THE URBAN INSTITUTE

Children's Savings Accounts: Why Design Matters

Barbara A. Butrica
Adam Carasso
C. Eugene Steuerle
Desmond J. Toohey

Opportunity and Ownership Project
An Urban Institute Project Exploring Upward Mobility
REPORT 4

Children's Savings Accounts: Why Design Matters

Barbara A. Butrica
Adam Carasso
C. Eugene Steuerle
Desmond J. Toohey
The Urban Institute

THE URBAN INSTITUTE

Copyright © 2008. The Urban Institute. All rights reserved. Except for short quotes, no part of this report may be reproduced or used in any form or by any means, electronic or mechanical, including photocopying, recording, or by information storage or retrieval system, without written permission from the Urban Institute.

The authors thank the Ford Foundation for its support of this project.

The Urban Institute is a nonprofit, nonpartisan policy research and educational organization that examines the social, economic, and governance problems facing the nation. The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders.

Contents

Major Design Features of CSAs 1

ASPIRE Act of 2007 3

Methodology 4

Simulations 6

Results 7

Conclusions 16

Appendix A: Current Children's Accounts Programs 17

Appendix B: Saving Incentives for Low- and Middle-Income Families 18

Notes 19

About the Authors 19

References 19

Many elected officials in both the United States and United Kingdom have expressed heightened interest in fostering an ownership society. Endowing all children with savings accounts, perhaps even starting at birth, is one way of trying to achieve that goal. Proponents have ascribed many financial and social benefits to such universal accounts, including an introduction to the principles of saving and finance, an increase in the number of low- to moderate-income households that are banked, and a way to save for education, homeownership, or retirement. The overarching goal of these accounts, however, is to give all children a strong economic footing.

A question, then, for analysts is how well universal children's savings accounts (CSAs) can help families make strides toward all these goals or whether CSAs are better suited to accomplishing some goals and not others. For instance, would children's savings accounts allow holders to accumulate meaningful savings for an education or a down payment on a home? Would accumulated balances perceptibly stem growing wealth inequality? Of the wealth accumulated, how much is through private contributions and investment earnings and how much is through government redistribution? Or, would the greater role of CSAs be in extending financial education to all?

The answers to these questions lie in how CSAs are designed and what we might reasonably assume about the accounts' performance and households' participation. This paper uses the Urban Institute's DYNASIM model to estimate the wealth-building impact of CSAs under alternative scenarios that vary the design features. The analysis begins with a "bare bones" CSA design that includes only a federal seed amount and then adds features—like supplemental grants, federal matches, private contributions, and non-taxability—one at a time to estimate their marginal impact. Most of the features we experiment with are similar to those in the ASPIRE Act, which proposes to establish CSAs for American children. The results highlight how the design of CSAs influences which children benefit from the accounts, the amount of new wealth that results from the subsidies, and the extent to which government or private saving is the source of wealth accumulation.

We begin by discussing the major design features of CSAs. We then present details of the ASPIRE Act. Next we describe the DYNASIM model, how we model private contributions to CSAs, and how we project account balances. We then describe the parameters of our simulations. Finally, we present estimates of account balances under the different CSA assumptions.

Major Design Features of CSAs

In this section, we introduce a number of issues to consider in designing CSAs. First, we present arguments for and against universal accounts. Then we describe the different ways in which government might subsidize CSAs. Next we discuss how CSAs might be administered. Finally, we show why it is important to consider the impact of inflation on CSAs.

Universal Accounts

The natural question for lawmakers is whether every child should receive a children's savings account. The argument against universality—particularly where federal direct spending or tax subsidies are concerned—is that well-off

families already have the means to save for their children. Also, if the purpose of these accounts is to improve the distribution of wealth, then a proposal that gives roughly equal benefits to both poor and rich would do less to level the playing field (in relative terms) than a more means-tested approach. Evidence from the Survey of Consumer Finances, for example, suggests that most households below median income have only modest positive net worth (Johnson, Mensah, and Steuerle 2006; Carasso and McKernan 2007). However, a strong argument for providing universal accounts is that universality makes financial education a universal good. A related effect is that universality helps corral the financial services industry to service all households. Today, significant portions of that industry often shunt aside lower-income households by refusing small accounts or providing almost no return on them.

A related issue is who gets the accounts. Should it be every newborn child or every child under 18? Should it be tied only to parents who work? The first approach is common, as it allows gradual development of the program, while eventually garnering the advantages of universality just noted. Because it would exclude the recently born, however, it raises issues of fairness; for example, low-income parents who had their third and last child in 2007 could not participate in a CSA designed for those born in 2008 or later.

Federal Subsidies

There are four ways the federal government can subsidize the CSAs of qualifying participants: seeding, supplemental grants, federal matches against private contributions, and tax treatment of account savings. Each subsidy type influences the level of participation, the net private savings created, the overall balance accumulated under the account, and the cost to the government of the CSA program.

Seed funding. A CSA would be opened in the child's name (and Social Security number) with a federal seed grant. Some current proposals suggest a seed of $500. While the preference among CSA proponents is to provide all participants with the same seed amount, the seed could be means tested—for example, phasing out for those households with income above the national median or some other threshold. Since the family is not required to contribute, the seed encourages private saving mainly by providing bank accounts to which people may add. It also encourages financial education for all citizens on how wealth grows and compounds over time.

Supplemental grants. Supplemental grants provide some additional support on a means-tested basis. The government might make such grants just in the initial year. Alternatively, the government might make supplemental grants periodically throughout the years until the child reaches age 18. For example, while all children's accounts might receive a $500 seed at inception, supplemental grants up to an additional $500 could be awarded based on need to those children in households with incomes below the median and phased out as income rises above this level. Like seed funding, supplemental grants aim to improve welfare gains and the distribution of wealth, but they still require no additional private saving at the margin.

Matches. One aim of CSAs might be to help families build private assets. Some research suggests that matches provided against private contributions might effectively encourage additional private saving among some households (Duflo et al. 2006). Government could match private contributions dollar for dollar, 50 cents per dollar, or at other rates. Some may argue for a multi-rate match structure, with the rate of federal match decreasing as household income rises. Importantly, the match could occur in addition to or instead of a supplemental grant.

Taxability. The non-taxability of the government grants and the interest they earn is itself a subsidy. For a person in a 20 percent tax bracket, as an example, a $500 tax-free government grant to a CSA is equal to a $625 taxable government grant. If both the grant and the interest are tax free, the effective government grant is even more valuable.

Administration

A national system of universal children's savings accounts could be administered in various ways. (For a detailed discussion, see Cramer 2006.) For example, at one end of the spectrum is a system of federally administered accounts where the proceeds are invested by one or more private financial institutions the government selects. However, the government decides the overall investment mix and applies it to the pooled CSA wealth. A government agency, likely in cooperation with the Social Security Administration if Social Security numbers are used, might be tasked with

- assigning accounts to all newborn children;
- tracking down households that fail to open accounts or do not have current addresses;
- properly crediting federal subsidies—if there are means-tested grants, then household income and information on the child beneficiary is necessary to correctly award them, thus requiring coordination with IRS tax reporting or other agency income reporting;
- properly crediting private contributions—from the designated head of household, other family, friends, employers, charities, and the like—to each child's accounts;
- providing periodic financial statements to households that tally each child account balance, including total federal subsidies, private contributions, and investment earnings to date; and
- determining whether account withdrawals are allowable based on child's age and purpose.

The costs to the government—including fees to the participating financial institutions—would be paid from account fees or from general revenue.

At the other end of the spectrum is a privately run system—but perhaps still subject to federal coordination, oversight, and guidelines. For example, federally certified financial institutions would compete to provide and manage accounts for each child. Providers would be required to supply interested households with easy-to-read information on investment offerings, fund performance, and administration fees so households could make informed choices among competing providers. Households would decide the investment strategy (likely within certain federal guidelines), although providers would need to offer a "smart" investment default. Upon opening a CSA (or receiving one that a family has transferred from another financial institution), the provider would furnish information identifying the household and the CSA beneficiary to the IRS to ensure proper calculation and crediting of any federal grants. Providers would assess an annual investment fee on the account balance plus additional fees that compensate them for the administrative intensity of account management. Additional federal subsidies to providers might be necessary to ensure universal enrollment, provider profitability, and meaningful account accumulations.

Indexation

While inflation has been relatively low so far this decade, it still exerts a pernicious effect on savings over time. For example, if in 2007 Congress introduced a simple CSA with a $500 initial seed and an annual contribution limit of $1,000—but without indexing these parameters to inflation—then children born in 2025 would receive a seed contribution of just $297 and their parents would face a contribution limit of only $595 a year in today's dollars (assuming past inflationary experience continues). Therefore, an important consideration for lawmakers is whether and how often to adjust CSA parameters and thresholds for inflation.

ASPIRE Act of 2007

This section presents details of the ASPIRE Act. Many of these design features are similar to the

design features we experiment with in our CSA simulations.

In October 2007, some members of Congress introduced the America Saving for Personal Investment, Retirement, and Education Act ("The ASPIRE Act") which, like the United Kingdom Child Trust Fund, would endow every newborn with a savings account ("KIDS account") of $500. Children in households with incomes below the national median would be eligible for a supplemental government contribution of up to $500 at birth. The supplemental amount would be progressive so children would receive the full amount if their household income was at or below 50 percent of the national median adjusted gross income (AGI) and 10 dollars less for each percentage point that their household income was above 50 percent of the national median AGI. At 75 percent of the national median AGI, for example, the supplement would be only $250, and at 100 percent, the supplement would be zero.

Unlike the United Kingdom Child Trust Fund, the KIDS accounts would provide dollar-for-dollar federal matches on private contributions up to $500 a year, phased out for families with AGI between 100 percent and 120 percent of the national median. Families and friends could make after-tax contributions of up to $2,000 a year. Every five years, the seed, supplement, and contribution thresholds would be indexed to inflation. These accounts would be administered by the Treasury Department, similar to how the Thrift Savings Plan for federal employees is administered. (See appendix A for descriptions of the British and Canadian children's savings account programs.)

Methodology

We use the Urban Institute's DYNASIM microsimulation model to simulate CSAs. DYNASIM works with a demographically representative population of the United States. In DYNASIM, we first assign mothers an account for each child born. These accounts are started with the initial seed amount and any supplemental government contribution. We then track the accumulations over time, accounting for any contributions, government matches, and tax benefits associated with the particular policy simulation.

DYNASIM starts with a self-weighting sample of 103,072 individuals taken from the 1990 to 1993 Survey of Income and Program Participation (SIPP). The model ages this starting sample in yearly increments to 2050, using parameters estimated from longitudinal data sources. It integrates many important trends and differentials in life course processes, including birth, death, schooling, leaving home, first marriage, remarriage, divorce, disability, work, and earnings. DYNASIM also simulates the major sources of wealth and income. The Urban Institute recently added federal and state income tax calculators to DYNASIM and, through a statistical match with IRS individual income tax return data, imputed itemized deductions, sources of investment income (capital gains, dividends, interest) and other variables needed to compute tax liability. (See Favreault and Smith 2004 for a fuller description of each module used in DYNASIM.)

Modeling Private Contributions

One goal of children's accounts proposals is to motivate family and non-family members to make private contributions. In order to simulate the wealth buildup in CSAs, we must first estimate the likelihood that individuals will contribute. Then, for those expected to contribute, we must estimate their expected level of contributions. To facilitate modeling these accounts, we make several key assumptions. First, we ignore any potential household budgetary restrictions regarding the level of contributions. Additionally, since we do not have data on how contributions change with additional children, we assume that children in the household receive the same contribution they would if they were the only child in the household. Anecdotal evidence that friends and extended family members also contribute to CSAs provides some support for these assumptions.

Probability of contributing. To determine who contributes to these accounts, we rely on data in the 2001 SIPP. Based on a sample of mothers with children under age 18, we estimate a logit model of contributions to IRAs and Keoghs controlling for education, race, marital status, homeownership, and income quartile. Using the coefficients from the model, we estimate the likelihood that each individual in DYNASIM contributes to a CSA in each year.

Because this probability is based on IRA and Keogh contributions, which do not benefit from a government match, we adjust the probability to control for the effect of matches using information from Duflo and colleagues (2006) on the relationship between IRA participation rates and match rates. (See appendix B for a description of the authors' experiment.) The authors report a 2.90 percent IRA participation rate for individuals who received no match and a 13.98 percent take-up rate for those who received a 50 percent match.[1] Under ASPIRE, match rates range from 0 to 100 percent depending on an individual's AGI relative to the national median. Based on the findings of Duflo and colleagues (2006), we linearly interpolate and extrapolate participation rates across the entire range of matches from 0 to 100 percent. We assume that the percentage of people participating, R, is a linear function of the match rate, M, where:

$$R = 2.9 + .2216 * M$$

Using this formula, we can estimate the participation rate for any match rate. For example, we estimate a 7.3 percent participation rate for those receiving a 20 percent match, which is roughly consistent with the Duflo and colleagues (2006) estimate of 7.7 percent. We then compute the ratio of the matched contribution rate to the unmatched contribution rate and use this ratio to adjust each individual's predicted probability of contributing to represent his or her probability of contributing under the particular match rate.

Individuals are assigned a constant random number drawn from a uniform distribution on the interval [0,1] that represents their overall propensity to contribute to a CSA. The random number is compared with the match-adjusted probability of contributing in a given year, and, if larger, the individual makes contributions to a CSA. In the absence of a match, we estimate that 4.5 percent of accounts will ever receive contributions. In the presence of a match, we estimate that the contribution rate will more than triple and that 15.1 percent of accounts will ever receive contributions.

Contribution amounts. We use the same SIPP sample of mothers with children under age 18 to estimate an ordinary least squares (OLS) model of contribution amounts, again controlling for education, race, marital status, homeownership, and income quartile. Since the contribution level is also based on IRA and Keogh contributions, which do not benefit from a government match, we adjust the estimated level of contributions to control for the effect of matches.

Among those who made IRA contributions, Duflo and colleagues (2006) report average contributions of about $765, $1,102, and $1,108 at the 0, 20, and 50 percent match rates, respectively. Based on the authors' findings, we linearly interpolate and extrapolate contribution levels across the entire range of matches from 0 to 100 percent. Because the marginal effect of increasing the match rate is much larger between 0 and 20 percent than between 20 and 50 percent, we linearly interpolate contribution amounts at or below the 20 percent match rate separately from contribution amounts above the 20 percent match rate. We assume that contributions, S, are a linear function of the match rate, M, with a kink at the 20 percent match rate, where:

$$S = \begin{cases} 765.10 + 16.86 * M \text{ if } 0 \le M \le 20 \\ 1102.30 + .1967 * (M - 20) \text{ if } M > 20 \end{cases}$$

We compute the ratio of the matched contribution level to the unmatched contribution level. Since most people face an individual max-

imum IRA deduction, we also compute the ratio of the CSA contribution limit in each year to the IRA limit of $3,000. We then multiply each individual's predicted contribution level by the first ratio and the second ratio to represent his or her predicted contribution level given his or her match rate under ASPIRE. This method controls for both the lower contribution limits for children's accounts than for IRAs and the indexed contribution limits over time. Government matches are then determined by multiplying the individual's contribution by the match rate.

Estimating CSA Tax Burdens

A major goal of our analysis is to determine the distribution of tax benefits under various policy scenarios. To do this, we compare each account's accrued interest first by assuming it is not taxed and then by assuming it is taxed. We call the difference in accruals the *tax subsidy*. We estimate marginal tax rates using the tax calculator in DYNASIM and assuming that tax rates are constant over the lifetime of the account. Formally, the balance of the account in its first year is the sum of the seed, the government supplement, any private contributions in that year, C_0, and any federal match, M_0. This is represented by:

$$NoTaxAccount_0 = Seed + Supplement + C_0 + M_0$$

In the years that follow, the account grows by the interest rate and any contributions and matches that are added to it. The balance of the nontaxable account in year y is:

$$NoTaxAccount_y = (NoTaxAccount_{y-1})(1 + i_{y-1}) + C_y + M_y$$

where i_{y-1} is the nominal interest rate in year y-1, C_y is the private contribution made in year y, and M_y is the federal match on that contribution. In the taxable scenario, we reduce account earnings by the individual's marginal tax rate. Thus, the account balance in the year of birth remains:

$$TaxAccount_0 = Seed + Supplement + C_0 + M_0$$

but in each subsequent year y, the balance is calculated as:

$$TaxAccount_y = (TaxAccount_{y-1})(1 + i_{y-1}(1 - t_{y-1})) + C_y + M_y$$

where interest earnings are reduced by the previous year's marginal tax rate, t_{y-1}. The total tax subsidy over the lifetime of the account is the difference between account accumulations under the taxable and nontaxable scenarios, represented as:

$$Subsidy = (NoTaxAccount_{18} - TaxAccount_{18})$$

Assumptions in Modeling CSAs

Although some CSA proposals allow early withdrawals subject to a penalty, we do not allow any withdrawals before the child reaches age 18. Administrative costs, meanwhile, are subsumed into the interest rate. Under these assumptions, we grow the accounts by an annual nominal rate of return of 5.8 percent. When the child turns 18, we measure the accumulations in the account in real 2008 dollars, which implies an annual real return of 3.0 percent. We exclude the small number of cases where mothers die before the accounts reach maturity, since we do not have the ability to continue to estimate tax burdens or contributions for them.

Simulations

Using DYNASIM, we simulate CSAs for children born between 2007 and 2032. Through their mothers, we follow them until they turn age 18 (between 2025 and 2050). We model four options—each option building on the former—assuming taxability and non-taxability.

Under the first option, the government endows all newborn children with an initial seed amount of $500. The second option adds a supplemental grant of up to $500 for children in households below the national median AGI. Like the ASPIRE Act, this supplemental amount is progressive so children receive the full amount if their household income is at or below

50 percent of the national median AGI and 10 dollars less for each percentage point that their household income is above 50 percent of the national median AGI. The third option allows private contributions on top of the seed and supplemental grants. Under this option, families and friends can make after-tax contributions up to $1,000 a year. (In the actual ASPIRE Act of 2007, the contribution limit is $2,000.) The fourth option adds a government match. The government matches private contributions dollar for dollar up to the maximum contribution amount. The matched amount is phased out for families with income between 100 percent and 120 percent of national median AGI. To ease the explanation of results, we assume the seed, supplement, contribution limits, and match limits are indexed annually for inflation even though ASPIRE does this only once every five years.

Results

This section describes the results of the simulations by the mother's characteristics, specifically her quintile of average income over the life of the account, as well as her education and race. We begin by examining how account balances at maturity (i.e., when the child turns age 18) vary under the different CSA options. We then assess the importance of various income sources to the overall account balances. Next we explore the level and distribution of tax subsidies created by CSAs. We report average account balances at maturity in 2008 dollars.

Account Balances under the Different CSA Options

Under the first option, the government gives every child $500 at birth in 2008 dollars. At maturity, 18 years later, the average account would be worth $851 in 2008 dollars because of compound interest (table 1). Differences by education and race reflect both the composition of the future population and the future number of births per mother.

Under the second option, in which the government supplements low-income children's accounts with up to an additional $500 at birth, the average account balance increases by $287 to $1,138. Because the supplement is progressive, average account balances range from $947 for children in the highest quintile of average income to $1,355 for those in the lowest quintile. Since minority children and those whose mothers do not have high school degrees tend to be low income, they are most likely to receive the government supplement and will have higher average account balances than their counterparts.

However, some children in higher socioeconomic groups will also receive the government supplement. Because the supplement is based on household income in one year only, a number of children in upwardly mobile families will receive it. So also will children in other families with higher-than-average incomes if those incomes are volatile—high one year and low the next. For example, children born to graduate students will get a subsidy because they are low income in those initial years, but over their lifetimes their families will tend to move into higher income classes.

Under the third option, family and friends can contribute up to $1,000 a year to CSAs. As mentioned earlier, to the extent that IRAs provide a base for comparison, we project that 4.5 percent of accounts will ever receive private contributions; however, this estimate will vary significantly by income, education, and race (figure 1). For example, only 1.7 percent of accounts in the lowest income quintile will receive private contributions compared with 6.8 percent of those in the highest income quintile. And less then 1 percent of children whose mothers do not have high school degrees will receive private contributions to their accounts. In contrast, 8.5 percent of children whose mothers have at least some college education will receive private contributions. Private contributions average $273 per account and range from $39 for accounts in the lowest income quintile to $596 for those in the highest income quintile (figure 2). Average con-

Table 1. Average Children's Accounts Balances at Maturity and Incremental Change due to Design Feautures (2008$)

	$500	$500 + Supp.		$500 + Supp. + Contrib.		ASPIRE-Like	
	Mean	Mean	Change	Mean	Change	Mean	Change
All	851	1,138	287	1,497	359	2,413	916
Quintile of average income							
Lowest	851	1,355	504	1,407	52	2,239	833
Second	851	1,235	384	1,408	173	2,802	1,395
Third	851	1,123	272	1,405	282	2,590	1,185
Fourth	851	1,033	182	1,530	497	2,302	772
Highest	851	947	96	1,735	787	2,134	399
Education							
Less than high school	851	1,118	267	1,206	88	1,763	557
High school graduate	851	1,190	339	1,376	186	2,062	687
College graduate	851	1,071	220	1,804	733	3,217	1,413
Race							
Non-Hispanic white	851	1,127	276	1,641	514	2,831	1,191
Non-Hispanic black	851	1,296	445	1,436	140	1,959	523
Hispanic	851	1,121	269	1,301	180	1,884	583
Other minority	851	1,009	158	1,385	376	2,391	1,006

Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

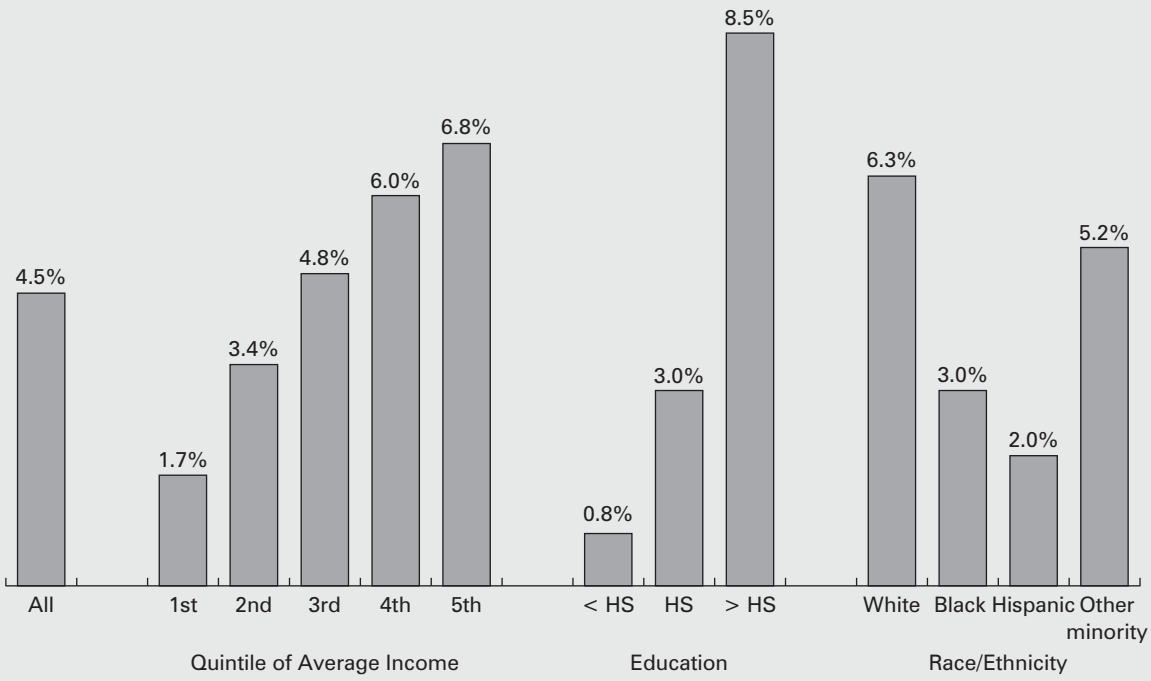
Notes: Supplements (Supp.) are up to $500 for household income at or below 50 percent of median adjusted gross income (AGI) and $10 less for each percentage point that household income is above 50 percent of median AGI. Contributions (Contrib.) and matches are both capped at $1,000 a year. Match is one-to-one at or below median AGI, phased out at 120 percent of median AGI. The ASPIRE-like option includes a government match and any additional private contributions due to the match. The seed, supplement, and contribution thresholds are indexed to inflation every year.

tributions are highest for children with college-educated or white non-Hispanic mothers. As a result of private contributions, the average account balance increases by another $359 to $1,497 at maturity (see table 1). And the progressivity of the supplement is offset by the regressivity of private contributions. Of course, other efforts, such as those of philanthropy, could make the system more progressive.

Average account balances at maturity increase the most under the fourth option that includes a government match—an option similar in design to the 2007 ASPIRE Act. This increase results from a dollar-for-dollar government match, which averages $350 per account (figure 3, page 10). Because the government match is intended to increase both the contribution rate and level of contributions among lower-income families, the match is capped and then phased out for families with incomes between 100 percent and 120 percent of national median AGI. However, even children from families in the highest income quintile average a government match of $146. Again, this is because a number of children will be born into upwardly mobile families.

We project that the government match will have its intended effect and will significantly increase both the rate and level of private contributions. The overall contribution rate would more than triple from 4.5 percent without the match to 15.1 percent with it (figure 4, page 11). The government match significantly raises the contribution rate of even the most economically vulnerable groups. About 10.0 percent of children in the lowest income quintile are ex-

Figure 1. Share of Children's Savings Accounts That Ever Received a Contribution

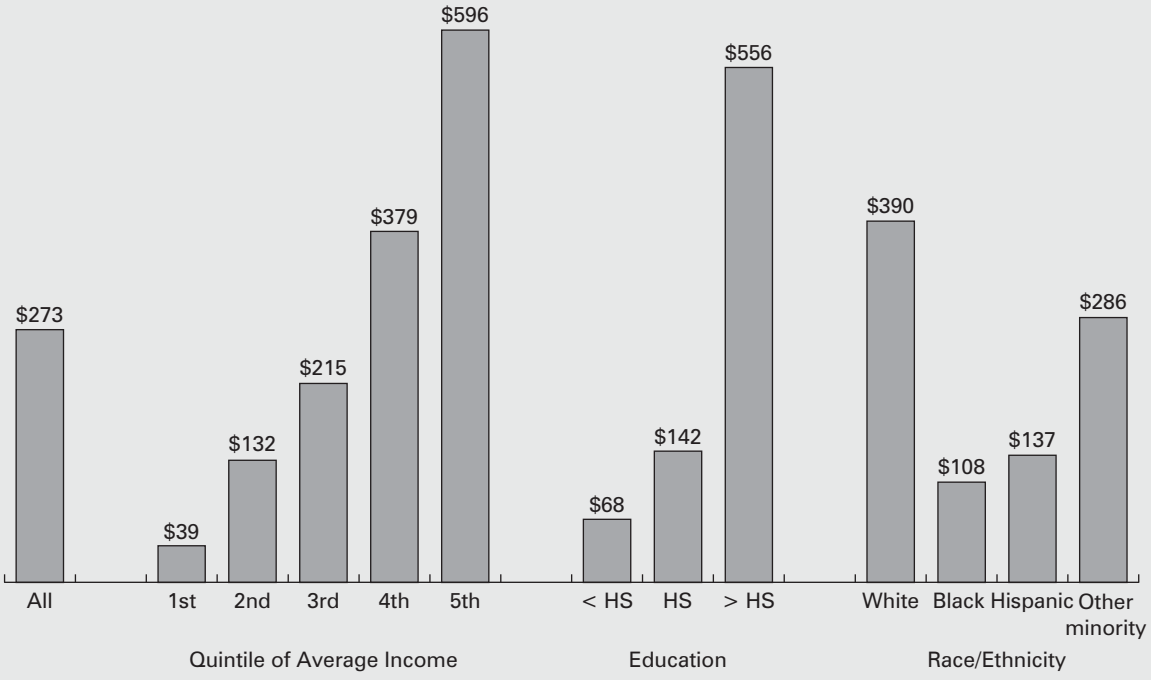


Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

HS = high school

Note: Contributions capped at $1,000 a year, indexed to inflation every year.

Figure 2. Average Private Contribution per Children's Savings Account (2008$)



Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

HS = high school

Note: Contributions capped at $1,000 a year, indexed to inflation every year.

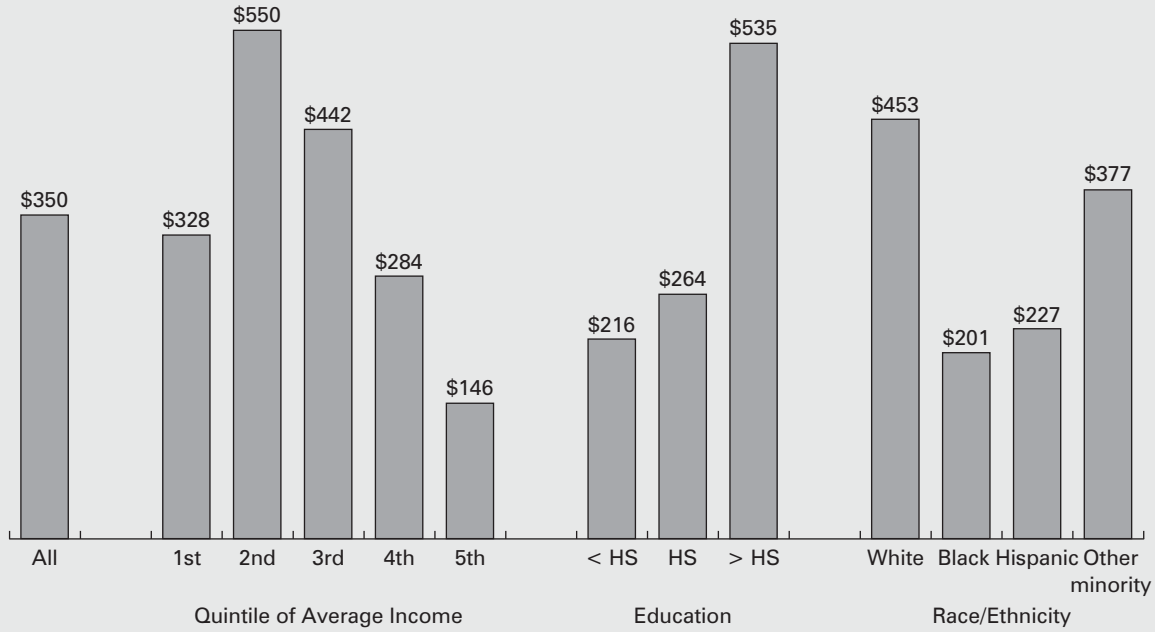
pected to receive private contributions, as will 4.0 percent of children whose mothers are not high school graduates and 11.2 percent of non-Hispanic black children. The amount of the average contribution is projected to more than double from $273 to $608 per account (figure 5, page 12). Among children in the lowest income quintile, average contributions are projected to increase by 8.9 times from $39 dollars without a match to $346 with a match, compared with just 1.2 times for the average contribution among children in the top quintile, from $596 to $741.

As a result of the government match and the increased rate and level of private contributions, the average account balance under the ASPIRE-like option is projected to increase by $916 to $2,413 at maturity (see table 1). The marginal impact of this fourth option increases with income through the second quintile as private contributions and the corresponding government match both increase. On average, children in the lowest income quintile will receive an additional $833 in their CSAs and those in the second income quintile will receive an additional $1,395 under this option. But because the match is capped and then phased out for higher-income families, the marginal impact of the ASPIRE-like option declines with income in the third, fourth, and fifth quintiles. As a result, children in the highest income quintile will receive only $399 more in their CSAs. At maturity, ASPIRE-like account balances are projected to be slightly higher for children in the lowest income quintile than for those in the highest income quintile ($2,239 versus $2,134).

What Makes Up Account Balances under the Different CSA Options?

We described the incremental impact of several children's accounts design features on account balances. Figure 6 shows the contribution of each source of income to the overall average account balance under the ASPIRE-like option. Starting with just the seed amount, the account

Figure 3. Average Government Match per Children's Savings Account (2008$)

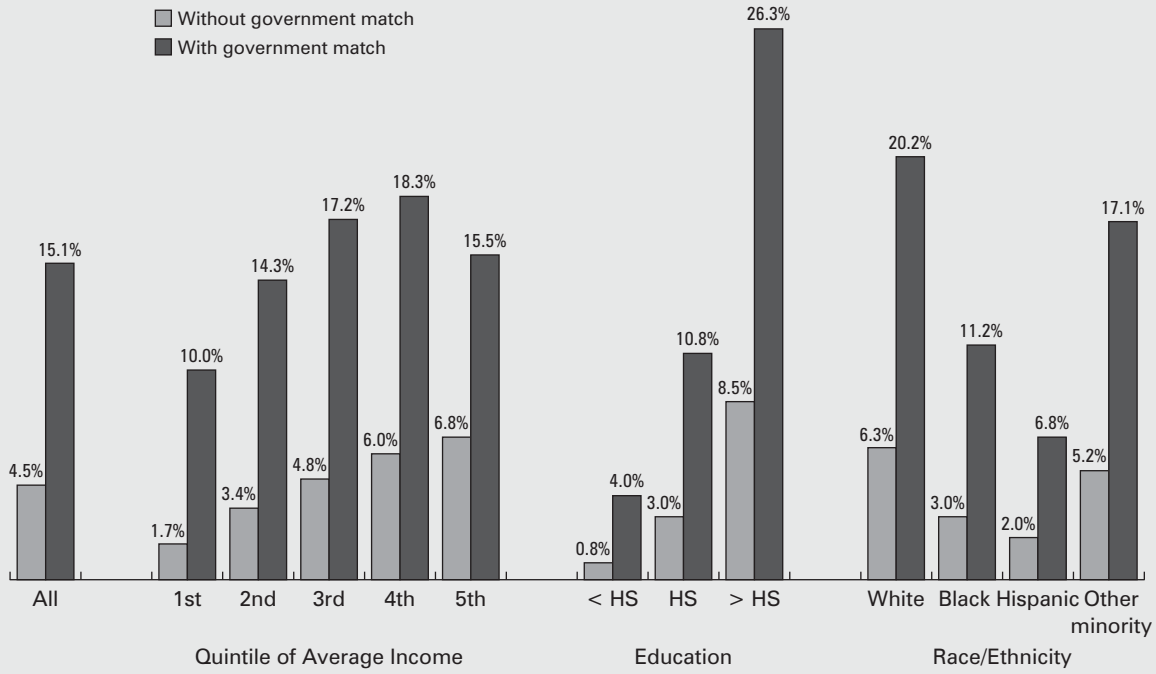


Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

HS = high school

Notes: Matches on contributions limited to $1,000 a year, indexed to inflation every year. Match is one-to-one at or below median adjusted gross income (AGI), phased out at 120 percent of median AGI.

Figure 4. Share of Children's Savings Accounts That Ever Received a Contribution, without and with Government Match



Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

HS = high school

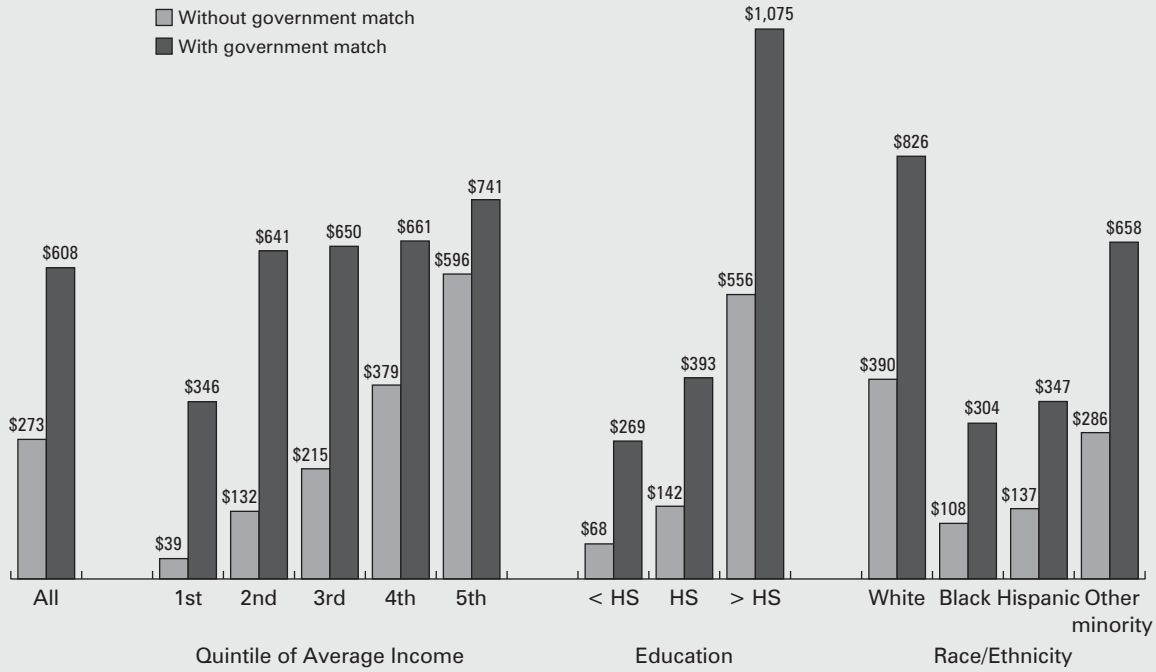
Notes: Matches on contributions limited to $1,000 a year, indexed to inflation every year. Match is one-to-one at or below median adjusted gross income (AGI), phased out at 120 percent of median AGI.

balances are uniform across economic and demographic groups. Government supplements to children in low-income families shift the distribution of CSA balances toward low socioeconomic groups. That is, children in the highest income quintile average 70 percent of the mean account balance of children in the lowest income quintile. In the absence of a government match, private contributions would tilt the distribution of account balances toward higher socioeconomic groups. Children in the highest income quintile average 1.38 times the average account balance of children in the lowest income quintile. In the presence of a government match designed only for children in lower-income families, private contributions and government matches even out the distribution of CSA balances considerably. Children in the highest income quintile now average only 98 percent of the average account balance of children in the lowest income quintile. Also important to all CSAs, regardless of income, is compound interest. About one-third of all account balances come from interest accrued over the life of the accounts. If returns are higher or lower than the 3.0 percent real return assumed here, then the share due to interest earned would similarly be higher or lower. For instance, if higher-income individuals are able to successfully invest in higher-return (but more risky) assets, their average balances would be relatively higher.

Considering the role of individuals versus the government in building up these accounts, we estimate that 59 percent of all the money in CSA accounts will come from the government and 41 percent from interest earned on the account under the first option (table 2, page 14).

Allowing private contributions has a large effect on what makes up account balances.

Figure 5. Average Private Contribution per Children's Savings Account, without and with Government Match (2008$)

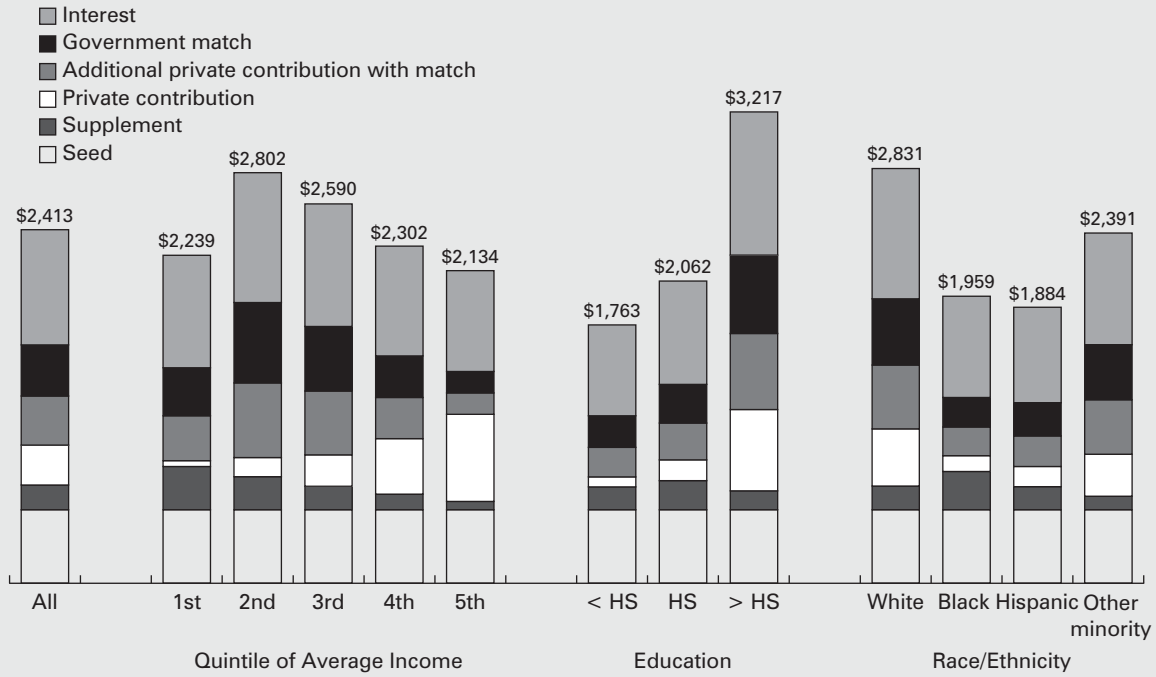


Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

HS = high school

Notes: Matches on contributions limited to $1,000 a year, indexed to inflation every year. Match is one-to-one at or below median adjusted gross income (AGI), phased out at 120 percent of median AGI.

Figure 6. Average Children's Accounts Balance at Maturity under an ASPIRE-Like Option, by Source of Income (2008$)



Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

HS = high school

Overall, 18 percent of all the money in CSA accounts will come from private contributions, 45 percent from the government, and 37 percent from interest under the third option. Under this option, the CSAs of economically disadvantaged children benefit most from the interest earned over the life of the accounts. For example, among children in the lowest income quintile, only 3 percent of all the money in CSA accounts is from private contributions and 57 percent is from the government. Compound interest makes up the other 41 percent. (Of course, if the interest is attributed to the source of contribution, then almost all the account balance is attributable to the government for this income group.) In contrast, among children in the highest income quintile, all the money in CSA accounts is divided equally between private contributions, government spending, and interest.

Under the ASPIRE-like option, which increases government spending and private contributions, 25 percent of all the money in CSA accounts at maturity is from private contributions, 42 percent from the government, and 33 percent from interest. Slightly less than one-sixth of the account balances held by low-income children will come from private contributions compared with more than one-third of the account balances held by high-income children. And one-half of the account balances held by low-income children will come from the government compared with only one-third of those held by high-income children. Compound interest represents one-third of the account balances for both low- and high-income children. (Amounts may not total 100 percent due to rounding.)

Tax Subsidies under the Different CSA Options

Next we compare tax burdens in the absence of CSAs to tax burdens if the accounts are taxed as interest income (table 3, page 15). The tax subsidy created by the seed amount averages $160 per account. Not surprisingly, the subsidy is generally highest for groups who typically have higher-than-average tax rates—in effect, those with higher-than average incomes. For example, children in the highest income quintile receive an average tax subsidy of $215 compared with only $73 for those in the lowest income quintile. Children whose mothers are college graduates receive an average tax subsidy of $186 compared with only $119 for children whose mothers did not finish high school. And non-Hispanic whites are projected to receive higher tax subsidies than non-Hispanic blacks or Hispanics.

A government supplement would further increase the average tax subsidy by $45 to $205 per account. Although higher-income groups will still receive the largest tax subsidies, the supplement increases the tax subsidy for the lowest income children by 60 percent from $73 to $117 per account. In contrast, the supplement increases the tax subsidy for the highest income children by only 11 percent from $215 to $238 per account.

Private contributions, without a government match, increase the average tax subsidy by $47 to $252 per account. The increase in tax subsidies is expected to range from only $3 for the lowest income children to $116 for the highest income children.

Under the ASPIRE-like option, the average tax subsidy would further increase by $107 to $359 per account. Tax subsidies rise the most for children in the middle income quintiles. The increase is only $51 for children in the lowest income quintile, $144 for those in the second quintile, $158 for those in the third quintile, $116 for those in the fourth quintile, and only $64 for children in the highest income quintile, who are less likely to get matches over their lifetimes. However, the highest income children will still in total receive tax subsidies that average 2.4 times those of the lowest income children (compare $417 with $172).

Sensitivity Analysis

As noted, we chose to model CSA contributions based on the experience with IRAs. Another

Table 2. Share of Private Contributions, Government Spending, and Interest on Average Children's Accounts Balances at Maturity

	$500 (%)			$500 + Supplement (%)			$500 + Supplement + Contribution (%)			ASPIRE-Like (%)		
	Priv.	Gov.	Interest	Priv.	Gov.	Interest	Priv.	Gov.	Interest	Priv.	Gov.	Interest
All	0	59	41	0	59	41	18	45	37	25	42	33
Quintile of average income												
Lowest	0	59	41	0	59	41	3	57	41	15	50	34
Second	0	59	41	0	59	41	9	52	39	23	45	32
Third	0	59	41	0	59	41	15	47	38	25	43	32
Fourth	0	59	41	0	59	41	25	40	36	29	39	33
Highest	0	59	41	0	59	41	34	32	34	35	33	32
Education												
Less than high school	0	59	41	0	59	41	6	54	40	15	49	35
High school graduate	0	59	41	0	59	41	10	51	39	19	47	34
College graduate	0	59	41	0	59	41	31	35	34	33	36	30
Race												
Non-Hispanic white	0	59	41	0	59	41	24	40	36	29	39	31
Non-Hispanic black	0	59	41	0	59	41	8	53	39	16	49	35
Hispanic	0	59	41	0	59	41	11	51	39	18	47	35
Other minority	0	59	41	0	59	41	21	43	37	28	41	32

Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

Notes: Private (Priv.) represents private contributions. Government (Gov.) includes the seed amount, supplement, and government match. Interest is 3 percent real and computed over the lifetime of the account. The ASPIRE-like option includes a government match and any additional private contributions due to the match.

Table 3. Average Tax Subsidies for Children's Accounts and Incremental Change due to Design Features (2008$)

	$500	$500 + Supp.		$500 + Supp. + Contrib.		ASPIRE-Like	
	Mean	Mean	Change	Mean	Change	Mean	Change
All	160	205	45	252	47	359	107
Quintile of average income							
Lowest	73	117	44	120	3	172	51
Second	142	206	64	223	17	366	144
Third	174	229	54	263	34	421	158
Fourth	195	236	40	302	66	418	116
Highest	215	238	23	354	116	417	64
Education							
Less than high school	119	151	32	160	9	209	49
High school graduate	155	207	52	231	23	307	76
College graduate	186	226	40	325	100	502	177
Race							
Non-Hispanic white	170	214	45	284	69	425	141
Non-Hispanic black	147	213	65	231	18	289	59
Hispanic	153	194	41	216	22	282	65
Other minority	148	175	27	224	49	336	112

Source: Authors' calculations using the Urban Institute's DYNASIM3 model.

Notes: Supplements (Supp.) are up to $500 for household income at or below 50 percent of median adjusted gross income (AGI) and $10 less for each percentage point that household income is above 50 percent of median AGI. Contributions (Contrib.) and matches are both capped at $1,000 a year. Match is one-to-one at or below median AGI, phased out at 120 percent of median AGI. The ASPIRE-like option includes a government match and any additional private contributions due to the match. The seed, supplement, and contribution thresholds are indexed to inflation every year. The tax subsidy is the difference in account accruals assuming they are not taxed and then assuming they are taxed.

alternative might have been to model CSA contributions based on employer-provided plans like 401(k) plans; however, they provide a simplified employer-administered structure that is not relevant for individually based private contributions. While 529 plans are individually based, they are subject to state incentives and regulations and are far less commonly used than IRAs. Data on individual development accounts (IDAs), in turn, may be useful for studying savings of low-income families, but they typically involve much more intense hands-on advice from the nonprofits or agencies administering the IDAs. Thus, so far we have no real data on the experience of a more universal IDA. Since per capita costs of administration would have to be reduced in a larger program, it would involve a different participation rate than the experiments. Experience with child accounts in the United Kingdom is just now providing some data, but cross-country comparisons are difficult without knowing the viability of alternative investment opportunities. As a practical matter, data on IRAs are readily available for a large number of people in the 2001 SIPP. Thus, we were able to easily choose the population we wanted for our contribution simulations and accurately use it to estimate the probability of contributing to a CSA.

Having said this, we recognize that the choice of estimation model can significantly affect the accumulated balances. Therefore, we perform a sensitivity analysis under which individuals are twice as likely as in the baseline to contribute to the accounts in any given year. This

analysis results in 9.1 percent of accounts ever receiving private contributions in the absence of a match, up from 4.5 percent under the baseline (not shown). Under this alternative we find that 29.9 percent of accounts ever receive contributions with the ASPIRE match, up from 15.1 percent under the baseline. As a result of the higher contribution rate in the sensitivity analysis, average balances in the ASPIRE-like accounts are expected to be 51 percent higher than they are in the baseline ($3,653 versus $2,413).

The sensitivity analysis has the largest effect on children in the highest income quintile, raising their average account balances by 58 percent from $2,134 under the baseline to $3,370 (not shown). And, it has the smallest effect on those in the lowest income quintile, raising their average account balances by 36 percent from $2,239 under the baseline to $3,056. As a result, increasing the CSA contribution rate changes the distribution of account balances. Under the sensitivity analysis, ASPIRE-like account balances are projected to be 10 percent *higher* for children in the highest income quintile than for those in the lowest income quintile (not shown). Under the baseline, account balances are projected to be 5 percent *lower* for children in the highest income quintile than for those in the lowest income quintile.

Ultimately, the likelihood and level of private contributions depends on what other options are available, any tax preferences available under those options, marketing by government and private institutions, and many other factors. Therefore, our results should be interpreted with caution, indicative more of the direction and distribution of account balances than of their ultimate levels.

Conclusions

Our simulations show that the design of children's savings accounts is extremely important. We estimate that assets built up in children's accounts will average about $2,413. Even assuming that contribution rates are twice as high as those we estimate, average account balances would still be modest—approximately $3,653. While this amount is significantly lower than the cost of higher education or a house, it could still be very important in helping get children, particularly those in low-income families, into financial instruments where they can see the value of saving and of compound interest. To the extent that a primary goal of child accounts is financial literacy and getting children and low-income families banked, however, design options other than those examined here might be considered. For instance, when it comes to education, it may be more important to provide accounts to school children and less of an issue whether these accounts start at birth. Also, although account balances may only be modest for many individuals, the simple availability of such accounts provides a strong motive for financial institutions to get almost everyone banked. That, indeed, seems to be one of the main lessons from the United Kingdom.

How much net new saving is generated from additional government matches to private saving is unclear, since many, particularly higher-income, people can simply transfer money they had already saved (or were planning on saving) from a taxable account into these new children's savings accounts. The one major exception may be for those who have few assets in the first place who cannot easily substitute one form of saving for another.

Two important conclusions from this analysis are that taxability matters and that it is hard to target subsidies based on annual income to those with low average incomes over time. Under the CSA design features we considered, including the basic grant, non-taxability distributes significantly more benefits to higher-income groups than to lower-income groups. In addition, our analysis shows that because many families experience mobility over their lifetimes, a significant portion of benefits conditioned on low annual income will accrue to middle- and higher-income families.

Appendix A: Current Children's Accounts Programs

While a number of countries have implemented or are considering implementing children's accounts, we summarize programs in the United Kingdom and Canada.

Child Trust Funds (United Kingdom)

In April 2005, the United Kingdom launched the Child Trust Fund program for all children born on and after September 1, 2002. Child Trust Funds, or CTFs, are universal savings accounts into which the government deposits £250 ($520) at birth and which are administered through the private sector. Children in the poorest families—those receiving the child tax credit (CTC) with household incomes below the CTC threshold—receive an additional £250. The government makes another deposit to every child's account on his or her seventh birthday that, like the seed amount, is progressive. Families and friends can make tax-deferred contributions up to £1,200 ($2,497) a year. The accounts accrue interest until the child's 18th birthday when they are no longer CTF accounts. In 2006, there were 300,000 CTF accounts. Based on data from three providers making up 38 percent of the market, Sodha (2006) found that one-third of higher-income accounts and one-fifth of lower-income accounts had private contributions.

Registered Education Savings Plans (Canada)

Canada's version of child savings accounts is intended only for education, is available to all children under age 18, and is voluntary.[2] These Registered Education Savings Plans (RESPs) are offered by financial institutions and have a lifetime limit of $50,000 per beneficiary (there is no annual contribution limit). Government subsidies to these accounts come in the form of means-tested seed amounts and annual supplemental grants, as well as matches.

The Canada Learning Bond (CLB) is a means-tested tax subsidy that comprises both an initial seed and supplemental annual grants. That is, children do not automatically receive a seed subsidy. The CLB is available to children born January 1, 2004, and later that have social insurance numbers and reside in households earning under $37,178.[3] After opening an RESP account, the government deposits a learning bond of $500 (although it also provides up to $25 to defray the costs of opening an account). As long as the family remains income eligible, the child's account will receive annual $100 supplements (including in the year of birth) up to age 15. The child lifetime maximum in learning bonds is $2,000 ($500 plus 15 years times $100). Receipt of the CLB is linked to receipt of the National Child Benefit Supplement, a monthly welfare payment.

The Canada Education Savings Grant (CESG) is a government match against the first $500 of private contributions. In 2007, the grant paid

- 40 cents per dollar for net family income of $37,178 or less;
- 30 cents per dollar for net family income between $37,178 and $74,357; and
- 20 cents per dollar for net family income more than $74,357.

For contributions greather than $500, the CESG could add up to $400 on the next $2,000. The CESG pays a maximum of $500 a year and $7,200 per child's lifetime. Three million children have benefited from the CESG.

The RESP account itself stays open a maximum of 26 years. Students can start receiving money from the account as soon as they are enrolled in a qualified postsecondary educational program. If a child does not elect to attend college, then all subsidies received return to the government.

Appendix B: Saving Incentives for Low- and Middle-Income Families

Esther Duflo and colleagues (2006) conducted an experiment that used H&R Block's Express IRA (X-IRA) product, which allows tax preparation clients to choose to make IRA contributions using all or part of their federal tax refund. The experiment was run in 60 H&R Block tax preparation offices in 2005. Each client who filed a tax return was randomly assigned one of three match rates for X-IRA contributions: no match (the control group), a 20 percent match, or a 50 percent match. Contributions up to $1,000 a person ($2,000 a couple) were eligible for matching.

The authors found that matching had large effects on IRA participation. Only 3 percent of the control group (no match) contributed to an X-IRA, versus 8 percent and 14 percent in the 20 percent and 50 percent match groups, respectively. Matching also significantly affected participants' contributions: average contribution levels (excluding the match) were $765 in the control group, compared with $1,100 and $1,110 in the 20 percent and 50 percent match groups. The authors noted that the average value of IRA deposits was 4.5 and 10 times larger in the 20 percent and 50 percent match groups than in the control group.

Duflo and colleagues also found that the effect of the match on participation was larger for individuals who had higher incomes, other saving, and who were married. However, the effect of the match was significant even for individuals in the lowest income quartile, who were three times as likely to contribute to an X-IRA if assigned to the 50 percent match group rather than the control group (7.5 versus 2.5 percent).

Finally, the authors noted strong "tax preparer effects." Tax preparers having more experience with X-IRAs before the experiment garnered much larger contributions from their clients (for those in the matching groups).

Notes

1. Other experiments have obtained different results. However, comparisons are difficult because the experiments all differ in incentives, clientele, and other factors. A prime example is the recent Child Trust Fund program begun in the United Kingdom in 2005. (See Cramer 2007 for details and results—although contribution rates and contribution amounts are reported cumulatively rather than annually.) Another United States example, the D2D ("Doorways to Dreams") Fund, Inc., operated a program in 2007 in partnership with H&R Block at four Volunteer Income Tax Assistance sites that offered United States savings bonds to clients with federal refunds of $50 or more (Zinsmeyer and Flacke 2007). Six percent of clients chose to purchase bonds (4.5 percent yield), spending an average of $184 each. While there was no match offered, 68 percent of those actually purchasing savings bonds did so for their children and grandchildren while another 4 percent bought them for relatives. One interpretation is that the presence of children increased the likelihood of contributing.
2. While there are no age limits on Registered Education Savings Plans, the education savings incentives (i.e., Canada Learning Bond and Canada Education Savings Grant) are only available to children under age 18.
3. At the time of writing, a Canadian dollar almost exactly equaled a United States dollar.

About the Authors

Barbara A. Butrica is a senior research associate in the Income and Benefits Policy Center at the Urban Institute.

Adam Carasso is chief economist for the House Budget Committee. When this report was written, he was research director for the Fiscal Policy Program at the New America Foundation.

C. Eugene Steuerle is a senior fellow at the Urban Institute and codirector of the Urban-Brookings Tax Policy Center. From 1987 to 1989, he served as Deputy Assistant Secretary for Tax Analysis in the U.S. Department of the Treasury.

Desmond J. Toohey is a research associate in the Income and Benefits Policy Center at the Urban Institute.

References

Carasso, Adam, and Signe-Mary McKernan. 2007. "The Balance Sheets of Low-Income Households: What We Know about Their Assets and Liabilities." *Poor Finances: Assets and Low-Income Households* Series. Washington, DC: U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

Cramer, Reid. 2006. "Net Worth at Birth: Creating a National System for Savings and Asset Building with Children's Savings Accounts." Washington, DC: New America Foundation.

———. 2007. "Asset-Based Welfare Policy in the U.K.: Findings from the Child Trust Fund and Savings Gateway Initiatives." Paper prepared for the 2007 Research Conference of the Association for Public Policy Analysis and Management, November 9–11, Washington, D.C.

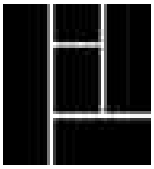
Duflo, Esther, William Gale, Jeffrey Liebman, Peter Orszag, and Emmanuel Saez. 2006. "Saving Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block." *Quarterly Journal of Economics* 121(4): 1311–46.

Favreault, Melissa M., and Karen E. Smith. 2004. "A Primer on the Dynamic Simulation of Income Model (DYNASIM3)." *The Retirement Project* Discussion Paper 02-04. Washington, DC: The Urban Institute.

Johnson, Suzanne Nora, Lisa Mensah, and C. Eugene Steuerle. 2006. "Savings in America: Building Opportunities for All." New York: Goldman Sachs Global Markets Institute.

Sodha, Sonia. 2006. "The Child Trust Fund and Inequality." Presentation. London: Institute for Public Policy Research. Available at http://www.ippr.org.uk/uploadedFiles/research/events/Centre_for_Asset-Based_Welfare/Sonia20Sodha20presentation.pdf.

Zinsmeyer, Jeff, and Timothy Flacke. 2007. "A Gateway to Longer Term Savings: Testing U.S. Savings Bonds to Help Low-Income Tax Filers Start Saving." Working paper. Roxbury, MA: Doorways to Dreams Fund, Inc. Available at http://www.d2dfund.org/downloads/VITA_bond_paper_061807.pdf.



THE URBAN INSTITUTE
2100 M Street N.W. Washington, D.C. 20037
Tel: (202) 261-5687 • Fax: (202) 467-5775 • www.urban.org