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The SEED for Oklahoma Kids Child Development Account Experiment: Accounts, Assets, Earnings, and Savings

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In this brief, we use the most recent data to examine financial outcomes for treatment children in the SEED for Oklahoma Kids (SEED OK) Child Development Account (CDA) experiment. We examine account holding, asset accumulation, and savings as of December 31, 2014, when children were between 7 and 8 years old. We highlight the importance of full inclusion in asset building and investment earnings over time.

SEED OK

The SEED OK experiment is a large randomized test of the universal, automatic, and progressive CDA policy envisioned by Sherraden.[1] The experiment randomly selected children via the birth records of all infants born in Oklahoma during certain periods in 2007. These infants and their mothers were randomly assigned to the treatment group or the control group after mothers completed a baseline interview.[2] Treatment children (1,358) received the CDA; control children (1,346) did not. Random assignment to treatment or control groups and sampling from a full state population are uncommon practices in social research. These features make SEED OK an unusually rigorous demonstration and policy test. Other SEED OK research compares treatment and control groups, showing that the CDA in this experiment has several, positive, financial and nonfinancial impacts on young children and their parents.[3] This brief reports detailed financial outcomes for children in the treatment group. The findings reported here provide insights on financial outcomes that might occur under a nationwide, automatic, universal, and progressive CDA.

The primary component of the CDA in SEED OK is an Oklahoma 529 College Savings Plan (OK 529) account with an initial deposit of $1,000. These *SEED OK accounts* were opened *automatically* for every child in the treatment group. They hold money provided as part of the CDA and are owned by the state of Oklahoma. Like funds in other OK 529 accounts, these funds will be sent directly to postsecondary educational institutions.

Other components of the CDA in SEED OK include educational materials, a progressive savings match, and a time-limited $100 account-opening deposit incentive, all of which encourage treatment mothers to open and save in their own OK 529 accounts for their infants.[4] These *individual OK 529 accounts* hold individual savings (and the $100 account-opening deposit).[5] For about 4 years, low- and moderate-income treatment children received $1 or 50¢ in matching funds for every $1 deposited by family and friends.[6] Treatment mothers received letters, postcards, and brochures that described the OK 529 accounts, introduced SEED OK financial incentives, and communicated messages about the importance of education. TIAA-CREF, the OK 529 program manager, sends SEED OK account statements to all treatment children each calendar quarter.

It is important to note that the CDA in SEED OK is a very efficient and "low-touch" intervention. There has been no face-to-face interaction. Information is sent almost exclusively by mail in order to reach treatment families without exposing control families to the CDA. Providing information by mail creates substantial challenges. (For example, mothers who relocate may not receive all communications, some do not understand the materials, and others do not read them.) Under a CDA policy that includes the state or nation's entire population, multiple messages (e.g., public service announcements on television, radio, and the Internet) and multiple messengers (e.g., state or federal

Table 1. Assets and Earnings in OK 529 Accounts for SEED OK Treatment Children (*n* = 1,358)

Outcome	Mean	Median	Maximum
OK 529 assets without earnings	$1,281	$1,000	$34,700
OK 529 assets with earnings	$1,851	$1,426	$55,916
Earnings on OK 529 assets	$569	$426	$41,915

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. Assets are funds in any OK 529 account; this includes the $1,000 initial deposit, the $100 account-opening deposit, individual savings, and match money.

officials, teachers, social workers, and businesses) could provide information about the CDA program and encourage people to save. This was not possible in the SEED OK experiment.

Accounts, Assets, Earnings, and Savings in SEED OK

In this section, we present findings on accounts, assets, earnings, and individual savings as of December 31, 2014, for children in the treatment group. Data were transferred electronically from TIAA-CREF. Percentages and averages are weighted to be representative of births in Oklahoma in 2007. The weighting includes adjustments for oversampling of African Americans, American Indians, and Hispanics.[7]

As noted above, a SEED OK account with $1,000 was opened automatically for every child in the treatment group. One mother declined the account and initial deposit for religious reasons, and her child's account was closed. Thus, 99.9% of treatment children have a SEED OK account with $1,000.[8] The SEED OK findings demonstrate that financial inclusion and asset building are possible for a full population.

Table 1 shows assets and earnings in OK 529 accounts for treatment children. Assets are funds in any OK 529 account; this includes the $1,000 initial deposit, the $100 account-opening deposit, individual savings, and match money. We report total assets with and without investment earnings.

Across all treatment children, asset accumulation in OK 529 accounts (with earnings) totals $2,556,872. The average value of OK 529 assets is $1,281 without earnings and $1,851 with earnings. The median value is $1,000 without earnings and $1,426 with earnings.

Investment growth for OK 529 assets is substantial. The median amount of earnings for treatment children is $426. This is also the median among treatment children who received no other deposit than the initial $1,000 seed. With investment earnings, every treatment child (except the one child whose mother opted out) has at least $1,400 in college assets.

Funds in the state-owned SEED OK accounts are invested in the OK 529 Balanced Fund, a mix of stocks and bonds. Figure 1 shows the value over time of the $1,000 initial deposit invested in the OK 529 on December 27, 2007. The value dipped to a low of $698 in the first quarter of 2009 and reached $1,426, its highest point thus far, at the end of 2014. At this point in time, for the typical SEED OK treatment child, investment earnings comprise almost 30% of total OK 529 assets.

The SEED OK experiment made 1,357 initial deposits for a total investment of $1,357,000 in the OK 529

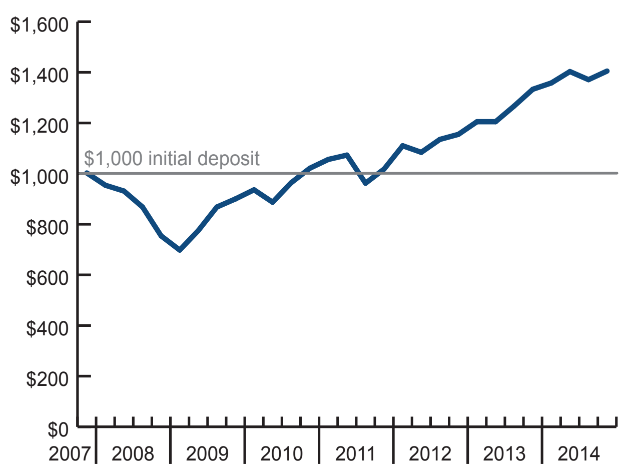

Figure 1. Value of the $1,000 SEED OK initial deposit, by quarter. SEED OK = SEED for Oklahoma Kids. The initial deposit was invested in the OK 529 Balanced Fund on December 27, 2007.

Table 2. Individual OK 529 Savings and Earnings for SEED OK Treatment Children with Savings (*n* = 101)

Outcome	Mean	Median
Individual OK 529 savings without earnings	$2,077	$740
Individual OK 529 savings with earnings	$3,112	$939
Earnings on individual OK 529 savings	$1,035	$278

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. Individual savings come from personal deposits into individual OK 529 accounts; SEED OK deposits—including the $100 account-opening deposit and match money—are not included.

Balanced Fund. The investment was valued at about $1.94 million on December 31, 2014. This is an increase in value of almost 43% over 7 years, even though these accounts were opened just prior to the severe recession and stock market drop in 2008 and 2009. Between its inception in July 2006 and July 2015, the OK 529 Balanced Fund had an average annual return of about 6% per year.[9]

As noted above, treatment mothers were encouraged to open an individual OK 529 account for their young children. Like other individuals opening OK 529 accounts during the same time period, treatment mothers chose one of six investment options: managed allocation (age-based), equity index, diversified equity, balanced, fixed income, or guaranteed.[10] At this point in time, 203 treatment children (17%) have an OK 529 account opened by their mother and 101 (8%) have individual savings in a mother-opened account. Individual savings come from personal deposits; deposits from SEED OK—including the $100 account-opening deposit and any match money—are *not* included. We measure net savings: deposits minus withdrawals.[11] The 102 children with accounts but no individual savings either have not received personal deposits or received personal deposits that were later withdrawn.

With investment earnings, every treatment child (except the one child whose mother opted out) has at least $1,400 in college assets

Mothers may withdraw the $100 account-opening incentive that SEED OK deposited into their individual OK 529 accounts. The 203 children with individual accounts include one child whose mother has withdrawn the $100 deposit (leaving a balance of $0). Two other mothers opened accounts for their children but later withdrew the $100 deposits and closed the accounts. Thus, after about 7 years, only three of 205 mothers (1.5%) have withdrawn the account-opening deposit.[12]

Across all 1,358 treatment children, the average value of individual OK 529 savings is $174 if earnings are excluded and $261 if earnings are included. The total amount of individual savings accumulated by treatment children in mother-opened OK 529 accounts (with earnings) is $365,578.

Table 2 shows savings and earnings for treatment children *with any savings* in those accounts (amounts exclude the $100 account-opening deposit and any matching funds). The average individual savings amount is $2,077 without earnings and $3,122 with earnings. The average amount of earnings on individual savings is $1,035. These averages are heavily influenced by the unusually sizable savings in a few accounts.[13] The median amount of individual savings is $740 without earnings and $939 with earnings. The median amount of earnings is $278.

Forty low- or moderate-income treatment children (3% of all treatment children) have earned match money from SEED OK. The average amount of savings for these children is $1,043 without earnings and $1,532 with earnings. The median savings amount for these children is $300 without earnings and $603 with earnings. The median amount of earnings on savings for these children is $133.

Discussion

The findings reported here provide insights concerning the financial outcomes that might occur under a nationwide, universal, automatic, and progressive CDA program. One of the most

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important findings is that essentially all SEED OK treatment children (99.9%) have a college savings account. The SEED OK experiment models an asset-building policy that is fully inclusive. The fact that automatic accounts are part of the intervention does not make this outcome any less meaningful. Nationwide, in 2010, only 6% of families with children under age 25 had a 529 account or a similar college savings account known as a Coverdell.[14] In SEED OK, without the automatic account (i.e., in the control group), only 3% of children have an OK 529 account.[15] These figures contrast markedly from 99.9% financial inclusion and asset building in the SEED OK CDA.

Another key finding is that treatment children are accumulating assets for college. Except for the child whose mother opted out, every treatment child has at least $1,400 in OK 529 assets. In the SEED OK control group (i.e., among children who did not receive the SEED OK CDA), the average value of OK 529 assets is $323 and 97% of children have no OK 529 assets at all.[16]

Individual saving behavior is important but not the central focus of SEED OK

This research demonstrates that a sizable initial deposit is an essential feature of CDA programs. First, an automatic initial deposit gives *all* children some assets for college. This is important because having assets for college may trigger changes in parents' attitudes about their children's future. An automatic deposit of $1,000 or more would likely capture the attention of many parents and send the message that college is important and expected.[17] It may even make parents more hopeful about their children's future and more committed to supporting their children's education. In-depth interviews with SEED OK mothers confirm that an automatic account and initial deposit can shape attitudes about the future. For example, one mother noted that her child has "pretty much had [the CDA] since he was born, so I've always been thinking that he's gonna go to college." She also said: "I'm going to have to get him through school so he can use this and go to college."[18]

In addition, as this research shows, a sizable initial deposit into an investment account can generate substantial earnings.[19] Despite the worst recession since the Great Depression, the value of the SEED OK initial deposit increased in total by more than 40% over the first 7 years of the initiative. If CDAs are funded with automatic, sizable, initial deposits when children are very young, they may accumulate meaningful levels of assets over time, even if their families do not contribute.

What about individual savings in the SEED OK CDA? Individual saving behavior is important but not the central focus of SEED OK. The SEED OK experiment is primarily a test of a universal and progressive asset-building policy.[20] Still, because the CDA in SEED OK is "low touch," it is noteworthy that 8% of treatment children have individual savings in OK 529 accounts.

In addition, children with individual savings in OK 529 accounts have what we consider meaningful amounts: Among treatment children with any such savings, the median value of savings with earnings is over $900. Among children who received match money—children from low- and moderate-income households—the median individual savings with earnings (excluding the match) is over $600. Managing to accumulate personal savings of $600 in a 529 account by the time a child is 8 years old may change how low- and moderate-income parents—and eventually children—think about postsecondary education.

Although the CDA in SEED OK seems to have encouraged some families to save in an OK 529 account, it is important to recognize the limitations of a savings match. Lack of surplus income will always be an issue for some families, and this is more obvious in SEED OK, an opt-out program with near-universal enrollment, than in opt-in programs, which enroll those who are most able and motivated to save. Thus, a savings match has only limited potential to incentivize and subsidize saving by those who most need asset accumulation.

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Automatic, targeted milestone deposits—for example, automatic deposits when students receiving free or reduced-price school lunches enter kindergarten and graduate from high school—would almost certainly affect asset accumulation in disadvantaged families more than would a small savings match.

Conclusion

The findings reported here have two important implications for the design of CDA policy. First, because the objectives of CDAs are financial inclusion and asset accumulation for developmental goals, accounts should be universal and automatic, and funds should be held in savings vehicles with the potential for investment growth. The SEED OK initial deposits—invested in a 529 plan—grew by more than 40% over 7 years, despite a severe financial crisis. Funds held in a basic bank savings account would have negligible earnings and no potential for investment growth. Second, a sizable initial deposit is an essential feature of CDA programs. Initial deposits may trigger important attitude changes, which may in turn affect parents'—and eventually children's—educational engagement. Meanwhile, investment earnings may increase the value of the initial deposit, and the accumulation of college assets may reinforce the message that college is possible and even expected. Over the childhood years, these saving-for-college experiences could have meaningful impacts on educational achievement.

End Notes

[1] A CDA is a savings or investment account to help people accumulate resources to meet medium- and long-term developmental goals, including postsecondary education and home purchase. Proponents envision a CDA program that would be universal, progressive, and lifelong: The federal government would open a CDA for every newborn and provide an initial deposit. Deposits by parents, youth, and others would be encouraged, and withdrawals for purposes other than those specified in program rules would be discouraged. A progressive savings match or some other progressive component would incentivize and subsidize saving by low- and moderate-income families, and the CDA would accompany an individual from birth through retirement. The CDA concept was introduced by Sherraden (1991, 2014; see also Cramer and Newville, 2009 and Goldberg, 2005). Versions of CDAs have been implemented in Singapore, Canada, Korea, the United Kingdom, and other countries around the world (Loke & Sherraden, 2009). In addition, Maine, Nevada, Connecticut, and Rhode Island now have CDA programs (Clancy, Sherraden, & Beverly, 2015). Related legislation has been proposed in other states.

[2] For simplicity, we refer to all SEED OK caregivers as mothers, although the sample includes one father and five nonparental caregivers. For more information about the SEED OK intervention and research methods, see Zager, Kim, Nam, Clancy, and Sherraden (2010).

[3] For example, evidence indicates that the CDA helps mothers maintain high expectations for their children's education, reduces symptoms of depression in mothers, and improves the early social-emotional development of children. Often, the CDA has positive outcomes regardless of parents' saving behavior (see Beverly, Clancy, & Sherraden, 2014).

[4] The 529 plan in Oklahoma requires a minimum $100 contribution to open an account. By depositing $100 for treatment mothers who opened an account on or before April 15, 2009, SEED OK sought to eliminate a potential financial barrier.

[5] For administrative reasons discussed in Nam, Kim, Clancy, Zager, and Sherraden (2013), deposits by parents and others are kept separate from the SEED OK initial deposit and match money. The ideal CDA policy would automatically open an account for each individual, and this single account would hold deposits and earnings from all sources.

[6] The state used official records to determine savings-match eligibility, so parents did not have to submit tax returns or self-certify their adjusted gross income (see Zager et al., 2010).

[7] The weights also adjust for observed differences between those who agreed to participate in the study and those who did not (Marks, Rhodes, & Scheffler, 2008). Weighted percentages and

averages differ slightly from raw percentages and averages in some instances.

[8] For simplicity, we say that a child *has* or *holds* an account if she or he is the beneficiary.

[9] Oklahoma 529 College Savings Plan (2015).

[10] Age-based funds are the most popular 529 investment. These shift assets from more aggressive to more conservative investments as the beneficiary approaches college age (Clancy & Jovanovich, 2009). In 2015, the OK 529 also offers a global equity option. Instead of one managed allocation option, the plan offers three—conservative, moderate, and aggressive.

[11] Because we exclude the $100 account-opening deposit from our measure of savings, we also exclude an estimate of *earnings on that deposit* from our measures of earnings and savings with earnings.

[12] Some mothers may not have known that they could withdraw this money.

[13] For example, five children have over $12,500 in savings. Medians are less influenced by unusual values than are means.

[14] Government Accountability Office (2012).

[15] Sherraden, Clancy, Beverly, and Huang (2015).

[16] Sherraden et al. (2015).

[17] Beverly, Elliott, and Sherraden (2013).

[18] Gray, Clancy, Sherraden, Wagner, and Miller-Cribbs (2012, p. 57).

[19] For more on the benefits of building CDAs on a centralized investment platform, see Clancy, Sherraden, and Beverly (2015).

[20] Sherraden (2014).

[21] Sherraden et al. (2015). It is not yet clear whether the CDA in SEED OK affects the *amount* of individual savings. Research consistently shows that treatment children have more savings than do control children, but the difference is not always statistically significant (Beverly et al., 2015; Nam et al., 2013).

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