuals of modest means to save money, and use the combined savings to invest in assets that can appreciate in value over time.[1]

IDAs are becoming increasingly popular with practitioners in the community development field. However, this article puts forward the hypothesis that from a behavioral perspective, the incentive mechanism in IDA, while has a net positive impact on the amount saved by the poor, is not necessarily capable of optimizing it due to its impassive treatment of decision risks. Savings outcomes under the existing practice are not efficient because of the large incidence of terminating and inactive accounts. Data from the field indicates that IDA enjoys great success in channeling individual savings into appreciating assets, but it also shows that a sizable portion of these accounts have either dropped out or remained inactive. For example, in its seventh report to Congress, Office of Community Services (OCS) at the Department of Health and Human Services in Washington D.C., the federal entity administering the largest Assets For Independence (AFI) IDA program in the United States, reported that out of 43,934 accounts opened by the end of FY2006, 13,299 accounts or 30.2 percent had made withdrawals for authorized asset purchases. Yet at the same time, 14,400 participants or 32.7 percent had either been terminated or otherwise made withdrawals without using any match funds.[2] The high percentage of unmatched withdrawals in IDA remains a concern, simply because it increases the administrative costs of the program. This has been a major barrier in taking the program to scale.[3]

The insufficiency of the incentive mechanism in IDA to stimulate saving is not limited only to its effect on program attrition. This article argues that the existing mechanism may also make the program less attractive for the very low-income participants. In addition, it could result in a significant number of inactive accounts. These could be the direct consequences of decision making under risk. But the concept of risk is not directly analyzed in IDA. This is mostly due to a perception that all aspects of decision risks (or cost of participation) are more than compensated for by the embedded incentive mechanism in IDA. It is believed that in the worst case scenario, participants may not be able to use the IDA match after all, but would still end up with some of their own money saved for personal use in the future. So if nothing, IDAs are seen to have at least helped low income households save some of their own money for precautionary expenses in future. But this perception is clearly at variance with the core concepts of the intertemporal utility (or choice) theory in economics, which states that changing consumption habits, necessary for saving, imposes a welfare loss upon the participant. In other words, if IDA increases savings, then households that choose to participate in it are inevitably making changes to their consumption habits by sacrificing present consumption in return for a promise of a higher than normal consumption opportunity in

the future. Regardless of what theory of saving one adopts, there is no dispute about the cost of this sacrifice and its importance in shaping the behavior of the poor.[4]

Yet, clearly, opening an IDA does not necessarily guarantee the use of match. So, at the time of enrollment, what a prospective participant really faces is a situation that involves contingent outcomes. If participation results in successful use of IDA match, then net benefits from participation (defined as benefits resulting from asset effects and other benefits of IDA minus the cost of sacrificing current consumption) will be positive. Conversely, if the participant saves money yet fails to invest in a qualified asset and as a result forfeits the IDA match, the net benefit from participation would most likely be negative because the loss of welfare due to a sub-optimal allocation of consumption between present and the future would not be offset by a compensating reward (i.e., IDA match). The fact that an IDA saver could potentially be left worse-off upon participation, makes saving in IDA similar to choosing a lottery where there is a possibility of loss. Of course, this loss is of an opportunity cost nature and does not involve any out of pocket payments; nevertheless, it still makes participation in IDA an inherently risky decision, which is governed by different sets of behavioral factors, including risk taking preferences of low-income households. Consideration of risk provides an alternative explanation for issues related to program take-up, inactivity, and attrition rates. It also offers new and simple ideas on how to improve results.

This article is structured in the following way. The next section will review some of the existing literature related to the impact of IDA on household savings. The following section will discuss the theoretical underpinnings of decision-making under risk. The limitations of the standard IDA model in a risky environment will also be analyzed in this section. In the next section, the policy implications will be discussed and the concept of a Hybrid IDA as an alternative to the existing model will be introduced. Concluding comments follow in a last section.

IDA and Savings Outcomes

Savings outcomes associated with IDA are analyzed within the context of the institutional theory of saving. According to this approach, existence of IDA as a package of services that includes, among other things, proper incentives, a defined set of rules and structure for saving, financial literacy, etc., presents a strong channel factor - a carrier designed to direct behavior -that helps the poor commit to saving.

Adherents to the institutional theory of saving explain that financial decisions of low-income households are made, not necessarily in terms of rational calculation, but mostly in terms of behavioral nuances that are impacted by the surrounding environment and the decision maker's understanding of it.[5] Driven by this agenda, an ample body of literature has recently formed around analyzing both the impact of IDA in affecting the decision of the poor to save, and the role of institutional/behavioral/demographic factors in facilitating this process.

An important part of the research on the impact of IDA on savings has been made possible by data from the American Dream Demonstration (ADD), a project of the Corporation for Enterprise Development (CFED) that was implemented from 1997 through 2003 in 14 selected locations across the country. Two important reports focused on the outcomes of the ADD. In the first report, Schreiner, Clancy, and Sherraden (2002) analyzed data from all 14 programs/locations, while in the second report, Mills, Rhiannon, Larry, and Donna (2004), analyzed data from the large-scale Community Action Project of Tulsa County (CAPTC) in Oklahoma - the only experimental

program (i.e., one that included a control group) among the 14. Both studies indicated that IDA had an impact in stimulating participant saving. After updating the results reported earlier in 2002, Schreiner and Sherraden (2006) reported that IDA participants had accumulated an equivalent of $576 per year of their own savings in ADD and had made deposits, on average, once every two months. The reports, however, could not test the hypothesis of whether or not the poor saved more with IDA than without.[6]

That hypothesis was tested by Stegman and Faris (2005), who demonstrated that IDAs had a small but significant net impact in attracting participant deposits. They employed a three step model that involved identifying a control group (using data from the National Survey of Consumer Finances), estimating a savings trajectory for the control group, and subtracting that from actual account balances in the ADD program.

Many recent studies have also focused on the demographic attributes of savers such as age, ethnicity, sex, and marital status and their impact on savings outcomes. For example, Curley and Grinstein-Weiss (2003), studied the savings outcomes for rural vs. urban communities. Ssewamala and Sherraden (2004) analyzed the behavior of the micro-enterprise IDA savers and concluded that while level of education, income and ownership of other assets positively influenced savings in micro-enterprise IDAs, number of children in the household had a negative impact on savings within that group. This result was partly corroborated by Grinstein-Weiss, Wagner, and Ssewamala (2006). They recognized that the cost of raising children was a factor that impacted savings outcomes in an adverse fashion, but their analysis also lended support to the relevance of the institutional view of saving. Using a Hierarchical OLS regression model, they concluded that proper institutions led to increased savings levels even among households with children. Also, in analyzing the behavior of postsecondary IDA savers, Zhan and Schreiner (2005) concluded that married "education savers" saved much less than other married participants. They also demonstrated that single men saved more than either single women or married men. Married women saved the least among the four groups. In another study, Grinstein-Weiss, Zhan, and Sherraden (2006) looked at all three areas of the program (i.e., homeownership, business, and education) and found evidence in support of generally higher savings levels among married vs. unmarried IDA participants. Other studies also demonstrated positive outcomes resulting from institutional factors such as the use of direct deposit facility and the provision of financial literacy training.[7]

Research in the area of savings outcomes in IDA is indeed very encouraging. Most studies seem to underline the potential of effecting real change in low-income communities through asset-based policies. Moreover, these studies also tend to lend credence to the institutional and behavioral views of saving, and in this capacity, contain a strong policy piece that can help policymakers better understand the dynamics of poverty and the tools required to alleviate it. However, most of these studies have fallen short of addressing the relatively significant share of inactive or terminating accounts in IDA. In the ADD program, for example, 48 per cent of savers were reportedly inactive or had saved less than $100 in their accounts.[8] Existence of inactive accounts in IDA has not been limited to the ADD project. Even recently, in a case study of 14 AFI IDA programs, DeMarco, Mills, and Ciurea (2008) reported that helping participants achieve their savings goal remained a main challenge for IDA programs across the country; an indication that it is difficult to encourage participants to save and remain active in IDA.[9] The impact of the large percentage of inactive accounts is also clearly reflected in the study of Stegman and Faris (2005). The study reported the net impact of IDA on savings for the median participant two years into the program was only $117. By limiting the sample to cover only the active savers, that number increased to $236, more than

double of what was reported for the entire sample. This result clearly highlights the inefficiency of handling a large percentage of inactive accounts in the IDA program and at the same time demonstrates the possible gains expected from addressing the problem in an effective manner. Inactive accounts eventually drop out. In this regard, Schreiner and Sherraden (2002), argued that alleviating this problem would require a more high-touch approach. Specifically, in order to reduce the rate of drop outs, the authors recommend that IDA programs consider screening candidates, increasing the match rate, providing counseling to participants with high debts, and reducing IDA transaction costs, for example, by setting up direct deposits with employers. They also claimed that "making IDAs universal and permanent would completely abolish drop-out".[10] There are several comments in order with regards to these recommendations. On the one hand, moving toward a more high-touch model, as the authors tend to suggest, will inevitably increase program costs. On the other hand, it appears that these recommendations are incongruent with an ultimate goal of a universal and permanent IDA program. Still, while making IDA permanent will probably resolve the drop out problem, it may do so simply by adding to the number of inactive accounts. There are probably several other reasons that can explain the large incidence of attrition in IDA and provide recommendations to alleviate the problem. This paper, however, only focuses on one of the reasons - the incentive mechanism itself.

IDA and Decision-Making Under Risk

When facing uncertainty, individuals make decisions not only by considering all possible outcomes, but also their probabilities of occurrence. One of the most common theories of ranking preferences of outcomes involving random prospects, also known as lotteries, is the expected utility theory. The expected utility theory applies the expected value formula to individual utility function in order to explain decisions based on the satisfaction derived from all possible outcomes. More precisely, using a mathematical formulation known as the von Neumann-Morgenstern utility function, the expected utility of a lottery, under certain conditions, is defined as the expected value of utilities of different prospects where the probability of each prospect serves as the respective weight.

If success in the IDA program (*s*) is defined as the ability to reach the savings goal and use the IDA match, and failure (*f*) defined as the opposite of success, then, according to the von Neumann-Morgenstern utility function, the expected utility of participation in IDA is equal to $U = pu(s) + (1-p)u(f)$, where U is a cardinal measure of expected utility, p, the probability of success, and $u(.)$, the utility associated with each prospect.[11] According to the expected utility hypothesis, the decision to participate in IDA will depend on the value of $U\text{-}U^0$, where U^0 measures the level of utility at the status quo, for example, in the absence of any matched savings programs. A prospective participant will decide to enroll in IDA if $U\text{-}U^0>0$. But, if we assume, based on what was discussed earlier, that $u(s)>U^0$ and $u(f)<U^0$ then, clearly, $U\text{-}U^0$ may not produce a positive value for all ranges of $u(s)$, $u(f)$, and p. Depending on the structure of preferences and the probability of success, expected utility function might return a lower value than the U^0, indicating that at least some individuals find participation in IDA not beneficial. This rather innocuous result is to be expected, since for some low-income people, the investment goals in IDA might seem rather narrow or out of reach. Nonetheless, it may have implications for program take-up and costs involved with marketing and outreach efforts.

By looking at other aspects of expected-utility theory and risk, further analysis of the impact of risk on the decision to participate in IDA can be pursued. Four cases will be discussed in the following

paragraphs: risk aversion, interest rate risk, estimation bias, and the exogenous probability of success.

Risk Aversion

Risk aversion refers to a behavior where a decision maker prefers a smaller, but guaranteed outcome, over a probable outcome with higher expected return.[12] An intuitive explanation of risk aversion among low-income households is provided by the marginal utility theory in economics. Diminishing marginal utility of income implies that low-income households place a higher marginal value (utility) on their limited incomes compared to higher-income families, making risk aversion inversely related to income.[13] This is largely because the limited flow of income for a poor family is mostly used to satisfy basic needs, whereas for the average-to-high-income household, a much smaller percentage of income is spent for that same purpose. As a result, any kind of decision-making involving the use of money may become consequential for the family's livelihood, thus making low-income households more risk averse. This idea was succinctly formalized by Lipton (1968), in a discussion of decision-making patterns among low-income farmers. Lipton argued that money decisions are made based on a survival algorithm that guarantees the minimum livelihood of the household. In sharp contrast to the neoclassical marginal value product theory, introduction of the survival algorithm explains sub-efficient outcomes as part of a rational decision making process in situations where the decision maker is exposed to a high degree of risk. As a result, and to the extent that risk aversion is the rule and not the exception, economic decisions made by low-income families will be characteristically different from those of higher income households.

It could be easily shown that in the long run, risk aversion generally leads to lower economic returns due to the existence of a "risk premium", i.e., the difference between expected return and a lower but guaranteed return. Risk premiums increase the costs of decisions for risk-averse individuals. Therefore, from a purely economic point of view, risk aversion is tantamount to higher costs in decisions with given benefits. The implications of this for IDA could be far reaching. For example, if low-income people are generally considered to be risk averse, then for relatively small but greater values of expected utility, U, over U^0, it is possible for some individuals to be disinclined to participate in the IDA program due to high risk premiums. This suggests that the program might be leaving behind potential participants who would likely succeed in investing in assets through IDA, yet because of their high risk premiums, decide not to enroll.[14] In addition, prospective participants with the lowest levels of income are likely to be ones most affected as they face higher risk-premiums. This explains why the existing IDA model may fall short of attracting some of the lowest income households that may stand to benefit from participation. It also explains the finding by DeMarco, Mills, and Ciurea (2008), according to which the 14 AFI sites in their case study had difficulty attracting a sufficient number of participants into the program, even after many years from the introduction of the program into their communities. It should be noted that some of the frequently cited reasons such as lack of trust, etc. that are commonly discussed to explain the difficulty in attracting new participants to IDA programs are just informal descriptions of this high risk premium.

Interest Rate Risk

A second aspect of risk in IDA is derived from the theory of monetary economics, where money is treated as the ultimate liquid asset on a liquidity continuum. According to Laidler (1993, p43) a liquid asset is acceptable as a means of exchange and has a market value that is relatively stable and highly predictable. Theories of demand for money based on the assets approach explain the decision to

hold a diversified portfolio of assets as a function of interest rate risk. These theories emphasize that while illiquid assets generally have positive economic returns, liquid assets have economic returns close to or even below zero. Still, individuals hold a diversified portfolio of liquid and illiquid assets because liquid assets entail lower risks while illiquid assets, according to their definition, are susceptible to significant price variations.[15] Utility maximizing agents will therefore try to strike a balance between maximizing returns and minimizing risk by holding a portfolio of assets with various degrees of liquidity.[16]

From this perspective, the problem arises when individuals with typically low levels of liquid assets decide to use IDA funds to purchase assets thereby changing asset allocations in their small portfolios. This is not necessarily a criticism of the institutional theory of saving, but a criticism of the approach, especially in time-bound models where participants are encouraged to accumulate liquid assets over a period of time and eventually convert the accumulated liquidity into other forms of assets that are typically closer to the other end of the liquidity continuum, such as tangible assets. While this may increase the long-term returns for IDA participants, it may not be the perfect recipe for the poor in terms of exposure to risk in the short run, which in turn may result in lower overall utility for IDA participants.

This is especially significant in light of findings from the field that suggest IDA demonstrations have negatively impacted liquid asset holdings among IDA households (Boshara, 2005, pp4) and Mills, Gale, et al (2008, pp26). While more data needs to be produced to confirm this as a general outcome, it makes logical sense to assume the plausibility of this hypothesis. If low income households are inclined to save only because IDA provides the perfect structure and incentive for them to do so, then it is likely to presume that in the short run, families will have little reason to save above and beyond their regular contributions to IDA; for example, by saving in another parallel account. Therefore, an asset purchase through IDA, will, at least temporarily, shift the balance between liquid and illiquid assets and would therefore increase exposure to risk. Perhaps the sharp decline in house prices that started in 2007 is the best demonstration of the inherent risk in IDA programs. At least some participants who bought their homes using IDA funds by shifting from a liquid to a more illiquid asset portfolio, might have sustained losses by assuming a higher degree of risk. This conclusion remains valid even if their investment is still considered to be a reasonable strategy for the long term.[17]

***Bias in* Estimation and Exogenous Probability of Success**

Our measure of expected utility, U, is directly related to the probability of success. For larger values of p, the formula, given the values of $u(s)$ and $u(f)$, will return a larger value for $U\text{-}U^0$ and vice versa. While the institutional theory of saving provides some insight as to why the program structure and the bundle of services offered in IDA increase the probability of success, it could be shown that risk considerations, the process of gathering information, and the exogenous factors in the economy may create a bias in participants' assessment of this probability. This factor could initially encourage enrollment in the program but could ultimately result in inactivity.

After the seminal work of Lipton, development in the theory of risk and its impact on behavior shifted to other aspects of risk. For example, Taylor (1974) pointed out that two aspects of risk are present in any choice situation: uncertainty about the outcome of a decision and about the consequences of that outcome. While the latter can be dealt with using various insurance schemes, uncertainty about outcome can be reduced only by obtaining information. IDA is designed to help

low-income people make reasonable investments in assets. Therefore, there is clearly a need for information to assist participants in determining both the return on their investments, the utility of which is captured in part by *u(s)*, and the probability of success in the program, *p*. Since income is an important factor in determining the quality and level of access to information, lack of it, affects the process of gathering information in an adverse manner.[18] This is because experiencing various sources of information requires investment in time and money, hence for many low-income households equal opportunity to access information may not necessarily result in equal access. In this regard, Fafchamps (2004, pp-59) argued that even when there are clear benefits for such investments, as would be the case with IDA, doing so may still not benefit the poor household because investing scarce resources to obtain information could reduce risk managing capabilities afterwards: *"… activities that require large up -front investment reduce households' capacity to deal with shocks ex post through asset liquidation, even though they may reduce risk itself."* [19]

Based on the foregoing discussion, there is a good likelihood that at the time of enrollment, some participants might overestimate their chances of success in IDA.[20] However, as participants gather additional information over time through services received as part of the IDA program such as credit counseling, homeownership classes, etc. or outside of it, they may start to reassess their chances of success. In some cases, this could very well result in a negative value for $U\text{-}U^0$, leading to termination from program, or inactivity.

It should also be pointed out that this result is not predicated on the assumption of an overestimation or bias in the probability parameter. One will get the same result if the true value of probability of success is assumed to be, at least in part, exogenously determined. IDA deals with investments and many of the factors impacting the investment climate may change at any time. These factors, partly captured in the interest rate risk discussed above, clearly lie outside of the sphere of influence of an individual decision maker, or the program administrator for that matter. For example, in a market of rising house prices, the risk-averse homeownership saver will face lower odds of success as prices continue to go up, and will therefore be more inclined to either drop out of the program, save irregularly, make unmatched withdrawals, or become inactive. In other words, once enrolled, participants constantly weigh their chances of success against failure as more information becomes available during the course of saving. And as probability of success decreases due to exogenous shocks, the expected utility from IDA starts to decrease, making it even more difficult or unwarranted for the risk-averse participants to stay active in the program. This explains the relatively significant share of inactive or terminated accounts encountered so far in the IDA demonstrations.

Policy implications

This article analyzes the impact of risk on decisions made by the poor within the context of the IDA program. Analysis of the effects of risk on IDA savers provides a better and more formal explanation for some of the observed behaviors in the program that have not been systematically tackled in IDA research in the past.

Unlike many other public financial assistance programs, which in essence are income maintenance tools and in that capacity also punish accumulation of wealth by cutting the dollar amount of assistance in the event of saving, IDA encourages such behavior by providing incentives to account holders. This is a major benefit to at least some households who would otherwise probably not use

the banking system to save even if they had the ability to do so. In addition to offering incentives, IDA is among a very small group of "restricted" accounts that are generally not subject to the existing 'property limits' imposed in some public assistance programs. Therefore IDA makes it possible for recipients of such benefits to also accumulate savings without incurring any penalties.

Yet, while IDA encourages saving, the program is ultimately focused on investment in other forms of assets rather than saving. All documented demonstrations of this program offer a fixed match rate (2 to 1, 3 to 1, etc.) on IDA deposits only when these deposits are used in qualified investments. All documented demonstrations have also been time-bound, implying that in order to qualify for IDA match, the process of saving and investment has to be completed within a set period of time. These two factors, rewarding investments and imposing time limits, either separately or in combination, can change the nature of the decision to participate in IDA to one that involves an implied risk of loss. The impassive treatment of risk in the IDA has sometimes puzzled researchers in their assessment of the overall success of this program. For example, in reference to the high rate of inactive accounts in the ADD, and perhaps somewhat discouraged by it, Boshara (2005, pp-6), argued that even a 2:1 match was probably not a strong enough incentive to convince IDA holders to save. He concluded that, "Clearly, savings is difficult for many, if not most, of the poor." While saving is clearly difficult for low-income households, the kind of incentive that could entice households to save is not necessarily the IDA match on qualified investments. Participants can accumulate enough dollars in their accounts and yet never succeed to use the match because of a number of factors that are all exogenous to both the design of an IDA program and the participants' behavior. Therefore, the observed attrition rates and inactivity may not necessarily be reflective of an inability to save or insufficiency of the match. Rather, the problem is that saving patterns of the inactive or terminating participants is in large part a response to the changing climate of investment in the economy, or the participants' financial status and priorities. But saving as a process, while separate from the investment aspect of IDA, is nevertheless impacted by changes in the expected return on investments. This is clearly unintended and undesired. Even though, admittedly, some participants might not really be in a financial position to invest in assets, it is not the intention of the program to cause their savings to suffer because of their inability to invest. If anything, developing the habit of saving is a crucial step in helping stabilize low-income households in a process that ultimately leads to upward mobility through asset investments.

The theory of decision under condition of risk offers some insight on how to rectify this problem. If the risk is due to the possibility of a welfare loss in the event of unmatched savings, then offering a guaranteed return to offset this loss (or at least to cover the risk premium) can change the nature of the decision for potential IDA participants. In other words, since the loss of welfare is because of lack of consumption due to saving and not because of the failure to invest, offering a 'flexible' match, as an insurance scheme that guarantees a minimum payoff proportionate to the length and the amount of money saved could substantially improve savings regardless of the investment outcomes. In an ideal world, this would be a very important first step in improving the likelihood of asset ownership over the long term. In addition, compared to the no-insurance scenario, *ceteris paribus*, addressing the problem of risk will probably improve program take-up rates among the lowest income groups with usually the highest risk aversion rates.[21] Moreover, existing attrition rates will most likely decrease, because changes in the probability of success in investing the IDA funds will no longer impact the decision to save for existing participants. These likely outcomes could, in theory, improve the efficiency and reduce the administrative costs of IDA demonstrations, a ubiquitous problem that has gone unchallenged for a very long time.

One convenient method to incorporate a flexible match is to subsidize the interest rate on IDA savings based on a set maximum monthly deposit limit. This will lead to creation of a 'Hybrid IDA' that includes both an asset match on investment and a flexible match to insure against a possible welfare loss resulting from reduced consumption. Using this structure, monthly deposits up to a target limit will accrue additional non-bank subsidy interest from the program administrator over the saving period.[22] And because interest compounds, the amount of monthly interest subsidy will continue to grow over time. This will automatically increase the opportunity cost of closing the account (because of losing a larger interest subsidy) later in the program rather than earlier on. In this model, setting a limit on periodic deposits for the purpose of interest subsidy accrual serves several purposes. Most importantly, it makes the calculation of the maximum interest subsidy possible, which is important for managing the costs of the program. Secondly, in order to maximize the value of the total interest subsidy, Hybrid IDA requires participants to make more frequent deposits since a missed deposit will lower the amount of accrued interest.[23]

It should be noted that while introduction of a hybrid IDA concept involves an additional incentive/insurance element, it does not imply that the total cost of offering incentives in IDA would necessarily increase. In the case of Assets for Independence programs, for example, simple modifications to the existing policy will pave the way for the demonstration programs to use a part of the original asset match, probably from the privately funded portion toward the interest subsidy.[24] A more fundamental question is the determination of the subsidized interest rate itself. The work on determining a measure of interest subsidy that could offset the loss in welfare still lies ahead, but perhaps the literature on the rate of time preference could be a good starting point.[25] For the purpose of illustration, one could use existing estimates to calculate the amount of the flexible match required to reward savings. For example, in a study of panel data, Lawrence (1991), estimated significant differences between the rate of time preference among white and non-white populations. Her estimate for the rate of time preference for non-white families without a college education was 19%. While this estimate may or may not be representative of the typical IDA client, one can still use it as a proxy to determine the relative importance of the flexible and the asset match components in a hybrid IDA model. Suppose, for example, that an ID program offers a combined four to one match and a target level of savings equal to $1,000. Assuming an eighteen-month saving period with a $56 target monthly deposit level, the amount of interest subsidy on IDA savings will be less than $170, or roughly 4.4% of the asset match. Obviously, the relative importance of the flexible rate vis a vis the asset match will increase if the target level of savings increases.[26] But even then, the image of IDA program will still be maintained primarily as a strategy that helps low-income households invest in appreciating assets, but in a way that also insures coverage in case of any loss in welfare as a result of forfeiture of the match.

Another area of policy that has not been a focus of this study, but is closely related to the subject, involves relaxing the time limits imposed on IDA programs.[27] In discussing the exogenous probability of success and the vicissitudes of the economy, it appears reasonable to expect that increasing the time limits on IDAs will have a positive impact on overall program results. This is because the typical five-year IDA program works best in markets where asset prices are relatively stable and market-timing is not a major concern. But this is not the general state of affairs in most asset markets in our country. Therefore, a prolonged window of investment opportunity will allow the investor to lower the risks of investment.[28] Additionally, it should be emphasized that even in a five-year IDA program, due to different enrollment times, participants effectively spend a significantly shorter amount of time in the program on average. It appears that options need be

explored in order to guarantee a minimum period of participation, regardless of time of enrollment in the program. This rather simple modification could strongly improve outcomes in IDA.

Concluding Comments

Many years after the introduction of Individual Development Accounts, it remains, undisputedly, in the vanguard of modern thinking on poverty eradication strategies. Along its long journey, the IDA movement has admittedly sustained some setbacks, but the simple, common sense idea behind it, still separates this model from many other strategies in its curb appeal.

However, the common sense idea has for many years also camouflaged an aspect of it that is at variance with the core elements of individual decision-making behavior. If at the time of enrollment participants are unable to ascertain that they'll be able to use the IDA match, their decision to enroll will involve a consideration of risk. In effect, some of the highly risk averse candidates may withdraw from participation. Many others will probably not engage in such subjective calculations. For this group, the decision to enroll will be a response to the positive influence of community outreach efforts and the ideal of asset ownership. But over time, more information regarding the program and the investment climate will become available, which may lead to a reassessment of the outlook for these participants, especially in light of a fast approaching program deadline. Inevitably, some will react by either terminating from the program or remaining inactive. The irony is that if income levels define the degree of risk-averseness, then plausibly a majority of the inactive participants or the drop outs may come from the lowest-income group of participants.

There are two issues with the current IDA practice. First, there is the potential of dissuading candidates in the lowest income brackets from participation in the program as they are traditionally more risk averse. Yet, some studies have shown that the propensity to save among the lowest income groups in IDA is higher than participants with somewhat higher levels of income. So the current design of IDA might be less attractive to very low-income people who could potentially be successful savers. Secondly, the increase in the percentage of inactive or terminating accounts increases the program costs for many small programs, creating additional hurdles to scale up the IDA. This paper concludes that IDA needs to be viewed as having two separate components; saving and investment. In making this separation, it recommends a hybrid incentive mechanism to replace the existing scheme that only rewards investment. In the hybrid model, the incentive mechanism will include a separate, flexible component for the saving process that will complement the current asset match on investments.

Inclusion of a flexible match component will be perceived as an insurance mechanism to help guard against the welfare loss during the saving process. While this may not necessarily improve asset conversion rates in IDA in the short run, it can help improve savings outcomes for the lowest income participants, both in the short- and long- runs, therefore improving the long term prospects of investment success and upward mobility for many of the poor households.

Guided by this principle, work on designing a hybrid IDA product has already begun. But the devil, here too, lies in the details. More investment is needed to develop marketing and outreach strategies that put savings into focus as a stepping stone for asset ownership. Pilot projects need to be designed and implemented in order to provide data needed to compare savings and asset outcomes of the hybrid IDA with that of the traditional model. And at the end of the day, introduction of

Hybrid IDAs might result in only a small adjustment to the existing model, but one that has the potential to improve the efficiency of the program in a significant way. The idea is certainly not to change what already works, but to make what works do so even better.

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Endnotes

[1] The match rates vary depending on the design of the program. In addition, in many cases there are minimum and maximum periodic contribution limits imposed on these accounts. IDA programs are generally partly supported by federal Assets for Independence (AFI) and state dollars as well as contributions from foundations and non-profit organizations. For details regarding sources of funding, see the FDIC Quarterly report titled *Individual Development Accounts and Banks: A Solid Match*, available at http://www.fdic.gov/bank/analytical/quarterly/2007_vol1/IDAs-and-banks.html

[2] See http://www.acf.hhs.gov/programs/ocs/afi/seventh_interim_report.pdf for more details.

[3] According to some estimates, presently there are close to 430 AFI IDA programs with close to 50,000 opened accounts, which means on average, programs have only close to 120 participants. Issues related to costs and scale of programs lie outside of the scope of this article. For a discussion on costs and problems in going to scale, the reader is referred to Schreiner, Ng, and Sherraden (2004), Aspen Institute's (2003) report, and Pate (2005). In addition, Smith, et al. (2006), discuss ideas regarding market segmentation and their impact on IDA program costs, using experiences from five large site IDA models in the US. Schreiner (2004), provides estimates of IDA program costs.

[4] In fact, this is one of the main arguments in making the case for IDAs. For example, Schreiner and Sherraden (2006, p-20) explain that "For the poor, the high cost of sacrificing current consumption tends to depress current saving and thus to depress future production, future income, and future consumption".

[5] For a discussion of various theories of savings see Sherraden (1991), Beverly and Sherraden (1999), and Schreiner, Sherraden, Clancy, et.al (2005).

[6] Using data from the control group, Mills, et.al. (2004), demonstrated that IDA had a net positive impact on asset ownership, especially first homes. However, this is not sufficient to conclude that IDA increased net household savings due to the possibility of shifting assets from one account/asset into another.

[7] For example, see Schreiner, Sherraden, Clancy, Johnson, Curley, Zhan, and Grinstein-Weis (2001), and Zhan and Schreiner (2005).

[8] Schreiner and Sherraden (2006, p-7), reported that 52% of all participants had saved more than $100 in their accounts during the project, which also means that 48% had remained inactive or had saved less than $100. Also, as mentioned earlier, in their last report to Congress, OCS reported that by the end of the seventh year of the program, 32.7% of participants had already made unmatched withdrawals.

[9] Ibid. pp-33.

[10] Ibid., pp-10.

[11] For an analysis of behavior under uncertainty and the expected utility hypothesis the reader is referred to Silberberg (1990). It should also be emphasized here that the utility of success includes all benefits of IDA inclusive of the asset effects discussed at length in the IDA literature.

[12] In other words, if the possible outcomes of decisions remain the same for all participants, (for example, winning $100 in a lottery or losing $1 in ticket price with a 10% chance of winning) risk aversion will lead to a lower than average expected economic return. In this example, the expected return will be $9.1, so depending on the degree of risk averseness the decision maker will accept a guaranteed return of lower than $9.1.

[13] Marginal value of income refers to the value that a person places on the last dollar of their total income. The above comment, for example, implies that for two individuals with earnings of $1,000 and $10,000 each, the 1000th dollar earned by the lower-income person, ceteris paribus, has a higher subjective value compared to the 10,000th dollar earned by the higher income person.

[14] High risk premiums and relatively small expected utility will put the guaranteed outcome in the negative territory.

[15] Holding liquid assets still entails the risk of inflation, therefore all kinds of assets are exposed to some sort of risk; the difference is in degrees. Also, it should be noted that diversification of portfolio in this context is unrelated to the function of money as a means of exchange.

[16] For an analysis of demand for money as an asset, please see (Laidler, 1993, pp77-90).

[17] For a complete list of benefits and consequences of homeownership the reader is referred to Lerman and McKernan (2008, pp 188-191).

[18] Like many other services, access to information is categorized as an "experience" service; therefore the quality and reliability of it can only be determined through actual experience. In many cases, that could be very costly to establish. An experience product or service is one of three categories of goods usually discussed in marketing analyses. To determine the quality of an experience good, the individual must actually consume the good to form an opinion. For more details see any introductory book on price theory or general economics such as Miller (2006), pp.626-627

[19] This statement also corresponds to recent developments in literature on risk that has focused more on managing risk rather than risk-taking per se. This is largely because studies such as Binswanger (1981), and recently Mosley and Verschoor (2005), have argued that there is little or no correlation between the degree of risk aversion and income, but a strong one between that and household assets. Mosley and Verschoor have pointed out that perhaps the perceived vulnerability as a result of chronic poverty and asset depletion explains risk-averse behavior.

[20] In terms of a bias, underestimation and overestimation are both likely to occur. But those who underestimate will probably not enroll in the program.

[21] One of the issues that could be related to risk is procrastination. Faced with uncertainty regarding the prospects, individuals may put off the decision to enroll in IDA and most likely never enroll in the program. This is one of the reasons why a flexible match mechanism could help with program take-up.

[22] While participants may choose to deposit any amount in their account, periodic deposits of up to only a certain limit would accrue the additional interest. This amount could be determined according to the savings plan agreement signed by participants and the program administrator.

[23] The target monthly deposit is a soft limit, so participants may save more or less than the target amount. And in case they save more than the target level, interest subsidy will be applied only to the target amount.

[24] AFI policy currently requires a minimum of 50% of the total IDA match to be provided by private or non-AFI sources. In a hybrid model, AFI may still maintain that requirement, but for example, allow a portion of the non-AFI funds to support interest subsidies thereby reducing the total of asset match dollars while still leaving the total non-AFI match contribution at 50% .

[25] The rate of time preference is a subjective measure of the rate of compensation at which an individual will remain indifferent between consuming a basket of goods and services in year one and a time preference-compounded value

of the same basket in year two. The theory of decision making of the poor has opened some interesting dimensions recently by suggesting that policies designed to alleviate poverty need to directly address the high rate of time preference of the poor households. In this regard, for example, Pennings and Garcia (2005), suggest that unless the rate of time preference is reduced to a take-off level, policies aimed at assisting the poor will have limited success.

[26] For example, if the program offers a two to one combined match rate for IDA savings up to $2000 with an $84 target deposit level over a two year period, the flexible match will still be less than 13% of the total asset match or a maximum of $450 compared to $3,550 of the asset match.

[27] Time limits are not necessarily a part of the IDA design. But the existing programs that are largely funded by the federal government impose time limits on IDAs.

[28] But it will not eliminate it.