



Center for Social Development

GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

Testing Universal Child Development Accounts: Financial Impacts in a Large Social Experiment

Margaret M. Clancy, Sondra G. Beverly, and Michael Sherraden
Washington University in St. Louis

Jin Huang
Saint Louis University

Manuscript under submission

2016

CSD Working Papers
No. 16-08

Campus Box 1196 One Brookings Drive St. Louis, MO 63130-9906 • (314) 935.7433 • csd.wustl.edu



Washington University in St. Louis

Acknowledgments

Support for SEED for Oklahoma Kids comes from the Ford Foundation and the Charles Stewart Mott Foundation. We especially value our partnership with the state of Oklahoma: Ken Miller, State Treasurer, and Tim Allen, Deputy Treasurer for Communications and Program Administration. The Oklahoma 529 College Savings Plan program manager, TIAA-CREF, has also been an important partner. At the Center for Social Development, we are grateful to Mark Schreiner for managing the SEED OK data and providing comments at multiple points in the research process, Nora Wikoff for her assistance in managing the savings data, Christopher Leiker for his editing assistance, and numerous staff on the SEED OK team over several years.

Testing Universal Child Development Accounts: Financial Impacts in a Large Social Experiment

Abstract

This article examines financial impacts of Child Development Accounts (CDAs) designed to build assets for every newborn in the treatment group. Data come from a randomized experiment with probability sampling from a full state population seven years after the intervention began. As expected, the CDA's automatic features have large impacts on account holding and asset accumulation for college, and especially so for disadvantaged children. This is an important finding because growing up with designated college savings likely shapes children's educational expectations, which in turn likely shape their precollege academic behavior and achievement. Moreover, demonstrating full inclusion—that is, accounts and assets for all newborns—sets the stage for widespread participation in asset building and more equitable distribution of public resources. The CDA also increases the likelihood that parents themselves save for their children's future college expenses.

Key words: *academic achievement, assets, Child Development Accounts, educational expectations, inclusion, Oklahoma 529 College Savings Plan, randomized experiment, SEED for Oklahoma Kids (SEED OK)*

Child Development Accounts

This article updates and extends the analysis in Nam et al. (2013) regarding the financial impacts of Child Development Accounts (CDAs). CDAs are savings or investment accounts to help people accumulate assets for medium- and long-term developmental goals such as postsecondary education and home purchase.¹ The ultimate goals are to reduce inequality and to give all children the opportunity to benefit from asset accumulation (full inclusion). The policy vision is a national system of universal, progressive, and lifelong accounts: The federal government would automatically open a CDA for every newborn and place an initial deposit of \$500 to \$1,000 in each account. Parents, youth, and others would be encouraged to make additional deposits. A progressive savings match or some other progressive component would subsidize deposits for low- and moderate-income children. Versions of CDAs have been implemented in Singapore, Canada, Korea, the United Kingdom, and other countries (Loke & Sherraden, 2009). In the United States, Maine, Nevada, Connecticut, and Rhode Island have statewide CDA programs (Clancy, Sherraden, & Beverly, 2015).

Most of the current CDA programs in the United States support asset accumulation for college,² and proponents view CDAs as tools for improving the educational outcomes of disadvantaged youth (Sherraden, Clancy, Nam, Huang, Kim, Beverly, Mason, et al., 2016). Children who grow up with an account and assets designated for future college expenses are more likely than others to have a “college-bound identity” (Oyserman, 2013, p. 188; see also Elliott, Choi, et al., 2011; Elliott, Destin, and Friedline, 2011). In turn, children who grow up expecting to go to college will presumably be

¹The CDA concept was introduced by Sherraden (1991, 2014). See also Goldberg (2005).

²For simplicity, we use *college* to refer to any form of accredited postsecondary education and training.

more engaged in education; such engagement likely leads to better academic preparation and higher achievement. College accounts and college assets may also influence parents' attitudes about their children's education, encouraging parents to support that education. Positive attitudes about education held by children probably influence parental attitudes and *vice versa*. Research consistently shows that higher educational expectations (whether held by children or their parents) are associated with greater academic achievement (e.g., Beal and Crockett, 2010; Elliott and Beverly, 2011; Elliott, Destin, and Friedline, 2011).

The impact of a CDA is probably stronger when CDA asset levels are higher. However, CDAs might influence attitudes and behaviors even when asset levels are modest—and even when children receive accounts and deposits automatically. As Beverly, Elliott, and Sherraden (2013) suggest, the existence of a program that provides college accounts and assets—especially a federal program for all youth—would send a message that college is expected.³ In addition, a policy providing such accounts would give families a designated place to save for college whenever they are able and motivated, thus opening a “channel” (Bertrand, Mullainathan, & Shafir, 2004, p. 419) that facilitates saving. Dedicating funds for postsecondary education might make the goal of a college education more salient, and account statements might serve as regular reminders of the importance of saving for education (Gray et al., 2012). For these and other reasons, having a college savings account and having assets for college are desirable policy objectives even if families do nothing to receive them. The impact of automatically opened CDAs with automatic deposits may be particularly strong for low-income children, who might otherwise view college as unattainable.

SEED for Oklahoma Kids (SEED OK) is a large CDA experiment with random assignment and probability sampling from a full state population. The purpose is to test a universal, automatic, and progressive CDA that begins at birth. Nam et al. (2013) examined the impact of the CDA in SEED OK on several outcomes related to college accounts and assets when children were about 2 years old. In this paper, we update and extend the analysis by Nam et al. We use SEED OK data from December 31, 2014, when children were between 7 and 8 years old. The evidence presented here complements published research demonstrating that the CDA in SEED OK helps mothers maintain high expectations for their children's education, reduces symptoms of maternal depression, and improves the early social-emotional development of children (Huang, Sherraden, et al., 2014; Huang, Sherraden, & Purnell, 2014; Kim et al., 2015). Often, the CDA has positive outcomes regardless of parents' saving behavior (Sherraden, Clancy, Nam, Huang, Kim, Beverly, Mason, et al., 2015). Future SEED OK research will measure the impacts of the CDA on college attendance and college completion. For now, we track and examine the impacts of the CDA on the ownership of college accounts, assets, and savings over time, outcomes which—for the reasons discussed above—are explicit policy goals.

The CDA in SEED OK

The primary component of the CDA in SEED OK is an automatically opened college savings account with an automatic initial deposit of \$1,000 (Figure 1). The CDA is built on the Oklahoma 529 College Savings Plan (OK 529). The automatically opened OK 529 accounts (hereafter, *state-owned accounts*) hold deposits made by SEED OK as part of the CDA, and the accounts are owned by

³For evidence that a government program can improve educational outcomes by changing attitudes about the importance of education, see Benhassine, Devoto, Duflo, Dupas, & Pouliquen (2015).

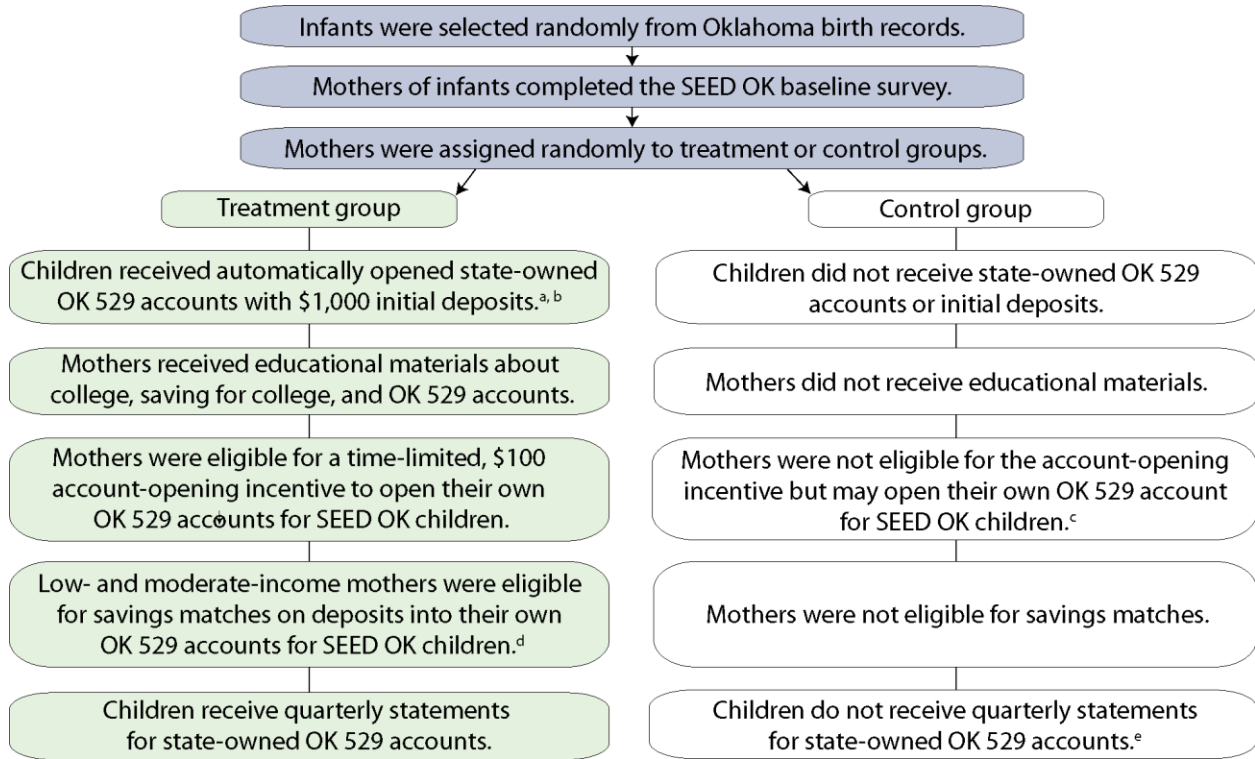


Figure 1. SEED for Oklahoma Kids Experiment.

SEED OK = SEED for Oklahoma Kids; OK 529 = Oklahoma 529 College Savings Plan. Adapted from “Testing Universal College Savings Accounts at Birth: Early Research from SEED for Oklahoma Kids,” by S. G. Beverly, M. Clancy, & M. Sherraden, 2014, Center for Social Development Research Summary 14-08, p. 2.

^aOne mother opted out of the account for her child for religious reasons.

^bFunds are restricted for postsecondary use, to be sent directly to educational institutions.

^cAnyone 18 years or older, regardless of their state residency, can open an OK 529 account.

^dSavings matches are held in state-owned accounts.

^eBecause they did not receive automatically opened state-owned accounts, control children do not receive OK 529 account statements, but mothers and other owners of individual OK 529 accounts receive such statements.

the state of Oklahoma. Funds in these accounts are invested in the OK 529 Balanced Option Fund, a mix of stocks and bonds. Like funds in other 529 accounts, these funds will be sent directly to postsecondary educational institutions (e.g., in-state and out-of-state institutions, including 4-year colleges, community colleges, and vocational schools).

Personal deposits for future college expenses are kept separate from SEED OK deposits for administrative reasons discussed in Nam et al. (2013).⁴ Therefore, in addition to the automatic state-owned account with initial deposit, the CDA in SEED OK also includes information and incentives

⁴Under the ideal CDA policy, every child would automatically receive a single account that would hold deposits from all sources. If a single-account structure is not possible, another option is to combine the program deposits for all children, investing them in a restricted portfolio held in a single, omnibus account. Each child could receive a single account statement showing contributions from all sources (Clancy & Sherraden, 2014).

to encourage treatment mothers to open and save in their own OK 529 accounts (hereafter, *mother-owned accounts*).⁵ Mothers who opened an OK 529 account for their young child by April 15, 2009, received a \$100 deposit into that account.⁶ For about 4 years, low- and moderate-income treatment children received 1:1 or 0.5:1 matches on deposits into mother-owned accounts; match money is held in the state-owned account.⁷

To avoid exposing control families to the intervention, SEED OK sent information to treatment mothers by mail. Letters, postcards, and brochures discussed the importance of college and saving for college, and described OK 529 accounts and SEED OK financial incentives. Treatment children continue to receive quarterly statements for state-owned accounts. These statements come from TIAA-CREF, the OK 529 program manager.

Mothers in the control group did not receive a state-owned account with initial deposit. They did not receive information from SEED OK about OK 529 accounts nor incentives from SEED OK to open and save in these accounts. However, like any adult, mothers in the control group may open an OK 529 account. Owners of OK 529 accounts receive quarterly statements from TIAA-CREF.

Methods

The design of the SEED OK experiment is discussed in detail in Nam et al. (2013) and Zager et al. (2010). We briefly describe the research methods here.

Data, Sample, and Random Assignment

The SEED OK experiment randomly selected children via the birth records of all infants born in Oklahoma during two periods in 2007. African American, American Indian, and Hispanic children were oversampled. Mothers of these children were invited to participate in the experiment. Out of 7,115 mothers, 2,704 completed the baseline telephone survey (a response rate of 38 percent). These mothers and their infants (hereafter, *SEED OK children*) were then randomly assigned to the treatment group ($n = 1,358$) or the control group ($n = 1,346$). Data for the financial outcomes presented here were transmitted electronically from TIAA-CREF. The demographic data used to describe the sample come from the baseline survey. Data are weighted to adjust for oversampling of minority children as well as for observed differences between those who agreed to participate in the study and those who did not (Marks, Rhodes, & Scheffler, 2008).

Table 2 in Nam et al. (2013, p. 15) shows demographic and socioeconomic characteristics of the sample.⁸ About 67 percent of the children are non-Hispanic white. At the time of the baseline

⁵For simplicity, we refer to all SEED OK caregivers as mothers, although the sample includes one father and five nonparental caregivers. Nam et al. (2013, p. 13) called mother-owned accounts “participant-owned accounts.”

⁶The plan requires a minimum \$100 initial contribution to open a new OK 529 account, and SEED OK offered the \$100 deposit to remove this potential financial barrier.

⁷The state used tax returns and public assistance records to determine savings-match eligibility (Zager et al., 2010).

⁸Our sample includes 34 cases that Nam et al. (2013) excluded: 22 caregivers who did not live in Oklahoma at the time of the baseline survey, five who are not parents of SEED OK children (e.g., grandparents or siblings), and seven who were missing data for covariates used in their multivariate analysis.

survey, 93 percent of the mothers were younger than 35, including 45 percent who were younger than 25. Less than 20 percent of mothers had a college degree; almost one fourth had less than a high school education. More than 60 percent were married, and 90 percent were U.S natives. Two thirds reported household income below \$43,500. Treatment and control groups do not differ significantly ($p < 0.05$) on any of the characteristics examined. Because the treatment and control groups were very similar at the time of random assignment, we use simple bivariate analysis to measure the impact of the CDA.

Measures

As noted above, having a college account and assets early in life may improve educational engagement and achievement even if account opening and asset accumulation are automatic. Thus, some of our outcome measures include automatically opened accounts and automatically deposited funds; we are not interested only in individual saving behavior.

Outcomes are measured on December 31, 2014. Our data provide no information on accounts or assets held outside of OK 529. For simplicity, we say that a child “holds” an account if she or he is the beneficiary, even though accounts are owned by adults or the state of Oklahoma. Account types include the automatic state-owned account and the mother-owned account. Because fathers, grandparents, and other adults may open and save in OK 529 accounts for SEED OK children, we also examine *other individual accounts*. Extending the analysis in Nam et al. (2013), we combine the mother-owned and other individual accounts to create a fourth account category, *all individual accounts combined*. Lastly, we add in state-owned accounts to create a fifth category, *all accounts combined*.

Assets include any funds in these OK 529 accounts. For treatment children, assets include SEED OK deposits (i.e., the \$1,000 initial deposit, the \$100 account-opening deposit, and match money) as well as savings. *Savings* come from individual deposits to individual OK 529 accounts and do not include SEED OK deposits. Savings are presented as net deposits (deposits minus withdrawals). In an extension of Nam et al. (2013), our measures of assets and individual savings include investment earnings, and we report earnings separately.⁹

Results

All OK 529 Account Holding and Assets

Table 1 shows financial outcomes by treatment status. We first examine what we believe are the most important early financial outcomes in SEED OK: having a college savings account and having assets for college.

⁹Because we exclude the \$100 account-opening deposit from our measures of savings, we also exclude an estimate of earnings on that deposit. We assume that all individual deposits were made on the day the \$100 deposit was posted, and we then prorate earnings. To the extent that personal deposits were made after the \$100 deposit was posted, we underestimate the portion of earnings accruing to the \$100 deposit. Thus, we slightly overestimate the value of individual savings. However, the remaining upward bias is smaller than it would be without any adjustment.

Table 1. Financial Outcomes by Treatment Status.

Outcome	Treatment (<i>n</i> = 1,358)	Control (<i>n</i> = 1,346)	Difference
OK 529 account (%)			
State-owned account	99.94	0.00	99.94***
Mother-owned account	16.79	1.14	15.65***
Other individual account	2.56	2.16	0.40
All individual accounts combined	18.39	3.27	15.12***
All accounts combined	99.94	3.27	96.66***
OK 529 asset amount (with SEED OK incentives), mean (\$)			
State-owned account	1,432.11	0.00	1,432.11***
Mother-owned account	285.48	58.56	226.92***
Other individual account	133.31	264.24	-130.92
All individual accounts combined	418.79	322.80	95.99
All accounts combined	1,850.91	322.80	1,528.10***
Earnings on OK 529 assets, mean (\$)			
State-owned account	424.33	0.00	424.33***
Mother-owned account	86.61	22.63	63.98*
Other individual account	50.25	86.54	-36.30
All individual accounts combined	136.86	109.17	27.69
All accounts combined	569.50	109.17	460.32***
Individual OK 529 savings (without SEED OK incentives, %)			
State-owned account	0.00	0.00	0.00
Mother-owned account	8.39	1.10	7.28***
Other individual account	2.56	2.09	0.47
All individual accounts combined	10.04	3.16	6.88***
All accounts combined	10.04	3.16	6.88***
Individual OK 529 savings amount (without SEED OK incentives), mean (\$)			
State-owned account	0.00	0.00	0.00
Mother-owned account	261.07	58.56	202.51***
Other individual account	133.31	264.24	-130.92
All individual accounts combined	394.39	322.80	63.17
All accounts combined	394.39	322.80	63.17

Note. OK 529 = Oklahoma 529 College Savings Plan; SEED OK = SEED for Oklahoma Kids. Outcomes were measured on December 31, 2014, using data from TIAA-CREF. Data are weighted to be representative of births in Oklahoma in 2007. The state-owned account was opened automatically for every treatment child. Assets are any funds in an OK 529 account; for treatment children, this includes the \$1,000 initial deposit, the \$100 account-opening deposit, and match money. Savings come from personal deposits to individual accounts; SEED OK deposits are not included. Assets and savings include investment earnings, and means are computed over all children. Weighted bivariate linear regression was used to test for statistical significance.

* $p < 0.05$; *** $p < 0.001$.

In the control group, very few children have a college account. The overall account-holding rate (all accounts combined) for these 7- and 8-year-old children is 3.3 percent, slightly higher than the account-holding rate (2.3 percent) reported by Nam et al. (2013) when children were about 2 years old. As anticipated, essentially all children in the treatment group (99.9 percent) have an

OK 529 account. One treatment child's account was closed because her mother opted out, citing religious reasons.

Because the state-owned accounts were opened with the automatic initial deposit, 99.9 percent of treatment children have assets for college as well as accounts. As anticipated, treatment children have more assets than do control children. On average and across all OK 529 accounts, control children have \$323 in assets (median = 0); the mean for treatment children, \$1,851, is almost six times larger (median = \$1,426). The automatic \$1,000 initial deposit is largely responsible for the treatment–control difference. Investment earnings also contribute: Among treatment children, the mean amount of earnings from all OK 529 deposits is \$569, and the median is \$426. This is also the median amount of earnings among treatment children who received only the \$1,000 initial deposit.¹⁰

Individual OK 529 Account Holding and Savings

Next, we examine findings related to OK 529 accounts opened by individuals and deposits into these accounts by individuals. Recent SEED OK research (Beverly, Clancy, et al., 2015) shows that 205 treatment mothers have opened OK 529 accounts for SEED OK children (all received the \$100 account-opening deposit), and 203 of these accounts remained open as of December 31, 2014. The two mothers who closed their accounts withdrew the \$100 deposit.¹¹ Another mother withdrew the deposit but did not close her account. Thus, after about 7 years, three of 205 treatment mothers (1.5 percent) have withdrawn the account-opening deposit.

In the top panel of Table 1, we show account-holding rates for treatment and control groups. When data are weighted, 16.8 percent of treatment children have mother-owned accounts, compared to 1.1 percent of control children. The two groups have similar account-holding rates for other individual accounts: a little over 2 percent. When all individual accounts are combined, treatment children are almost six times more likely than control children to have any individual OK 529 account (18.4 percent vs. 3.3 percent).

Another way that we extend the analysis in Nam et al. (2013) is by reporting the percentage of children who have any individual OK 529 savings. (Treatment children with individual accounts but no individual savings either did not receive personal deposits or received personal deposits that were later withdrawn.) As the fourth panel in Table 1 shows, treatment children (8.4 percent) are almost eight times more likely than control children (1.1 percent) to have savings in a mother-owned account. Treatment and control children are about equally likely to have savings in other individual accounts. When all individual accounts are combined, treatment children are over three times more likely to have individual savings (10.0 percent vs. 3.2 percent).

Next, we examine the value of individual OK 529 savings (excluding the value of SEED OK incentives). As the bottom panel in Table 1 shows, the mean savings amount in mother-owned accounts for treatment children (\$261) is more than four times greater than that for control children (\$59). The mean savings in other individual accounts for treatment children (\$133) is about half the

¹⁰The value of the \$1,000 deposit invested in the OK 529 Balanced Option on December 27, 2007, fell to a low of \$698 during the Great Recession of 2008 then exceeded \$1,400 on December 31, 2014.

¹¹ There is no SEED OK penalty for withdrawing this deposit, but mothers were not explicitly informed that they could do so.

mean savings in such accounts for control children (\$264). This could be evidence of asset shifting, but the treatment-control difference is not statistically significant ($p = .15$). When all individual accounts are combined, the mean savings amount for treatment children (\$394) is somewhat higher than that for control children (\$323), but the difference is not statistically significant ($p = .52$). Mean individual savings amounts are not very good indicators of savings for typical SEED OK children because means are heavily influenced by the small proportion of children with very large savings amounts.¹² Also, large standard errors limit the likelihood that treatment–control differences are statistically significant. The median savings amounts for both groups equal zero.

Discussion

Designed to begin early in the lives of all children, CDAs provide structure, subsidies, and incentives to help families accumulate assets for developmental purposes, including postsecondary education and training. The assumption underlying CDAs, supported by evidence cited above, is that a dedicated account and assets may prompt children to see themselves as college bound. Their parents and teachers may also come to see them in that light. These expectations may later influence children’s academic efforts: They may be more engaged and achieve more than they would have without the influence of these expectations. Some positive effects are expected to occur even if children automatically receive accounts and assets, and the effects may be especially powerful for disadvantaged youth, who might otherwise view college as out of reach.

The SEED OK experiment is uniquely positioned to examine the impact of CDAs on educational achievement and other outcomes. Sampling from a full state population with random assignment is uncommon in social research. Moreover, SEED OK has used multiple research methods over time, and it draws upon account data rather than participants’ self-reports concerning account holding, assets, and savings. The intervention itself is also noteworthy: The CDA in SEED OK has features recommended by CDA proponents, including automatic account opening for all at birth, automatic initial deposits, and a progressive savings subsidy. This update and extension of Nam et al. (2013) shows financial outcomes for young school-aged children. The school-age period is an important time for parents to begin planning their children’s formal education and communicating their expectations, and college accounts and assets may shape parental attitudes and behaviors.

In SEED OK, only 3 percent of 7- and 8-year-olds in the control group have OK 529 accounts and assets, and ownership rates have been especially low for control group children in socioeconomically disadvantaged groups (Beverly, Kim, et al., 2015; Nam et al., 2013). National studies of participation in 529 plans (Government Accountability Office, 2012; U.S. Department of the Treasury, 2009) and of other forms of college savings (Sallie Mae, 2014) confirm that disadvantaged children are very unlikely to have designated accounts and savings for college. In short, college savings initiatives that rely on individuals to open accounts and save have low take-up rates and strongly favor advantaged children. Public subsidies for these existing 529 plans are highly regressive.

In contrast and by design, an automatic CDA extends the opportunity to have college accounts and assets, with public subsidies, to all children. In SEED OK, 99.9 percent of treatment children have college accounts with over \$1,400 in assets, and there is essentially no variation by socioeconomic

¹²For example, 22 children (11 in the treatment group) have more than \$10,000 in individual OK 529 accounts.

status. Thus, the SEED OK experiment has demonstrated that full inclusion is possible. This is perhaps the most meaningful policy lesson in SEED OK thus far, because it sets the stage for widespread participation in asset building and more equitable distribution of public resources. Full inclusion is facilitated when CDAs are built on a 529 platform: public control of 529 plans combined with centralized accounting and investments provides a policy structure that facilitates universal and progressive innovations (Clancy, Sherraden, & Beverly, 2015).

This update of Nam et al. (2013) also shows the importance of investment earnings. About seven years after the intervention began, investment earnings comprise almost 30 percent of OK 529 assets for the typical treatment child. Despite a severe recession, the initial deposits from SEED OK into OK 529 accounts have grown by more than 40 percent. These two features—an investment vehicle and automatic deposits into it—are essential to building assets for disadvantaged children. If children receive investment accounts and if those accounts are seeded with automatic initial deposits when the children are very young, the accounts may accumulate meaningful assets over time—even the accounts of children whose families are unable to contribute. Unless full inclusion is achieved (in this case through automatic account opening and automatic deposits), disadvantaged children will not benefit from the asset accumulation that occurs through investment growth.

By design, CDAs are a population-level intervention, not unlike an urban plumbing system that provides safe water to all, or a public transportation system that provides safe and inexpensive transport. In population-level interventions, individual behavior matters, but is not the only—nor necessarily the most important—factor of interest and impact (Sherraden, 2014).

Turning to individual behavior, we find, as anticipated, that treatment children are fairly unlikely to have individual OK 529 accounts and savings, but in SEED OK they are significantly more likely than control children to have these. Treatment children have significantly more savings than control children in mother-owned accounts, which were the focus of the SEED OK incentives. For other individual accounts and for all individual accounts combined, treatment–control differences in mean savings amounts are not significant. Other research shows that the CDA in SEED OK increases the likelihood that disadvantaged children have individual accounts and savings (Beverly, Kim, et al., 2015; Wikoff et al., 2015). That is, the CDA changes individual financial behaviors among families across the economic spectrum, not just for the advantaged families.

Nevertheless, extended interviews with treatment mothers suggest that lack of surplus income is a common barrier to saving and even to account opening. For example, one mother said: “Yeah, I got all the information on that—that they would match whatever I put in there up to a certain amount. I just didn’t have the money to do that... Right now, it’s just not possible” (Gray et al., 2012, p. 66). A number of mothers talked about the need to purchase diapers, food, medicine, and other necessities. Also, substantial challenges arose because SEED OK distributed information exclusively by mail. For example, the extended interviews indicate that some mothers misunderstood the accounts and incentives. Some mistakenly thought that they were required to make the \$100 account-opening deposit or regular contributions to the individual OK 529 account, and several seemed confused about the match (Gray et al., 2012, chapter 8).

If CDAs were implemented under a statewide or national policy, public service announcements could be used to increase awareness and understanding of 529 plans and CDA program incentives, but lack of surplus income is likely to be an ongoing problem for many families. (And this is more

obvious in opt-out programs like SEED OK than in opt-in programs, which enroll those who are most able and willing to save.) Lack of surplus income in low- and moderate-income families limits the potential of a savings match to incentivize and subsidize individual saving and to address inequality. Automatic, targeted milestone deposits—for example, funds deposited automatically when a child eligible for free or reduced-price lunch enters kindergarten and graduates from high school—would almost certainly have a greater effect on asset accumulation in disadvantaged families than would a small savings match.

In-depth interviews with treatment mothers indicate that the state-owned account and initial deposit caused some mothers to be more hopeful about their children’s future and more focused in supporting their children’s education. For example, one mother observed that her child has “pretty much had [the CDA] since he was born,” and said, “I’ve always been thinking that he’s gonna go to college” (Gray et al., 2012, p. 57). She explained: “I’m going to have to get him through school so he can use this and go to college” (Gray et al., 2012, p. 57). Another mother reflected on the effects of the CDA, saying, “It did spur us to think more along those lines of saving for his college” (Gray et al., 2012, p. 53). A third mother noted that the CDA was “very important” to her daughter’s future:

’Cause I think that if she continues to see these papers [quarterly statements for state-owned accounts] come in, then, that people beside me and her dad, you know, and family—but people out there that she has no idea about—want to give her money to go to school, then it must be darn important to go to school. (Gray et al., 2012, p. 53)

Automatic features of the CDA seem to be responsible for these attitudes, because most of the mothers had not opened or saved in an individually owned account.

Other SEED OK research shows that the CDA has had positive impacts on symptoms of maternal depression (Huang, Sherraden, and Purnell, 2014; Huang et al., 2015b) and the early social-emotional development of children (Huang, Kim, et al., 2014; 2015a; Huang, Sherraden, Kim, et al., 2014), regardless of whether mothers have opened and saved in an individual OK 529 account. Again, the automatic features of the CDA appear to trigger these changes in well-being and child development. Research also shows that the CDA increases mothers’ expectations for their children’s educational attainment (Kim et al., 2015), though in this case the effect is stronger for mothers who have opened accounts for their children than for mothers who have not (Kim et al., 2014).

It is important to note that these nonfinancial impacts occur even though most of the “expenses” in SEED OK are not actually spent and gone. Rather, the largest expenditures in SEED OK are the funds deposited into the accounts of children. The material benefits of these asset accumulations—assistance with educational expenses—are to be realized in the future.

Conclusion

The research results reported here show clearly that the CDA in SEED OK has large impacts on OK 529 account and asset ownership as well as on the value of OK 529 assets. This is mostly because account opening and the initial deposit were automatic and because the initial deposit was a meaningful amount. Investment earnings accruing on the initial deposit also matter. The CDA’s

automatic features have greater impacts on disadvantaged children because, compared with advantaged counterparts, disadvantaged children are less likely to have OK 529 accounts and assets unless they receive a CDA. In short, an automatic CDA with a meaningful, automatic, initial deposit extends the benefits of an asset-building initiative to the full population, regardless of the family's socioeconomic status.

As time passes and children age, researchers will be able to assess whether the assets accumulated in the CDA, along with any changes in attitudes, behaviors, and child development outcomes, are enough to increase rates of college enrollment and completion. The qualities of the SEED OK experiment—which includes probability sampling from a full state population, random assignment to treatment and control groups with good randomization, and use of multiple research methods to examine CDA effects—suggest that the experiment will continue to produce important insights for many years.

References

- Beal, S.J., & Crockett, L.J. (2010). Adolescents' occupational and educational aspirations and expectations: Links to high school activities and adult educational attainment. *Developmental Psychology, 46*, 258–265.
- Benhassine, N., Devoto, F., Duflo, E., Dupas, P., and Pouliquen, V. (2015). Turning a shove into a nudge? A “labeled cash transfer” for education. *American Economic Journal: Economic Policy, 7*(3), 86–125.
- Bertrand, M., Mullainathan, S., & Shafir, E. (2004). A behavioral-economics view of poverty. *American Economic Review, 94*, 419–423.
- Beverly, S.G., Clancy, M.M., Huang, J., & Sherraden, M. (2015). *The SEED for Oklahoma Kids Child Development Account experiment: Accounts, assets, earnings, and savings* (CSD Research Brief No. 15-29). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/RB15-29.pdf>.
- Beverly, S.G., Clancy, M.M., & Sherraden, M. (2014). *Testing universal college savings accounts at birth: Early research from SEED for Oklahoma Kids* (CSD Research Summary No. 14-08). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/RS14-08.pdf>.
- Beverly, S.G., Elliott, W., III, & Sherraden, M. (2013). *Child Development Accounts and college success: Accounts, assets, expectations, and achievements* (CSD Perspective No. 13-27). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/P13-27.pdf>.
- Beverly, S.G., Kim, Y., Sherraden, M., Nam, Y., & Clancy, M.M. (2015). Can Child Development Accounts be inclusive? Evidence from a statewide experiment. *Children and Youth Services Review, 53*, 92–104.
- Clancy, M.M., & Sherraden, M. (2014). *Automatic deposits for all at birth: Maine's Harold Alfond College Challenge* (CSD Policy Report No. 14-05). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/PR14-05.pdf>.
- Clancy, M.M., Sherraden, M., & Beverly, S.G. (2015). *College savings plans: A platform for inclusive and progressive Child Development Accounts* (CSD Policy Brief No. 15-07). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/PB15-07.pdf>.
- Elliott, W., III, & Beverly, S.G. (2011). Staying on course: The effects of savings and assets on the college progress of young adults. *American Journal of Education, 117*, 343–374.
- Elliott, W., III, Choi, E.H., Destin, M., & Kim, K.H. (2011). The age old question, which comes first? A simultaneous test of children's savings and children's college-bound identity. *Children and Youth Services Review, 33*, 1101–1111.
- Elliott, W., III, Destin, M., & Friedline, T. (2011). Taking stock of ten years of research on the relationship between assets and children's educational outcomes: Implications for theory, policy and intervention. *Children and Youth Services Review, 33*, 2312–2328.

- Goldberg, F. (2005). The universal piggy bank: Designing and implementing a system of savings accounts for children. In M. Sherraden (Ed.), *Inclusion in the American Dream: Assets, poverty, and public policy* (pp. 303–322). New York, NY: Oxford University Press.
- Government Accountability Office. (2012). *A small percentage of families save in 529 Plans* (GAO Publication No. 13-64). Washington, DC: Author. Retrieved January 7, 2016, from <http://www.gao.gov/products/GAO-13-64>.
- Gray, K., Clancy, M.M., Sherraden, M.S., Wagner, K., & Miller-Cribbs, J. (2012). *Interviews with mothers of young children in the SEED for Oklahoma Kids college savings experiment* (CSD Research Report No. 12-53). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/RP12-53.pdf>.
- Huang, J., Kim, Y., Sherraden, M., & Clancy, M.M. (2014). *Unmarried mothers and children's social-emotional development: The role of Child Development Accounts*. Manuscript submitted for publication.
- Huang, J., Kim, Y., Sherraden, M., & Clancy, M.M. (2015a). *Material hardship and children's social-emotional development: Testing buffering effects of Child Development Accounts in a randomized experiment*. Manuscript submitted for publication.
- Huang, J., Kim, Y., Sherraden, M., & Clancy, M.M. (2015b). *Material hardship, maternal depressive symptoms, and Child Development Accounts: Buffering effects in a randomized experiment*. Manuscript submitted for publication.
- Huang, J., Sherraden, M., & Purnell, J.Q. (2014). Impacts of Child Development Accounts on maternal depressive symptoms: Evidence from a randomized statewide policy experiment. *Social Science & Medicine*, *112*, 30–38.
- Huang, J., Sherraden, M., Kim, Y., & Clancy, M.M. (2014). Effects of Child Development Accounts on early social-emotional development: An experimental test. *JAMA Pediatrics*, *168*, 265–271.
- Kim, Y., Huang, J., Sherraden, M., & Clancy, M.M. (2014, January). *Mother's educational expectations and 529 college savings account: Using state-wide social experiment data*. Paper presented at the annual conference of the Society for Social Work and Research, San Antonio, TX.
- Kim, Y., Sherraden, M., Huang, J., & Clancy, M.M. (2015). Child Development Accounts and parental educational expectations for young children: Early evidence from a statewide social experiment. *Social Service Review*, *89*, 99–137.
- Loke, V., & Sherraden, M. (2009). Building assets from birth: A global comparison of Child Development Account policies. *International Journal of Social Welfare*, *18*, 119–129.
- Marks, E.L., Rhodes, B.B., & Scheffler, S. (2008). *SEED for Oklahoma Kids: Baseline analysis* [Report]. Research Triangle Park, NC: RTI International.
- Nam, Y., Kim, Y., Clancy, M.M., Zager, R., & Sherraden, M. (2013). Do Child Development Accounts promote account holding, saving, and asset accumulation for children's future? Evidence from a statewide randomized experiment. *Journal of Policy Analysis and Management*, *32*, 6–33.
- Oyserman, D. (2013). Not just any path: Implications of identity-based motivation for disparities in school outcomes. *Economics of Education Review*, *33*, 179–190.

- Sallie Mae. (2014). *How America saves for college 2014: Sallie Mae's national study of parents with children under age 18* [Report]. Newark, DE: Author.
- Sherraden, M. (1991). *Assets and the poor: A new American welfare policy*. Armonk, NY: M.E. Sharpe.
- Sherraden, M. (2014). Asset building research and policy: Pathways, progress, and potential of a social innovation. In R. Cramer & T. R. Williams Shanks (Eds.), *The assets perspective: The rise of asset building and its impact on social policy* (pp. 263–284). New York, NY: Palgrave Macmillan.
- Sherraden, M., Clancy, M., Nam, Y., Huang, J., Kim, Y., Beverly, S.G. Mason, L.R., Williams Shanks, T. R., Wikoff, N.E., Schreiner, M., & Purnell, J.Q. (2016). *Universal and progressive Child Development Accounts: A policy innovation to reduce educational disparity*. Manuscript submitted for publication.
- Sherraden, M., Clancy, M.M., Nam, Y., Huang, J., Kim, Y., Beverly, S.G., Mason, L.R., Wikoff, N.E., Schreiner, M., & Purnell, J.Q. (2015). Universal accounts at birth: Building knowledge to inform policy. *Journal of the Society for Social Work and Research*, 6, 541–564.
- U.S. Department of the Treasury. (2009). *An analysis of Section 529 College Savings and Prepaid Tuition Plans: A report prepared by the Department of Treasury for the White House Task Force on Middle Class Working Families*. Washington, DC: Author. Retrieved January 7, 2016, from <http://www.treasury.gov/press-center/press-releases/Documents/529.pdf>.
- Wikoff, N., Huang, J., Kim, Y., & Sherraden, M. (2015). Material hardship and 529 college savings plan participation: The mitigating effects of Child Development Accounts. *Social Science Research*, 50, 189–202.
- Zager, R., Kim, Y., Nam, Y., Clancy, M.M., & Sherraden, M. (2010). *The SEED for Oklahoma Kids experiment: Initial account opening and savings* (CSD Research Report No. 10-14). St. Louis, MO: Washington University, Center for Social Development. Retrieved January 7, 2016, from <http://csd.wustl.edu/Publications/Documents/RP10-14.pdf>.

Suggested citation

Clancy, M. M., Beverly, S. G., Sherraden, M., & Huang, J. (2016). *Testing universal Child Development Accounts: Financial impacts in a large social experiment* (CSD Working Paper No. 16-08). St. Louis, MO: Washington University, Center for Social Development.

Contact

Center for Social Development
 Washington University in St. Louis
 One Brookings Drive
 Campus Box 1196
 St. Louis, MO 63119

csd@wustl.edu