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Are Child Development Accounts Inclusive?

Early Evidence from a Statewide Experiment

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Are Child Development Accounts Inclusive? Early Evidence from a Statewide Experiment

Abstract

A key objective of Child Development Accounts (CDAs) is to increase college completion rates among disadvantaged youth by helping families accumulate assets for college and by encouraging youth to see themselves as college bound. While the major asset-building programs in the United States largely benefit socioeconomically advantaged individuals, CDAs explicitly aim to facilitate account holding and asset accumulation by disadvantaged families. But do CDAs meet the goal of being inclusive? This research uses data from a large CDA experiment with probability sampling and random assignment to examine early CDA savings outcomes. Findings indicate that the CDA improves outcomes for several demographic groups and has a greater impact on some disadvantaged groups than on their advantaged counterparts. Features like automatic account opening and automatic initial deposits, which are uncommon in other asset-building programs, extend the opportunities and benefits of asset accumulation to disadvantaged families.

Keywords: college access, Child Development Accounts, disadvantage, inclusion, low income, SEED for Oklahoma Kids

Child Development Accounts (CDAs) are a policy tool designed to facilitate saving and asset building for long-term developmental goals. First proposed by Michael Sherraden (1991; see also Goldberg, 2005), CDAs are savings or investment accounts for children. They can be opened as early as birth and aim to encourage lifelong accumulation of assets for such purposes as the purchase of a first home, the launch of a small business, or the acquisition of postsecondary education. Sherraden and others (Boshara, 2007; Sherraden & Stevens, 2010; Sherraden, 2014) have proposed a CDA policy that is both universal and progressive: They envision a national CDA program that automatically opens a savings account on behalf of every child born in the United States and automatically provides an initial seed deposit of $500 to $1,000. The program would also offer saving incentives to low- and moderate-income families.

Countries around the world have implemented CDAs; the most notable examples are Singapore, Canada, and the United Kingdom (Loke & Sherraden, 2009). In the United States, CDAs have been proposed several times at the federal level.[1] States and cities also have established CDA programs (see, e.g., Harold Alfond Foundation, 2013; Phillips and Stuhldreher, 2011). Although CDAs are envisioned as a tool for lifelong development, many of the early initiatives have emphasized saving for college.[2] In part, this emphasis is due to the fact that CDA programs in the United States have

[1] See, e.g., the America Saving for Personal Investment, Retirement, and Education (ASPIRE) Act of 2010, S. 3577, 111th Cong. (2010); see also the New America Foundation's (2013) proposal.

[2] Throughout, we use the term *college* to refer to all forms of accredited postsecondary education and training.

been built upon existing 529 college savings plans.[3] Also, the first CDA withdrawals by many account holders are likely to be for postsecondary education and training.

Policies that increase college attendance and completion are valuable because college graduates fare better than nongraduates on indicators of economic well-being (e.g., employment, earnings, and access to health insurance and pension benefits). College education also is associated with positive attitudes and behaviors related to health, parenting, and civic involvement (Baum, Ma, & Payea, 2013). However, members of socioeconomically disadvantaged groups are less likely to attend and complete college than are counterparts from advantaged groups (Baum et al., 2013; Brown, Chingos, & McPherson, 2009; Rowan-Kenyon, 2007), and the inability to afford college is partly to blame (see, e.g., Paulsen & St. John, 2002; St. John, Paulsen, & Carter, 2005).

Having assets for college has become particularly important in recent years. During the last three decades, college tuition and related costs have risen more rapidly than the inflation rate (College Board, 2012). In the same period, financial aid has shifted away from need-based assistance toward student loans (Condon & Prince, 2008). In this "high-tuition, high-loan environment" (Paulsen & St. John, 2002, p. 230), personal savings is important for financing college, but low-income families are less likely than others to have saved for their children's education (Sallie Mae & Gallup, 2010). The lack of savings may act as a barrier to college attendance for low-income children.

Like traditional forms of financial aid (i.e., scholarships, grants, and loans), CDAs aim to increase college attendance and completion rates. Like Pell Grants and other *need-based* aid programs, CDAs provide greater subsidies to lower-income families. However, CDA programs differ from traditional forms of financial aid in important ways: CDAs provide funds for college as early as birth, and they are available to all. The fact that CDAs are opened automatically for everyone and seeded with money for college expenses may communicate to parents and children that college is important and expected. Children who are aware of their CDAs also grow up with the knowledge that some funds are available for their college expenses. For these reasons (and others proposed by Beverly, Elliott, and Sherraden, 2013), CDAs probably increase the chances that children who hold them will expect to go to college. Their parents (and others) may also expect them to go to college, and those assumptions likely reinforce their own expectations. Research consistently shows that higher educational expectations are associated with greater academic effort and achievement (Beal & Crockett, 2010; Elliott, Destin, & Friedline, 2011). Thus, CDAs may help children develop a *college-bound identity* and so increase the likelihood that youth attend and complete college.[4]

Traditional forms of financial aid also provide resources for college but are typically awarded just before college attendance and are not universally available. By providing college assets early in a child's life, encouraging families to save, and allowing earnings to accumulate over time, CDAs may have a more powerful effect on education-related attitudes than do grants and loans (Assets and Education Initiative, 2013; see also Williams Shanks, Kim, Loke, & Destin, 2010). In addition, by

[3] In 1996, the federal government authorized states to establish tax-favored college savings plans (often called *529 plans* after the relevant section of the Internal Revenue Code). Qualified withdrawals from 529 accounts are exempt from federal and state taxes. Many states allow participants to claim income-tax deductions for qualified contributions (Lassar, Clancy, & McClure, 2010; U.S. Department of the Treasury, 2009).

[4] College-bound identity is an extension of identity-based motivation theory, which is described by Oyserman, Bybee, & Terry (2006) and Oyserman & Destin (2010). Oyserman (2013); Elliott, Choi, Destin, & Kim (2011); and Elliott & Sherraden (2013) discuss college-bound identity in the context of saving, assets, and CDAs.

providing accounts and assets to *all* children, CDAs may change the expectations of parents and children who might otherwise perceive college as unaffordable or even unimportant.

In the current social, economic, and policy environment in the United States, patterns of asset ownership and asset accumulation vary markedly by income and race. Both household net worth and the likelihood of owning a variety of assets rise with household income (U.S. Census Bureau, 2010a; 2010b). Moreover, there is extreme asset inequality by race and ethnicity (Taylor, Kochhar, & Fry, 2011; see also Carasso & McKernan, 2008). The major asset policies *increase* this inequality because they largely benefit socioeconomically advantaged individuals. For example, participation in Individual Retirement Accounts (IRAs) and 401(k)s is lower among African Americans than among Whites and lower among people with low earnings than among counterparts with higher earnings (Madrian & Shea, 2001; Springstead & Wilson, 2000). Average income and net worth are much higher among participants in traditional 529 plans than among all households with children aged 16 or under (Dynarski, 2004).[5]

However, CDAs differ in important ways from these programs because CDAs are grounded in an institutional theory of saving. The theory identifies policy and program characteristics that likely encourage asset accumulation and others that likely discourage it (Beverly et al., 2008; Schreiner & Sherraden, 2007; Sherraden & Barr, 2005; Sherraden, Schreiner, & Beverly, 2003). By including both universal components (e.g., automatic account opening and automatic initial deposits) and progressive components (e.g., incentives that aim to subsidize and encourage saving by low-income households), CDAs intentionally attempt to remove common barriers that discourage some households from holding accounts, saving, and accumulating assets. Because asset accumulation is highly skewed, because assets have become increasingly important for financing postsecondary education, because rates of participation in existing asset-building programs are low among low-income and non-White families, and because CDAs aim to extend the opportunities and benefits of asset accumulation to all families, it is important to examine whether CDAs are inclusive. Inclusivity is a framework for examining the goals and outcomes of a program or policy. Inclusive initiatives provide benefits to everyone, including individuals who tend to be marginalized; they do not exclude individuals—even inadvertently—on the basis of class, race, gender, disability, or other characteristics.

In this article, we present results from analysis of data collected by SEED for Oklahoma Kids (SEED OK), a large CDA experiment with probability sampling and random assignment. Mothers in the treatment group received an automatically opened, state-owned, Oklahoma College Savings Program account for their newborns and an initial $1,000 deposit in the account.[6] SEED OK provided information and incentives to encourage mothers in the treatment group to open and save in their own (privately owned) Oklahoma College Savings Program accounts.

Because SEED OK children are still very young, it will be many years before researchers can assess the full impact of the SEED OK CDA on college attendance and completion. At this point, we can examine several early CDA savings outcomes and the early impact of the CDA. Future research will

[5] The federal government also subsidizes asset accumulation by providing tax breaks for home ownership and investments. These tax benefits disproportionately benefit high-income and high-wealth individuals.
[6] For simplicity, we refer to all participants as mothers. For reasons specified below, we exclude five nonparental caregivers from the sample, which thus includes only one father.

consider the CDA's impact on parental attitudes and behaviors and later outcomes for children. Although CDAs may influence attitudes and behaviors regardless of the level of asset accumulation (Beverly et al., 2013), they are likely to have stronger effects when children have more CDA assets. Or perhaps effects are tied to a material level of assets; that is, assets in CDAs may affect attitudes and behaviors when parents and children believe that there are enough assets to increase the likelihood of college attendance. In recent research, Nam, Kim, Clancy, Zager, and Sherraden (2013) find that the SEED OK CDA positively affects several early savings outcomes. However, the authors do not closely examine whether the effects of the CDA vary across subgroups with different demographic characteristics. In this article, we investigate whether early SEED OK savings outcomes and the CDA's impacts (treatment–control differences) vary by income, race, and other demographic characteristics. That is, we ask whether early evidence indicates that the SEED OK CDA is inclusive.

SEED OK

The SEED OK experiment created a CDA within the Oklahoma 529 College Savings Plan (OK 529). Like other 529 plans, OK 529 provides tax incentives. Contributions of up to $10,000 per year ($20,000 for couples filing jointly) may be deducted from state income taxes. Investments in OK 529 grow tax free, and withdrawals are not taxed if used for qualified education expenses at in-state and out-of-state four-year colleges, community colleges, and vocational schools (Oklahoma 529 College Savings Plan, n.d.).[7]

In 2007, at the beginning of the study, SEED OK randomly selected a group of infants (hereafter, *SEED OK children*) born in Oklahoma during certain periods in 2007. In collaboration with SEED OK, the Oklahoma state treasurer sent a letter inviting the primary caregivers of SEED OK children to participate in the experiment. The letter indicated that participating mothers had a 50–50 chance of receiving an OK 529 account and an initial $1,000 deposit for their child. After mothers completed a baseline telephone survey, they were randomly assigned to the treatment or control group (Zager, Kim, Nam, Clancy, & Sherraden, 2010).

SEED OK treatment

The SEED OK treatment is an automatic CDA, including account, initial deposit, information, and saving incentives. For simplicity and efficiency, the ideal CDA policy would automatically open an account for every child, and these accounts would hold deposits and earnings from *all* sources.[8] However, state policy prevented use of a single-account structure for the OK 529 accounts in the SEED OK experiment. The state of Oklahoma preferred to retain ownership of the initial $1,000 deposit and any matching funds given to members of the treatment group. Therefore, the initial

[7] Nonqualified withdrawals of investment earnings are subject to federal and state taxes as well as to an additional 10% federal tax (Oklahoma 529 College Savings Plan, n.d.).

[8] If a single-account structure is not possible, another option is for a state to hold (on behalf of children) all state-owned CDA assets in an omnibus account and to invest the assets in a restricted portfolio within the 529 plan. The state of Maine uses this strategy for the Alfond College Challenge program. A key feature of this program is that *all* CDA assets, not just individual deposits, are reported to families on a single account statement (Clancy & Sherraden, 2014).

Table 1. Account Structure and Incentives by Treatment Status

Account	Treatment	Control
SEED OK account	State-owned OK 529 account opened automatically for child and $1,000 initial deposit provided (unless mother opts out)	No state-owned OK 529 account for child
Participant-owned 529 account	Encouraged to open participant-owned OK 529 account Offered time-limited $100 account-opening incentive Savings by income-eligible families in these accounts are matched with money deposited in SEED OK account	May open participant-owned OK 529 account No SEED OK information or account-opening incentive No SEED OK savings match
Other private OK 529 account	Anyone may open other private OK 529 accounts for child No SEED OK incentive	Anyone may open other private OK 529 accounts for child No SEED OK incentive

Note: SEED OK = SEED for Oklahoma Kids; OK 529 = Oklahoma 529 College Savings Plan.

deposit and matching funds are held in state-owned accounts that name the SEED OK child as beneficiary. In this way, the state limits access to SEED OK subsidies and incentives, ensuring that they will be used only for postsecondary education. In addition, the separation of deposits made by the state of Oklahoma from those made by individuals ensures that assets in the state-owned accounts do not jeopardize families' eligibility for federal postsecondary financial aid and other public benefits. Thus, the SEED OK CDA involves two different types of OK 529 accounts: a state-owned OK 529 account, which we call the *SEED OK account*, and a separate OK 529 account, which was opened voluntarily by SEED OK mothers and which we call the *participant-owned account*.

The SEED OK account structure and treatment are summarized in Table 1. Unless mothers declined the offer by notifying the state, the state treasurer automatically opened a SEED OK account for every SEED OK child whose mother was in the treatment group and automatically deposited an initial $1,000 from SEED OK funds into each account. The treasurer's office sent information about OK 529 to mothers in the treatment group and encouraged them to open their own OK 529 account with the SEED OK child as beneficiary.[9] Treatment-group mothers who opened their own participant-owned OK 529 account by April 15, 2009, received a $100 account-opening incentive.[10]

In addition, income-eligible mothers in the treatment group earned matches for deposits made into their participant-owned OK 529 accounts before the end of 2011. Mothers with annual adjusted gross income below $29,000 earned a 1:1 match, and those with an annual adjusted gross income between $29,000 and $43,499 earned a 0.5:1 match. To qualify for the match, mothers had to return a form that permitted the state to determine eligibility through state tax records or public assistance

[9] The state provides information in Spanish to SEED OK participants who indicated that Spanish is their primary language.

[10] The OK 529 requires a $100 minimum initial contribution to open a new account. By providing this contribution for participant-owned accounts opened by treatment mothers before April 15, 2009, SEED OK eliminated the only financial barrier to opening the account.

records (Zager et al., 2010).[11] The state deposited matches into SEED OK accounts. Mothers in the control group have not received any financial incentive or information from SEED OK about OK 529, and they were not eligible for the SEED OK account. However, they may open a participant-owned OK 529 account.

Research from the SEED OK experiment also examines a third type of OK 529 account: those opened for SEED OK children by adults other than their mothers (e.g., fathers, grandparents, and family friends). These *other private OK 529 accounts* may be opened for any SEED OK child, regardless of whether the mother was assigned to the treatment or control group. The SEED OK experiment has provided no incentive to open these accounts and no information to their owners. We examine these accounts because their beneficiaries are also beneficiaries of SEED OK or participant-owned accounts; it seems likely that adults consider these other private OK 529 accounts when deciding whether to open and save in participant-owned accounts for SEED OK children.

Logic of the SEED OK impact assessment

The SEED OK experiment creates the essential conditions for a policy test and impact assessment.[12] Any member of the control group may open and deposit funds into an OK 529 account. Thus, members of the treatment and control groups have the same *access* to 529 accounts. Because of the experiment's design, however, control-group members are not offered the *incentives* or *institutional assistance* offered to the treatment group. The treatment involves receiving an automatically opened 529 account with initial deposit, savings matches (for those eligible), and other incentives; this is not equivalent to holding a 529 account and having money in it at a subsequent point in time. Whether one holds an account and has assets are *outcomes*, and the impact of the SEED OK CDA on these outcomes should be measured. Even holding a state-owned account and having money in it at a later point in time are experimental outcomes worthy of measurement. It does not matter that members of the treatment group did not have to *do* anything to achieve these outcomes. The SEED OK CDA is paternalistic, but other public policies (e.g., Social Security) are also quite paternalistic, and we measure the outcomes when they represent policy goals.

The main purpose of SEED OK is to test a universal and progressive policy for account holding, long-term asset accumulation, and later developmental outcomes, not simply to study whether people open and deposit money into 529 accounts. Individual behavior alone can never result in universal and progressive asset accumulation. Because 529 account holding is a potential policy goal, we measure the impact of the SEED OK CDA on 529 account holding. Because the accumulation of 529 assets is a potential policy goal, we measure the CDA's impact on total OK 529 assets. Because the CDA aims to be inclusive, we examine its impacts on disadvantaged families. Future

[11] The $29,000 and $43,500 thresholds correspond to 100% and 150%, respectively, of the estimated 2006 mean adjusted gross income in Oklahoma (Zager et al., 2010). If a mother filed a state income tax return, SEED OK used the federal adjusted gross income reported on that form to determine match eligibility. If a mother did not file a state return, SEED OK used information from the Oklahoma Department of Human Services. Mothers receiving Temporary Assistance for Needy Families, Medicaid, or food stamp benefits were eligible for the 1:1 match.

[12] Random assignment appears to have been successful: Although members of the treatment and control groups may differ in unobserved ways, the two groups are similar on 36 demographic, household, and economic characteristics measured in the baseline survey (Kim & Nam, 2009).

SEED OK research can examine whether having 529 accounts and assets positively affects children's developmental, educational, and other outcomes—and whether active account opening and asset accumulation have different impacts than passive account opening and asset accumulation.

Methods

Sample

The sampling frame for the SEED OK experiment consists of the birth records of all children born in Oklahoma in April through June and August through October of 2007. The experiment randomly selected the birth records of 7,115 of these children and invited their primary caregivers to participate.[13] The study oversampled three minority groups (African Americans, American Indians, and Hispanics) to ensure that the subgroup analyses have adequate statistical power. Of the 7,115 mothers, 2,704 completed the baseline telephone survey.[14]

Study participants may differ from nonparticipants because participants were located by a survey research firm, provided their child's Social Security number (required for the SEED OK account), and completed the telephone survey. To assess the extent of bias arising from nonparticipation, we use information from birth records, comparing the characteristics of participants and nonparticipants. The two groups are not significantly different in terms of marital status, metropolitan residency, race, ethnicity, and gender. And the groups do not differ with respect to children's birth weight or the reported age of the children's fathers. The mean age of participating mothers (25.5 years) is significantly higher than that of nonparticipants (25.2 years), and participants have more education (12.5 years vs. 12.2 years). In addition, participants are more likely than nonparticipants to have been born in the United States (87% vs. 84%). It is also possible that participants differ systematically from nonparticipants in ways not captured by birth records. All analyses reported here use a weight variable created to adjust for oversampling of minority groups and observed nonparticipation bias (Marks, Rhodes, & Scheffler, 2008).

From the 2,704 study participants, we exclude one mother whose child died during the data collection period and five primary caregivers who are not parents of SEED OK children (i.e., are grandparents or siblings). We exclude these five because nonparent guardians may differ from parents in the ability and willingness to save for SEED OK children. The full sample consists of 2,698 mothers: 1,353 in the treatment group and 1,345 in the control group.

[13] Because of low participation among mothers identified via the initial sampling frame (records of infants born in Oklahoma between June and August 2007), SEED OK expanded the frame to include the records of infants born between August and October 2007.

[14] The response rate (38%) is not abnormally low for a recent telephone survey. For example, the response rate for the Survey of Consumer Attitudes declined from 72% in 1979 to 48% in 2003 (Curtin, Presser, & Singer, 2005). National surveys conducted by the Pew Research Center achieved response rates of around 25% in 2003. That is down from 36% in 1997 (Keeter, Kennedy, Dimock, Best, & Craighill, 2006).

Data

This study uses data from three sources: state birth records, a baseline survey, and OK 529 account records. Official state birth records contain demographic information collected after the birth of a child. However, unless otherwise noted, demographic data come from the baseline survey conducted before random assignment. These data include detailed demographic, socioeconomic, and household characteristics. Conducted via telephone from fall 2007 though spring 2008, the baseline survey took 43 minutes on average, and SEED OK paid participants $40 for their time (Marks et al., 2008). Quarterly account records provide the following information on every OK 529 account that lists a SEED OK child as the beneficiary: account balance; quarter-to-date, year-to-date, and life-to-date information on deposits and withdrawals; and the relationship of the account owner to the beneficiary.

Dependent variables

From OK 529 account data, we create dependent variables that capture OK 529 account holding, individual OK 529 savings, and total OK 529 assets (Table 2). These variables measure outcomes for children of mothers in the sample. That is, we measure whether *children* are the beneficiaries of 529 accounts and have individual 529 savings and 529 assets. For simplicity, we say that a child *holds* an account if she or he is its beneficiary. Also for simplicity, we use phrases like *children in the treatment group*, and, *control-group children*, even though SEED OK assigned mothers, not children, to those groups.

OK 529 account holding

The first set of outcomes measures OK 529 account holding. If a CDA were opened automatically for every child at birth, there would be no point in measuring account holding. For now, however, several considerations make account holding a useful outcome to measure. First, adults who actively open a 529 account show that they are interested in planning for a child's college expenses and in fact are motivated enough to overcome the "inertia" that often causes people to postpone financial decision making (Thaler & Benartzi, 2004, p. S168; see also Madrian & Shea, 2001).

Second, once families have a 529 account—whether they opened it themselves or received an automatically opened SEED OK account—they have a college savings vehicle that is tax favored and that holds funds dedicated for a specific purpose (i.e., savings for a particular child's college). This may encourage saving by increasing the salience of the goal. These 529 accounts also come with quarterly account statements, which might function as regular, subtle reminders to save (Gray, Clancy, Sherraden, Wagner, & Miller-Cribbs, 2012). Third, opening or receiving a 529 account when a child is young allows time for individuals to make deposits, for assets to accumulate, and for families to identify children as college bound (see Elliott, Choi, et al., 2011).

Our measures of OK 529 account holding are dichotomous indicators, recorded as of September 30, 2010, when SEED OK children were about 3 years old.The first measures whether or not a SEED OK child holds a *participant-owned OK 529 account*, i.e., an account opened by his or her

Table 2. Definitions of Early SEED OK Savings Outcomes

Early savings outcome	Definition
OK 529 account holding	
Participant-owned OK 529 account	Equals 1 if SEED OK child is beneficiary of OK 529 account opened by SEED OK mother
Any private OK 529 account	Equals 1 if SEED OK child is beneficiary of participant-owned or other private OK 529 account
Any OK 529 account	Equals 1 if SEED OK child is beneficiary of any OK 529 account (participant-owned, other private, or state-owned SEED OK account)
Individual OK 529 savings	
Any savings in participant-owned OK 529 account	Equals 1 if net deposits into participant-owned OK 529 account are greater than zero
Amount in participant-owned OK 529 account	Equals the dollar value of net deposits into participant-owned OK 529 account
Any savings in any private OK 529 account	Equals 1 if net deposits across participant-owned and other private OK 529 accounts are greater than zero
Amount in any private OK 529 account	Equals the dollar value of net deposits across participant-owned and other private OK 529 accounts
Total OK 529 assets	
Any assets	Equals 1 if net deposits across participant-owned and other private OK 529 accounts and the value of any SEED OK incentives sum to greater than zero.
Amount	Equals the sum of net deposits across participant-owned and other private OK 529 accounts and the value of any SEED OK incentives.

Note: OK 529 = Oklahoma 529 College Savings Plan. SEED OK incentives include the $1,000 initial deposit (automatically deposited into every state-owned SEED OK account), the $100 account-opening incentive (automatically deposited into every participant-owned account opened for a SEED OK child before April 15, 2009), and any match earned by income-eligible members of the treatment group. Savings and asset amounts exclude earnings, gains, and losses. The data collection period was between January 1, 2008, and September 30, 2010.

mother. The second measures the holding of *any private OK 529 account*, i.e., either a participant-owned account or another private OK 529 account. Measures that analyze participant-owned and other private OK 529 accounts together are useful because parental saving is only one way to accumulate assets for a child's education; extended family members and friends may also save for this purpose. The measures also help us to avoid overestimating treatment effects. The experiment gives treatment mothers incentives to open participant-owned accounts. Thus, when a treatment-group mother and her family are motivated to save for a child's college expenses, they may be likely to open and save in a participant-owned account. A mother in the control group does not have the same incentives, so when she and her family save for college, someone other than the mother may open an OK 529 account. By analyzing records from both types of accounts, we capture data on OK 529 account holding and saving both in and outside of the participant-owned account. Our third measure of account holding indicates whether a child holds *any OK 529 account*, including participant-owned, other private, and state-owned SEED OK accounts.

Individual OK 529 savings

Our second set of outcomes measures individual savings in OK 529 accounts for SEED OK children; that is, this set captures deposits made by individuals and does not include any deposits by

SEED OK. We recognize that low-income households have less money to save for college than high-income households do, and these resource constraints limit the ability of any asset-building effort to increase saving by low-income households. Still, the SEED OK CDA's universal and progressive features aim to increase account holding, saving, and asset accumulation for college among disadvantaged households, so it is important to examine how subgroups with different demographic characteristics respond to SEED OK information and incentives. Measuring individual savings also is important because (depending on levels of incentives and subsidies) individual savings could eventually make up the bulk of assets accumulated in CDAs.

Individual savings are measured as the net deposits (i.e., deposits minus withdrawals) made between January 1, 2008 (the start of the first quarter of SEED OK), and September 30, 2010 (the last day of the observation period). Savings equal zero for children who are not beneficiaries of an OK 529 account. We report average individual 529 savings amounts for each demographic subgroup. Because averages are heavily influenced by extreme values, we also examine a dichotomous measure: whether a SEED OK child is the beneficiary of any individual 529 savings. For each demographic subgroup, we report the percentage of SEED OK children with any individual 529 savings. For the reasons just discussed, we examine individual savings in any private OK 529 account, as well as individual savings in participant-owned OK 529 accounts.

Total OK 529 assets

Our final set of outcomes measures total OK 529 assets (i.e., all money in OK 529 accounts for SEED OK children), including deposits made by individuals and any SEED OK incentives given to members of the treatment group. [1] For many purposes, these are the most useful measures of the CDA's impact. For example, total OK 529 assets will be more relevant than individual savings alone in determining whether funds will be adequate to finance college. Also, because the SEED OK CDA is intentionally progressive, with savings matches that aim to subsidize and incentivize saving by low-income households, an analysis that examines only individual savings would be incomplete.

Total OK 529 assets are net deposits made to any private OK 529 accounts and SEED OK incentives received between January 1, 2008, and September 30, 2010. Children who are not beneficiaries of any OK 529 account are assigned a value of zero for total OK 529 assets. Again, for each subgroup, we examine the average amount of total OK 529 assets and the percentage of SEED OK children with any such assets.

It is important to note that the available data prevent us from measuring the reshuffling of assets from other savings vehicles into OK 529 accounts; we are able to measure savings and asset accumulation only in OK 529 accounts. At this stage in SEED OK, we have no data on changes in other household assets and liabilities. We are thus unable to assess the CDA's impact on net worth and do not know whether deposits in OK 529 accounts are new savings or savings that have been shifted from other savings vehicles.

[1] Measures of total OK 529 assets do not include investment earnings, gains, or losses. In future research, it might be helpful to examine the market value of OK 529 assets because changes in market value may be substantial over time.

Demographic variables

We create subgroups defined by income and race and ethnicity because research cited in Section 1 shows that wealth, participation in asset-building programs, and saving for college vary by these characteristics. We also create subgroups defined by parents' education, banking status, homeownership, primary language, and receipt of public assistance, because these characteristics are linked to disadvantage and may be associated with responsiveness to a government-sponsored college savings initiative. Parents with low levels of education and those whose primary language is not English may have little experience with postsecondary education and so may not be motivated to save for it. Or, they may disregard information about a college savings initiative because they do not understand it. Parents without bank accounts may be unfamiliar with—or even mistrust—financial institutions and so may be hesitant to participate in a college savings program. Compared to renters, homeowners who saved to purchase a home may have greater financial knowledge and management skills. Also, homeowners may find it easier to save for their child's college education because they do not need to save for home purchase.

We constructed a subgroup of public assistance recipients because several factors could distinguish their outcomes from those of other participants. Parents in households that receive public assistance may be comfortable with government programs and so may be willing to participate, but negative experiences with such programs may limit the likelihood of participation. Also, parents may mistakenly believe that CDA assets affect their family's eligibility for public assistance. Finally, if receipt of public assistance captures long-term economic hardship, parents receiving public assistance may see college as out of reach.

Our analysis devotes special attention to families who, without a CDA, may have trouble accumulating assets for college. For simplicity, we use *disadvantaged* to refer to the following groups: African American, American Indian, and Hispanic children; children in households that have low incomes, are unbanked, rent, or receive public assistance; children with parents who lack a bachelor's degree; and children in households where English is not the primary language. We do not suggest that all children in these groups are socioeconomically disadvantaged, but research suggests that these children are less likely than others to have accounts or savings for college (see, e.g., Burhouse & Osaki, 2012; Carasso & McKernan, 2008; Sallie Mae & Gallup, 2010; Taylor, Kochhar, & Fry, 2011; U.S. Census Bureau, 2010b). A key objective of the SEED OK experiment is to test whether a CDA can extend the benefits of account holding and assets to populations that typically lack access to those benefits. If the SEED OK CDA is inclusive, we would not expect to see large differences in CDA outcomes and impacts between these groups and their advantaged counterparts.

Our measure of *household income* is an income-to-poverty ratio. To create the ratio, we divide household income (i.e., self-reported pretax income for the 12 months prior to the survey) by the appropriate 2008 federal poverty guideline (Annual Update of the HHS Poverty Guidelines, 2008). We then divide the sample into three groups: low income (below 200% of the federal poverty guideline), middle income (200% to below 399% of poverty), and high income (at or above 400% of poverty).

Our measure of *education* captures the highest level achieved by the mother (in single-parent households) or across both partners (in two-parent households). The measure uses the following

categories: less than a high school graduate, high school graduate (or holder of a general equivalency diploma), and bachelor's degree or more.

Our measure of *race and ethnicity* comes from birth records for SEED OK children. We use four descriptive categories: non-Hispanic White, non-Hispanic African American, non-Hispanic American Indian, and Hispanic (hereafter, non-Hispanic White, African American, American Indian, and Hispanic). Only 26 of the SEED OK children are of Asian ancestry: 15 in the treatment group and 11 in the control group. We do not expect these small samples to be representative of the larger population of Asians in Oklahoma, so we do not examine their outcomes separately. Asians are not excluded from the sample; they are included in all analyses except those for separate race and ethnicity subgroups.

We measure *banking status* with a dichotomous variable that indicates whether a household has a bank account. This could be a checking or savings account. Our measure of *homeownership* divides households into two categories: those that own and those that rent or have other arrangements.

To measure *public assistance receipt*, the baseline survey asked whether a household received benefits from any of the following programs in the 12 months before the survey: Temporary Assistance for Needy Families, the Food Stamp Program (subsequently renamed the Supplemental Nutrition Assistance Program), and either Supplemental Security Income or Social Security Disability Insurance.[2] Most of these programs are means tested, and receipt of benefits indicates that a household had limited economic resources in the year before the survey.

Finally, we measure whether English is the *primary language* spoken in the home. Approximately 10 percent of the sample speaks a primary language other than English; Spanish is spoken in 88% of those homes.

Statistical approach

The goal of this study is to assess whether the SEED OK CDA is inclusive by examining whether early CDA savings outcomes and impacts vary significantly across subgroups. In evaluating outcomes, we examine treatment and control groups separately, because associations between demographic characteristics and savings outcomes may differ by treatment status. We report results from bivariate analyses that use chi-square tests of independence and t-tests for independent samples to examine differences in percentages and means across groups. Bivariate results are particularly useful here because the CDA aims to increase 529 account holding, saving, and asset accumulation by low-income and other disadvantaged children. It is impossible to evaluate fully the effectiveness and inclusivity of the CDA without examining outcomes for disadvantaged subgroups. In other words, we care about outcomes for low-income children in this study, not about the independent effect of income on outcomes (to give one example).

We evaluate impacts of the SEED OK CDA by using bivariate comparisons to examine treatment–control differences in savings outcomes for individual demographic subgroups. We cannot use

[2] A single question assesses receipt of Supplemental Security Income and Social Security Disability Insurance, so we cannot distinguish receipt of one from receipt of the other.

multivariate analysis to interact treatment status with the demographic variables because few in the control group are members of a disadvantaged subgroup and have OK 529 accounts; the available subgroups provide too few degrees of freedom. As we note above (Section 3.1), all analyses use weighted data to account for oversampling of minority groups and nonresponse bias (Marks et al., 2008).

For some of our savings outcomes, we examine the impacts of the SEED OK CDA in close detail. For outcomes that are percentages (i.e., the percentage of a subgroup with an account, the percentage with any individual savings, and the percentage with any assets), we use two simple calculations to compare the impact across subgroups. We do not perform additional calculations for outcomes that are averages (i.e., the mean savings amount and the mean asset amount) because we believe that the mean values are unduly influenced by a small number of high savers.

The first calculation compares percentage-point differences (the percentage for the treatment group minus that for the control group) and gives equal weight to improvement by all subgroups, regardless of starting point. The second calculation compares ratios (the treatment group's percentage divided by that for the control group) and thus gives greater weight to improvement by the demographic subgroups in the control group that had less favorable outcomes. In other words, the second calculation gives greater weight to improvement by disadvantaged subgroups. This weighting may be particularly useful for evaluating the SEED OK CDA, which explicitly aims to improve outcomes for disadvantaged groups. The calculations are illustrated in Section 4.2.

Results

Sample characteristics

Table 3 presents socioeconomic characteristics of the sample. Over two thirds of the mothers live in low-income households (i.e., below 200% of the federal poverty guideline). Less than one fourth of the households have a parent with a bachelor's degree or more. Almost two thirds of the children are non-Hispanic White, and English is the primary language in 90% of homes. Most households are banked (79% include a member who has a checking or savings account), but less than half own their own homes (42%). Just over 40% of households have received public assistance. No difference between treatment and control groups is statistically significant at the .05 level.

OK 529 account holding

Tables 4, 5, and 6 show results for OK 529 account holding. Table 4 presents results for participant-owned OK 529 accounts, Table 5 shows them for any private OK 529 accounts (i.e., participant-owned and other private accounts), and Table 6 displays them for any OK 529 account (i.e., SEED OK, participant-owned, and other private OK 529 accounts). The first two columns of these tables show the percentages of SEED OK children who are beneficiaries of an account. The third column shows the differences between the treatment and control groups, and the fourth displays probability values associated with these differences. The probability values in the rows labeled "p-value (across subgroup)" show whether account-holding rates vary significantly across demographic subgroups.

Table 3. Sample Characteristics (Weighted Percentages)

Characteristic	Full sample (*N* = 2,698)	Control (*n* = 1,345)	Treatment (*n* = 1,353)
Income-to-poverty ratio[a]			
High income	12.4	12.4	12.5
Middle income	18.3	18.2	18.3
Low income	69.3	69.5	69.1
Parent education			
Bachelor's degree or more	23.4	22.5	24.3
High school graduate	57.8	59.5	56.1
Less than high school	18.8	18.0	19.6
Child race/ethnicity			
Non-Hispanic White	65.3	65.2	65.5
African American	8.9	9.0	8.9
American Indian	11.4	11.4	11.4
Asian	1.3	1.4	1.2
Hispanic	13.1	13.1	13.1
Banked			
Yes	79.1	79.3	78.9
No	20.9	20.7	21.1
Homeownership			
Own	41.9	41.9	41.9
Rent or other	58.1	58.1	58.1
Public assistance receipt[b]			
No	59.2	58.6	59.7
Yes	40.8	41.4	40.3
Primary language			
English	90.4	90.0	91.0
Other	9.6	10.1	9.1

Note: Data come from the SEED OK baseline survey and 2007 Oklahoma state birth records. Percentages may not sum to 100% due to rounding. The following variables have missing data: income-to-poverty ratio (missing for 87 cases), parent education (1), banking status (11), homeownership (5), and public assistance receipt (11). No treatment–control difference is statistically significant at the .05 level.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that poverty line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

Table 4. Percentage with Participant-Owned OK 529 Accounts by Treatment Status and Demographic Characteristics

Characteristic	1. Control (%)	2. Treatment (%)	3. Difference (T − C)	4. P-value	5. Ratio (T/C)
Full sample	.9	16.5	15.6	<.01	18.3
Income-to-poverty ratio[a]					
High income	5.2	46.3	41.1	<.01	8.9
Middle income	1.3	22.4	21.1	<.01	17.2
Low income	.1	10.3	10.2	<.01	103.0
p-value (across subgroup)	n.a.	<.01			
Child race/ethnicity					
Non-Hispanic White	1.2	20.7	19.5	<.01	17.3
African American	.0	10.1	10.1	<.01	n.a.
American Indian	.9	8.3	7.4	<.01	9.2
Hispanic	.0	5.7	5.7	n.a.	n.a.
p-value (across subgroup)	n.a.	<.01			
Parent education					
Bachelor's degree or more	4.0	39.1	35.1	<.01	9.8
High school graduate	.0	11.7	11.7	<.01	n.a.
Less than high school	.0	2.2	2.2	n.a.	n.a.
p-value (across subgroup)	n.a.	<.01			
Banked					
Yes	1.2	19.7	18.6	<.01	16.5
No	.0	4.8	4.8	<.01	n.a.
p-value (across subgroup)	n.a.	<.01			
Homeownership					
Own	1.5	27.1	25.6	<.01	18.1
Rent or other	.5	8.9	8.4	<.01	17.8
p-value (across subgroup)	.06	<.01			
Public assistance[b]					
No	1.4	21.2	19.8	<.01	15.1
Yes	.2	9.6	9.4	<.01	48.0
p-value (across subgroup)	.02	<.01			
Primary language in home					
English	.8	17.5	16.7	<.01	21.9
Other	1.6	6.8	5.2	n.a.	4.3
p-value (across subgroup)	n.a.	<.01			

Note: OK 529 = Oklahoma 529 College Savings Plan; n.a. = not available. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Account holding is measured on September 30, 2010, when children were about 3 years old. Some chi-square tests are not valid due to a large proportion of small expected cell counts. Some ratios cannot be calculated due to a zero in the denominator.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

Table 5. Percentage with Any Private OK 529 Account

Characteristic	1. Control (%)	2. Treatment (%)	3. Difference (T − C)	4. P-value	5. Ratio (T/C)
Full sample	2.4	17.3	14.9	<.01	7.2
Income/poverty ratio[a]					
High income	14.9	49.8	34.9	<.01	3.3
Middle income	2.2	24.3	22.1	<.01	11.0
Low income	.4	10.4	10.0	<.01	26.0
p-value (across subgroup)	<.01	<.01			
Child race/ethnicity					
Non-Hispanic White	3.4	21.7	18.3	<.01	6.4
African American	.0	10.9	10.9	<.01	n.a.
American Indian	1.3	8.6	7.3	<.01	6.6
Hispanic	.8	6.6	5.8	<.01	8.3
p-value (across subgroup)	n.a.	<.01			
Parent education					
Bachelor's degree or more	10.3	41.9	31.6	<.01	4.1
High school graduate	.2	12.1	11.9	<.01	60.5
Less than high school	.0	2.2	2.2	n.a.	n.a.
p-value (across subgroup)	<.01	<.01			
Banked					
Yes	3.1	20.8	17.7	<.01	6.7
No	.0	4.8	4.8	<.01	n.a.
p-value (across subgroup)	<.01	<.01			
Homeownership					
Own	4.9	28.8	23.9	<.01	5.9
Rent or other	.7	9.1	8.4	<.01	13.0
p-value (across subgroup)	<.01	<.01			
Public assistance[b]					
No	4.1	22.5	18.4	<.01	5.5
Yes	.2	9.9	9.7	<.01	49.5
p-value (across subgroup)	<.01	<.01			
Primary language in home					
English	2.5	18.4	15.9	<.01	7.4
Other	1.6	6.8	5.2	n.a.	4.3
p-value (across subgroup)	n.a.	<.01			

Note: OK 529 = Oklahoma 529 College Savings Plan; n.a. = not available. Any private OK 529 account includes participant-owned and other private OK 529 accounts. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Account holding is measured on September 30, 2010, when children were about 3 years old. Some chi-square tests are not valid due to a large proportion of small expected cell counts. Some ratios cannot be calculated due to a zero in the denominator.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

Table 6. Percentage with Any OK 529 Account

Characteristic	1. Control (%)	2. Treatment (%)	3. Difference (T − C)	4. P-value	5. Ratio (T/C)
Full sample	2.4	99.9	97.5	<.01	41.6
Income/poverty ratio[a]					
High income	14.9	100.0	85.1	<.01	6.7
Middle income	2.2	100.0	97.8	<.01	45.5
Low income	.4	99.9	99.5	<.01	249.8
p-value (across subgroup)	<.01	n.a.			
Child race/ethnicity					
Non-Hispanic White	3.4	99.9	96.5	<.01	29.4
African American	.0	100.0	100.0	<.01	n.a.
American Indian	1.3	100.0	98.7	<.01	76.9
Hispanic	.8	100.0	99.2	<.01	125.0
p-value (across subgroup)	n.a.	n.a.			
Parent education					
Bachelor's degree or more	10.3	100.0	89.7	<.01	9.7
High school graduate	.2	100.0	99.8	<.01	500.0
Less than high school	.0	99.7	99.7	<.01	n.a.
p-value (across subgroup)	<.01	n.a.			
Banked					
Yes	3.1	99.9	96.8	<.01	32.2
No	.0	100.0	100.0	<.01	n.a.
p-value (across subgroup)	<.01	n.a.			
Homeownership					
Own	4.9	99.9	95.0	<.01	20.4
Rent or other	.7	100.0	99.3	<.01	142.9
p-value (across subgroup)	<.01	n.a.			
Public assistance[b]					
No	4.1	99.9	95.8	<.01	24.4
Yes	.2	100.0	99.8	<.01	500.0
p-value (across subgroup)	<.01	n.a.			
Primary language in home					
English	2.5	99.9	97.4	<.01	40.0
Other	1.6	100.0	98.4	<.01	62.5
p-value (across subgroup)	n.a.	n.a.			

Note: OK 529 = Oklahoma 529 College Savings Plan; n.a. = not available. Any OK 529 account includes SEED OK, participant-owned, and other private OK 529 accounts. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Account holding is measured on September 30, 2010, when children were about 3 years old. Some chi-square tests are not valid due to a large proportion of small expected cell counts. Some ratios cannot be calculated due to a zero in the denominator.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

For example, the values in that row of the homeownership panel show the p-value for the estimated difference between homeowners and renters in the treatment ($p = .06$) and control groups ($p < .01$). A number of p-values are not available for these comparisons because many of the cell counts are too small to permit valid chi-square tests.[3] The first columns in Tables 5 and 6 are identical because children in the control group are not eligible for SEED OK accounts. Some of the values in Column 2 of Table 6 are less than 100% because one mother opted out of the SEED OK account for her child; she cited religious reasons for doing so.

Several noteworthy findings emerge from these tables. First, it is rare for children to have an OK 529 account at this early point in life unless they have access to the SEED OK CDA. Less than 3% of children in the control group have an OK 529 account; for some subgroups, account-holding rates are zero (Table 6, Column 1). Second, rates of private account holding are higher for the treatment group than for the control group (Tables 4 and 5, Columns 3 and 4). The SEED OK CDA increases account holding—even the holding of accounts that must be actively opened by an individual—across a diverse set of subgroups. Third, children in advantaged subgroups are more likely than those in disadvantaged ones to hold private accounts (Tables 4 and 5, Columns 1 and 2).[4] This pattern holds even though the SEED OK CDA provides information and incentives to treatment mothers. However—and by design—automatically opening SEED OK accounts eliminates almost all variation by demographic characteristic in account holding rates (Table 6, Column 2).

To examine whether the experiment has a greater impact on advantaged or disadvantaged children, we use two computations. The first (Column 3 in Tables 4, 5, and 6) shows the percentage-point difference between the outcomes of the treatment group and those of the control group. We calculate this difference for each subgroup. For example, among children in households that received no public assistance (the advantaged subgroup), the treatment–control difference in participant-owned account holding is 19.8 percentage points (Table 4), but it is 9.4 percentage points among those in households that received such assistance. The larger treatment–control difference among those who received no assistance indicates that the SEED OK CDA has a greater impact on the advantaged subgroup than on the disadvantaged one. The percentage-point calculation assumes that the CDA's impact grows with the proportion of children holding accounts, regardless of account-holding rates among those who lack access to SEED OK. In other words, as we note above (Section 3.5), this calculation gives equal weight to improvement by all subgroups.

The second calculation (Column 5 in Tables 4, 5, and 6) uses the same percentages but produces a ratio (the percentage for the treatment group divided by that for the control group) for each subgroup. For example, results in Table 4 show that the ratio for holding a participant-owned account is 15.1 (21.2/1.4) among those in households that received no public assistance and 48 (9.6/0.2) among those in homes that did. The larger ratio for children whose household received

[3] The small expected cell counts are usually due to one of two causes: (1) no or very few members of the control group have accounts; or (2) a cell with 100% for outcomes involving *any* account has a corresponding cell with 0% (not shown in the table). We cannot use Fisher's exact test as an alternative because weighting the data creates noninteger frequencies.

[4] There is one exception to the pattern: Among children in the control group, those whose primary language is English are *less* likely to have a participant-owned account than are those with other primary languages; however, we cannot test for significance.

public assistance indicates that the SEED OK CDA has a larger impact on children in the disadvantaged subgroup than on their advantaged counterparts. The ratio calculation is undefined when there is a zero in the denominator (i.e., when no child in the control group has an account). As we note in Section 3.5, this calculation gives greater weight to improvement by subgroups that, in the absence of SEED OK, would have had less favorable outcomes.

What do percentage-point and ratio calculations show about the SEED OK CDA's relative impact on OK 529 account holding among the different subgroups? Results from the percentage-point calculation on participant-owned and other private OK 529 accounts (i.e., accounts that must be opened by individuals; Column 3 in Tables 4, 5, and 6) suggest that the CDA's impact is greater for advantaged children than for disadvantaged ones. Findings from the ratio calculation are not as straightforward. Estimates from the ratio computation for participant-owned accounts (Table 4) indicate that the CDA has a greater impact on disadvantaged children than on advantaged ones if advantage is measured by household income and the absence of public assistance receipt. However, the estimates indicate that the CDA has a greater impact on advantaged children if advantage is measured by the household's homeownership and primary language, though the difference between households that own and rent is small. (Other comparisons cannot be made because the ratio is undefined for some subgroups.) The ratio estimates for any private account (Table 5) show that the CDA has a greater impact on account holding among disadvantaged children than among disadvantaged children, except when advantage is defined by primary language. In sum, we find overall patterns for accounts that must be opened by individuals: Children in advantaged subgroups benefit more in terms of absolute increases in account-holding rates, but—with a few exceptions—children in disadvantaged subgroups benefit more if the comparison gives greater weight to subgroups with a less favorable starting point.

For any OK 529 account—including SEED OK accounts automatically opened for treatment children—both the percentage-point differences and the ratios reveal that the SEED OK CDA has a greater impact on disadvantaged subgroups than on advantaged ones (Table 6).[5] This pattern occurs because, without the CDA, disadvantaged children are less likely to have accounts than are advantaged children, so automatic account opening increases account holding more for disadvantaged children than for advantaged counterparts.

Individual OK 529 savings

Table 7 shows the percentage of SEED OK children with any individual savings in the participant-owned accounts opened by their mothers; Table 8 shows the same for individual savings in any private OK 529 account. Individual savings in these accounts do not include SEED OK incentives or investment earnings. Several findings are noteworthy. First, less than 1% of children in the control group have any individual savings in a participant-owned account (Table 7, Column 1), and just over 2% have any individual savings in any private OK 529 account (Table 8, Column 2). This suggests that, without the SEED OK CDA, most children would have no OK 529 savings. Second,

[5] There is one exception: The percentage-point difference for high school graduates is slightly higher than the percentage-point difference for those with less than a high school education (99.8 vs. 99.7). This finding is sensitive to the education level reported by the mother who declined the SEED OK account; she has less than a high school education.

Table 7. Percentage with Any Individual Savings in Participant-Owned OK 529 Account

Characteristic	1.Control (%)	2. Treatment (%)	3. Difference (T − C)	4. P-value	5. Ratio (T/C)
Full sample	.7	7.4	6.7	<.01	10.6
Income/poverty ratio[a]					
High income	4.8	28.0	23.2	<.01	5.8
Middle income	.4	10.3	9.9	<.01	25.8
Low income	.1	3.3	3.2	<.01	33.0
p-value (across subgroup)	n.a.	<.01			
Child race/ethnicity					
Non-Hispanic White	1.0	9.6	8.6	<.01	9.6
African American	.0	3.3	3.3	n.a.	n.a.
American Indian	.6	3.1	2.5	n.a.	5.2
Hispanic	.0	1.6	1.6	n.a.	n.a.
p-value (across subgroup)	n.a.	<.01			
Parent education					
Bachelor's degree or more	3.2	20.0	16.8	<.01	6.3
High school graduate	.0	4.6	4.6	<.01	n.a.
Less than high school	.0	.2	.2	n.a.	n.a.
p-value (across subgroup)	n.a.	<.01			
Banked					
Yes	.9	9.3	8.4	<.01	10.3
No	.0	.6	.6	n.a.	n.a.
p-value (across subgroup)	n.a.	<.01			
Homeownership					
Own	1.4	13.6	12.2	<.01	9.7
Rent or other	.2	3.0	2.8	<.01	15.0
p-value (across subgroup)	n.a.	<.01			
Public assistance[b]					
No	1.1	10.7	9.6	<.01	9.7
Yes	.2	2.7	2.5	<.01	13.5
p-value (across subgroup)	n.a.	<.01			
Primary language in home					
English	.8	7.7	6.9	<.01	9.6
Other	.0	4.9	4.9	n.a.	n.a.
p-value (across subgroup)	n.a.	.26			

Note: OK 529 = Oklahoma 529 College Savings Plan; n.a. = not available. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Individual savings come from deposits made by parents and others. Amount equals deposits minus withdrawals between January 1, 2008, and September 30, 2010. Some chi-square tests are not valid due to a large proportion of small expected cell counts. Some ratios cannot be calculated due to a zero in the denominator.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

Table 8. Percentage with Individual Savings in Any Private OK 529 Account

Characteristic	1. Control (%)	2. Treatment (%)	3. Difference (T − C)	4. P-value	5. Ratio (T/C)
Full sample	2.1	8.5	6.4	<.01	4.0
Income/poverty ratio[a]					
High income	13.8	32.7	18.9	<.01	2.4
Middle income	1.3	12.2	10.9	<.01	9.4
Low income	.4	3.5	3.1	<.01	8.8
p-value (across subgroup)	<.01	<.01			
Child race/ethnicity					
Non-Hispanic White	3.0	10.8	7.8	<.01	3.6
African American	.0	4.1	4.1	n.a.	n.a.
American Indian	.9	3.4	2.5	n.a.	3.8
Hispanic	.8	2.6	1.8	n.a.	3.3
p-value (across subgroup)	n.a.	<.01			
Parent education					
Bachelor's degree or more	9.0	23.4	14.4	<.01	2.6
High school graduate	.2	4.9	4.7	<.01	24.5
Less than high school	.0	.2	.2	n.a.	n.a.
p-value (across subgroup)	<.01	<.01			
Banked					
Yes	2.7	10.6	7.9	<.01	3.9
No	.0	.6	.6	n.a.	n.a.
p-value (across subgroup)	<.01	<.01			
Homeownership					
Own	4.5	15.7	11.2	<.01	3.5
Rent or other	.4	3.3	2.9	<.01	8.3
p-value (across subgroup)	<.01	<.01			
Public assistance[b]					
No	3.5	12.2	8.7	<.01	3.5
Yes	.2	3.0	2.8	<.01	15.0
p-value (across subgroup)	<.01	<.01			
Primary language in home					
English	2.4	8.8	6.4	<.01	3.7
Other	.0	5.0	5.0	n.a.	n.a.
p-value (across subgroup)	n.a.	.14			

Note: OK 529 = Oklahoma 529 College Savings Plan; n.a. = not available. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Individual savings come from deposits made by parents and others. Amount equals deposits minus withdrawals between January 1, 2008, and September 30, 2010. Some chi-square tests are not valid due to a large proportion of small expected cell counts. Some ratios cannot be calculated due to a zero in the denominator.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

Table 9. Mean Individual Savings in Participant-Owned and Private OK 529 Accounts

	Participant-owned account			Any private account		
Characteristic	1. Control ($)	2. Treatment ($)	3. P-value	4. Control ($)	5. Treatment ($)	6. P-value
Full sample	19.70	75.51	<.01**	75.74	108.64	.23
Income/poverty ratio[a]						
High income	145.59	441.82	.06†	533.18	627.48	.67
Middle income	6.76	77.00	.05*	41.20	99.03	.24
Low income	1.48	12.75	<.01**	6.43	23.09	.14
p-value (across subgroup)	<.01	<.01		<.01	<.01	
Child race/ethnicity						
Non-Hispanic White	28.65	101.60	.02*	106.71	142.08	.45
African American	.00	9.65	.01*	.00	16.84	<.01
American Indian	9.05	43.03	.37	28.08	45.46	.69
Hispanic	.00	5.44	.18	22.91	49.30	.58
p-value (across subgroup)	.37	.14		.18	.11	
Parent education						
Bachelor's degree or more	87.50	276.98	.02*	332.30	398.24	.58
High school graduate	.00	14.81	<.01**	1.55	21.44	<.01
Less than high school	.00	.06	.45	.00	.06	.45
p-value (across subgroup)	<.01	<.01		<.01	<.01	
Banked						
Yes	24.89	96.23	<.01**	95.69	138.49	.23
No	.0	.38	.16	.00	.38	.16
p-value (across subgroup)	<.01	<.01		<.01	<.01	
Homeownership						
Own	39.68	168.90	<.01**	171.85	241.94	.30
Rent or other	5.44	8.22	.57	7.03	12.57	.34
p-value (across subgroup)	.04	<.01		<.01	<.01	
Public assistance[b]						
No	32.03	118.10	<.01**	128.00	166.90	.41
Yes	2.42	13.22	.07†	2.42	23.48	.02
p-value (across subgroup)	.02	<.01		<.01	<.01	
Primary language in home						
English	21.90	81.18	<.01**	84.21	117.63	.28
Other	.00	19.27	.03*	.00	19.57	.03
p-value (across subgroup)	<.01	<.01		<.01	<.01	

Note: OK 529 = Oklahoma 529 College Savings Plan. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Individual savings come from deposits made by parents and others. Amount equals deposits minus withdrawals between January 1, 2008, and September 30, 2010. All median values are zero.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of poverty. High income indicates household income at or above 400% of that line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

the percentage of SEED OK children with any individual OK 529 savings is consistently higher for the treatment group than for the control group. All differences that can be examined with chi-square tests are significant at the .01 level (Tables 7 and 8, Column 4). This finding indicates that exposing a child's mother to the SEED OK CDA increases the likelihood that the child will have some college savings. Third, even with the CDA, children in advantaged groups are more likely to have some savings in their name (Tables 7 and 8, Column 2).[6] The patterns revealed by the percentage-point and ratio calculations for this outcome are similar to the patterns for OK 529 account holding: absolute increases in the likelihood of having any OK 529 savings indicate that advantaged subgroups benefit more from the SEED OK CDA, but several of the ratios suggest that disadvantaged subgroups benefit more.

Next, we examine mean individual savings amounts. Table 9 presents results for individual savings in participant-owned accounts (Columns 1, 2, and 3) and in any private OK 529 accounts (i.e., the sum of net savings in any participant-owned and other private OK 529 accounts that name a given SEED OK child as beneficiary; Columns 4, 5, and 6).[7] Again, advantaged groups have more savings than disadvantaged ones, though differences by race and ethnicity are not significant. The mean value of individual 529 savings is consistently higher for the treatment group, but these differences are only sometimes significant. Overall, the evidence is mixed regarding the CDA's impact on the values for individual savings within subgroups.

It is important to note that mean savings amounts are imperfect measures in this research. The means reported here do not accurately represent college savings for the typical SEED OK child because they are influenced by a small number of children with high savings. For example, six children have more than $10,000 in private OK 529 accounts, but 95% have no savings. Also, large variances for savings amount variables decrease the likelihood that differences between treatment and control groups are statistically significant.

Total OK 529 assets

Table 10 shows results for total OK 529 assets, which include individual savings and SEED OK incentives. The table presents the percentages of SEED OK children with any assets from those sources and the mean per-child value of total OK 529 assets. All treatment–control differences are significant at the .01 level. Several patterns are evident. First, among children in the control group, the percentage with any OK 529 assets usually varies by demographic characteristic (Column 1). Among children in the treatment group, there is essentially no variance by demographic characteristic in the percentage with any OK 529 assets (Column 2). Second, as expected, virtually every child in the treatment group has 529 assets, but this is rarely the case for children in the control group. Whether percentage-point differences or ratios are used to assess relative impact, the CDA's effect is greater for disadvantaged subgroups than for advantaged ones.[8] Third, mean total

[6] The differences are not significant for primary language.
[7] All median values are zero.
[8] The percentage-point difference for high school graduates is slightly larger than the percentage-point difference for those with less than a high school education (99.8 vs. 99.7). This finding is sensitive to the fact that the mother who declined the SEED OK account has less than a high school education.

Table 10. Percentage with Any OK 529 Assets and Mean Total OK 529 Asset Amounts

	Percentage with any assets				Mean total OK 529 assets	
Characteristic	1. Control (%)	2. Treatment (%)	3. Difference (T − C)	4. Ratio (T/C)	5. Control ($)	6. Treatment ($)
Full sample	2.1	99.9	97.8	47.6	75.74	1,129.85
Income/poverty ratio[a]						
High income	13.8	100.0	86.2	7.2	533.18	1,681.69
Middle income	1.3	100.0	98.7	76.9	41.20	1,129.68
Low income	.4	99.9	99.5	249.8	6.43	1,036.82
p-value (across subgroup)	<.01	n.a.			<.01	<.01
Child race/ethnicity						
Non-Hispanic White	3.0	99.9	96.9	33.3	106.71	1,167.60
African American	.0	100.0	100.0	n.a.	.00	1,029.64
American Indian	.9	100.0	99.1	111.1	28.08	1,054.87
Hispanic	.8	100.0	99.2	125.0	22.91	1,056.99
p-value (across subgroup)	n.a.	n.a.			.18	.06
Parent education						
Bachelor's degree or more	9.0	100.0	91.0	11.1	332.30	1,452.09
High school graduate	.2	100.0	99.8	500.0	1.55	1,036.28
Less than high school	.0	99.7	99.7	n.a.	.00	999.10
p-value (across subgroup)	<.01	n.a.			<.01	<.01
Banked						
Yes	2.7	99.9	97.2	37.0	95.69	1,164.16
No	.0	100.0	100.0	n.a.	.00	1,005.54
p-value (across subgroup)	<.01	n.a.			<.01	<.01
Homeownership						
Own	4.6	99.9	95.2	21.7	171.85	1,274.22
Rent or other	.4	100.0	99.6	250.0	7.03	1,025.79
p-value (across subgroup)	<.01	n.a.			<.01	<.01
Public assistance[b]						
No	3.5	99.9	96.4	28.5	128.00	1,194.00
Yes	.2	100.0	99.8	500.0	2.42	1,036.17
p-value (across subgroup)	<.01	n.a.			<.01	<.01
Primary language in home						
English	2.4	99.9	97.5	41.6	84.21	1,139.66
Other	.0	100.0	100.0	n.a.	.00	1,032.56
p-value (across subgroup)	n.a.	n.a.			<.01	<.01

Note: OK 529 = Oklahoma 529 College Savings Plan; n.a. = not available. Data come from the SEED OK baseline survey, SEED OK account monitoring data, and 2007 Oklahoma state birth records. Any assets include SEED OK incentives and net deposits made by parents and others to private OK 529 accounts. Amount equals deposits minus withdrawals between January 1, 2008, and September 30, 2010. All treatment–control differences are significant at the .01 level. Some chi-square tests are not valid due to a large proportion of small expected cell counts. Some ratios cannot be calculated due to a zero in the denominator.

[a] Low income indicates household income below 200% of the federal poverty guideline. Middle income indicates household income between 200% and 399% of that line. High income indicates household income at or above 400% of the line.

[b] Public assistance includes benefits from Temporary Assistance for Needy Families, the Food Stamp Program, and either Supplemental Security Income or Social Security Disability Insurance.

asset amounts are much higher for treatment-group children than for control-group counterparts (Columns 5 and 6). All three patterns are largely explained by the $1,000 initial deposit given automatically to every child in the treatment group. However, the mean total assets of treatment children vary significantly by demographic characteristics (Column 6), because advantaged children are more likely to have individual OK 529 savings than are disadvantaged children.

Discussion

As college costs have risen (College Board, 2012) and financial aid has shifted away from need-based assistance toward student loans (Condon & Prince, 2008), having assets for college has become increasingly important. However, low-income families with children are less likely than their high-income counterparts to have saved for college (Sallie Mae & Gallup, 2010), and they are less likely to participate in the major asset-building programs, including traditional 529 plans (Dynarski, 2004; Madrian & Shea, 2001; Springstead & Wilson, 2000). One major goal of CDAs is to increase college enrollment and completion among disadvantaged youth by helping families accumulate assets for college and by encouraging youth to see themselves as college bound. That is, CDAs explicitly aim to improve outcomes for groups that are typically excluded from other asset-building initiatives. Toward this end, CDAs have universal, automatic, and progressive features that are uncommon in the major asset-building programs.

It will be many years before researchers can assess the impact of the SEED OK CDA on college enrollment and completion, but this study examines early savings outcomes. The first of these is 529 account holding. As we note in Section 3.3.1, holding an OK 529 account, whether it was opened actively or automatically, is an important outcome. Families with a 529 account have a designated and easily accessible place to save for college whenever they are able and motivated to save. In the words of behavioral economists Bertrand, Mullainathan, and Shafir (2004, p. 419), having a designated account creates a "channel" that makes saving more likely. Also, dedicating funds for a certain purpose may make that goal more salient, and quarterly account statements may serve as regular reminders about the importance of saving for the goal.

This research also examines individual OK 529 savings. Individual savings are not the primary outcome of interest for SEED OK researchers because the experiment is a test of universal and progressive policy, not individual behavior. Still, CDA policy likely will be more effective—and presumably more politically popular—if it both encourages individual saving and provides subsidies. Also, because SEED OK match money is targeted to encourage saving and subsidize asset building in low-income families, it is important to examine whether the treatment increases saving by those families. However, comparing the impact of a CDA on individual saving across different demographic subgroups is complicated because disadvantaged families generally have less ability to save out of income, possess less savings to reshuffle, and are less likely to expect their children to go to college (Hao & Bonstead-Bruns, 1998; Zhan, 2006; Zhan & Sherraden, 2011).

Finally, we examine total OK 529 assets, which (for treatment children) include the SEED OK initial deposit and any matching funds earned. As we note in Section 3.3.3, this is one of the most useful measures of the CDA's impact. It is more related to the adequacy of funds to finance college than is individual savings alone. Also, it is impossible to measure the impact of the SEED OK CDA's progressive features without considering the initial deposit and matching funds.

Findings reveal that few young children in this study would have OK 529 accounts or OK 529 assets without the SEED OK CDA. Disadvantaged children are particularly unlikely to have OK 529 accounts and assets. The rates of OK 529 account holding and asset ownership are less than 1% in almost all disadvantaged subgroups without access to the CDA. Statistical tests of treatment–control differences show that the SEED OK CDA has a significant impact on some but not all outcomes examined. The CDA increases OK 529 account holding—even for accounts that must be opened by individuals—and the likelihood that parents or others have set aside college savings for very young children. These patterns hold for diverse demographic subgroups. However, it is not clear that the SEED OK CDA increases the *amount* of OK 529 savings across subgroups. Children in the treatment group have greater average savings amounts than do those in the control group, but these differences are not always statistically significant.

What do we make of the finding that the SEED OK CDA increases the likelihood of having some college savings but does not clearly increase the amount of savings in all subgroups? As we note in Section 4.3.1, savings amounts are skewed, and large variances decrease the likelihood that differences are statistically significant. Also, the SEED OK CDA occurred during an economic recession. Families may have had less surplus income than usual to put toward savings, and declines in the value of SEED OK accounts may have diminished treatment participants' willingness to save in their own OK 529 accounts.[1] Thus, the recession may have dampened responses to the SEED OK incentives, but there is no way to test this proposition. Regardless, we believe that saving even a small amount for college is an important outcome. Having these savings and the act of setting aside money for college may make parents more aware of college as a possibility for their children and more cognizant of the importance of saving for it.

However, the amount of money accumulated for college expenses matters. A *small* amount of savings will not finance a college education. It may not change parental and child attitudes and behaviors or the college choice sequence in the precollege years (Paulsen & St. John, 2002). Although every SEED OK child in the treatment group (except the one whose mother declined the SEED OK account) received at least $1,000 in 529 assets, advantaged treatment-group children tend to have more because their parents (and others) are more likely to have made deposits. Over time, this disparity is likely to increase. If assets continue to be an important source of funding for college and if increasing disadvantaged groups' access to college is a goal, disadvantaged families may need additional subsidies. Future SEED OK research will consider whether 529 assets affect parental and child attitudes and behaviors in ways that improve educational outcomes. Evidence of this could provide further rationale for additional progressive subsidies.

What about the impact of the SEED OK CDA on outcomes linked to *automatic* components of the intervention? A growing body of literature in behavioral economics (e.g., Choi, Laibson, & Madrian, 2004; Madrian & Shea, 2001) suggests that automatic enrollment and other default rules can influence participation in asset-building programs. As we expected, the SEED OK CDA has a large impact on total OK 529 assets—which include SEED OK subsidies—for every subgroup examined. All but one treatment child has assets, and most have more than $1,000. But OK 529 assets are rare

[1] The $1,000 deposited in the SEED OK account was invested in the Balanced Option fund, which includes a mix of stocks and bonds. The value of the SEED OK account fluctuated between a high of $1,003 and a low of $698 during the period when the account-opening incentive was offered. The value on December 31, 2013, was about $1350.

among control-group children. The automatic nature of certain components of the CDA also has a substantial impact on variation in outcomes by demographic characteristic. Automatic opening of SEED OK accounts eliminates virtually all variation by income, race, and other demographic characteristics in account holding. Moreover, automatic initial deposits eliminate much (but not all) variation by demographic characteristics in the amount of assets accumulated.

The summarized findings show that the CDA has positive impacts on measured outcomes for both advantaged and disadvantaged subgroups, but it is possible to assess whether advantaged or disadvantaged subgroups benefit *more*. The answer depends on the outcome examined and, in some cases, the calculation used to compare groups across demographic characteristics. For outcomes not directly influenced by automatic features of the treatment (e.g., holding a participant-owned OK 529 account, holding any private OK 529 account, having any individual OK 529 savings), patterns differ by calculation. If we measure the CDA's impact as an absolute increase in the percentage with a favorable outcome, regardless of starting point (i.e., if we compare percentage-point differences between treatment and control groups), advantaged subgroups consistently benefit more from the CDA. If we take into account the starting point of each subgroup and measure the impact with ratios, disadvantaged subgroups often—but not always—benefit more from the CDA.

Both methods of comparison indicate that, for outcomes directly influenced by the CDA's automatic components (e.g., holding any OK 529 account and having any OK 529 assets), the CDA has a greater impact on disadvantaged subgroups than on advantaged ones. This pattern occurs because, without the CDA, disadvantaged subgroups are less likely than advantaged ones to have OK 529 accounts and assets, so automatic account opening and automatic deposits increase account holding and asset holding more for these subgroups.

Overall, the fact that the SEED OK CDA improves outcomes for diverse demographic groups and, in several cases, has a greater impact on disadvantaged groups, suggests that it is inclusive. That is, it extends the benefits of an asset-building initiative to the full population, regardless of family income, prior asset holding, or other common indicators of socioeconomic status. This conclusion is noteworthy because the other major asset-building initiatives in the United States—IRAs, 401(k)s, and traditional 529 plans—are not inclusive. Not surprisingly, it is the universal and automatic components of the CDA that eliminate barriers to account holding and asset accumulation, extending the opportunities and benefits to disadvantaged families.

Limitations

Although SEED OK makes use of a rigorous experimental research design and randomization was successful, some limitations remain. First, only 38% of invited caregivers chose to participate in SEED OK. As we note in Section 3.1, this response rate is not abnormally low for a recent telephone survey, and data from birth records suggest that participants are similar to nonparticipants. Still, it is possible that these two groups differ on unobserved characteristics; such differences may affect ability and willingness to save in an OK 529 account.

Second, we examine only OK 529 accounts because we have no data on college savings in other savings vehicles. Because SEED OK provides treatment parents with incentives to save in OK 529

accounts but does not offer the incentives to the control group, members of the control group may be more likely to save in other vehicles. Both treatment and control parents who reside in Oklahoma have some incentive to save for college in OK 529 accounts because deposits may be deducted from state income taxes. Nevertheless, the estimated effect of the SEED OK CDA would likely be weaker if we measured all college savings, not just OK 529 savings. Because we examine only OK 529 accounts, we have no measure of total net worth and cannot assess whether OK 529 deposits represent new savings or shifted assets.

Third, the data enable us to examine only *early* SEED OK outcomes, including early saving by individuals. Saving by both treatment and control groups may increase over time as children age and college becomes more salient. Saving may increase further for members of the treatment group if the automatic opening of accounts or SEED OK promotional materials have communicated the importance of planning, over time, for children's college education. It may also increase if the quarterly statements for automatically opened accounts serve as effective reminders about the importance of saving for college. Conversely, saving by treatment members may decrease over time if the CDA's cognitive or attitudinal effects subside.

Future research

This research shows that the SEED OK CDA improves early savings outcomes for diverse groups, including disadvantaged groups. This is an important finding because these early positive outcomes are very likely prerequisites for longer-term positive outcomes. As additional data emerge from OK 529 account records and the follow-up survey, researchers will be able to examine longer-term outcomes for disadvantaged families. For example, it seems likely that disadvantaged families will fall further behind advantaged families in asset accumulation for college, but does the CDA reduce the size of the gap? Does the CDA positively affect the attitudes and behaviors of disadvantaged parents and children, especially attitudes and behaviors related to cognitive development and education? Ultimately, are the assets accumulated in the CDA and any changes in attitudes and behaviors enough to make a difference in rates of college enrollment and completion among disadvantaged youth?

In addition, future research can examine whether the impacts of active account holding and saving differ from those of passive account holding and asset accumulation. Perhaps account holding and asset accumulation have little effect on education-related attitudes and behaviors if families do not actively participate in account opening and saving. However, automatically opened college savings accounts seededwith a substantial initial deposit may send a powerful message to families that college is important and expected (Beverly et al., 2013). This belief may shape other attitudes and behaviors. Moreover, having assets for college, regardless of the source, may help families view college as possible and so change education-related attitudes and behaviors. This pathway may be particularly strong for disadvantaged families who would probably perceive college as unaffordable in the absence of a CDA (Beverly et al., 2013).

Conclusions

The SEED OK experiment provides the best evidence to date on the likely early outcomes and impact of a universal and progressive CDA policy. Findings reported in this study show that, in the absence of a universal initiative, few preschool children would have a college savings account or any college savings in their name. Even with the SEED OK CDA, which provides information and incentives to save, most parents of young children did not open and save in an OK 529 account (exceptions may be found in the highest income and education subgroups). Patterns are noticeably different for outcomes related to the universal and automatic components of the treatment. Except for the child whose mother opted out, all children in the treatment group have a state-owned OK 529 account, and all have at least $1,000 in OK 529 assets. These patterns are predictable but nonetheless meaningful. Unlike most other policies for asset accumulation, CDAs are inclusive. If inclusivity is a goal—if we as a society want children, regardless of socioeconomic status, to grow up with resources and plans to pursue postsecondary education or training—the evidence supports automatic opening of college savings accounts and some automatic subsidies. If *early* account holding and asset accumulation are desirable, opening accounts automatically at birth makes sense.

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