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SOCIAL FINANCE

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by

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Abstract

This paper characterizes the optimal contract for the financing of social programs. “Social-Finance” is unique insofar that it considers the constraints of many participating agents (government, non-profits, the implementation agency and private investors), that program outcomes are apparent only over long periods in time, and that effort and expertise of the implementing agencies is private information. We illustrate the financing of programs for the remediation juvenile crime and homelessness using publicly available data.

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SOCIAL FINANCE

I. Introduction

Social finance refers to the design and implementation of financial contracts that facilitate the financing of social programs from the private sector. Such “Social Financing” is a relatively new phenomenon and was first introduced in Great Britain in 2010 to finance a program to remediate juvenile crime (Table 1 provides details of the financing arrangement used in Great Britain). Following the successful financing of this program, similar arrangements have been initiated in the United States-e.g., to provide financing for a program to reduce recidivism rates for juveniles at Rikers island prison in New York City, for preventative health to reduce population asthma rates in Fresno (California)² and to remediate homelessness in United Kingdom³. The size of the market for social programs and the renewed possibility of private investors has drawn the interest of investment banks. For example, Goldman Sachs was involved in the financing of the Rikers-Island bond and consulting companies such as McKinsey Inc.⁴ have a team explicitly devoted to developing expertise in this area.⁵ To our knowledge this is the first paper to provide a framework to characterize the optimal contract for the financing of social programs. Given the large amount of resources directed by governments at all levels all over the world, the question addressed in this paper has far reaching importance.

Several aspects of social finance sets it apart from traditional corporate finance settings. First unlike traditional finance applications that include a principal (investor) and an agent (possibly the entrepreneur as in DeMarzo and Fishman (2007)) there are many parties involved in the implementation and financing of a social program. Financing for such programs is often provided by a Non-Profit. In some instances it may also be possible to draw in “regular” investors. Each of these financing entities has unique constraints. For example, regular investors with risk capital require a market return commensurate with the risk of the investment. On the other hand government agencies are often strapped for cash

² See Badawy (2012) for a description of the program.

³ See for example report in Wintour (2012).

⁴ See for example the report by McKinsey (2012)

⁵ Goldman Sachs has underwritten the social impact bond financing of “Rikers Island” remediation efforts.

and lack the expertise to correctly identify what programs and methods are likely to succeed. In general the government prefers to pay only if the program is successful, that in turn can only be known ex-post after the program is complete. Foundations may be less concerned about return on capital but focus on experimentation with methods to remediate social costs. The implementation of these programs is in the hands of agencies with expertise in the delivery of such programs (See Figure 1 for the structure of a typical social program).

In addition to the multi-agent setting, the nature of a social project is unique- these projects are consummated over many years and the results are not apparent right away. As a consequence it is difficult to characterize the project outcomes with precision during the course of the program. The success of a program may not be apparent until a few years after program completion. Therefore, what is special about social financing is that there are multiple parties each with their own constraints, the project outcomes have a unique structure and the implementing agency has private information about the chances of potential success of the program as well as the result of efforts on their part that is not revealed completely.

In this paper we ask – *what is the nature of the optimal set of contracts to finance a social program?* We derive the properties of a financial contract that minimizes social costs and at the same time maximizes the amount that can be raised from the private sector, given the implementing agency's endogenously chosen effort. Contrary to the structure of standard contracts, government payments are contingent on ex-post information of the state of the project. We implement the optimal contract and show that it includes features of a Social Impact bond. The debt portion of the optimal contract includes a coupon that is performance based. The optimal contract also incorporates a dividend policy, and the possibility to repay the debt ahead of time.

Given the benefits of such social financing, we address when this type of financing is useful. Clearly not all types of social programs are amenable for such financing. The social bond increases costs that must be offset by higher effort and can only be viable in certain settings. We outline the constraints for such programs. We show the importance of the incentives in designing the contract by contrasting the optimal financing method with regular bonds.

Our paper is related to several strands of the finance literature. Starting with the work of Smith and Warner (1979), the role of bond covenants and their impact on firm value has been extensively examined. By design, social impact bonds provide incentives for higher effort and a reduction of agency costs in a manner that is Paerto Optimal. Our work is also related to the literature on optimal financial contracting. DeMarzo and Fishman (2007) derive the set of securities that comprise the firm’s optimal capital structure in the presence of agency costs. In these papers the terms of the contract are realigned every period to create a balance between continuation and liquidation.

The article is organized as follows: Section 2 presents background information on recent financing efforts and social programs. Sections 3 develops a general discrete time model and outlines the financing problem. Section 4 solves for the optimal contract. Section 5 provides two examples of the optimal contract and Section 6 concludes the paper.

II. Background Information on Social Programs

In this section we provide a brief outline recent financing efforts and then provide background information on the two areas where social programs have been successful. Criminal justice and homelessness are the two areas that have received financing via private investors and are describe below. These instruments are collectively termed “social impact bonds”.

A. Recent financing efforts for social programs

Social impact bonds are contracts between the private and public sectors where success is measured in specified social outcomes. Table I provides an overview of two recent issues described below.

Peterborough social impact bond

In September 2010, the world’s first social impact bond was launched in the United Kingdom in hopes to reduce the re-conviction rates of people sentenced for less than twelve months. The UK Ministry of Justice entered into the agreement with four organizations (St. Giles Trust, Ormiston Children and Families Trust, YMCA, and SOVA) to provide accommodation, medical services, family support, employment and training, and financial

advice. Seventeen investors funded the £5 million contract. The investors will receive their principal back if the reconviction rate (within twelve months of release) falls 7.5%. If the reconviction rate falls more than 7.5% investors will receive additional returns that increases with better rates and is capped at a 13% return. The payments are made over an eight year period after the project is completed.

New York City social impact bond

In 2012, the United States followed suit, issuing its first social impact bond targeting youth criminal justice in New York City. The social impact bond funds the Adolescent Behavioral Learning Experience, a program being implemented at Rikers Island to educate young offenders and improve their cognitive skills. Prior to the program, almost half of adolescents leaving the New York City Department of Corrections return to prison within one year. The primary investor in this project is Goldman Sachs with an investment of \$9.2 million. The investment is in the form of a loan to MDRC, the leading nonprofit organization. Bloomberg Philanthropies have invested \$7.2 million to compensate Goldman Sachs if the target is not achieved. If the goal is achieved, Goldman Sachs will get its investment. If the recidivism rate improves beyond the target, Goldman Sachs will receive a payment up to \$2.1 million beyond its \$9.6 million investment.

B. Brief overview of social programs

Criminal justice

The purpose of criminal justice social programs is to reduce the rate of criminal recidivism, lowering both correctional costs to the government and the burden of crime on society. For example, Economist (2013) reports that it costs \$91,126 per year to for long term facilities to house juveniles. Also, 65% of young offenders who are incarcerated commit another crime within the next 3 years. Aos, et al. (2001) examine the cost effectiveness of juvenile and adult corrections methods on reducing recidivism rates. Adult programs that exhibit positive net benefits before including broader societal benefits include: a wide variety of non-residential substance abuse treatment and education programs in prisons, cognitive behavioral therapy, job counseling and searches, basic education (mathematics, reading, and writing), and in-prison vocational training. Cost

effective juvenile treatments include: Multi-Systemic Therapy, Multidimensional Treatment Foster Care, the Adolescent Diversion Project, and Aggressive Replacement Training. Note that many of these evidence-based corrections methods are part of the services provided in the Adolescent Behavioral Learning Experience used at Rikers Island. MacKenzie (2000) provides a review of the literature on corrections and its impact on recidivism. The review finds numerous effective methods including: therapeutic communities in prisons with community follow-up, cognitive behavioral therapy, and vocational education programs.

Homelessness

According to the Annual Homelessness Assessment Report from the Department of Housing and Urban Development, as of January 2012, there were over 107,000 chronically homeless people in the United States. A chronically homeless person is someone with a disability and who has been continuously homeless for a year or more or has experience at least four episodes of homelessness over the prior three years. This subset of homeless people accounts for almost 17% of the whole group. In Texas and four other states, one in five homeless people are chronically homeless. Being homeless, especially when coupled with a disability often leads affected individuals into scenarios where they frequent costly remedial public services (i.e., shelter, hospitalization, incarceration). A study of New York City hospitalization costs by Salit, et al. (1998) found that homeless individuals often have longer and more expensive periods of hospitalization. Explanations other than increased risks include that some physicians may lower thresholds for admission of homeless individuals and may delay discharge after treatment until a shelter bed is available. Thus there is a direct cost to society from homelessness. If proven interventions can be scaled to significantly reduce the use of public services by the homeless, economic value can be created for municipal and state governments, and for the investors who provided the capital to expand the programs. This economic value is in addition to other benefits to society.

Supportive housing programs provide individuals with housing arrangements and access to community or site-based support services. Larimer, et al. (2009) study a supportive housing program in Seattle for individuals with severe alcohol problems. They

found a significant reduction in the use of health and criminal justice services after only six and twelve months, reducing the public's cost. Martinez and Burt (2006) analyze the impact of San Francisco supportive housing and find that after being placed in the programs, individual significantly reduced the number of visits they made to the emergency department and also had a lower probability of being hospitalized than prior to their supportive housing. The results of the New York / New York agreement were examined by Culhane, et al. (2002) and found that costs across eight different public systems were significantly decreased for individuals after they participated in the supportive housing program. None of the studies above analyzed reductions in costs after two years of participation in supportive housing. With individuals receiving preventive treatments in the initial stages of the program it is reasonable to expect the possibility of improvements from treatments and the following realized cost savings to accrue as time goes on, eventually completely offsetting the costs of supportive housing.

Table II provide a summary of recent studies to assess the effectiveness of social programs.

III. The financing problem

We now describe the environment and provide a framework that leads to the optimization problem for financing a social program. We first characterize the target audience and the relevant features of a social program. Then we describe the incentives and constraints of each of the participants. Even though the problem is framed in general terms, it allows us solve for the optimal contract and then use a case study to implement the contract. A discussion of the challenges is relegated to Section VI. The nuances of a particular type of social program can be embedded into the general analysis that follows.

A. The population and the target audience of the social program

The potential target audience of a social program (e.g., homeless individuals, asthma patients, juveniles that are re-incarcerated) is given by the set: $\Omega = \{I_1, I_2, \dots, I_j, \dots\}$.

A subset of the potential audience $B \subset \Omega$ receives an intervention via a social program. Define $D = 1 \forall I \in B$ and $D = 0$ if $I \notin B$. The intervention is administered each period

until time T and the observation times are $t=1, \dots, T$. Each person $I \in \Omega$ has associated outcomes $(Y_{1,t}, Y_{0,t})$ that represents outcomes in the treated and untreated states, where $t=0, 1, \dots, T$. The observed outcome is:

$$Y_t = DY_{1,t} + (1 - D)Y_{0,t} \quad (1)$$

and the treatment effect is:

$$\Delta_t = Y_{1,t} - Y_{0,t} \quad (2)$$

The benefit to society from the program per period is real valued function: $S(\Delta_t) \rightarrow R^+$. The objective of a social program is to increase this benefit in the most effective manner. For example, in the setting to remediate homelessness the benefit of moving a homeless person to temporary housing includes items such as reduced hospitalization costs or in the case of juvenile crime it includes the reduction in the re-incarceration costs amongst other benefits. While estimation of these benefits is a task in itself and subject to discussion, it is not the main focus of the paper. Disagreement of the amount of these potential costs changes the tradeoffs faced by the government or financing agency but the analysis presented is still applicable. A financial contract is based on the direct effects of the intervention. The social benefit of the indirect effects (on people not in the program) is not considered.

B. Social program

The social program requires an initial investment K to finance the implementation of the program. In general K includes the initial investment as well as the present value of promised infusions to run the program. These costs include any office and manpower costs to implement the program.

The expected completion time of the program is T . It is possible that the evaluation of the success of the program is done only once at time T after its completion. However due to the nature of social programs and the possibility of recidivism in most cases there is periodic evaluation each period until time T . The social benefits accrue for each these interim time periods as well as continue after the completion of the program evaluation at T .

The success of a social program depends on effort and expertise of the implementing agency where effort is denoted e_t . Assume effort by the implementing agency can take on values between a range each period (high or low): $e_t \in [e_H, e_L]$. This effort is expended during the intervention period. Thus, the effectiveness of a program (e.g., reduction in the number of homeless) depends both on costly effort on part of the agency that implements the program. Effort $e_t \in [e_H, e_L]$ is not observable and the impact of this effort is also not certain. However $Y_{1,t}$ is observable and can be contracted upon.

The expected outcomes at time t is given by: $E[Y_{1,t} - Y_{0,t} | X_t, e_t] = E[\Delta_t | X_t, e_t]$:

$$Y_{1,t} = \varphi_1(X_t, t, e_t) + U_{1,t} \quad (3)$$

$$Y_{0,t} = \varphi_0(X_t) + U_{0,t} \quad (4)$$

Assume that $E[U_{0,t} | X_t] = E[U_{1,t} | X_t, e_t] = 0$. Also, define the average treatment effect as:

$$\alpha_{ATT,t} = E[\Delta_t | X_t, e_t, t] = \varphi_1(X_t, e_t, t) \quad (5)$$

We assume that the average treatment effect equals the average impact of treatment on the treated: $\alpha_{ATT,t} = E[\Delta_t | X_t, e_t, t, D = 1] = \varphi_1(X_t, e_t, t)$. This means that the difference in the errors $U_{1,t} - U_{0,t}$ does not help predict program participation.

Our objective is to design a program that encourages effort in a way that maximizes the effectiveness of the program and at the same time is able to attract private capital. In the case of programs that are based on evidence based implementation, the function $\varphi_1(X_t, e_t, t)$ is available to participants. Thus the expected benefit to society from the program in any period is computed as function: $S(\alpha_{ATT,t})$.

C. Participants

Since the social program is a multi-party venture, each participant analyzes the incentives from its own vantage point (see Figure 1 for the structure). The main financial participants are Government, Implementation Agency, Private Investors and Foundations.

Government

Denote government financing at each point in time: C_t^{gov} where $t=0,1,\dots,T$. The government agrees to finance a program if the *realized* social benefit of the program outweighs the cost. Success can only be determined ex-post and based on outcomes that are observable. In addition to this payment at the conclusion of the program, the government may agree to provide interim payments if the incremental social benefits are positive during that period.

$$H_t = \sum_{s=0}^t \underbrace{\left[(1+r_f)^{t-s} (S(Y_{1,s}) - \varphi_0(X_s)) - C_s^{gov} \right]}_{\text{cumulative future value of benefit}} \geq 0 \quad (6)$$

Thus the total present value of costs to the government in terms of cash flows to the agency is given by:

$$G_t = \sum_{s=t}^{T-1} E \left[\underbrace{\frac{C_s^{gov}}{(1+r_f)^{s-t}}}_{\text{interim payments}} \right] + E \left[\underbrace{\frac{C_T^{gov}}{(1+r_f)^{s-t}}}_{\text{reimbursement of investments}} \right] \quad (7)$$

The government wants to ensure that the program is a success and minimizes total costs to society keeping in mind its financial constraints and the efforts and strategy of the other participants. The benefits of a successful program after time T are based on a capitalization factor β and equal: $\beta S(\Delta_T)$.

Implementing agency

The implementation agency is responsible for structuring the program and arranging financing from foundations and private investors. The agency requires an initial investment to get the program under way. We denote the cash flows to the implementing agency by C_t^{ag} . The initial investment should exceed the set up costs:

$$C_o^{ag} = C_o^{foun} + C_o^{inv} \geq K \quad (8)$$

where C_0^{foun} , C_0^{inv} denote cash flows to the agency from foundations and private investors respectively. The agency can choose effort e_t such that increased effort incurs a private cost:

$$\gamma(e_t - e_L) \quad (9)$$

Thus the total benefit in terms of cash flows to the implementing agency conditional on effort each period and the chosen effort strategy is given by:

$$B_t^{ag} = \sum_{s=t>0}^T E \left[\frac{C_t^{ag}}{(1+r_f)^{s-t}} \right] \quad (10)$$

where γ is some constant. The agent chooses an effort strategy based on the financial contract offered to finance the social program.

Foundation

The foundations provide funding if the social benefits are positive. In other words foundations may be willing to accept a lower return than the risk-free rate. The participation constraint for foundations therefore is:

$$S(\alpha_{ATT}) > 0 \quad (11)$$

Thus the present value of total costs for the foundation in terms of cash flows is given by:

$$F_t = \sum_{s=t}^{T-1} E \left[\frac{C_t^{foun}}{(1+r_f)^{s-t}} \right] + E \left[\frac{C_T^{foun}}{(1+r_f)^{T-t}} \right] \quad (12)$$

We assume that foundation participation has an upper limit: $\bar{F} < K$.

Investor

Finally investor (debt holder cash flows) and face value of the debt are denoted C_t^{inv} and C_T^{inv} . The initial investment by the investors in the social program is C_0^{inv} . Investors require a fair return on their initial investment.

$$D_t = E \left[\underbrace{\sum_{s=t+1}^{\tau-1} \frac{C_t^{inv}}{(1+r_f)^{(s-t)}}}_{coupons} + \underbrace{\frac{\omega C_T^{inv}}{(1+r_f)^{(s-t)}}}_{recovery} \right] + E_{\tau>T} \left[\underbrace{\frac{C_T^{inv}}{(1+r_f)^{(s-t)}}}_{face\ value} \right] \quad (12)$$

In case of default or firing of the implementation agency investors receive payoff ωC_{inv}^T where $0 \leq \omega \leq 1$.

Feasibility condition: A social program is feasible at any point if the expected present value of the benefits to society is higher than the total investment (where cost of capital to the government equals the risk-free rate):

$$\Pi_t = \sum_{s=t+1}^T E \left[\frac{S(\Delta_t)}{(1+r_f)^{s-t}} \right] + E \left[\frac{\beta S(\Delta_T)}{(1+r_f)^{T-t}} \right] > K \quad (13)$$

The assumption implies that in addition to the savings after completion of the program, there are possibly some interim savings during the implementation and evaluation period of the program.

Definition of a social financing contract

A social finance contract is given by the set $\{C_t^{gov}, C_t^{fou}, C_t^{inv}, C_t^{ag}, \varphi_1, \varphi_0, \omega\}$ $t = 0, 1, 2, \dots, T$ where payments are based on the reported Y_t . The program is incentive compatible if the agents exert maximum effort each period. Our objective is to look for contracts that allow for maximum effectiveness of the program with the idea of making private investment feasible.

D. The optimization problem.

Each period the implementation agency reports Y_t and the government promises payments that are a function of the reports Y_t .

$$\text{Minimize cost to government: } g_0 = \text{Min } G_0 \quad (14)$$

Subject to:

$$\text{Initial funding-} \quad C_0^{foun} + C_0^{inv} \geq K \quad (15)$$

$$\text{Interim flows} \quad C_t^{gov} + C_t^{foun} \geq C_t^{inv} \quad (16)$$

$$\text{Promise keeping} \quad E(b_{t+1}^{ag}) \geq (1 + r_f) b_t^{ag} \quad (17)$$

$$\text{Incentive compatibility} \quad b_t^{ag}(e_t) - b_t^{ag}(e_L) \geq \gamma(e_t - e_L) \quad (18)$$

$$\text{Foundation participation:} \quad F_0^{foun} = \bar{F} \leq K \quad (19)$$

Government dual objectives are:

- Minimize costs to the government
- Maximize private sector participation

IV. Nature of the optimal contract

We first derive the properties of the optimal contract and then consider special cases. Finally, a numerical analysis elicits the impact of input parameters. Section V has two applications that help calibrate the contract to two programs.

3.1 The case with no incentive payments

Consider first the case where the implementing agency is passive in the sense that it implements the contract and exerts a minimum level of effort each period.

3.2 Including incentives

Consider now the case where the implementing agency receives incentive payments. Now cash flows from the government are split between incentive payments and coupons.

Continuation function after the agency reports

Lemma 1: *The continuation function for the optimal contract after the agency report in terms of the promised payoff to the agency is characterized as:*

Proof: See Appendix.

Continuation function before the report

Lemma 2: *The continuation function at the start of each period for the agency after the report and before dividend payments is characterized as:*

Proof:

Implementation of the optimal contract- the case of the Social Impact Bond

Social impact bonds are pay for success contracts between the private and public sectors where success is measured in specified social outcomes. Capital is raised from private investors to fund the expansion of social interventions. Payments from the government to investors are triggered by results instead of required upfront payments (McKinsey (2012)). Traditionally, limited funding for preventative services comes from private philanthropic sources from municipal and state governments. With budget constraints governments can provide only so much upfront funding for such services when considering capital risk, even if potential benefits outweigh costs. The use of incentive payments in the pay for success model shifts capital risk from governments to investors, expanding the funding channel for social preventative services. In addition to increased access to funding, service providers will be incentivized to focus on outcomes and not input, spurring improved efficiency and innovation of social services and their delivery.

With the social impact bond model still in its infancy, investors are most likely to be of a philanthropic nature. When the model is proven and exhibits both palatable social and financial returns, there is a growing community of investors (“impact investors”, trusts, foundations, etc.) who want to use their capital for benefitting society, not just for creating financial returns.

V. Numerical Analysis

TBA

VI. Applications and Challenges

- A. Juvenile Crime
- B. Homelessness
- C. Challenges

One challenge of SIBS is that cost savings generated by the preventative services. Cost savings to the tax payer will not all accrue in one government program. For example, by placing a person in permanent supportive housing who was chronically homeless and suffering from substance addictions will most likely create a net gain for the taxpayer as well as society. However, the taxpayer benefits might accrue in several locations: public shelter, public hospitals, private hospitals, jails, prisons, etc. Devising a way to select which government entity to contract with and how to wholly measure and realize these savings will create clearer incentives for government leaders to adopt this model to improve social outcomes.

Another challenge is securing critical support for preventative initiatives. Some programs may not be popularly accepted at first by the public, even if societal benefits stand to be gained. Alternative corrections such as drug courts or other community-based programs have indications of reducing recidivism, (although results of existing studies are regarded to be less rigorous). Implementing these programs may mean no longer prescribing non-violent drug offenders or the similar to traditional prison sentences. A step in this direction would not only need acceptance by the people but also full cooperation of numerous agencies and the criminal justice system.

V1. Discussion and Conclusions

Social finance refers to the design and implementation of financial contracts that facilitate the financing of government social programs. This paper derives the properties of an “optimal contract” for the financing of government services and ascertains if SIBs (Social Impact Bonds) are an effective implementation of the optimal contract.

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Table I. Recently Issued Social Impact Bonds

This table provides the terms and conditions for Social Impact Bonds issued in the United Kingdom and more recently in New York City. The social program service period and evaluation period are listed below.

	UK Ministry of Justice	New York City
Year	2010	2012
Social Issue	Criminal Justice	Criminal Justice
Benchmark	Rate of criminal recidivism within 12 months	Rate of criminal recidivism
Service Description	The One* Service provides intensive support before and after release to prisoners and their families to facilitate a better resettlement and reduce the likelihood of reincarceration.	The ABLÉ program provides education, training, and counseling to get young adults on Rikers Island back on track and reduce the likelihood of reincarceration.
Service Period	6 years	4 years
Target to Trigger Payback	-7.50%	-10%
Payback Period (after service)	8 years	Single Payment
Capped Return	13%	5.07%
Total Investment	£ 5,000,000	\$ 9,600,000
Capital at Risk	£ 5,000,000	\$ 1,400,000

Table 2. Performance of Selected Social Programs

	Culhane et al. 2002	Martinez & Burt 2006	Larimer et al. 2009	Aos 2001
Target Audience	4,679 homeless persons with severe mental illness	236 homeless persons with mental illness, substance abuse, or a dual diagnosis	95 homeless persons with severe alcohol problems	Juvenile and Adult Delinquents
Social Program	Mixture of supportive housing with less restrictive treatments and community residence facilities with on-site mandated treatments	Supportive housing where treatments are received voluntarily. Sobriety is not a requirement. (Housing first)	Supportive housing where treatments are received voluntarily. Sobriety is not a requirement. (Housing first)	Juveniles: MST, FFT, ART, MTFC, and ADP Adults: NPTC, IPNRSAT, cognitive behavior, basic education, IP vocation education.
Results	Compares two years prior to housing and two years post placement. Shelter days used decreased 60.5%. Psychiatric hospitalization days decreased 49.2%. Public hospital days decreased 21.2%. Medicaid (inpatient) days fell 39.9%. Medicaid (outpatient) visits increased 75.9%. VA hospital days decreased 24.4%. State Prison days fell 84.8%. Jail days decreased 38%.	81% of participants stayed in permanent housing for atleast one year. Reductions in emergency department visits 56%.	80% of participants stayed in permanent housing for atleast one year. Reduction in costs by 53% per month over six months.	Reducing size effect on basic recidivism. Juvenile: MST (31%), FFT (25%), ART (18%), MTFC (37%), and ADP (27%) Adults: NPTC (17%), IPNRSAT (9%), cognitive behavior (7-8%), basic education (11%), IP vocation education (13%)
Cost Savings	Net annual reductions of \$12,146 per person over two years.	Reduce public costs by \$1,300 per year for first two years per participant.	Reductions of costs after six months were \$3,569 per person.	Present value of taxpayer gains per participant. Juvenile: MST (\$31,661), FFT (\$59,067), ART (\$8,287), MTFC (\$21,836), and ADP (\$5,720) Adults: NPTC (\$4,110), IPNRSAT (\$1,672), cognitive behavior (\$2,400), basic education (\$1,852), IP vocation education (\$2,835)

Figure 1. Structure of a Typical Social Program

This figure gives the structure of social financing in the manner that it has been implemented in two instances. The government contracts with an implementation agency to reduce the costs of a social issue, measurable by a specified benchmark. Investors and foundations provide the upfront funding to the implementation agency for the entire life of the social program in exchange for a commensurate return on the project.

