Resources Used to Produce Individual Development Accounts in the First Two Years of the Experimental Program of the American Dream Demonstration at the Community Action Project of Tulsa County

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Abstract

This paper describes an attempt to measure resources used to produce Individual Development Accounts in a program run by the Community Action Project of Tulsa County. The experimental design of the program—participants were selected from applicants at random—aims to inform the overall evaluation in the American Dream Demonstration of whether IDAs are likely to achieve their intended purposes cost-effectively. Financial benefit-cost analysis is a key part of this evaluation, and the estimates of resource use in this paper are key inputs to the financial benefit-cost analysis. Financial costs are estimated from the points of view of seven groups of stakeholders: IDA participants, non-participants, the federal government, state and local government, the employees of IDA programs, private donors, and society as a whole. This paper documents estimates of cost from the point of view of society as a whole (about $53,000 for 1998 and about $135,000 for 1999) and acts as template to guide cost-measurement for the rest of the years of the project. Resources consumed (costs) by the experimental program are taken as the stock of resources at the start of the year, minus the stock of resources at the end of the year, minus resource inflows during the year. There is no attempt to measure costs that cannot be valued in financial terms nor to measure benefits of any kind. Thus, this paper is not a financial benefit-cost analysis. Subject to a plethora of caveats, qualifications, and assumptions, the broad result derived here that participation in the experimental program cost society about $125 per participant-month.

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1. Introduction

One part of the overall evaluation of the likely cost-effectiveness of Individual Development Accounts (IDAs) in the American Dream Demonstration (ADD) is a financial benefit-cost evaluation based on the present value of resource flows from the points of view of seven groups of stakeholders: IDA participants, non-participants, the federal government, state and local government, the employees of IDA programs, private donors, and society as a whole (Schreiner, 2000a). Although IDA programs affect flows of both financial and non-financial resources and although the estimation of costs does not imply any knowledge of benefits, measurements of financial cost (and of financial cost per unit of output) have become important indicators of the efficiency and quality of programs—such as IDAs—that aim to improve the well-being of the poor through the supply of enhanced financial services, whether savings or loans and whether in the first world or in the third world (Schreiner, 1999a, 1999b, 1999c, 1999d, 1997; Schreiner and Yaron, 1999).

This paper describes an attempt to measure costs as resources consumed in an IDA program under ADD run by the Community Action Project of Tulsa County (CAPTC).[1] CAPTC runs two IDA programs, one with an experimental design in which participants are selected from among applicants at random, and one with a non-

[1] Schreiner (2000b) is a guide for a site visit to collect data on resource flows.

experimental design.[2] This paper measures resource use (cost) for the experimental program from its start in 1998 through the end of 1999. Similar exercises will take place in each of the next three years to measure costs in 2000, 2001, and 2002.

The main results of this paper are that the cost of the experimental IDA program from the point of view of society as a whole was about $0.2 million. Output in 1999[3] can be seen in terms of enrollments (252), participant-months (1,517), dollars deposited net of unapproved withdrawals (55,164), or dollar-months of resources saved (266,205). Net of cash spent on matches, the program cost about $750 per enrollment, about $125 per participant-month, about $3.40 per net dollar deposited, and about $0.71 per dollar-month saved.

These rough results do not necessarily indicate anything about the quality or efficiency of CAPTC or of IDAs in general first because the experimental program is only in its sophomore year and second because the cost estimates rest on a host of imprecise measurements, heroic assumptions, and back-of-the-envelope guesses. These measurements of cost do not net out the worth of output from the point of view of participants, nor do they net out the worth of increased well-being for participants from the point of view of society as a whole. The estimates ignore many aspects of the

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[2] CAPTC calls the non-experimental program the *small-scale* program, and it calls the experimental program the *large-scale* program.

[3] The first applications were processed in October of 1998, but the first account was opened in January of 1999.

outputs of the IDA program. Furthermore, the estimates include start-up financial costs but ignore all costs that cannot be valued in financial terms. They also ignore that costs may fall with time once most participants are enrolled, as the program achieves economies of scale, and/or as participants drop out or finish the program. Furthermore, some start-up costs incurred at CAPTC will not be incurred by those programs that can learn from the example of CAPTC. Finally, the margin of error on these estimates of cost is unknown.

In spite of these serious caveats, the estimates of cost and of cost-effectiveness in this paper are still useful in at least five ways. First, they provide a start point for talk about how to improve future measurement. Second, they are key inputs in the financial benefit-cost analysis that is one part of the overall evaluation of ADD. Third, they are the most careful and complete estimates so far of the cost of an IDA program. They are certainly the first attempt to measure costs for an IDA program that tries to account for the value of non-cash resource flows. Although some number may be worse than no number, some number supported by explicit assumptions and documented measurements is always better than no number because its accuracy can be discussed and thus improved. Fourth, choices about IDA policy are best informed by knowledge both of costs and of benefits. Unlike evidence of costs, anecdotal evidence of the benefits of IDAs abounds; the cost measurements presented here are much more rigorous—and thus more likely to be close to the truth—than any anecdotal evidence of the benefits of

IDAs so far. Both benefits and costs matter. Fifth, the cost estimates here set a benchmark. All else constant, the same output for less cost is better, so cost measurement gives programs a yardstick against which to test themselves. The very existence of goals and measures of performance tend to improve performance. The figures may also help programs and donors to plan budgets.

Section 2 below describes the main measurement issues. Section 3 documents the estimates of resource flows in 1998 and 1999. Section 4 concludes the paper with a summary of resources used (costs) from the points of view of different groups of stakeholders and with a few simple, rough measures of cost per unit of output.

2. Measurement issues

The measurement of the resources consumed by an IDA program is more complex than just to add up the expenses reported in the financial statements of the host organization. This section summarizes the main issues and how they were handled in the case of CAPTC.

2.1 The seven groups of stakeholders

The success of IDAs depends on seven groups of stakeholders: IDA participants, non-participants, the federal government, state and local government, the employees of IDA programs, private donors, and society as a whole (Schreiner, 2000a). Each group has its own roles and its own goals, and so each group has its own experience of benefits and costs. If a group perceives that its own benefits do not exceed its own costs, then it may have few self-interested reasons to act so as to maximize social welfare through IDAs. Thus, although the ultimate goal of IDAs is to improve social welfare, IDA policy must also concern itself will the improvement of the individual welfare of each group of stakeholders; each group wields veto power in that they can sabotage IDAs if that would be best from their own point of view.

Net benefits are assumed to be zero for non-participants and for IDA employees (Schreiner, 2000a). Net benefits for society as a whole is the sum of net benefits for IDA

participants, the federal government, state and local government, and private donors. CAPTC is a nexus for all resource flows between these groups of stakeholders, so this report first tracks resource flows through CAPTC and then allots them to stakeholders.

For many types of financial benefits and costs from the points of view of each of the stakeholders, measurement must wait until the end of the experiment. For example, the effects of access to IDAs on taxes paid and on public-assistance received requires comparisons of survey responses between participants and controls. This must wait until the experiment ends, so the benefit and cost figures presented here are incomplete. Likewise, cash outflows as deposits into IDAs are costs for participants, but cash inflows from withdrawals are benefits. Given that many participants have made deposits but that very few have made withdrawals, the measurements so far can tell only a small part of the story.

2.2 IDA programs within a larger host organization

Like most host organizations, CAPTC does much more than run an IDA program; for example, it also assists poor people to buy homes and to prepare their taxes. Not only are the two IDA programs just one small part of CAPTC, but only the experimental program is subject to cost measurement in the ADD evaluation. Thus, a central task of the cost analysis is to isolate resource flows that pertain to the experimental IDA program from resource flows that pertain to the non-experimental

IDA program or to non-IDA programs. How to untangle resource flows for programs within a larger host organization is a common measurement issue for development-finance organizations (Christen, 1997; Rosenberg, Christen, and Helms, 1997; Holtmann and Mommartz, 1996; Inter-American Development Bank, 1994). Figure 1 shows the relationships between CAPTC as a host organization and the two IDA programs, experimental and non-experimental.

In general, this paper first measures resource flows from the perspective of the host organization as a whole. Second, it assigns a share of those resource flows to the IDA programs. Third, it divides the IDA resource flows between the experimental IDA program and non-experimental IDA program. In some cases, resource flows can be measured directly at the level of the experimental IDA program.

The accounting department at CAPTC keeps excellent records of all cash flows at the level of the host organization. Furthermore, the two IDA programs are, together, a cost center in the accounting system, so the accountants routinely break out the share of cash flows that pertain to the IDA programs. The final step to allocate IDA flows between the two IDA programs is less precise because the IDA director must estimate the shares. Still, the estimates are far from pure guesses because the IDA director knew each employee who had worked for the experimental program and the amount of time allocated by that employee to the experimental program. Given payroll expenses for each employee, the IDA-program payroll expenses are divided between the two IDA

programs. All other cash expenses were allotted between the two programs in accordance with their share of the total IDA payroll expenses unless the IDA director could, with the help of detailed accounting records, make a better estimate for a specific class of expenses.

2.3 Flows in-cash versus flows in-kind and in-time

Resource flows may be in-cash, in-kind (free or discounted goods or services), or in-time (free labor from volunteers). CAPTC keeps excellent records of flows in-cash, but it does not keep complete, formal written records of non-cash flows unless they happen to add to the stock of fixed assets.

All known past attempts to measure the social costs of similar programs ignore flows in-kind and in-time. Program managers who want to obscure the social cost of their programs nearly always succeed because records of non-cash flows are sketchy or non-existent.[4] Cost analysts must take the word of program managers at face value, and the result is often a vast underestimate of social cost. Cost-measurement at CAPTC is unique, however, both in that it asks about non-cash flows and in that program managers openly and honestly report all non-cash flows that they remember.

This openness is a testament to the selflessness of the managers at CAPTC; to measure costs well may lead to more pressure to manage costs better. This implies

[4] Some programs refuse to submit to cost measurement at all.

more work for managers, but it also implies better service for more participants. Understatement of cost might make a program *look* better, but it would not help—and might even hurt—efforts to *be* better in the long term. Only known, acknowledged costs can be managed.

Flows in-kind and in-time are valued in three steps. First, the IDA director lists all such known flows. Second, CAPTC employees who provided services to the IDA programs but who did not bill their time to the IDA programs were asked to estimate the amount of time contributed. The accounting department then values this time at the pro-rated payroll expense of the employee. Third, donors outside of CAPTC are asked to estimate their in-time and in-kind contributions and then to value them at fair-market, arms-length prices. The entire process is admittedly rough, imperfect, and subject to imprecise guesses and estimates. Still, non-cash resource flows are measured better at CAPTC than for most similar entities.

As it turns out, flows in-time and in-kind matter a lot; the estimates here suggest that CAPTC received non-cash flows worth about $29,000 in 1998 and about $42,000 in 1999. If these non-cash flows were assumed zero, then the estimate of the average cost of output in terms of participant-months would be about $78 instead of about $125.

2.4 Extraordinary recruitment costs

The experimental design boosts recruitment costs beyond those of a normal, non-experimental program. Potential applicants are told that, if they apply and qualify, they have a 50-percent chance of placement in the participant group with access to IDAs and a 50-percent chance of placement in the control group without access to IDAs. Furthermore, they are told that members of the control group lose access not only to IDAs but also to the home-ownership assistance program at CAPTC.[5]

The experimental design increases recruitment costs in at least four ways. First, because half of qualified applicants become controls, CAPTC must recruit at least two qualified applicants to get one participant. All else constant, this doubles recruitment costs compared with a normal IDA program that gets one participant for each qualified applicant. Second, potential applicants anticipate the possibility of placement in the control group. Because application and subsequent participation in the three ADD surveys impose costs on both participants and controls, some potential applicants

[5] During the site visit for this cost study, it was revealed that participants had been allowed access to the home-ownership program as well as access to IDAs. This implied that the experiment in practice tested not for the effect of access to IDAs alone but rather for the effects of access both to IDAs and to the home-ownership program. This discovery highlights the usefulness of early, regular measurement as opposed to a single measurement at the end of an evaluation project. Subsequently, the decision was made to deny participants access to the home-ownership program, and to exclude from the analysis of results the two participants who had already used the home-ownership program. Still, all applicants expected to lose access to the home-ownership program if they were randomly assigned to the control group, so this error in the implementation of the experimental design still increased recruitment costs.

choose not to apply because they do not want to gamble the certain cost of application and of future interviews against the uncertain benefit of a chance of access to IDAs. The magnitude of the decrease in the number of applicants due to this factor is unknown, but it may be large. Third, potential applicants anticipate the possible cost of being placed in the control group and the subsequent loss of access not only to IDAs but also to the home-ownership program at CAPTC. This program commonly provides participants with thousands of dollars of down-payment assistance, so loss of access to it may be very costly to a potential applicant.[6] Again, the magnitude of this effect is unknown, but it is suspected to be large. Fourth, the management of the experimental design required extra time and effort. For example, the experimental program had to incur costs for the following activities beyond those of a normal IDA program:

- Respond to requests from Abt Associates (the evaluator of the experiment in ADD) for information;
- Participate in conference calls with Abt and the Center for Social Development at Washington University in St. Louis about the design of IDAs and the design of the ADD evaluation. This required time and resources beyond those of the

[6] This factor mostly affects potential applicants interested in home ownership. Thus, participants in the experimental program at CAPTC are probably less likely to use their IDAs for home ownership than would the average participant in a program whose applicants did not risk the loss of access to such a valuable home-ownership program. This biases downwards the experimental effect of IDAs on home-ownership.

design of a typical IDA program because of the need to study the implications of the experimental design on the program structure;

- Spend extra time in one-on-one meetings (rather than in group orientations) with potential participants to explain the ADD study and the role of applicants—whether they end up in the treatment group or the control group—in the evaluation process. The more than 1,400 meetings averaged about 45 minutes, and more than half of the time was used to explain the experimental nature of the study and the potential loss of access to programs for applicants randomly assigned to the control group;
- Conduct more one-on-one meetings than a typical IDA program because, in the experimental program, one-on-one meetings took place before an orientation session. In a typical program, the orientation session would come first, and some potential applications would decide after the orientation session not to pursue IDAs and so would never require a one-on-one meeting.
- Develop a system for transferring data on participants to Abt. This involved the creation of a special data base, the collection and entry of data into the data base, the development of a password-protected, encrypted software systems to store and transmit data on participants electronically to Abt, a file audit to ensure data accuracy, maintenance of additional contact information, and maintenance of records on non-participants (controls). In addition, the program

responded from time to time to *ad hoc* data requests from Abt;

- Develop, implement, and monitor a system to ensure that members of the control group do not gain access to the home-ownership program of the Housing Department in CAPTC. In 2000, this system was extended to ensure that participants also did not gain access to the home-ownership program;
- Contact participants repeatedly to encourage them to contact Abt for the baseline survey before they can complete enrollment.

The size of the experimental program and the fact that the experimental program recruited after the non-experimental program probably also increase costs beyond normal levels. The pool of potential applicants to an IDA program in Tulsa is fixed and may be small. Many of the people who are easiest to recruit and who believe that they have the most to gain from IDAs probably had already joined the non-experimental program. Each additional recruit requires more and more effort because of the limited applicant pool and because the match between the IDA program and the preferences of a given potential applicant probably decreases as recruitment expands. Furthermore, the income limit for the non-experimental program was 200 percent of the family-size adjusted poverty line; the limit for the experimental program was 150 percent. The non-experimental program took the low fruit among the potential recruits.

Together, the experimental aspects of the program and the presence of decreasing returns to recruitment more than double recruitment costs, compared with a non-experimental program. After careful thought and a comparison of the recruitment costs of the non-experimental and experimental programs, the best estimate of the IDA director at CAPTC is that the experimental design and other factors associated with the experiment quadrupled recruitment costs. Throughout the rest of this document, the cost analysis maintains the assumption that recruitment costs four times as much as in a normal, non-experimental program.

To adjust for these extraordinary recruitment costs, the cost analysis first records all resources consumed by the experimental program. Then, the IDA director at CAPTC estimates the share of these costs that went for recruitment. Finally, recruitment costs are divided by four to account for the likelihood that recruitment for the experimental program as probably four times as hard as it would be in a non-experimental program started in an untapped market.

2.5 The counter-factual benchmark

The final estimates of cost reported here are not measurements of the resources actually consumed by the experimental program at CAPTC. Instead, the cost analysis asks and attempts to answer a counter-factual question: How much resources would be consumed in a normal, non-experimental IDA program started from scratch? Although

no one is ever told what would have happened (Lewis, 1954), it is safe to assume that CAPTC would spend less on recruitment and evaluation in the absence of the experimental design and, in general, the absence of the evaluation for ADD.

The counter-factual benchmark is an IDA program started from scratch. Program-development costs for the experimental program at CAPTC were extraordinarily low because most of the basic design was transferred from the extant non-experimental program. To match that fact that the counter-factual benchmark includes start-up costs, the cost analysis assigns these development costs to the experimental program.

Thus the cost analysis removes extraordinary costs for recruitment, adds in program-development costs incurred for the non-experimental program, and ignores all other costs due to the experiment and the ADD evaluation. For example, the resources consumed in this cost analysis are not counted because a normal IDA program would not have a cost analysis of this type. As usual, the approach of the cost analysis is first to measure as many sources of cost as possible, and then to remove extraordinary ones.

2.6 Time frame

The financial benefit-cost analysis has a time frame that begins at start of recruitment in October 1998 and ends when the final participant is surveyed 42 months after his or her enrollment. The cost analysis in this paper covers the first two calender

years of the time frame, 1998 and 1999. It is assumed that all program-development costs took place in 1998.

CAPTC keeps records on a fiscal year that ends on June 30. The statements of resource flows in this cost analysis convert these to a calendar year.

3. Estimates of resource use in 1998 and 1999

This section records estimates of resource use (that is, cost) for 1998 and 1999. The extensive documentation has four purposes. First, it records the method to compute costs for 1998-99. Second, it facilitates cross-checks on the logic of the process and the correctness of the data. Third, it acts as a template for cost analysis for the rest of the years of the ADD evaluation at CAPTC. Fourth, it models how to estimate costs for any IDA program.

Resources consumed by the experimental program are the stock of resources at the start of a year, minus the stock of resources at the end of the year, plus the inflow of resources during the year. This requires measurements of stocks and flows. Estimates of cash resources are straightforward, but estimates of non-cash resources are more complex. Likewise, estimates of cash flows for the two IDA programs as a subset of the host organization are straightforward, but the division of cash flows between the two IDA programs is more complex. The need to parcel out extraordinary recruitment costs also complicates the process. Once a statement of resource flows is constructed for the experimental IDA program, then the analysis apportions the benefits and costs of these flows among the different groups of stakeholders.

3.1 Receipts of grants in-cash

The two IDA programs receive cash grants from nine sources. These sources may be classified in three groups: private donors, the federal government, and state and local governments.

3.1.1 Private donors

The Corporation for Enterprise Development (CFED) funneled cash to CAPTC from the 11 private sponsors of ADD: Ford Foundation, Charles Stewart Mott Foundation, Joyce Foundation, F.B. Heron Foundation, John D. and Catherine T. MacArthur Foundation, Citigroup Foundation, Fannie Mae Foundation, Levi Strauss Foundation, Ewing Marion Kauffman Foundation, Rockefeller Foundation, and the Moriah Fund. Funds channeled through CFED and earmarked for matches are labeled *CFED Match*. Funds channeled through CFED and earmarked for program expenses are labeled *CFED*. The experimental program received no cash from either CFED fund in 1998 (Worksheet 1). In 1999, it received $100,000 from CFED (line Ac) and $22,373 from CFED match (line Af). No matches were disbursed from the CFED account, and $3,104 were disbursed from the CFED match account in 1999 (Worksheet 2, lines Bc and Bf).

The Kaiser Foundation, the philanthropic arm of the Bank of Oklahoma (BOk), is another private source of cash grants. BOk/Kaiser gave the experimental program

$21,171 in 1998 and $3,006 in 1999 (Worksheet 1, line Ai). In 1999, BOk/Kaiser funded $750 of matches (Worksheet 2, line Bi).

The Zarrow Foundation is a third private source of cash grants. Zarrow gave the experimental program nothing in 1998 and $29,640 in 1999 (Worksheet 1, line Al). No Zarrow funds have been used for matches (Worksheet 2, line Bl).

CAPTC itself might act as a private source of cash to the IDA programs, although it had not done so as of the end of 1999. CAPTC did have some revenue from consulting services provided by IDA staff to other IDA programs in 1999, but these funds did not revert explicitly to the IDA programs and have not been counted here as donations to the experimental IDA program (Worksheet 1, line Ao).

3.1.2 Federal government

The IDA programs at CAPTC received cash grants from the federal government through the Community Services Block Grants (CSBG) and through the Community Development Block Grants (CDBG). The IDA programs also receive cash grants from the HOME program of the Department of Housing and Urban Development and from the Affordable Housing Program (AHP) of the Federal Home Loan Bank of Topeka. In all four cases, the ultimate source of resources is the federal government.

3.1.2.1 Cash grants from CSBG and CDBG

In 1998, the experimental program received $34,924 from CSBG and $23,719 from CDBG (Worksheet 1, lines Ar and Au). In 1999, it received $80,031 from CSBG

and $47,437 from CDBG. The match disbursements were for $3,788 from CSBG in 1999 and zero from CDBG (Worksheet 2, lines Br and Bu).

3.1.2.2 Cash grants from HOME

The IDA programs at CAPTC also received cash grants through the HOME project. Although these funds are administered by the City of Tulsa, their ultimate source is the federal government. These funds were disbursed directly to participants who used their IDA withdrawals for home purchase. No participants in the experimental program received cash from HOME in 1999 (Worksheet 1, line Ax).

3.1.2.3 Cash grants from AHP

AHP did not make a cash grant to the IDA programs in 1998 nor in 1999 Worksheet 1, line Aaa), but it may do so in future years.

Although the Federal Home Loan Banks (FHLBs) have private stockholders and although their mission statement says that "no tax dollars or other appropriations are used to support operations" (`www.fhfb.com`), AHP funds ultimately come from the federal government. Private lenders buy stock in the FHLBs because they then get access to long-term loans that cost less than loans from other sources. The FHLB loans are longer and cheaper because, as a "government-sponsored enterprise", the FHLBs "can raise debt at rates only slightly higher than Treasury securities". No tax dollars are spent on the FHLB, but government revenues are lower (and future expenditures for a bail-out potentially higher) because it implicitly guarantees the liabilities of the

FHLB system. Thus, the FHLBs borrow on the private market without paying a risk premium, and the savings allow them to lend to their members at rates that, while profitable for the FHLBs given their low cost of funds are yet still low enough to make FHLB funds relatively cheap for its members, even after adjustment for the cost of owning stock in the FHLBs. No tax dollars are spent, but the implicit government guarantee attracts private funds to the system. Without it, the FHLB would not have the profits from which, by federal law (not stockholder vote), AHP grants are made. The FHLB system may increase the amount of housing finance for the poor and may decrease its cost, but its design hides that federal taxpayers pay for the subsidies in the system and that an unknown amount of subsidy is extracted by the non-poor member-owners of the FHLB. Similar obfuscations occur in systems that subsidize agricultural loans (Benjamin, 1994; Yaron, 1992; Schreiner and Yaron, 2000).

3.1.3 State and local government

Thus far, the IDA programs at CAPTC have not received cash grants from either state or local government (Worksheet 1, line Aad).

3.1.4 Total grants in-cash

In 1998, the experimental program received grants in-cash worth $79,814 (Worksheet 1, line Aah). Of this, $21,171 came from private donors (line Aae), and $58,643 came from the federal government (line Aaf). State and local governments provided nothing (line Aag).

In 1999, the experimental program received a total of $282,487 in cash grants; $155,019 came from private donors, and $127,468 came from the federal government. State and local governments made no cash grants in 1999.

Participants in the experimental program did not receive any matches in 1998. In 1999, they received $7,642 in matches (Worksheet 2, line Bah). The measures of total resource use (cost) from the point of view of society net out these match disbursements because the cost to the source of match funds is canceled out by the gain to participants. The final cost study—to be completed several years from now—will have a longer time frame, and so the social opportunity cost of the time lag between deposits and withdrawals by participants and between disbursements for matches by donors and receipt of match funds by participants will matter more and thus will be included in the measures of total social cost.

3.2 Cash expenses

The accountants at CAPTC recorded all cash expenses for the two IDA programs. The IDA director at CAPTC then assigns a share ϵ of these expenses to the experimental program. Given the expenses assigned to the experimental program, the IDA director then allots a share γ to recruitment. This share is then adjusted by the factor δ (here assumed to be 4.0) to account for the extraordinary recruitment expenses incurred due to the experimental design.

3.2.1 Formula for ordinary expenses

Given a type of cash expense c, the part to attribute to non-recruitment costs of the experimental program is this cash expense c, multiplied by the share to assign to the experimental program ϵ, multiplied by the non-recruitment share, or unity (1.0) minus γ:

$$\text{Non-recruitment expense} = c \cdot \epsilon \cdot (1 - \gamma). \tag{1}$$

The recruitment cost in the absence of an experimental design is the cash expense c, multiplied by the share to assign to the experimental program ϵ, multiplied by the share due to recruitment γ, divided by the extraordinary recruitment factor δ:

$$\text{Recruitment expense} = c \cdot \epsilon \cdot \gamma / \delta. \tag{2}$$

Total expenses are non-recruitment expenses added to recruitment expenses. Rearrangement of the formula provides a way to compute the expenses to assign to the experimental IDA program in the absence of the experimental design, given the cash expense for the two IDA programs c, the share to assign to the experimental program ϵ, the share to assign to recruitment γ, and the extraordinary recruitment factor δ:

$$\begin{aligned} \text{Total expense} &= \text{Non-recruitment expense} + \text{recruitment expense}, \\ &= c \cdot \epsilon \cdot (1 - \gamma) + c \cdot \epsilon \cdot \gamma / \delta, \\ &= c \cdot [\epsilon \cdot (1 - \gamma + \gamma / \delta)]. \end{aligned} \tag{3}$$

For example, in 1998 the accounts of CAPTC (Worksheet 3, line Cb) record that the two IDA programs were allocated $4,755 for overhead and general administration (c). The IDA director estimated that the share of the experimental program ϵ was 0.7005 (line Cc), and that the share for recruitment γ was 0.7570 (line Cd). The extraordinary recruitment factor δ is assumed 4.0 (line Ca), so the final amount charged as an ordinary expense to the experimental program for the purposes of this cost analysis is (line Ce):

$$\begin{aligned} \text{Ordinary expense} &= c \cdot [\epsilon \cdot (1 - \gamma + \gamma/\delta)], \\ &= \$4{,}755 \cdot [0.7005 \cdot (1 - 0.7570 + 0.7570/4)], \\ &\doteq \$4{,}755 \cdot (0.303), \\ &\doteq \$1{,}440. \end{aligned} \tag{4}$$

Worksheets 3 and 4 show this calculation for 19 types of expenses for 1998 and 1999. The greatest expense was "salaries and benefits", followed by the allocation for overhead and general administration, and then rent.[7] Total cash expenses—net of extraordinary recruitment expenses and other evaluation-induced expenses—were $22,543 in 1998 and $90,510 in 1999 (Worksheet 4, line Cbz).

Ordinary expenses for the experimental program were about 50 percent of actual expenses for both IDA programs combined in 1998 and about 36 percent of actual expenses in 1999. To repeat, ordinary expenses are smaller than actual expenses

[7] The salary expense for 1998 includes the cost of the time spent in the design and development of the experimental program prior to October.

because ordinary expenses exclude expenses for the non-experimental program and the three-fourths of recruitment expenses due to the experimental design that a normal IDA program would not incur.

3.2.2 Allocation of ordinary expenses to sources of cash grants

Cash spent to cover expenses is financed from cash received as a grant. The accounts at CAPTC do not allocate ordinary expenses for the experimental program to specific sources of cash grants, but they do allocate the actual expenses of the two IDA programs to the nine sources of cash grants.

The cost analysis uses the knowledge of the actual expense—which includes extraordinary expenses due to the experiment design and evaluation—charged to each source of a cash grant for the two IDA programs and Equation 3 to compute an allocation for ordinary expenses for each source of cash grants. This allocation is then adjusted up or down proportionately among all sources so that all funds used for ordinary expenses by the IDA program are financed from cash receipts from some source of funds.

In 1998, CSBG funds paid for a 54.6 percent of ordinary expenses (Worksheet 5, line Dl), and CDBG funds paid for 45.4 percent (line Dn). None of the other sources of cash grants helped to finance ordinary cash expenses in 1998.

In 1999, CSBG funds paid for 35.1 percent of ordinary expenses, and CDBG funds paid for 49.3 percent. In addition, CFED funds paid for 15.6 percent of ordinary expenses (line Db). No other sources of cash financed cash expenses.

3.3 Statement of cash flows

Worksheet 6 lays out statements of cash flows that link cash on-hand from a given source at the start of the year to cash on-hand at the end of the year. Cash at the end is cash at the start, plus cash receipts, minus cash disbursements for matches, minus ordinary cash expenses.

Total cash used in 1998 ($22,543, Worksheet 6, line Ebb) equals the cash balance at the start of the year ($0, line Eay), minus the cash balance at the end of the year ($57,271, line Ebc), plus cash inflows during the year ($79,814, line Eaz). For 1999, cash used ($98,152, line Eba plus line Ebb) equals the cash balance at the start ($57,271), minus the cash balance at the end ($241,606), plus cash inflows ($282,487).

The balances of cash on-hand in Worksheet 6 are exaggerated because they do not net out extraordinary recruitment expenses. The final cost analysis at the end of the ADD evaluation will adjust for this with the assumption that cash receipts equal all cash outflows for matches and for ordinary expenses. That is, cash receipts recorded for the cost analysis will be decreased *ex post* so that cash on hand at the end of ADD is zero.

3.4 Receipts of grants in-kind and in-time

The main value-added of this cost analysis is the measurement and valuation of grants in-kind and in-time. These non-cash grants are not recorded in the accounts at CAPTC; from the point of view of the accounts, they do not exist. In fact, however, non-cash grants can be a large component of total resource inflows. Measurement of resource use by the experimental IDA program at CAPTC requires careful measurement of non-cash resource flows.

Grants in-kind and in-time are equivalent to grants in-cash earmarked for the purchase of specific goods or services. For example, nothing changes—at least from an economic point of view—if a private donor gives $100 in cash earmarked for the purchase of labor or if the private donor simply provides labor in kind equivalent to what would have cost the experimental program $100 in an arms-length market purchase. In either case, the experimental program does not have to come up with $100 to finance the labor.

The analysis here attempts to estimate the hypothetical cost of grants in-kind or in-time, not their worth to the experimental program. Of course, cost does not always equal worth, and in fact their inequality—from the different points of view of the two sides to an exchange—drives all economic activity. Furthermore, market costs in arms-length exchanges are not observed. Thus, estimates of the cost of non-cash grants are necessarily imprecise. Almost all other cost analyses completely ignore non-cash

resource flows and so implicitly assume that their cost is zero. The estimates here are admittedly coarse, but they are much closer to the truth than estimates of zero.

The rest of this section enumerates non-cash grants received by the experimental IDA program and describes the estimation of their likely cost.

3.4.1 Non-cash grants from private donors

3.4.1.3 Members of the Advisory Committee Working Group

The IDA Program Advisory Committee consists of honorary members and of working-group members. The honorary members either did nothing at all or provided a letter of support. The cost analysis counts their contribution as zero.

Members of the working group met in 1998 and 1999 to discuss issues related to the IDA programs. The members do not charge for their time. Meetings focused exclusively on the experimental program, and, according to the IDA Director about one-third of the time is spent on recruitment issues.

The cost analysis counts the number of meetings each member attended in 1998 and in 1999, computes an estimate of the implied number of donated hours, and requests that each working-group member estimate the market value of an hour of his or her time. The value of the time of members who did not respond to these requests is set to the average of those members who did respond. Working-group members probably underestimated the cost of their time in the open market because they seem to have simply divided their gross salary by 2,000 to get an hourly figure. If they were to

sell their time as consultants and to account for the value of fringe benefits, however, they would almost certainly charge more.

The working group had 14 members. Sondra Brown and Jill Bunnell of the Tulsa Housing Authority attended all six meetings (2 in 1998 and 4 in 1999). Given the assumption that each meeting lasts two hours—including preparation and follow-up—then Brown and Bunnell each donated 4 hours in 1998 and 8 hours in 1999. Brown and Bunnell provided estimates of the cost of their time, but these are suppressed from the display of Worksheet 7. The total cost of their time is also suppressed.

In 1999, four IDA participants joined the working group: Donna Calvin, Leisa Crawford, Maxine Richard, and Tywanna Wilson. Between them, Calvin and Richard attended five meetings. Crawford attended two meetings, and Wilson did not attend any meetings. The cost of their time was assumed to be the same as that of the VISTA volunteers.

Paul Dougherty and Vicki Peters of the Bank of Oklahoma also served on the working group. Both attended all the meetings in 1998 and 1999.

Meredith Exline of the Credit Counseling Center attended two meetings in 1998 and three meetings in 1999. Dick Jackson, a private individual who also serves on the Board of Directors of PGT, attended both meetings in 1998 and all four meetings in 1999.

Lynn Larson of Tulsa Community College and Steve Steib of the University of Tulsa did not respond to requests for information. The analysis assumes that they attended all the meetings and that their opportunity cost was the average of that of the other professionals in the working group.

Finally, both Barbara Trincinella of the Oklahoma State Cooperative Extension Service and Carol Young of the Department of Urban Development for the City of Tulsa attended all meetings in 1992 and in 1999.

Worksheet 7 shows the names of the working-group members, the number of hours contributed in 1998 and 1999, and the total estimated cost of their time. To protect privacy, the estimated cost of an hour of time for each member is not shown. On average for the group, an hour of donated time cost $24.50 in 1998 and $23.13 in 1999 (line Far). Working-group members gave 40 hours in 1998 and 85 hours in 1999 (line Faq). After adjustments for extraordinary recruitment, these in-time grants were the equivalent of cash grants of $735 in 1998 and $1,475 in 1999 (line Fav).

3.4.1.4 VISTA volunteers

In 1998 and 1999, the experimental program received discounted services from four VISTA volunteers: Paul Brey, Leisa Crawford, Pamela Smith, and Rachel Trares. CAPTC pays CFED $1,500 per volunteer for training[8]. The federal government—through CFED—pays a stipend to each volunteer and provides some

[8] This expense is counted as a general expense of the experimental program.

fringe benefits. The stipend, however, does not cover the opportunity cost of the time of the volunteers. If it did, then they would be "workers", not "volunteers".

The difference between the value of the compensation package that is provided to VISTAs and the value of the compensation package that they would earn in their best alternative employment is a non-cash grant from the VISTAs to the experimental IDA program. The VISTAs and/or their supervisors are asked to estimate their likely compensation in alternative jobs. The cost of the compensation package offered to VISTAs by the federal government was computed as follows. VISTAS earn $321 biweekly before taxes, equivalent to about $4.00 per hour or about $321·52/2 = $8,346 per year. VISTAs also receive health insurance for themselves and their children. The cost analysis assumes that this would cost $5,000, the standard ballpark estimate for a two-person household. Upon discharge from the VISTA program, volunteers receive a separation bonus that costs, on average, about $3,550 per year of service. Thus, compensation for a year of VISTA service is about $8,346 + $5,000 + $3,550 = $16,896, or $1,408 per month. The grant in-time from the VISTA is their hypothetical compensation in alternative employment, minus their actual compensation as a VISTA.

In 1999, Brey worked 5 hours for the experimental IDA program, Crawford worked three months, and Smith worked 8 months.[9] In 1998, Trares worked two months. About three-fourths of the time of these VISTAs was spent on recruitment.

[9] About 70 percent of Smith's time was spent on work required for the ADD evaluation, and so only 8·0.3 = 2.4 months are counted here.

Worksheet 8 lists the four VISTAs, the time worked, and the total in-time donation. The opportunity cost of each individual is suppressed for privacy. In sum, VISTAs donated time worth $224 to the experimental IDA program in 1998 and $617 in 1999.

3.4.1.5 Employees of CAPTC

Sometimes employees of CAPTC whose payroll expenses are not assigned by the accountants to the IDA programs provide services to participants in the experimental program. The cost analysis assigns the cost of this time to the experimental program.

For example, some participants in the experimental program who intend to use their IDAs for home purchase attended Home Buyer Seminars led by Ken Dickson, Leon Powell, or Lori Romero of the Housing Department of CAPTC. The time spent by these employees is allotted to the experimental program by the share of the class made up of IDA participants. To protect privacy, the exact number of hours contributed by CAPTC through a specific employee is suppressed.

Liz Hill and Letha Thomas administered applications for HOME funds, some submitted by IDA participants as part of their claim on match funds through the experimental program. Finally, Sam Peled advised some IDA participants who hoped to start a microenterprise.

Total hours spent by CAPTC employees on services to participants in the experimental program was 70.4 in 1998 and 155.2 in 1999 (Worksheet 8, line Gy).

Given an assumed cost of $15 per hour (line Gz), CAPTC made non-cash grants to the experimental IDA program of $1,056 in 1998 and $2,328 in 1999 (line Gaa).

3.4.1.6 Bank of Oklahoma

As the partner bank for the experimental IDA program, BOk made three types of non-cash grants. The first is the time of employees spent on IDA issues. In 1998, Angela Birches worked 14 hours on the design of a recruitment brochure, Paul Dougherty worked 45 hours on the design and development of the structure of the basic IDA account, Linda Gallman worked 50 hours on design and development of the account, Dallas Judd worked 6 hours on a recruitment brochure, and Barbara Parker worked 100 hours on the development of a system to transmit account data to CAPTC electronically (Worksheet 9).[10] In 1999, Paul Dougherty worked 70 hours, and Barbara Parker worked 20 hours. The cost analysis received the aggregate payroll expense (with the value of fringe benefits) for this donated time from Larry Wagner, an accountant at BOk. After adjustment for extraordinary recruitment costs, the cost of the grant is $7,266 in 1998 (215 hours at $36.33 per hour, line Hk) and $3,098 in 1999 (90 hours at $34.42 per hour). As usual, data on individual salaries are suppressed.

Second, BOk made a non-cash grant when it did not charge CAPTC for changes made to its management-information system to accommodate the design of IDA

[10] BOk employees worked mostly on the development of an IDA-account structure for the non-experimental program. The cost analysis counts this time as if it were spent on the experimental program because the counterfactual benchmark is an IDA program started from scratch.

accounts. For example, the frequency of account statements increased from quarterly to monthly, interest is paid on all balances rather than only on balances in excess of $100, and fees are not charged on dormant accounts. BOk absorbed the cost of $1,500 to make these changes in 1998 (Worksheet 9, line Hl).

Third, BOk makes a non-cash grant to IDA participants because it waives all maintenance fees on IDA accounts. A memo by Dougherty of BOk states that the average monthly service charge of $5 per account "typically offsets the costs of low-balance accounts." BOk's loss is participants' gain. Given 1,517 participant-months in 1999, BOk made a non-cash grant of $5·1,517 = $7,585 (Worksheet 9, line Hm).

In sum, BOk made non-cash grants to the experimental IDA program worth—after adjustments for extraordinary recruitment costs—$8,766 in 1998 and $10,683 in 1999 (Worksheet 9, line Hn).

3.4.1.7 Other private donors

A variety of other private entities made non-cash grants to the experimental IDA program. For example, Dick Jackson helped with recruitment and taught six seminars on the use of IDAs for retirement, putting in 10 hours in 1998 and 40 hours in 1999 (Worksheet 10).

Four interns also gave their time to the experimental program. Sabina Agostini, a participant, worked in 1999. Sharon Herron and Marcia Patterson, interns from Oral Roberts University, worked in 1998. Finally, Matt Lindsey, an intern from Tulsa

University, worked in 1999. These four volunteers had, according to managers at CAPTC, the same opportunity cost of time. In total, their work would have cost (after adjustments for extraordinary recruitment) $2,594 in 1998 and $1,400 in 1999 (Worksheet 10, line Iu).

Pat Kroblin at PK Communications designed publicity material, including two postcards, two flyers, a poster, and a billboard. Kroblin estimated the value of her time on these tasks as $250 in 1998 and $1,000 in 1999 (line Iv). Furthermore, newspapers donated $800 of space in 1998 (line Ix). Donated billboard space would have cost, according to Kroblin, $17,500 in both 1998 and 1999 (line Iw). After adjustments for extraordinary recruitment costs, non-cash grants were made through PK Communications made for $4,638 to the experimental IDA program in 1998 and for $4,625 in 1999 (Worksheet 10, line Iab).

Finally, Hartmann Communications donated design work on recruitment postcards. Melani Hartmann estimated the cost of the time of the art director at $2,100 and the cost of the time of the agency at $3,900. Of this $6,000, $2,000 are allotted to 1998 and $4,000 to 1999 (Worksheet 10, line Iac). After adjustments for extraordinary recruitment costs, these non-cash grants cost $500 in 1998 and $1,000 in 1999 (line Iaf).

In sum, these private donors provided non-cash resources of $7,794 to the experimental program in 1998 and $8,525 in 1999 (Worksheet 10, line Iag). Clearly, an analysis that ignored non-cash grants would underestimate the level of resources used.

3.4.2 Non-cash grants from the federal government

The experimental IDA program at CAPTC received two types of non-cash grants from the federal government. First, the federal government compensated VISTA volunteers. As explained above, this compensation cost $1,408 per month. After adjustment for extraordinary recruitment costs, VISTAs cost the federal government $1,217 in 1998 and $3,360 in 1999 (Worksheet 11, line Jp).

Second, television and radio stations provided public-service announcements to help with recruitment. According to Pat Kroblin of PK Communications, equivalent television advertising would have cost $27,000 both in 1998 and in 1999 (line Jq). Furthermore, equivalent radio advertising would have cost $3,900 in 1998 and $1,200 in 1999 (line Jr). After adjustment for extraordinary recruitment costs, these public-service announcements cost the federal government $7,725 in 1998 and $7,050 in 1999 (Worksheet 11, line Jv).

Some might ask why public-service announcements have a cost, and why that cost is assigned to the federal government. There is a cost because, in the absence of IDA announcements, some other public-service announcement or even commercial advertising would run. The federal government could mandate that the time used to transmit public-service announcements for IDAs be used to promote, for example, the prevention of forest fires. Time spent to announce IDAs is time not spent to announce

something else—with a consequent increase in forest fires—so the cost of an IDA announcement is the loss of the announcement that did not run.

Who bears the loss of the announcement that does not run? Some might argue that public-service announcements are donated by the stations, not by the federal government. If this were true, then the announcements would still be non-cash grants, only the source would be private donors rather than the federal government. Society, however, owns the rights to the electromagnetic frequencies used by radio and television stations, and the federal government regulates the use of these frequencies in trust on behalf of society. In exchange for the use of these frequencies, radio and television stations agree to perform some public service, including emergency-weather broadcasts and public-service announcements. Thus the society—through the federal government—bears the cost of public-service announcements.

In total, the federal government provided the experimental program with non-cash grants costing $8,942 in 1998 and $10,410 in 1999 (Worksheet 11, line Jw).

3.4.3 Non-cash grants from state and local government

The experimental IDA program received three non-cash grants from state and local government. First, the Oklahoma State Cooperative Extension Service provided classroom space, printed educational materials, teaching time, and curriculum development. Barbara Trincinella estimated that the classroom space would cost $50 per session. Given 5 classes in 1998 and 20 in 1999, the implicit non-cash grant is $250

in 1998 and $1,000 in 1999 (Worksheet 12, line Ka). Furthermore, OSU Extension printed educational materials that would have cost $1,000. The cost analysis assumes that $200 of this was in 1998 and that $800 was in 1999 (line Kb). Finally, Trincinella teaches classes to IDA participants and developed a financial-education curriculum. She estimates that the cost of her time on these activities is $5,300. The analysis assumes that one-fifth ($1,060) was in 1998 and four-fifths ($4,240) in 1999 (line Kc). In sum, OSU Extension donated resources whose cost was $1,510 in 1998 and $6,040 in 1999 (Worksheet 12, line Kg).

Second, the Tulsa Housing Authority took about 150 preliminary IDA applications. Jill Bunnell estimated that each application required a non-trivial amount of time, here suppressed to conceal personal opportunity costs. This time is a non-cash grant because without these referrals, then the experimental program would have spent more on recruitment. Given the (suppressed) opportunity cost of an hour as estimated by Bunnell, this contribution cost about $375 in 1998 and $1,500 in 1999 (Worksheet 12, line Kh). After adjustments for extraordinary recruitment costs, the Tulsa Housing Authority made non-cash grants of $94 in 1998 and $375 in 1999 (line Kk).

Third, the Department of Urban Development of the City of Tulsa wrote monitoring reports for the United States Department of Housing and Urban Development for grants for participants in the experimental program. Carol Young

estimated that these reports required time at a cost of $480 in 1999 (Worksheet 12, line Ko).

In sum, state and local governments provided non-cash grants whose cost was $1,604 in 1998 and $6,895 in 1999 (Worksheet 12, line Kp).

4. Costs and cost per unit of output

The measurement of cost alone serves to set a benchmark and to focus thought on the opportunity cost of resources, but knowledge of costs is most useful when combined with knowledge of benefits. Once ADD ends, the overall evaluation will compare costs with benefits. For now, this cost analysis compares costs with measures of output. Outputs are measured in physical units, for example, the number of enrollments. Benefits, in contrast, are measured in financial units, for example, the amount of dollars that would make a participant indifferent between access to an IDA program or a straight cash transfer.

4.1 Costs

Worksheet 13 shows total resource use (cost) for 1998 and 1999 from the points of view of private donors, the federal government, and state and local governments. The experimental IDA program at CAPTC used up $53,104 in 1998 and $143,062 in 1999. The total for the two years is $196,166, or about $0.2 million.

About 36 percent of all resources used came from non-cash grants. A cost analysis that ignored non-cash grants would severely underestimate costs. More than half of resources from private sources came in the form of non-cash grants, and all resources from state and local governments were in the form of non-cash grants.

About 31 percent of resources used ($60,553) came from private sources. About 65 percent of costs ($126,614) was borne by the federal government, and the rest (about 4 percent or $8,499) was borne by the state and local government.

4.2 Outputs

Worksheet 14 shows four measures of output: enrollments, participant-months, dollars deposited net of unapproved withdrawals, and dollar-months of resources saved. Output in 1998 was zero because no one completed enrollment until January 1999.

An *enrollment* occurs when an applicant completes all the requirements to participate and opens an IDA account at the Bank of Oklahoma. The experimental program at CAPTC enrolled 252 participants in 1999 (line Ma).

A *participant-month* is a month in which a person is in the experimental IDA program. For example, if someone enrolls in January and leaves the program in June, the output produced is 6 participant-months. The experimental program produced 1,517 participant-months in 1999 (line Mb).

A *dollar net deposit* is a dollar put into an IDA bank account that has not been withdrawn for an unapproved use, that is, that is, a dollar that is still in the account or has been withdrawn for an approved use. For example, if a participant deposited $10 in January, made an unapproved withdrawal of $5 in February, and then made an

approved withdrawal of $5 in August, the net deposit would be $10 – $5 = $5. In 1999, the experimental program produced $55,164 in net deposits (line Mg).

Finally, a *dollar-month saved* is a dollar left on deposit for a month. For example, if a person deposited $10 on January 1, deposited $20 on February 1, and withdrew all $30 on March 1, then the number of dollar-months saved would be $10 + ($10 + $20) = $40. Dollar-months saved can be computed as the end-of-month balances summed across all months. Unlike output measured as net deposits, output measured as dollar-months saved accounts for the length of time that resources are left on deposit. The experimental program in 1999 produced 266,205 dollar-months of resources saved (line Md).

4.3 Cost per unit of output

Worksheet 14 combines the measurements of cost and output to show *cost-effectiveness*, or cost per unit of output. Because the concern here is with social cost, the cost measure is net of disbursements for matches.[11] The analysis focuses on ratio of cumulative cost to cumulative output for three reasons.[12] First, no output was produced

[11] The cost measure here also excludes net deposits by participants. Deposits are costs form the point of view of participants, but subsequent withdrawals are benefits. If the analysis ignores the time value of money, then the two cancel out from the point of view of society as a whole.

[12] The cost analysis ignores the time value of money (discounting) and does not adjust nominal financial values to terms of constant purchasing power. In short time

in 1998. Second, the experimental program incurs costs each year that yield fruit in future years. Third, the experimental program reaps harvests in each year that were planted in previous years. Of course, costs per unit of output should fall in the future as start-up costs wane and are diluted over a more massive base.

Each enrollment in the experimental IDA program at CAPTC cost society $748 (Worksheet 14, line Mq). This figure excludes the costs of the non-experimental program, and it excludes extraordinary recruitment costs due to the experimental design. The production of a participant-month by the experimental program cost $124 (line Mr). Each dollar of net deposit cost society $3.42 (line Ms), and the cost of each dollar-month saved was $0.71 (line Mt).

Of course, saying that IDAs cost $748 per enrollment is somewhat like saying that a $10,000 car costs $2,500 per tire. The $748 used up for each enrollment also purchases, for the average participant, about 6 ≐ 1,517 / 252 participant-months, and about $220 in net deposits, and about 1,050 dollar-months of resources saved. Thus, to compare cost to only one output—when IDAs produce a bundle of linked outputs—overstates the cost of the single output, if it were to be supplied in isolation. Still, average costs are not useless. For example, if benefits per unit of output were

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frames (such as 15 months), discounting does not matter much. Furthermore, the technical details required to discount output are complex (Schreiner, 1997). The conversion from nominal to real values also is superfluous because inflation in the Tulsa was very low in 1998 and in 1999. Cost analyses in future years, however, will need both to discount and to convert nominal values to real values.

known, then a benefit-cost analysis could indeed base judgements on a comparison of cost per enrollment to benefit per enrollment.

4.4 Discussion

Are these costs high or low? Would it be better to give would-be IDA participants checks for $750 and skip the rest of the work? Are IDAs worth it?

The analysis here cannot answer any of these questions. Whether these costs are high or low depend on whether CAPTC supplies IDAs in the best-known manner. Although the optimal IDA technology is not known, it seems likely that, at least relative to many other IDA programs, CAPTC is not far from the average and may even be a low-cost supplier.[13] Knowledge and best practice in the supply of IDA services improves all the time, so the cost of efficient supply is a falling target. Furthermore, the cost to supply a product matters only relative to the benefit of the use of the product. If benefits exceed costs, than high costs may be at least tolerable.[14] Policymakers, like shoppers, should look at the product on the shelf, at its price tag, and at how much they like the product. Finally, the cost estimates here—though necessarily coarse—are

[13] Data on program costs collected through MIS IDA and reported in Sherraden *et al.* (2000, p. 26) suggest that the cost per enrollment in the average ADD program was about $140, with a low of $27 and a high of $300. These data, however, are known to be subject to large and unspecified inaccuracies.

[14] Of course, the objective is not only that benefits exceed costs but also that benefits exceed costs by as much as possible.

useful if only because they serve as a benchmark, both for future changes at CAPTC and for other IDA programs that provide similar services to similar target groups. All else constant, lower unit costs are better than higher unit costs.

Are IDAs better than straight cash transfers? The comparison of IDA services with a check equal to the cost of the supply of IDA services is not as straightforward as it might seem at first glance. First, IDAs require some saving effort from participants. Thus IDAs self-target to those people able and willing to help themselves and to sacrifice today in the hope for a better tomorrow. Cash transfers are not as precisely targeted, and even cash transfers have non-trivial administration costs. Second, IDAs delay cash disbursement for matches, and this prompts participants to think about how best to use their expected cash. IDA participants savor the thought of their expected future inflows of resources in ways that cash-transfer recipients do not, and this can lead to non-economic changes in patterns of thought and behavior. Third, IDAs attempt to restrict the use of cash transfers to the purchase of assets that—in most cases—improve both individual and social well-being in the long term. In fact, it might be said that IDAs attempt to transfer not cash but rather homes, educations, and small firms. Fourth, IDAs are coupled with financial education that attempts to transfer knowledge and to inculcate habits conducive to long-term wealth and well-being. Unlike physical products, financial products have costs and benefits spread through time, and many of these costs and benefits are intangible, so people may need help to learn to

judge their worth and to be wise shoppers. Fifth, the chance to receive social support and encouragement from IDA staff and from peers seems to help people to save. To sum up, IDAs are a complex package of services, constraints, and opportunities; the outcomes of IDA participation are not yet clear and so cannot yet be compared to cash transfers of equivalent social cost.

Are IDAs worth it? The answer will have to wait. The overall ADD evaluation will be the most rigorous, open-to-debate contribution so far to the discussion of the judgement of whether IDAs are worthwhile. This cost analysis is a small input into the financial benefit-cost analysis of ADD, and, in turn, the financial benefit-cost analysis is a small input into the overall ADD evaluation. The cost analysis only half of the benefit-cost analysis, and the experimental design will provide the best glimpse yet into the benefits of participation in IDA programs. Even this cost analysis is not complete. Economies of scale, experience, and innovation probably will decrease costs per unit of output in the future. The framework used here will measure these costs (resources used) at the experimental IDA program at CAPTC each year through the end of ADD.

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Worksheet 1: Receipts of grants in-cash by source

Line	Donor	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	Private									
Aa	CFED	Cash receipts total	Data	0	125,000	NA	NA	NA	NA	NA
Ab		Share to experiment	Data	0.800	0.800	NA	NA	NA	NA	NA
Ac		**Cash receipts experiment**	Aa*Ab	0	100,000	NA	NA	NA	NA	NA
Ad	CFED match	Cash receipts total	Data	0	26,848	NA	NA	NA	NA	NA
Ae		Share to experiment	Data	0.833	0.833	NA	NA	NA	NA	NA
Af		**Cash receipts experiment**	Ad*Ae	0	22,373	NA	NA	NA	NA	NA
Ag	BOk/Kaiser	Cash receipts total	Data	25,000	3,550	NA	NA	NA	NA	NA
Ah		Share to experiment	Data	0.847	0.847	NA	NA	NA	NA	NA
Ai		**Cash receipts experiment**	Ag*Ah	21,171	3,006	NA	NA	NA	NA	NA
Aj	Zarrow	Cash receipts total	Data	0	35,000	NA	NA	NA	NA	NA
Ak		Share to experiment	Data	0.847	0.847	NA	NA	NA	NA	NA
Al		**Cash receipts experiment**	Aj*Ak	0	29,640	NA	NA	NA	NA	NA
Am	CAPTC	Cash receipts total	Data	0	764	NA	NA	NA	NA	NA
An		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Ao		**Cash receipts experiment**	Am*An	0	0	NA	NA	NA	NA	NA
	Federal									
Ap	CSBG	Cash receipts total	Data	49,856	99,713	NA	NA	NA	NA	NA
Aq		Share to experiment	Data	0.701	0.803	NA	NA	NA	NA	NA
Ar		**Cash receipts experiment**	Ap*Aq	34,924	80,031	NA	NA	NA	NA	NA
As	CDBG	Cash receipts total	Data	33,859	67,719	NA	NA	NA	NA	NA
At		Share to experiment	Data	0.701	0.701	NA	NA	NA	NA	NA
Au		**Cash receipts experiment**	As*At	23,719	47,437	NA	NA	NA	NA	NA
Av	HOME	Cash receipts total	Data	0	2,000	NA	NA	NA	NA	NA
Aw		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Ax		**Cash receipts experiment**	Av*Aw	0	0	NA	NA	NA	NA	NA
Ay	AHP	Cash receipts total	Data	0	0	NA	NA	NA	NA	NA
Az		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Aaa		**Cash receipts experiment**	Ay*Az	0	0	NA	NA	NA	NA	NA
	State or local									
Aab	(none)	Cash receipts total	Data	0	0	NA	NA	NA	NA	NA
Aac		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Aad		**Cash receipts experiment**	Aab*Aac	0	0	NA	NA	NA	NA	NA
	Cash receipts experiment total									
Aae		Private	Ac+Af+Ai+Al+Ao	21,171	155,019	NA	NA	NA	NA	NA
Aaf		Federal	Ar+Au+Ax+Aaa	58,643	127,468	NA	NA	NA	NA	NA
Aag		State or local	Aad	0	0	NA	NA	NA	NA	NA
Aah		**Total**	Aae+Aaf+Aag	79,814	282,487	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 2: Disbursements of cash for matches by source

Line	Donor	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	Private									
Ba	CFED	Match disbursements total	Data	0	0	NA	NA	NA	NA	NA
Bb		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Bc		**Match disbursements experiment**	Ba*Bb	0	0	NA	NA	NA	NA	NA
Bd	CFED match	Match disbursements total	Data	0	8,850	NA	NA	NA	NA	NA
Be		Share to experiment	Data	0.000	0.351	NA	NA	NA	NA	NA
Bf		**Match disbursements experiment**	Bd*Be	0	3,104	NA	NA	NA	NA	NA
Bg	BOk/Kaiser	Match disbursements total	Data	1,217	7,805	NA	NA	NA	NA	NA
Bh		Share to experiment	Data	0.000	0.096	NA	NA	NA	NA	NA
Bi		**Match disbursements experiment**	Bg*Bh	0	750	NA	NA	NA	NA	NA
Bj	Zarrow	Match disbursements total	Data	1,415	9,287	NA	NA	NA	NA	NA
Bk		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Bl		**Match disbursements experiment**	Bj*Bk	0	0	NA	NA	NA	NA	NA
Bm	CAPTC	Match disbursements total	Data	0	0	NA	NA	NA	NA	NA
Bn		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Bo		**Match disbursements experiment**	Bm*Bn	0	0	NA	NA	NA	NA	NA
	Federal									
Bp	CSBG	Match disbursements total	Data	0	10,182	NA	NA	NA	NA	NA
Bq		Share to experiment	Data	0.000	0.372	NA	NA	NA	NA	NA
Br		**Match disbursements experiment**	Bp*Bq	0	3,788	NA	NA	NA	NA	NA
Bs	CDBG	Match disbursements total	Data	0	0	NA	NA	NA	NA	NA
Bt		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Bu		**Match disbursements experiment**	Bs*Bt	0	0	NA	NA	NA	NA	NA
Bv	HOME	Match disbursements total	Data	0	0	NA	NA	NA	NA	NA
Bw		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Bx		**Match disbursements experiment**	Bv*Bw	0	0	NA	NA	NA	NA	NA
By	AHP	Match disbursements total	Data	0	0	NA	NA	NA	NA	NA
Bz		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Baa		**Match disbursements experiment**	By*Bz	0	0	NA	NA	NA	NA	NA
	State or local									
Bab	(none)	Match disbursements total	Data	0	0	NA	NA	NA	NA	NA
Bac		Share to experiment	Data	0.000	0.000	NA	NA	NA	NA	NA
Bad		**Match disbursements experiment**	Bab*Bac	0	0	NA	NA	NA	NA	NA
	Match disbursements experiment total									
Bae		Private	Bc+Bf+Bi+Bl+Bo	0	3,854	NA	NA	NA	NA	NA
Baf		Federal	Br+Bu+Bx+Baa	0	3,788	NA	NA	NA	NA	NA
Bag		State or local	Bad	0	0	NA	NA	NA	NA	NA
Bah		**Total**	Bae+Baf+Bag	0	7,642	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 3: Allocation of ordinary expenses to the experimental program, Part I

Line	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
Ca	Extraordinary recruitment factor	Data	4.0	4.0	NA	NA	NA	NA	NA
Cb	Overhead and gen. admin.	Data	4,755	28,499	NA	NA	NA	NA	NA
Cc	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Cd	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Ce	**Overhead and gen. admin. to experiment**	Cb*[Cc*(1-Cd+Cd/Ca)]	1,440	8,629	NA	NA	NA	NA	NA
Cf	Salaries and benefits	Data	49,674	163,316	NA	NA	NA	NA	NA
Cg	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Ch	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Ci	**Salaries and benefits to experiment**	Cf*[Cg*(1-Ch+Ch/Ca)]	15,041	49,451	NA	NA	NA	NA	NA
Cj	Telephone	Data	1,178	13,927	NA	NA	NA	NA	NA
Ck	Share to experiment	Data	0.4000	0.4000	NA	NA	NA	NA	NA
Cl	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cm	**Telephone to experiment**	Cj*[Ck*(1-Cl+Cl/Ca)]	204	2,408	NA	NA	NA	NA	NA
Cn	Rent	Data	5,025	23,611	NA	NA	NA	NA	NA
Co	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Cp	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cq	**Rent to experiment**	Cn*[Co*(1-Cp+Cp/Ca)]	1,521	7,149	NA	NA	NA	NA	NA
Cr	Postage and shipping	Data	1,966	9,358	NA	NA	NA	NA	NA
Cs	Share to experiment	Data	0.6500	0.6500	NA	NA	NA	NA	NA
Ct	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cu	**Postage and shipping to experiment**	Cr*[Cs*(1-Ct+Ct/Ca)]	552	2,629	NA	NA	NA	NA	NA
Cv	Supplies	Data	727	17,379	NA	NA	NA	NA	NA
Cw	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Cx	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cy	**Supplies to experiment**	Cv*[Cw*(1-Cx+Cx/Ca)]	220	5,262	NA	NA	NA	NA	NA
Cz	Printing	Data	0	625	NA	NA	NA	NA	NA
Caa	Share to experiment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cab	Share to recruitment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cac	**Printing to experiment**	Cz*[Caa*(1-Cab+Cab/Ca)]	0	156	NA	NA	NA	NA	NA
Cad	Computer and other equip.	Data	9,186	6,806	NA	NA	NA	NA	NA
Cae	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Caf	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cag	**Computer and other equip. to experiment**	Cad*[Cae*(1-Caf+Caf/Ca)]	2,781	2,061	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 4: Allocation of ordinary expenses to the experimental program, Part II

Line	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
Cah	Advertising/promotions	Data	100	20,803	NA	NA	NA	NA	NA
Cai	Share to experiment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Caj	Share to recruitment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cak	**Advertising/promotions to experiment**	Cah*[Cai*(1-Caj+Caj/Ca)]	25	5,201	NA	NA	NA	NA	NA
Cal	Professional consulting	Data	451	1,061	NA	NA	NA	NA	NA
Cam	Share to experiment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Can	Share to recruitment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cao	**Professional consulting to experiment**	Cal*[Cam*(1-Can+Can/Ca)]	113	265	NA	NA	NA	NA	NA
Cap	Audit	Data	523	840	NA	NA	NA	NA	NA
Caq	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Car	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cas	**Audit to experiment**	Cap*[Caq*(1-Car+Car/Ca)]	158	254	NA	NA	NA	NA	NA
Cat	Repairs and maintenance	Data	0	208	NA	NA	NA	NA	NA
Cau	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Cav	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Caw	**Repairs and maintenance to experiment**	Cat*[Cau*(1-Cav+Cav/Ca)]	0	63	NA	NA	NA	NA	NA
Cax	Insurance	Data	83	2,171	NA	NA	NA	NA	NA
Cay	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Caz	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cba	**Insurance to experiment**	Cax*[Cay*(1-Caz+Caz/Ca)]	25	657	NA	NA	NA	NA	NA
Cbb	Mileage	Data	195	77	NA	NA	NA	NA	NA
Cbc	Share to experiment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cbd	Share to recruitment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cbe	**Mileage to experiment**	Cbb*[Cbc*(1-Cbd+Cbd/Ca)]	49	19	NA	NA	NA	NA	NA
Cbf	Business meals	Data	302	1,053	NA	NA	NA	NA	NA
Cbg	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Cbh	Share to recruitment	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Cbi	**Business meals to experiment**	Cbf*[Cbg*(1-Cbh+Cbh/Ca)]	212	738	NA	NA	NA	NA	NA
Cbj	Lodging and travel	Data	0	6,567	NA	NA	NA	NA	NA
Cbk	Share to experiment	Data	0.3500	0.3500	NA	NA	NA	NA	NA
Cbl	Share to recruitment	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Cbm	**Lodging and travel to experiment**	Cbj*[Cbk*(1-Cbl+Cbl/Ca)]	0	2,298	NA	NA	NA	NA	NA
Cbn	Staff development	Data	220	2,789	NA	NA	NA	NA	NA
Cbo	Share to experiment	Data	0.3500	0.3500	NA	NA	NA	NA	NA
Cbp	Share to recruitment	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Cbq	**Staff development to experiment**	Cbn*[Cbo*(1-Cbp+Cbp/Ca)]	77	976	NA	NA	NA	NA	NA
Cbr	Participant referral incentive	Data	0	360	NA	NA	NA	NA	NA
Cbs	Share to experiment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cbt	Share to recruitment	Data	1.0000	1.0000	NA	NA	NA	NA	NA
Cbu	**Participant referral incentive to experiment**	Cbr*[Cbs*(1-Cbt+Cbt/Ca)]	0	90	NA	NA	NA	NA	NA
Cbv	Miscellaneous	Data	414	7,276	NA	NA	NA	NA	NA
Cbw	Share to experiment	Data	0.7005	0.7005	NA	NA	NA	NA	NA
Cbx	Share to recruitment	Data	0.7570	0.7570	NA	NA	NA	NA	NA
Cby	**Miscellaneous to experiment**	Cbv*[Cbw*(1-Cbx+Cbx/Ca)]	125	2,203	NA	NA	NA	NA	NA
Cbz	**Total ordinary expenses**		22,543	90,510	NA	NA	NA	NA	NA
		Ce+Ci+Cm+Cq+Cu+Cy+Cac+Cag+Cak+Cao+Cas+Caw+Cba+Cbe+Cbi+Cbm+Cbq+Cbu+Cby							

Source: Data from CAPTC and calculations of the author.

Worksheet 5: Allocation of ordinary expenses to sources of cash

Line	Donor	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
Da		Total ordinary expenses	Cbz	22,543	90,510	NA	NA	NA	NA	NA
	Private									
Db	CFED	Share of ord. exp.	Data	0.0000	0.1564	NA	NA	NA	NA	NA
Dc		Charge for ordinary exp.	Db*Da	0	14,156	NA	NA	NA	NA	NA
Dd	CFED match	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
De		Charge for ordinary exp.	Dd*Da	0	0	NA	NA	NA	NA	NA
Df	BOk/Kaiser	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Dg		Charge for ordinary exp.	Df*Da	0	0	NA	NA	NA	NA	NA
Dh	Zarrow	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Di		Charge for ordinary exp.	Dh*Da	0	0	NA	NA	NA	NA	NA
Dj	CAPTC	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Dk		Charge for ordinary exp.	Dj*Da	0	0	NA	NA	NA	NA	NA
	Federal									
Dl	CSBG	Share of ord. exp.	Data	0.5460	0.3510	NA	NA	NA	NA	NA
Dm		Charge for ordinary exp.	Dl*Da	12,309	31,769	NA	NA	NA	NA	NA
Dn	CDBG	Share of ord. exp.	Data	0.4540	0.4926	NA	NA	NA	NA	NA
Do		Charge for ordinary exp.	Dn*Da	10,235	44,585	NA	NA	NA	NA	NA
Dp	HOME	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Dq		Charge for ordinary exp.	Dp*Da	0	0	NA	NA	NA	NA	NA
Dr	AHP	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Ds		Charge for ordinary exp.	Dr*Da	0	0	NA	NA	NA	NA	NA
	State or local									
Dt	(none)	Share of ord. exp.	Data	0.0000	0.0000	NA	NA	NA	NA	NA
Du		Charge for ordinary exp.	Dt*Da	0	0	NA	NA	NA	NA	NA
	Total ordinary expenses									
Dv		Private	Dc+De+Dg+Di+Dk	0	14,156	NA	NA	NA	NA	NA
Dw		Federal	Dm+Do+Dq+Ds	22,543	76,354	NA	NA	NA	NA	NA
Dx		State or local	Du	0	0	NA	NA	NA	NA	NA
Dy		**Total**	Dv+Dw+Dx	22,543	90,510	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 6: Statement of cash flows by source

Line	Donor	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	Private									
Ea	CFED	Cash balance start	Ee(t-1)	0	0	85,844	NA	NA	NA	NA
Eb		Cash receipts	Ac	0	100,000	NA	NA	NA	NA	NA
Ec		Match disbursements	Bc	0	0	NA	NA	NA	NA	NA
Ed		Ordinary expenses	Dc	0	14,156	NA	NA	NA	NA	NA
Ee		**Cash balance end**	Ea+Eb-Ec-Ed	0	85,844	NA	NA	NA	NA	NA
Ef	CFED match	Cash balance start	Ej(t-1)	0	0	19,270	NA	NA	NA	NA
Eg		Cash receipts	Af	0	22,373	NA	NA	NA	NA	NA
Eh		Match disbursements	Bf	0	3,104	NA	NA	NA	NA	NA
Ei		Ordinary expenses	De	0	0	NA	NA	NA	NA	NA
Ej		**Cash balance end**	Ef+Eg-Eh-Ei	0	19,270	NA	NA	NA	NA	NA
Ek	BOk/Kaiser	Cash balance start	Eo(t-1)	0	21,171	23,427	NA	NA	NA	NA
El		Cash receipts	Ai	21,171	3,006	NA	NA	NA	NA	NA
Em		Match disbursements	Bi	0	750	NA	NA	NA	NA	NA
En		Ordinary expenses	Dg	0	0	NA	NA	NA	NA	NA
Eo		**Cash balance end**	Ek+El-Em-En	21,171	23,427	NA	NA	NA	NA	NA
Ep	Zarrow	Cash balance start	Et(t-1)	0	0	29,640	NA	NA	NA	NA
Eq		Cash receipts	Al	0	29,640	NA	NA	NA	NA	NA
Er		Match disbursements	Bl	0	0	NA	NA	NA	NA	NA
Es		Ordinary expenses	Di	0	0	NA	NA	NA	NA	NA
Et		**Cash balance end**	Ep+Eq-Er-Es	0	29,640	NA	NA	NA	NA	NA
Eu	CAPTC	Cash balance start	Ey(t-1)	0	0	0	NA	NA	NA	NA
Ev		Cash receipts	Ao	0	0	NA	NA	NA	NA	NA
Ew		Match disbursements	Bo	0	0	NA	NA	NA	NA	NA
Ex		Ordinary expenses	Dk	0	0	NA	NA	NA	NA	NA
Ey		**Cash balance end**	Eu+Ev-Ew-Ex	0	0	NA	NA	NA	NA	NA
	Federal									
Ez	CSBG	Cash balance start	Ead(t-1)	0	22,616	67,089	NA	NA	NA	NA
Eaa		Cash receipts	Ar	34,924	80,031	NA	NA	NA	NA	NA
Eab		Match disbursements	Br	0	3,788	NA	NA	NA	NA	NA
Eac		Ordinary expenses	Dm	12,309	31,769	NA	NA	NA	NA	NA
Ead		**Cash balance end**	Ez+Eaa-Eab-Eac	22,616	67,089	NA	NA	NA	NA	NA
Eae	CDBG	Cash balance start	Eai(t-1)	0	13,484	16,336	NA	NA	NA	NA
Eaf		Cash receipts	Au	23,719	47,437	NA	NA	NA	NA	NA
Eag		Match disbursements	Bu	0	0	NA	NA	NA	NA	NA
Eah		Ordinary expenses	Do	10,235	44,585	NA	NA	NA	NA	NA
Eai		**Cash balance end**	Eae+Eaf-Eag-Eah	13,484	16,336	NA	NA	NA	NA	NA
Eaj	HOME	Cash balance start	Ean(t-1)	0	0	0	NA	NA	NA	NA
Eak		Cash receipts	Ax	0	0	NA	NA	NA	NA	NA
Eal		Match disbursements	Bx	0	0	NA	NA	NA	NA	NA
Eam		Ordinary expenses	Dq	0	0	NA	NA	NA	NA	NA
Ean		**Cash balance end**	Eaj+Eak-Eal-Eam	0	0	NA	NA	NA	NA	NA
Eao	AHP	Cash balance start	Eas(t-1)	0	0	0	NA	NA	NA	NA
Eap		Cash receipts	Aaa	0	0	NA	NA	NA	NA	NA
Eaq		Match disbursements	Baa	0	0	NA	NA	NA	NA	NA
Ear		Ordinary expenses	Ds	0	0	NA	NA	NA	NA	NA
Eas		**Cash balance end**	Eao+Eap-Eaq-Ear	0	0	NA	NA	NA	NA	NA
	State or local									
Eat	(none)	Cash balance start	Eax(t-1)	0	0	0	NA	NA	NA	NA
Eau		Cash receipts	Aad	0	0	NA	NA	NA	NA	NA
Eav		Match disbursements	Bad	0	0	NA	NA	NA	NA	NA
Eaw		Ordinary expenses	Du	0	0	NA	NA	NA	NA	NA
Eax		**Cash balance end**	Eat+Eau-Eav-Eaw	0	0	NA	NA	NA	NA	NA
Eay	**Total**	Cash balance start	Ebc(t-1)	0	57,271	241,606	NA	NA	NA	NA
Eaz		Cash receipts	Eb+Eg+El+Eq+Ev+Eaa+Eaf+Eak+Eap+Eau	79,814	282,487	NA	NA	NA	NA	NA
Eba		Match disbursements	Ec+Eh+Em+Er+Ew+Eab+Eag+Eal+Eaq+Eav	0	7,642	NA	NA	NA	NA	NA
Ebb		Ordinary expenses	Ed+Ei+En+Es+Ex+Eac+Eah+Eam+Ear+Eaw	22,543	90,510	NA	NA	NA	NA	NA
Ebc		**Cash balance end**	Eay+Eaz-Eba-Ebb	57,271	241,606	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 7: In-time grants by members of the Working Group of the Advisory Commitee

Line	Member	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
Fa	Brown, Sondra	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fb		Cost per hour	Data			NA	NA	NA	NA	NA
Fc		**Cost donated time**	Fa*Fb			NA	NA	NA	NA	NA
Fd	Bunnell, Jill	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fe		Cost per hour	Data			NA	NA	NA	NA	NA
Ff		**Cost donated time**	Fd*Fe			NA	NA	NA	NA	NA
Fg	Calvin, Donna	Hours in meetings	Data	0	2.5	NA	NA	NA	NA	NA
Fh		Cost per hour	Data			NA	NA	NA	NA	NA
Fi		**Cost donated time**	Fg*Fh			NA	NA	NA	NA	NA
Fj	Crawford, Leisa	Hours in meetings	Data	0	2	NA	NA	NA	NA	NA
Fk		Cost per hour	Data			NA	NA	NA	NA	NA
Fl		**Cost donated time**	Fj*Fk			NA	NA	NA	NA	NA
Fm	Dougherty, Paul	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fn		Cost per hour	Data			NA	NA	NA	NA	NA
Fo		**Cost donated time**	Fm*Fn			NA	NA	NA	NA	NA
Fp	Exline, Meredith	Hours in meetings	Data	4	6	NA	NA	NA	NA	NA
Fq		Cost per hour	Data			NA	NA	NA	NA	NA
Fr		**Cost donated time**	Fp*Fq			NA	NA	NA	NA	NA
Fs	Jackson, Dick	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Ft		Cost per hour	Data			NA	NA	NA	NA	NA
Fu		**Cost donated time**	Fs*Ft			NA	NA	NA	NA	NA
Fv	Larson, Lynn	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fw		Cost per hour	Data			NA	NA	NA	NA	NA
Fx		**Cost donated time**	Fv*Fw			NA	NA	NA	NA	NA
Fy	Peters, Vicki	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fz		Cost per hour	Data			NA	NA	NA	NA	NA
Faa		**Cost donated time**	Fy*Fz			NA	NA	NA	NA	NA
Fab	Richard, Maxine	Hours in meetings	Data	0	2.5	NA	NA	NA	NA	NA
Fac		Cost per hour	Data			NA	NA	NA	NA	NA
Fad		**Cost donated time**	Fab*Fac			NA	NA	NA	NA	NA
Fae	Steib, Steve	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Faf		Cost per hour	Data			NA	NA	NA	NA	NA
Fag		**Cost donated time**	Fae*Faf			NA	NA	NA	NA	NA
Fah	Trincinella, Barbara	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fai		Cost per hour	Data			NA	NA	NA	NA	NA
Faj		**Cost donated time**	Fah*Fai			NA	NA	NA	NA	NA
Fak	Wilson, Tywanna	Hours in meetings	Data	0	0	NA	NA	NA	NA	NA
Fal		Cost per hour	Data			NA	NA	NA	NA	NA
Fam		**Cost donated time**	Fak*Fal			NA	NA	NA	NA	NA
Fan	Young, Carol	Hours in meetings	Data	4	8	NA	NA	NA	NA	NA
Fao		Cost per hour	Data			NA	NA	NA	NA	NA
Fap		**Cost donated time**	Fan*Fao			NA	NA	NA	NA	NA
			Fa+Fd+Fg+Fj+Fm+Fp+Fs+Fv+Fy+Fab+Fae+Fah+Fak+Fan							
Faq	**Total**	Hours in meetings		40	85	NA	NA	NA	NA	NA
Far		Cost per hour	Fas/Faq	24.50	23.13	NA	NA	NA	NA	NA
Fas		**Cost donated time**	Faq*Far	980	1,966	NA	NA	NA	NA	NA
Fat		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Fau		Share to recruitment	Data	0.333	0.333	NA	NA	NA	NA	NA
Fav		**Cost donated time to experiment**	Fas*[Fat*(1-Fau+Fau/Ca)]	735	1,475	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 8: In-time grants by VISTAs and employees of CAPTC

Line	Donor	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	VISTA									
Ga	Brey, Paul	Months of service	Data	0	0.120	NA	NA	NA	NA	NA
Gb		Cost per month	Data			NA	NA	NA	NA	NA
Gc		**Cost donated time**	Ga*Gb			NA	NA	NA	NA	NA
Gd	Crawford, Leisa	Months of service	Data	0	3	NA	NA	NA	NA	NA
Ge		Cost per month	Data			NA	NA	NA	NA	NA
Gf		**Cost donated time**	Gd*Ge			NA	NA	NA	NA	NA
Gg	Smith, Pamela	Months of service	Data	0	2.4	NA	NA	NA	NA	NA
Gh		Cost per month	Data			NA	NA	NA	NA	NA
Gi		**Cost donated time**	Gg*Gh			NA	NA	NA	NA	NA
Gj	Trares, Rachel	Months of service	Data	2	0	NA	NA	NA	NA	NA
Gk		Cost per month	Data			NA	NA	NA	NA	NA
Gl		**Cost donated time**	Gj*Gk			NA	NA	NA	NA	NA
Gm	**Total VISTA**	Months of service	Ga+Gd+Gg+Gj	2	6	NA	NA	NA	NA	NA
Gn		Cost per month	Go/Gm	259	259	NA	NA	NA	NA	NA
Go		**Cost donated time**	Gm*Gn	517	1,428	NA	NA	NA	NA	NA
Gp		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Gq		Share to recruitment	Data	0.757	0.757	NA	NA	NA	NA	NA
Gr		**Cost donated time to experiment**	Go*[Gp*(1-Gq+Gq/Ca)]	224	617	NA	NA	NA	NA	NA
	CAPTC employees									
Gs	Dickson, Ken	Hours not billed to experiment	Data			NA	NA	NA	NA	NA
Gt	Hill, Liz	Hours not billed to experiment	Data			NA	NA	NA	NA	NA
Gu	Peled, Sam	Hours not billed to experiment	Data			NA	NA	NA	NA	NA
Gv	Powell, Leon	Hours not billed to experiment	Data			NA	NA	NA	NA	NA
Gw	Romero, Lorri	Hours not billed to experiment	Data			NA	NA	NA	NA	NA
Gx	Thomas, Letha	Hours not billed to experiment	Data			NA	NA	NA	NA	NA
Gy		**Total hours**	Gs+Gt+Gu+Gv+Gw+Gx	70.4	155.2	NA	NA	NA	NA	NA
Gz		Assumed cost per hour	Data	15	15	NA	NA	NA	NA	NA
Gaa		**Cost donated time to experiment**	Gy*Gz	1,056	2,328	NA	NA	NA	NA	NA
Gab		**Total**	Gr+Gaa	1,280	2,945	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 9: Non-cash grants, Bank of Oklahoma

Line	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
Ha	Birches, Angela (Hours of service)	Data	14	0	NA	NA	NA	NA	NA
Hb	Dougherty, Paul (Hours of service)	Data	45	70	NA	NA	NA	NA	NA
Hc	Gallman, Linda (Hours of service)	Data	50	0	NA	NA	NA	NA	NA
Hd	Judd, Dallas (Hours of service)	Data	6	0	NA	NA	NA	NA	NA
He	Parker, Barbara (Hours of service)	Data	100	20	NA	NA	NA	NA	NA
Hf	Total hours of service	Ha+Hb+Hc+Hd+He	215	90	NA	NA	NA	NA	NA
Hg	Cost per hour	Hh/Hf	36.33	34.42	NA	NA	NA	NA	NA
Hh	**Cost donated time**	Hf*Hg	7,811	3,098	NA	NA	NA	NA	NA
Hi	Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Hj	Share to recruitment	Data	0.093	0.000	NA	NA	NA	NA	NA
Hk	**Cost donated time to experiment**	Hh*[Hi*(1-Hj+Hj/Ca)]	7,266	3,098	NA	NA	NA	NA	NA
Hl	Changes to MIS	Data	1,500	0	NA	NA	NA	NA	NA
Hm	Waived fees	Data	0	7,585	NA	NA	NA	NA	NA
Hn	**Total VISTA**	Hk+Hl+Hm	8,766	10,683	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 10: Non-cash grants from other private people and firms

Line	Donor	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	Jackson, Dick									
Ia	Help with recruitment	Hours of service	Data	10	40	NA	NA	NA	NA	NA
Ib		Cost per hour	Data			NA	NA	NA	NA	NA
Ic		**Cost of grant**	Ia*Ib			NA	NA	NA	NA	NA
Id		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Ie		Share to recruitment	Data	1.000	1.000	NA	NA	NA	NA	NA
If		**Cost of grant to experiment**	Ic*[Id*(1-Ie+Ie/Ca)]	63	250	NA	NA	NA	NA	NA
Ig	Retirement seminars	Hours of service	Data	0	50	NA	NA	NA	NA	NA
Ih		Cost per hour	Data			NA	NA	NA	NA	NA
Ii		**Cost of grant**	Ig*Ih			NA	NA	NA	NA	NA
Ij		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Ik		Share to recruitment	Data	0.000	0.000	NA	NA	NA	NA	NA
Il		**Cost of grant to experiment**	Ii*[Ij*(1-Ik+Ik/Ca)]	0	1,250	NA	NA	NA	NA	NA
	Interns									
Im	Agostini, Sabina	Hours of service	Data			NA	NA	NA	NA	NA
In	Herron, Sharon	Hours of service	Data			NA	NA	NA	NA	NA
Io	Lindsey, Matt	Hours of service	Data			NA	NA	NA	NA	NA
Ip	Patterson, Marcia	Hours of service	Data			NA	NA	NA	NA	NA
Iq		Cost per hour	Data			NA	NA	NA	NA	NA
Ir		**Cost of grant**	Iq*(Im+In+Io+Ip)	6,000	3,240	NA	NA	NA	NA	NA
Is		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
It		Share to recruitment	Data	0.757	0.757	NA	NA	NA	NA	NA
Iu		**Cost of grant to experiment**	Ir*[Is*(1-It+It/Ca)]	2,594	1,400	NA	NA	NA	NA	NA
	Other private donors									
Iv	PK Promotions	Publicity design	Data	250	1,000	NA	NA	NA	NA	NA
Iw		Billboard ads	Data	17,500	17,500	NA	NA	NA	NA	NA
Ix		Newspaper ads	Data	800	0	NA	NA	NA	NA	NA
Iy		**Cost of grant**	Iv+Iw+Ix	18,550	18,500	NA	NA	NA	NA	NA
Iz		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Iaa		Share to recruitment	Data	1.000	1.000	NA	NA	NA	NA	NA
Iab		**Cost of grant to experiment**	Iy*[Iz*(1-Iaa+Iaa/Ca)]	4,638	4,625	NA	NA	NA	NA	NA
Iac	Hartmann Communications	Publicity design	Data	2,000	4,000	NA	NA	NA	NA	NA
Iad		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Iae		Share to recruitment	Data	1.000	1.000	NA	NA	NA	NA	NA
Iaf		**Cost of grant to experiment**	Iac*[Iad*(1-Iae+Iae/Ca)]	500	1,000	NA	NA	NA	NA	NA
Iag		**Total**	If+Il+Iu+Iab+Iaf	7,794	8,525	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 11: Non-cash grants from the federal government

Line	Item	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	Compensation for VISTAs									
Ja	Brey, Paul	Months of service	Ga	0	0.120	NA	NA	NA	NA	NA
Jb		Cost per month	Data	1,408	1,408	NA	NA	NA	NA	NA
Jc		**Cost donated time**	Ja*Jb	0	169	NA	NA	NA	NA	NA
Jd	Crawford, Leisa	Months of service	Gd	0	3	NA	NA	NA	NA	NA
Je		Cost per month	Jb	1,408	1,408	NA	NA	NA	NA	NA
Jf		**Cost donated time**	Jd*Je	0	4,224	NA	NA	NA	NA	NA
Jg	Smith, Pamela	Months of service	Gg	0	2.4	NA	NA	NA	NA	NA
Jh		Cost per month	Jb	1,408	1,408	NA	NA	NA	NA	NA
Ji		**Cost donated time**	Jg*Jh	0	3,379	NA	NA	NA	NA	NA
Jj	Trares, Rachel	Months of service	Gj	2	0	NA	NA	NA	NA	NA
Jk		Cost per month	Jb	1,408	1,408	NA	NA	NA	NA	NA
Jl		**Cost donated time**	Jj*Jk	2,816	0	NA	NA	NA	NA	NA
Jm	**Total VISTA**	Cost donated time	Jc+Jf+Ji+Jl	2,816	7,772	NA	NA	NA	NA	NA
Jn		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Jo		Share to recruitment	Data	0.757	0.757	NA	NA	NA	NA	NA
Jp		**Cost donated time to experiment**	Jm*[Jn*(1-Jo+Jo/Ca)]	1,217	3,360	NA	NA	NA	NA	NA
	Public-service announcements									
Jq		Television	Data	27,000	27,000	NA	NA	NA	NA	NA
Jr		Radio	Data	3,900	1,200	NA	NA	NA	NA	NA
Js		**Cost**	Jq+Jr	30,900	28,200	NA	NA	NA	NA	NA
Jt		Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Ju		Share to recruitment	Data	1.000	1.000	NA	NA	NA	NA	NA
Jv		**Cost to experiment**	Js*[Jt*(1-Ju+Ju/Ca)]	7,725	7,050	NA	NA	NA	NA	NA
Jw		**Total**	Jp+Jv	8,942	10,410	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 12: Non-cash grants from state and local governments

Line	Quantity	Formula	1998	1999	2000	2001	2002	2003	2004
	Oklahoma State Extension Service								
Ka	Classroom space	Data	250	1,000	NA	NA	NA	NA	NA
Kb	Printed materials	Data	200	800	NA	NA	NA	NA	NA
Kc	Teaching and curriculum development	Data	1,060	4,240	NA	NA	NA	NA	NA
Kd	**Cost**	Ka+Kb+Kc	1,510	6,040	NA	NA	NA	NA	NA
Ke	Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Kf	Share to recruitment	Data	0.000	0.000	NA	NA	NA	NA	NA
Kg	**Cost to experiment**	Kd*[Ke*(1-Kf+Kf/Ca)]	1,510	6,040	NA	NA	NA	NA	NA
	Tulsa Housing Authority								
Kh	Cost donated time	Data	375	1,500	NA	NA	NA	NA	NA
Ki	Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Kj	Share to recruitment	Data	1.000	1.000	NA	NA	NA	NA	NA
Kk	**Cost to experiment**	Kh*[Ki*(1-Kj+Kj/Ca)]	94	375	NA	NA	NA	NA	NA
	Dept. of Urban Development, City of Tulsa								
Kl	Cost donated time	Data	0	480	NA	NA	NA	NA	NA
Km	Share to experiment	Data	1.000	1.000	NA	NA	NA	NA	NA
Kn	Share to recruitment	Data	0.000	0.000	NA	NA	NA	NA	NA
Ko	**Cost to experiment**	Kl*[Km*(1-Kn+Kn/Ca)]	0	480	NA	NA	NA	NA	NA
Kp	**Total cost to experiment**	Kg+Kk+Ko	1,604	6,895	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 13: Total resource use (cost)

Line	Donor	Form	Formula	1998	1999	2000	2001	2002	2003	2004
	Private									
La	CFED	Cash	Ec+Ed+Eh+Ei	0	17,260	NA	NA	NA	NA	NA
Lb		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Lc		**Total**	La+Lb	0	17,260	NA	NA	NA	NA	NA
Ld	BOk/Kaiser	Cash	Em+En	0	750	NA	NA	NA	NA	NA
Le		Non-cash	Hn	8,766	10,683	NA	NA	NA	NA	NA
Lf		**Total**	Ld+Le	8,766	11,433	NA	NA	NA	NA	NA
Lg	Zarrow	Cash	Er+Es	0	0	NA	NA	NA	NA	NA
Lh		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Li		**Total**	Lg+Lh	0	0	NA	NA	NA	NA	NA
Lj	CAPTC	Cash	Ew+Ex	0	0	NA	NA	NA	NA	NA
Lk		Non-cash	Gab	1,280	2,945	NA	NA	NA	NA	NA
Ll		**Total**	Lj+Lk	1,280	2,945	NA	NA	NA	NA	NA
Lm	VISTAs	Non-cash	Gr	224	617	NA	NA	NA	NA	NA
Ln	Working group	Non-cash	Fav	735	1,475	NA	NA	NA	NA	NA
Lo	Other private	Non-cash	Iag	7,794	8,525	NA	NA	NA	NA	NA
Lp	**Total private**	Cash	La+Ld+Lg+Lj	0	18,010	NA	NA	NA	NA	NA
Lq		Non-cash	Lb+Le+Lh+Lk+Lm+Ln+Lo	18,798	24,246	NA	NA	NA	NA	NA
Lr		**Total**	Lp+Lq	18,798	42,255	NA	NA	NA	NA	NA
	Federal government									
Ls	CSBG	Cash	Eab+Eac	12,309	35,557	NA	NA	NA	NA	NA
Lt		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Lu		**Total**	Ls+Lt	12,309	35,557	NA	NA	NA	NA	NA
Lv	CDBG	Cash	Eag+Eah	10,235	44,585	NA	NA	NA	NA	NA
Lw		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Lx		**Total**	Lv+Lw	10,235	44,585	NA	NA	NA	NA	NA
Ly	HOME	Cash	Eal+Eam	0	0	NA	NA	NA	NA	NA
Lz		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Laa		**Total**	Ly+Lz	0	0	NA	NA	NA	NA	NA
Lab	AHP	Cash	Eaq+Ear	0	0	NA	NA	NA	NA	NA
Lac		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Lad		**Total**	Lab+Lac	0	0	NA	NA	NA	NA	NA
Lae	VISTAs	Cash	Jp	1,217	3,360	NA	NA	NA	NA	NA
Laf	Public-service ads	Non-cash	Jw	8,942	10,410	NA	NA	NA	NA	NA
	Total federal government									
Lag		Cash	Ls+Lv+Ly+Lab+Lae	23,760	83,502	NA	NA	NA	NA	NA
Lah		Non-cash	Lt+Lw+Lz+Lac+Laf	8,942	10,410	NA	NA	NA	NA	NA
Lai		**Total**	Lag+Lah	32,703	93,911	NA	NA	NA	NA	NA
	State and local government									
Laj	(none)	Cash	Eav+Eaw	0	0	NA	NA	NA	NA	NA
Lak		Non-cash	Data	0	0	NA	NA	NA	NA	NA
Lal		**Total**	Laj+Lak	0	0	NA	NA	NA	NA	NA
Lam	OSU Extension	Non-cash	Kg	1,510	6,040	NA	NA	NA	NA	NA
Lan	Urban. Dev.	Non-cash	Kk	94	375	NA	NA	NA	NA	NA
Lao	Tulsa Housing Auth.	Non-cash	Ko	0	480	NA	NA	NA	NA	NA
	Total state and local government									
Lap		Cash	Laj	0	0	NA	NA	NA	NA	NA
Laq		Non-cash	Lak+Lam+Lan+Lao	1,604	6,895	NA	NA	NA	NA	NA
Lar		**Total**	Lap+Laq	1,604	6,895	NA	NA	NA	NA	NA
	Total resource use (cost)									
Las		Cash	Lp+Lag+Lap	23,760	101,512	NA	NA	NA	NA	NA
Lat		Non-cash	Lq+Lah+Laq	29,344	41,550	NA	NA	NA	NA	NA
Lau		**Total**	Las+Lat	53,104	143,062	NA	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author.

Worksheet 14: Cost per unit of output

Line	Quantity	Formula	1998	1999	2000	2001	2002	2003
	Outputs							
	In a year							
Ma	Enrollments	Data	0	252	NA	NA	NA	NA
Mb	Participant-months	Data	0	1,517	NA	NA	NA	NA
Mc	Net deposits	Data	0	55,164	NA	NA	NA	NA
Md	Dollar-months saved	Data	0	266,205	NA	NA	NA	NA
	Cumulative							
Me	Enrollments	Me(t-1)+Ma	0	252	NA	NA	NA	NA
Mf	Participant-months	Mf(t-1)+Mb	0	1,517	NA	NA	NA	NA
Mg	Net deposits	Mg(t-1)+Mc	0	55,164	NA	NA	NA	NA
Mh	Dollar-months saved	Mh(t-1)+Md	0	266,205	NA	NA	NA	NA
	Costs							
	In a year							
Mi	Costs	Lau	53,104	143,062	NA	NA	NA	NA
Mj	Matches	Eba	0	7,642	NA	NA	NA	NA
Mk	**Cost net of matches**	Mi-Mj	53,104	135,420	NA	NA	NA	NA
	Cumulative							
Ml	Costs	Ml(t-1)+Mk	53,104	188,524	NA	NA	NA	NA
	Cost per unit of output							
	In a year							
Mm	Enrollments	Mi/Ma	NA	568	NA	NA	NA	NA
Mn	Participant-months	Mi/Mb	NA	94	NA	NA	NA	NA
Mo	Net deposits	Mi/Mc	NA	2.59	NA	NA	NA	NA
Mp	Dollar-months saved	Mi/Md	NA	0.54	NA	NA	NA	NA
	Cumulative							
Mq	Enrollments	Ml/Me	NA	748	NA	NA	NA	NA
Mr	Participant-months	Ml/Mf	NA	124	NA	NA	NA	NA
Ms	Net deposits	Ml/Mg	NA	3.42	NA	NA	NA	NA
Mt	Dollar-months saved	Ml/Mh	NA	0.71	NA	NA	NA	NA

Source: Data from CAPTC and calculations of the author

Figure 1: The experimental IDA program within the host organization