Social Impact Bonds

A promising new financing model to accelerate social innovation and improve government performance

Jeffrey B. Liebman  February 2011
Social Impact Bonds
A promising new financing model to accelerate social innovation and improve government performance

Jeffrey B. Liebman    February 2011

doing what works

CAP’s Doing What Works project promotes government reform to efficiently allocate scarce resources and achieve greater results for the American people. This project specifically has three key objectives:

• Eliminating or redesigning misguided spending programs and tax expenditures, focused on priority areas such as health care, energy, and education
• Boosting government productivity by streamlining management and strengthening operations in the areas of human resources, information technology, and procurement
• Building a foundation for smarter decision-making by enhancing transparency and performance measurement and evaluation

This paper is one in a series of reports examining government accountability and efficiency.
Introduction and summary

Current approaches to government funding of social services create significant barriers to innovation. Funding streams tend to emphasize inputs rather than program objectives and are often overly prescriptive, requiring grantees to use a particular delivery model. In many cases, program outcomes are not rigorously assessed, allowing unsuccessful initiatives to persist for years.

Meanwhile, the public sector is slow to adopt new program models, even those proven to be highly effective. There is no systematic process through which philanthropically funded interventions with demonstrated success receive the government funding necessary to expand. Investments in preventive services can be particularly difficult to finance because the funding streams that support such services are often in different accounts from the programs in which the cost savings accrue.

Consider the new federal “home visiting” program. This grant program, which pays for nurse and social worker home visits to low-income mothers, was enacted last year—33 years after the first randomized controlled trial demonstrated the benefits of such visits. Among the benefits we put off for more than three decades: healthier children and families, and lower Medicaid costs for taxpayers.

We must find better ways to support and scale-up successful social innovations. Imagine the social benefits and reduced taxpayer burden if we could:

- Increase kindergarten readiness among low-income children
- Increase college completion rates
- Reduce criminal offenses and incarceration rates among minority youth
- Raise the future earnings of laid-off workers
- Reduce hospital readmissions among patients with chronic illness

This report analyzes social impact bonds, a promising new approach to the government financing of social service programs or social “interventions.” By combining performance-based payments and market discipline, the approach has the potential to improve results, overcome barriers to social innovation, and encourage investment in cost-saving preventive services.
How a social impact bond works

Under the social impact bond model, a government contracts with a private-sector financing intermediary we’ll call a “social impact bond-issuing organization,” or SIBIO, to obtain social services. The government pays the SIBIO entirely or almost entirely based upon achieving performance targets. If the bond-issuing organization fails to achieve the targets, the government does not pay. In some cases, the government payments may be calculated as a function of government cost-savings attributable to the program’s success.

The bond issuer obtains operating funds by issuing bonds to private investors who provide upfront capital in exchange for a share of the government payments that become available if the performance targets are met. The bond issuer uses these operating funds to contract with service providers to deliver the services necessary to meet the performance targets.

The United Kingdom Justice Ministry is currently conducting the first test of this approach. The ministry has contracted with a bond-issuing organization to provide services designed to discourage prisoner recidivism at a prison in Peterborough, England. The government will make payments to the SIBIO only if the reoffending rate among prisoners released from the prison falls by at least 7.5 percent relative to the recidivism rate in a comparison group of similar prisons.

The social impact bond model uses private financing to overcome existing barriers to performance-based pay for social service providers. Today, most providers would be hard-pressed to come up with sufficient capital to provide services upfront and only receive payments after performance targets were met. And most social service providers would be unable to absorb the risk of failing to meet performance targets. But in a social impact bond scheme, private investors provide the upfront capital and absorb most of the risk.

The private investors also perform an important form of quality control. That’s because service providers must convince the private investors that their program model and management team are likely to achieve the performance targets. The investors and bond-issuing organization also have strong incentives to rigorously monitor and improve program performance; if performance targets are missed, they will lose the money they invested. Overall, the social impact bond model offers the following three main benefits:
Improved performance and lower costs
The model focuses government agencies and social service providers on achieving program objectives and improving performance in a way that is transparent to taxpayers. Programs that fail to achieve results would not continue to receive funding year after year, as they do today.

Accelerating adoption of new solutions
Government agencies, which might otherwise continue to fund the same old approaches they have funded in the past, would have an incentive to invest in promising new strategies, including preventive services. That’s because the risk of wasting taxpayer dollars if the new approaches fail is transferred to the private sector.

More rapid learning about what works
The social impact bond approach embeds rigorous ongoing evaluation of program impacts into program operations, accelerating the rate of learning about which approaches work and which do not.

Key challenges
Because of how they are structured, social impact bonds will work only for interventions that meet the following five main criteria:

The interventions must have sufficiently high net benefits
The most significant obstacle to making social impact bonds work is identifying interventions with sufficiently high net benefits to allow investors to earn their required rates of return. If one-third of projects fail, the annualized rates of return on the remaining projects would likely need to be more than 20 percent. Given the history of impact evaluations of government-funded social programs, achieving a sufficient level of success will be difficult.

The interventions must have measurable outcomes
Performance-based payment schemes can by definition work only for funding those programs that can be evaluated by reliable performance measures. And those measures must be highly correlated with a comprehensive assessment of a program’s social net benefits. Imperfect measures—those that are only weakly correlated with comprehensive program success or that measure a narrow component of a program’s performance—have the potential to distort performance in a way that is equivalent to “teaching to the test.”
The treatment population must be well-defined up front
It will be much easier to evaluate program impacts and negotiate a performance-based contract if the treatment population is clearly defined in a way that cannot be manipulated by the service provider. The U.K. pilot provides a good example. The treatment population in that case is all prisoners in Peterborough Prison, not just the subset that receives services from the service provider. Defining the population upfront and independent of service delivery avoids cream-skimming and gives the bondholders the proper incentive to marshal whatever combination of services is necessary to achieve good results for the entire targeted population.

Impact assessments must be credible
To evaluate the success of a program, you not only need measurable outcomes, but also a way of assessing what the outcomes would have been in the absence of the program. There is a range of methods for assessing impacts, from randomized experiments to quasi-experimental techniques to simple “before and after” comparisons. For social impact bonds to achieve their objectives, payments must be based on a credible assessment of program impacts.

Unsuccessful performance must not result in excessive harm
Bondholders could have an incentive to shut down operations if it becomes clear they will not meet performance targets and get paid. The shutdown in operations could strand the population being served. Therefore, all social impact bond contracts should include contingency planning for performance and financing failures. The duty to avoid harming treatment populations may limit social impact bonds to programs that don’t provide “core” services.

Next steps
The U.K. social impact bond experiment has prompted interest among U.S. philanthropists, policymakers, and investors in conducting proof-of-concept tests in this country. In order to get pilot programs up and running here within the next one to two years, the following actions need to be taken simultaneously:

Identify promising pilot applications
At the proof-of-concept stage, it makes sense to apply the social impact bond model to programs that have already proven effective. Ideal applications for this initial phase will have recently demonstrated their effectiveness in rigorous evaluations and have sufficiently high net benefits to satisfy investor-required rates of
return. Some of the initial demonstrations should be programs in which successful implementation will provide savings to the government that exceed program costs.

Establish the first U.S. pilot tests at the local level
Most social services in the United States are delivered at the state and local level. It is therefore likely that the first U.S.-based tests will be established by social entrepreneurs working with innovative city and state governments. Initial investors are likely to include socially minded individuals and foundations.

Identify additional areas where the bonds are most likely to spur social innovation
In addition to identifying already proven models for initial tests, think tanks or foundations should host more strategic discussions to review the social problems most urgently in need of innovative solutions, and to consider whether social impact bonds are likely to be a good fit for each particular domain.

Assess the potential investor market
In order to determine how ambitious to be in selecting applications, a rigorous assessment is needed of the potential size of the social impact bond market. For example, if they were to be used to finance the nationwide rollout of a program on the scale of Head Start, the market might need to be in the tens of billions of dollars. But if social impact bonds end up combining equity-like risk with bond-like returns, then the market will likely be limited to philanthropic and socially minded investors willing to accept lower returns in exchange for promoting social goals. The “impact investment” community, which promotes financial investments that solve problems while generating profits, should commission a reliable market assessment.

Develop government, evaluative, and private-sector capacity
The United States needs to take three capacity-building steps to create social impact bonds. First, governments will need to develop or acquire the capacity to write effective pay-for-performance contracts. Second, a neutral authority to measure outcomes and resolve disputes, independent of both the government and the bond-issuing organization, will need to be identified or created. Third, and most important, one or more social impact bond-issuing organizations will need to be created, with the capacity to raise capital from private investors, negotiate performance-based contracts with the government, and hire and manage service providers.

Seek congressional authority to expand use of long-term performance contracts
While a number of federal programs provide sufficient flexibility to experiment with the social impact bond model, traditional appropriations statutes are not a good fit. Appropriations laws usually make funds available for only a one- or two-year period,
well before the full results of these bonds would be known. Moreover, the government will need to make initial obligations under the assumption that all performance targets are met. These obligations will be higher than the final results-based payments because not all projects will achieve all of their performance targets.

Congressional appropriators, who operate under spending caps, will be reluctant to appropriate funds in excess of what is actually going to be paid out, since agencies would have to return the unused funds to the Treasury. Congress should therefore pass an appropriations statute that authorizes long-term contracts and allows for future redirection of any unused funds, for another closely related high-priority purpose.

The remainder of this report examines the social impact bond model in further detail. It begins by reviewing why existing government approaches to financing social services create barriers to social innovation. Then it describes the social impact bond model and the U.K. Peterborough Prison test. A discussion follows of the key challenges in selecting promising applications of the social impact bond model. A concluding section discusses work that will need to be done in order to establish the first U.S.-based tests of the model.
Existing barriers to social innovation

Social service interventions, such as workforce training or preventive health care programs, are sufficiently resource-intensive that scaling them up often requires government funding. But existing government approaches to funding social programs pose six significant barriers to innovation:

- Government funding is insufficiently focused on results and performance
- Inadequate performance evaluation allows ineffective programs to persist
- The proof-of-concept process for social innovations is slow
- Innovation is risky and public officials are wary of failure
- Preventive programs often don’t get funded out of the budgets they help reduce
- Performance-based funding requires upfront investments and the ability to absorb risk

The traditional approach to government funding of social programs constrains innovation by prescribing the delivery model to be used rather than the objective to be met. For example, job training and education are areas of the federal budget where dozens of narrowly purposed programs have proliferated.1

Other social service programs are funded through block grants to states, under the theory that “states know best” and are the “laboratories of democracy.” But, like the federal government, most states pay insufficient attention to program results and performance in administering social services.

This insufficient attention to objectives and performance measurement means that unsuccessful programs can persist for years. As demonstrated by the recent Head Start evaluation, which found that few program benefits persisted to the end of first grade, even large important programs can receive funding for decades without the kind of rigorous evaluation necessary to reveal that the program delivery model needs to be reformed.2
Meanwhile, innovative programs with promising results have a hard time securing government funding because the proof-of-concept process is slow and innovation necessarily entails a risk of failure.

The process through which innovative programs refine their models, prove effectiveness at a pilot location, demonstrate that the model can be replicated, and then try to attract the attention of policymakers, is slow. The Maternal, Infant, and Early Childhood Home Visiting Program was enacted in last year’s Affordable Care Act, 33 years after the first successful randomized controlled trial of the nurse-family partnership model.3

And many potentially high-value programs never have the opportunity to prove themselves through a rigorous evaluation, cannot cobble together the resources to replicate their initial model, or fail to attract the support of those who control the government’s purse strings.

In part because promising social programs often disappoint when subjected to rigorous evaluation, government funders can be reluctant to take a chance on innovative, but not yet fully proven approaches—especially in tight fiscal environments.

And then there are internal barriers to investing in preventive services generally. Funding streams that support such services are often in different accounts or at different levels of government than the programs for which they generate cost-savings. For example, a state-sponsored intervention that enabled disabled youth to make successful transitions from high school into post-secondary education and employment could reduce the need for long-term Supplemental Security Income assistance. But there is typically no way to finance such an intervention out of the SSI budget, even if doing so would reduce net SSI spending.

Performance-based arrangements with social service providers could overcome many of the above barriers to social innovation. Indeed, the use of performance-based payments to social service providers is expanding. For example, cities such as New York, Milwaukee, and San Diego pay employment service providers based on their success in moving welfare recipients to employment, with payment schedules based both on rates of initial job placement and on whether the former welfare recipients are still employed at milestones such as three and six months. The Social Security Administration’s Ticket to Work program makes payments to providers of vocational rehabilitation services based on their success in achieving earnings levels that are sufficient for their clients to leave the disability benefit rolls.
But most social service programs continue to pay providers based on their costs, and many examples of performance-based pay have used fairly weak performance incentives. In Milwaukee’s welfare-to-work program, for example, only 20 percent of payments are performance-related. It’s hard under traditional financing methods to pay social service providers primarily based on performance because many of them lack the resources to deliver services up front while waiting to be compensated for performance after the fact. Nor can they afford to absorb the entire risk of failing to meet performance targets.

The next section explores how the social impact bond model has the potential to address all six of the obstacles to innovation listed above, and describes in greater detail how such a system would work.
The social impact bond model

Social impact bonds, by combining performance-based payments and market discipline, have the potential to address all six obstacles to social innovation described in the last section.

**Barrier:** Government funding is insufficiently focused on results and performance.  
**Solution:** The social impact bond approach focuses government agencies and social service providers on achieving program objectives and improving performance in a way that is transparent to taxpayers. The bond-issuing organization and its service providers have a strong incentive to be innovative in pursuit of performance and cost reductions because their compensation is based on reaching outcome targets.

**Barrier:** Insufficient performance evaluation allows ineffective programs to persist.  
**Solution:** Measurement of a program’s impact is a fundamental component of the social impact bond payment mechanism, eliminating the risk that unsuccessful programs will continue to be funded for decades.

**Barrier:** The proof-of-concept process for social innovations is slow.  
**Solution:** With social impact bonds, scaling up of a program model occurs simultaneously with rigorous evaluation of its impacts, greatly speeding up expansion of successful programs. Programs that might not otherwise be able to afford to design and pay for a rigorous evaluation are able to demonstrate their program impacts as they scale to size, and the government can observe real-time measures of program performance.

**Barrier:** Innovation is risky and public officials are wary of failure.  
**Solution:** Under social impact bond funding, the government pays only if the service providers demonstrate that a program has delivered on its promised impact. Because the risk of wasting taxpayer dollars is transferred to the private sector, government funders will be more willing to commit resources to approaches that are promising but not yet fully proven.
**Barrier:** Preventive programs often don’t get funded out of budgets they help reduce.  
**Solution:** By connecting payments to the achievement of future outcomes, social impact bonds have the potential to break down the budget silos that hinder investments in prevention.

**Barrier:** Performance-based funding requires upfront investments and the ability to absorb risk.  
**Solution:** The social impact bond creates a market-based mechanism for raising the upfront capital needed to finance operating costs and for spreading the failure risks that are inherent in any innovative activity.

---

### How it works

In the social impact bond model, a government contracts with a private-sector financing intermediary we’ll call a “social impact bond-issuing organization” to obtain social services. The government pays the bond-issuing organization entirely or almost entirely depending on whether it achieves performance targets. If the bond issuer fails to achieve the minimum required target, the government does not pay.

The SIBIO raises operating funds by issuing bonds to private investors who provide upfront capital in exchange for a share of the government payments that will become available if the performance targets are met. The bond issuer uses the operating funds to contract with service providers to deliver the services necessary to meet the performance targets.

The figure below illustrates the financial relationships among the four parties involved:
It’s worth emphasizing that there is no free money here.

The government must be willing to make payments that cover the full costs of delivering the services plus the investors’ required rate of return—including sufficient compensation for the risk that performance targets may not be met.

What the government gets in return is improved outcomes. In some cases, improved outcomes may result in cost savings for the government that offset some or all of the expense of delivering the services. In the Peterborough Prison case study discussed below, the U.K. government anticipates that savings on incarceration costs could ultimately pay for the anti-recidivism services being delivered.

But even when the government does not achieve cost savings, taxpayers will still benefit from the improved outcomes that result from spending less on approaches that are ineffective and more on approaches that are successful.

A payment contract that is so heavily based on performance would represent a fundamental shift in how the government pays for social services. Today, the government typically pays for inputs rather than outcomes. Contracts specify the amount of funds to be expended, the services to be delivered, and the methods to be used, rather than the outcomes to be achieved. Under the social impact bond model, the SIBIO and its service providers would be given substantial latitude in determining which services to offer and which techniques to use in achieving the targeted level of performance.

The social impact bond model would also represent a fundamental shift in how service providers are chosen. Today decisions about which providers to fund are typically made by government employees at the local, state, and federal level who review grant proposals and choose providers. With social impact bonds, the private market determines which models and organizations are sufficiently promising to be worthy of financing. The bond issuer and its service providers will be able to raise operating capital only if private investors are convinced that a program’s model and management team are likely to achieve the performance targets. The private investors thus perform an important quality control function.

The investors and bond-issuing organization also have strong incentives to rigorously monitor and improve program performance. If performance targets are missed, they lose their investment.
Some social impact bond proposals suggest that programs could be financed with no net cost to the government if payments are made to investors only to the extent that the programs reduce costs to the government. In a job-training program that increased participant earnings, for example, payment to investors could reflect the additional tax payments received and the reduced spending on welfare programs. A health intervention, similarly, could generate significant savings to the government from reduced Medicare or Medicaid spending. While these are compelling examples, it’s important to emphasize that the set of interventions that result in enough government savings to cover program costs is much smaller than the set of interventions with positive social net benefits. In many cases, the main beneficiaries of a social program are the program participants, who benefit from higher earnings, better health, and so forth. Savings to the government are often smaller than the direct benefits to program participants. Moreover, savings to the government can be a poor proxy for social benefits.

First test: Peterborough Prison in the United Kingdom

The U.K. Justice Ministry is performing the first test of the social impact bond approach. The Justice Ministry has contracted with a social impact bond-issuing organization, Social Finance, to provide services to prevent reoffending by 3,000 short-sentence male prisoners at a prison in Peterborough, England, over the next six years. About 60 percent of prisoners released from U.K. prisons of this type reoffend within one year of release.

Social Finance, a London-based nonprofit, is raising £4.9 million ($7.9 million) from social investors to finance service delivery by another nonprofit, the St. Giles Trust. The government will make payments to Social Finance only if the reoffending rate falls by at least 7.5 percent compared to the recidivism rate in a comparison group of similar prisons. The greater the reduction in reoffending rates beyond 7.5 percent, the larger the government payments. The maximum payment potential specified in the contract, corresponding to a reduction in reoffending of about 12.5 percent, is a 13 percent return to investors.

If payments are earned, they will be made in the fourth, sixth, and eighth years, based on outcomes achieved in working with prisoners during three consecutive two-year periods that comprise the term of the contract. There’s a four-year lag between the start of the service period and the first potential payment because it takes time to deliver the services, observe and measure recidivism, and then analyze the data to determine the program’s impact.
Social Finance estimates that if this intervention is successful and scaled across the United Kingdom, reductions in incarceration costs would more than cover the cost of the services. It’s unclear whether a successful Peterborough intervention on its own would pay for itself, because much of the projected cost savings derive from closing entire prisons.

The next section describes key challenges to implementing the social impact bond model in the United States, and sets out criteria that can help determine which social interventions make good candidates for pilot programs.
Key challenges

For a social impact bond market to operate in the United States, both government and private-sector participants will need to develop new capacity and expertise, and overcome challenges intrinsic to incentive-payment schemes.

Capacity requirements for the social impact bond market

To operate a social impact bond market in the United States, the public and private sectors need to develop three kinds of capacity: government officials who can write effective performance-based contracts, a neutral authority to measure outcomes and resolve disputes about whether performance targets were met, and bond-issuing organizations to raise private capital and manage service providers.

Government expertise in negotiating pay-for-performance contracts
Negotiating the terms of performance-based deals will require sophistication on the part of the government agency administering the contracts. The agency will need to determine performance targets, how much it will cost to reach those targets, and what risk premium over those costs will attract investors. Officials must decide how to measure the impact programs have, what fraction of payments should be performance-based, and how the schedule of payments should vary with performance. Since few agencies will have the necessary expertise in house, agencies will likely have to acquire outside expertise to help them navigate these issues.

A neutral authority to measure outcomes and resolve disputes
Social impact bonds require some entity to measure the program outcomes upon which the performance payments are based. To avoid disputes, this institution will likely need to be independent of both the government and the bond issuer. Even in seemingly straightforward cases, measuring outcomes will typically require some qualitative judgment. For example, if the outcome were defined as the difference in average earnings between the treatment and comparison group as measured using administrative earnings records collected by the unemploy-
ment insurance system, one would still need to decide on how to clean the data to account for imperfect name or date-of-birth matches, duplicate records, implausible levels of earnings, and people who moved out of state. Professional evaluation firms will probably fill this new market niche, or a new entity could emerge and specialize in outcome measures for social impact bond contracts.

Social impact bond-issuing organizations
The most important new entity that must emerge is the social impact bond-issuing organization that will have to raise capital from private investors, negotiate performance-based contracts with the government, and hire and manage the service providers. A private entity—nonprofit or for-profit—with an arms-length relationship to the government would have the strongest performance incentives. But there are viable models in which the bond-issuing organization is a quasi-governmental organization.7

Potential drawbacks of social impact bonds
There are potential drawbacks to any incentive-based payment system. Contractors may require large fees in order to accept performance risk, or they may decline to bid altogether. These systems create strong incentives to manipulate outcomes measures or to focus excessively on those aspects of performance that are rewarded in the incentive-payment system.

Indeed, entirely performance-based payments are rarely optimal under standard economic theory. When outcomes are partly determined by a service provider’s effort and partly determined by factors beyond the service provider’s control, optimal contracts generally involve a fixed or cost-based payment component, and a performance-related component.8

In a social impact bond scenario, performance risk is borne mostly by the bond-issuing organization, rather than by the service provider. Because the bond issuer spreads the risk across its bond holders, it will be substantially more risk-tolerant than would be a non-profit service provider in a direct performance contract. Nonetheless, investors will require compensation for taking on risk. In cases where a significant fraction of the outcome is outside the control of the bond-issuing organization and its service providers, the government is likely better off using contracts that are only partially performance-based, to avoid paying excessive risk premiums.
Even though the service providers do not directly bear the risk associated with poor performance, there are still strong incentives for them to perform. First, the bond issuer and its private investors have a strong incentive to manage the social service providers to produce high performance. That might entail incentive-based contracts for the service providers themselves. Moreover, service providers in a social impact bond-funded project still face more risk than they would in a standard government program. If performance targets are not met, funding will dry up, and the service provider will need to reduce its scale or find new sources of funding. While a similar fate can befall a service provider whose traditional government grant is not renewed, many government programs renew grants repeatedly without rigorously assessing performance.

A key principle of policy analysis is that different policy instruments will be best for different policy problems and that it’s important to match the right instrument to the right problem. The next section identifies characteristics of social programs most likely to benefit from the social impact bond approach.
Criteria for success and their implications

While social impact bonds have clear promise in overcoming some of the main barriers to social innovation, they are likely to be the appropriate policy tool for addressing only a subset of social problems.

Social impact bonds have the greatest potential to drive important breakthroughs for social interventions and programs that share the following characteristics:

- A potential for high net benefits
- Measurable outcomes
- A well-defined treatment population
- A reliable comparison group or counterfactual
- Safeguards against harming treatment populations

Let’s take these criteria one at a time and see what implications they have for selecting the interventions most likely to benefit from the social impact bond approach.

A potential for high net benefits

The most significant obstacle to making social impact bonds work is identifying projects with sufficiently high net benefits to allow investors to earn their required rates of return. Because some projects will fail to meet performance targets, payments on those that succeed must be large enough to produce overall satisfactory returns in an investor’s portfolio.

Let’s assume a philanthropically minded investor is willing to accept 5 percent annualized returns overall. On a risky portfolio of social impact bonds in which only two-thirds of the projects succeed, the successful projects would need to produce annualized returns of around 20 percent. A less charitable private sector investor might require returns of 15 percent. In that case, the successful projects would need to yield more than 30 percent. The returns on successful projects
need to be so high because the unsuccessful projects not only earn zero return, but also lose all of their investment principal.

A 67 percent rate of success in a portfolio of government-funded social programs, combined with returns in excess of 20 percent on successful projects, would be an extraordinary achievement, judging by historical impact evaluations. Evaluation expert and sociologist Peter Rossi was mostly being serious when he issued his “iron law” of evaluation (“the expected value of any net impact assessment of any large scale social program is zero”) and his “stainless steel law” of evaluation (“the better designed the impact assessment of a social program, the more likely is the resulting estimate of net impact to be zero”).

More recent evidence is consistent with the view that the success rate on promising social programs is well below 100 percent and that internal rates of return on those programs with positive net benefits are often barely above the discount rates of 3 to 5 percent typically used in social impact evaluations. Since 1990, 10 federal social programs have been evaluated using randomized experiments. According to evaluation experts Isabel Sawhill and Jon Baron, nine of those evaluations “found weak or no positive effects.”

The evidence suggests that even when successful results have been demonstrated at a single site, replication and scaling up is very challenging, and it can take a significant number of false starts before a successful scalable model is discovered. These dispiriting considerations have four implications for the social impact bond model.

First, we should be aggressively looking for alternative ways to identify and implement social interventions that get better results. Because social impact bonds require social interventions to attract private money and commit to performance-based payments, they could turn out to be a way to produce much better overall outcomes. Indeed, to the extent that social impact bonds more effectively allocate existing streams of funding, they will produce performance gains and cost savings even if it’s impossible to establish that the overall benefits of the funding streams exceed their costs. Since the stock of existing funding streams is many times larger than any incremental funding likely to be allocated to test this model, the greatest impact of the social impact bond approach will likely be in improving the effectiveness of existing funding streams.

Second, social impact bond-issuing organizations will need to manage their portfolios of projects so as to achieve high dollar-weighted success rates. That is,
they will likely want to make small initial investments in several projects and then make larger investments in approaches that demonstrate the ability to achieve the greatest returns. That way, even if only two-thirds of initial projects succeed, the dollar-weighted success rate can be significantly higher.

Third, performance-based payment contracts should reflect the high-value learning produced by even unsuccessful projects—knowledge that can help similar future efforts avoid misallocating resources to strategies that don’t work. Consider a portfolio of investments that spent five years testing five different strategies of preparing children for kindergarten, and found that four failed while one was highly effective. Even if the net benefits to the successful intervention were not sufficient over the five-year time period to fully pay for the costs of the failed interventions, the effort might have high future value, since there would be substantial benefits from applying the successful approach.

To account for such benefits from learning, social impact bond contracts could be structured with long durations—say, 10 years—with an understanding that results in the first few years might not cover costs, but that net benefits in the out years should be high enough to cover the losses during the learning period. Setting a long contract horizon would also allow time for the investors to change providers and strategies midstream, if necessary (itself an important benefit of an outcome-based payment method). If the knowledge obtained about effective intervention strategies is likely to be highly valuable beyond the timeframe of the contract, the government or private philanthropies should subsidize this learning.14

And finally, if long-duration contracts or payments that include the future value of learning are not feasible, social impact bonds will likely be limited to interventions that have already demonstrated significant net benefits in rigorous impact studies and proved themselves scalable. That would limit the bonds’ uses to proven models, but could still improve progress in addressing social ills through three channels. First, by providing a systematic way for proven programs to get government funding, it would allow society to reap the full benefits of the proven solutions, benefits that today are often captured only in part and only with long delays. Second, by tying continued funding to performance achievement, it would encourage programs to continue to innovate and adapt. And third, the availability of a systematic path to funding for proven programs would provide a strong incentive for the philanthropic community to invest in helping social innovators prove that their interventions are likely to succeed.
Measurable outcomes

The information technology revolution is an important part of what makes the social impact bond model feasible. Results such as earnings, school test scores, and health expenditures can now be assessed on an ongoing basis using government administrative data records. Using these data systems can avoid much of the cost and attrition bias that arises when outcomes are measured through a survey.

Still, performance-based payment schemes are appropriate only where outcome measures are highly correlated with a program’s comprehensive social net benefits. When measures are only weakly correlated with program success or when only one component of a program’s impact can be measured, performance contracts based on the imperfect measure have the potential to distort performance toward that which can be measured.15

In the Peterborough example, the recidivism outcome measure is readily gauged using timely administrative records. The reoffending rate is also likely correlated with other policy objectives, such as post-prison employment levels. But if the policy goal of a prisoner re-entry program extends beyond recidivism to higher earnings levels, and lower domestic violence and substance abuse rates, then it would be preferable to measure and make payments based upon a weighted average of all of the outcomes of interest. Doing so would avoid the “teaching to the test” problem, where the service provider focuses disproportionately on the outcome that determines its pay.16

Officials should be particularly careful when using outcome measurements that gauge usage rates of government services, since usage can be reduced both by improving the underlying conditions that cause people to require the services—and by discouraging take-up among eligible needy persons. For example, in measuring outcomes for a program designed to reduce special education costs, it would be important to write the performance contract based on a measure of need for the services rather than on the utilization of the services, if there were a significant risk that the intervention could affect take-up by people with a given level of need.

Interventions such as early childhood school readiness programs can take years to determine a program’s ultimate impact. Social impact bonds are ideally structured for these types of interventions because they allow payments to be based on impacts achieved several years out, with appropriate compensation to the bondholders for the time value of their money. Still, it’s unlikely that there will be much of a private market for contracts based on the very long-term impacts, such as the effect of early
childhood education on high school graduation rates. Where there’s a clear link between a short-term measure and the ultimate long-term objective, such as smoking and lung cancer, payments based on the short-term measure can be effective.

**A well-defined treatment population**

Most social impact bond applications will find it easier to evaluate a program’s impact and design a performance contract if the targeted population can be clearly defined in such a way that it is not affected by actions of the service provider. Such an approach avoids cream-skimming, among other problems. The U.K. pilot, for example, takes as its treatment population the entire community of Peterborough prisoners, rather than only those receiving re-entry services from the St. Giles Trust. Otherwise, the service provider could increase its payments by offering services only to those least likely to reoffend.

This example suggests that treatment populations for social impact bond projects should be broadly defined. For example, the impact of a job-training program should be measured by its effect on all high school dropouts from a particular school or district, not just youth enrolled in the training program.

If the definition of the treatment population is not affected by the actions of the service provider, concerns about using selective populations mostly disappear. There’s no problem in selecting as a study population all disability benefit applicants with back pain, for example, so long as the service provider has no impact on people’s inclination to apply.

Where the definition of the treatment population is likely to be affected by the service provider’s actions, establishing a credible assessment of the program’s impact will generally require randomly assigning program applicants into a treatment group receiving services and a control group that does not. For example, if there is excess demand for early childhood services, a lottery could determine which families receive services and which ones do not. Then, comparing outcomes between lottery winners and lottery losers gives a credible assessment of the program’s impact. Such a strategy will work only if the treatment and control populations don’t significantly interact. For example, you can’t accurately measure the impact of a high school health program on contraceptive use by randomly splitting the student body into treatment and control groups—because the behaviors of those receiving the intervention would affect those in the control group.
There’s another reason why social impact bond projects will often want to define treatment populations broadly. One of the primary benefits of writing outcome-focused contracts rather than specifying what inputs to provide is that it gives the bondholders and service providers the incentive to marshal whatever combination of services achieves the targeted outcome. Several different programs or services may need to be combined to achieve the target. Defining the treatment population based on participation in a particular program could limit that flexibility to combine programs or reject the particular program in favor of a more effective approach.

A reliable comparison group or counterfactual

Under the social impact bond approach, payments are based on an estimate of the intervention’s impact. And estimating the impact requires both a measure of the outcome that actually occurred and a way of assessing the “counterfactual” outcome that would have occurred in the absence of the intervention.

Most of the issues surrounding the choice of an appropriate method for assessing an intervention’s impact are the same ones that arise in any program evaluation. There is one particular challenge that requires special attention in designing social impact bond contracts.

In some cases, impacts will be assessed by comparing the treatment population to a similar population that did not receive services. This is the strategy being used in the Peterborough pilot, where recidivism rates at Peterborough Prison are being compared to those in other similar prisons.

In situations like these, early evidence of success might prompt the government to offer similar services to members of the comparison group. Doing so would reduce the measured impact upon which the performance contract is based. This risk is exacerbated if long-term contracts of the sort discussed above are used. While investors could price this risk into their contracts, it seems undesirable to have a contract written in such a way that the investors’ interests conflict with those of society as a whole—particularly a contract in which investors lose if their innovative model of service delivery spreads even faster than planned.

Writing a contract that fully anticipates all possible scenarios, including the prospect of renegotiation, would be challenging. It might be possible, however, to include a term that provides additional resources to the intervention site if the government makes additional investments in comparison group sites.
One way to avoid these concerns is to establish a projected counterfactual in the contract and measure performance relative to this fixed baseline. In some cases, there may be a sufficiently stable performance baseline that the counterfactual can be projected with reasonable confidence. In other cases, the bond-issuing organization may be sufficiently confident of the outcome it can produce that it would commit to a performance target so far above baseline performance levels that it would ease the government’s uncertainty about how the counterfactual will evolve. If the performance contract provides incentives for performance to exceed and not just meet target levels, the government may be willing to accept the risk that it has set the target level sub-optimally in exchange for the benefits of having a contractor with strong incentives to perform as well as possible.

That said, any approach that does not involve measuring the counterfactual outcome contemporaneously to the program impact carries substantial risk. Many social indicators rise and fall with the business cycle; failing to control for the effects of a recession, for example, could result in overstating or understating an intervention’s impact. The tendency for outcomes for social program applicants to fall significantly around the time of application and to rebound substantially on their own is so common that it has a name: the Ashenfelter Dip.18

Social impact bonds are attractive in large part because the government pays only for successful results. The importance of being able to credibly point to impacts that otherwise would not have occurred suggests contract negotiators should be wary of using a projected counterfactual rather than a real-time control population. But when there is a high risk that the program model will spread to the control group, baselines established when the contract begins should be considered.

Safeguards against harming treatment populations

If it becomes clear under a social impact bond contract that a program will fail to meet performance targets, the bond-issuing organization and its service providers may have an incentive to shut down and avoid further costs. That could strand the population being served.

Special contract provisions could require service providers to maintain operations until the end of the contract term, but the risk remains that they would provide only the minimum possible service under such circumstances. Moreover, being overly prescriptive about the range of services that must be provided is at odds
with the goal of allowing the bond-issuing organization to use whatever combination of strategies is necessary to achieve the performance targets.

This consideration suggests that social impact bonds are a better fit for programs that offer supplemental services that could be terminated without disrupting clients’ lives too much, rather than for “core” services. It would be risky to use these performance contracts to fund the basic operations of charter schools, day care centers, or prisons.

More generally, social impact bond projects should have a strategy in place for what happens if the performance targets are not met, a service provider needs to be replaced, or the project’s financing collapses. And this strategy should not require the government to step in and provide cost-based payments to allow the unsuccessful provider to continue operations, because such a provision would undermine the pay-for-success premise.

One contract term that could mitigate some of these termination risks is to require the bond-issuing organization to raise all the funds necessary to finance operations over the entire contract period before beginning operations. The contract could then specify that in cases in which the performance targets are not met, all funds raised must either be paid to the government or used to fund services; they must not be returned to investors or retained by the bond issuer.19

A project’s failure to meet performance targets will also have public relations and political consequences. To be sure, the fact that taxpayers will not be on the hook for unsuccessful programs will mitigate some of the fallout from failed interventions. Still, prominent failures could undermine confidence in the social impact bond approach. And since social impact bonds are explicitly designed as a mechanism to finance inherently risky innovation, a significant number of failures is likely. It is therefore important that public expectations be managed, perhaps by adopting an explicit portfolio success rate target of, say, 67 percent and maintaining a website with a dashboard of each project, its current performance status, and a clear statement of the portfolio approach.
Next steps

While social impact bonds appear to have significant potential to spur social innovation for programs that meet the criteria discussed above, some challenges will become clear only after initial tests of the model. Given current levels of interest from the philanthropic, policy, evaluation, and investor communities, it seems realistic to aim for several active U.S. tests up and running within the next 12 to 24 months. To achieve this goal, the following six tasks need to be pursued simultaneously.

Identify promising pilot applications

The goal at this stage is primarily to develop experience with the payment model, uncover unexpected challenges, and prove it can work. It therefore makes sense at the proof-of-concept stage to test social impact bonds as a way of funding the expansion or “scaling up” of programs with already-proven results.20

Ideal applications for this initial phase will have recently demonstrated their effectiveness in rigorous evaluations. They should also meet all of the criteria discussed in the previous section: sufficiently high net benefits to attract investors, a well-defined treatment population, easy-to-measure outcomes for both program beneficiaries and a reliable comparison group, and little risk of social disruption if the program fails to meet its targets.

Social benefits often don’t neatly correspond to government savings. To build momentum and interest in social impact bonds, however, initial applications should lean toward programs that, if successful, would provide savings to the government that exceed program costs.
Establish the first U.S. pilot tests at the local level

Because most social services in the United States are delivered at the state and local level, it is likely that the first U.S.-based tests will be established by social entrepreneurs working with innovative city and state governments. Investors for these initial bonds are likely to be socially-minded individuals and foundations.

Identify program areas most in need of social innovation

Concurrent with identifying already proven models for initial tests, think tanks or foundations should host strategic discussions to review social problems most urgently in need of innovative solutions and consider whether social impact bonds are likely to be a good fit for each particular domain. In preliminary discussions, experts have suggested tackling the following problem areas:

• Kindergarten readiness and third-grade reading skills in disadvantaged communities. Social impact bonds are well designed for problems that require a combination of programs and services to achieve an outcome.

• Employment services for hard-to-employ groups, such as high school dropouts and welfare recipients. This is a domain where outcome measurement is easy and where there is already some acceptance of incentive-based payment systems.

• Health and disability-related interventions. Because government expenditures in these areas are so large, successful interventions have the potential to provide both savings to the government and adequate returns to investors.

• Financial aid for students attending for-profit post-secondary educational institutions. There are concerns that existing payment mechanisms do not appear to be producing sufficient attention to educational achievement outcomes.

• College retention services. This is a relatively new area of policy interest where one can imagine properly incentivized nonprofits devising innovative strategies to prevent students from dropping out of college.

Some experts have recommended avoiding primary and secondary education programs, at least in the medium term. Their concern is that too many other approaches to reforming incentives are already being tested in that domain, and another would be distracting.
Assess the potential investor market

The degree of investor interest will figure heavily in determining which social interventions are good fits for social impact bonds. It’s possible only socially minded investors will be attracted to the risk-return profile of these bonds. Then again, success rates and social benefits could be high enough to attract even self-interested investors. A good assessment of size of the social impact bond market will help determine how ambitious applications should be. The market would have to be tens of billions of dollars, for example, to finance a nationwide rollout of a program on the scale of Head Start.

The private capital markets are comfortable with bond financing of multi-billion-dollar projects such as prisons, toll roads, and low-income housing, where construction costs are predictable and future payments are fairly dependable. A bond dependent on risky performance-based returns is a very different type of investment. If social impact bonds end up combining equity-like risk with bond-like returns, the market will likely be limited to philanthropic and socially minded investors willing to subsidize the achievement of social goals.

Seek congressional authority to expand use of performance-based payments

While a number of federal pilot, demonstration, and innovation grant programs provide sufficient flexibility to experiment with the social impact bond model, traditional appropriations statutes are not a good fit. To attract private investment for promising interventions, the government must be able to make an ironclad commitment to pay investors for the full results they achieve. Appropriations laws usually make funds available for only a one- or two-year period, well before the full results of these bonds would be known. Moreover, the government will need to make initial obligations under the assumption that all performance targets are met. These obligations will be higher than the final results-based payments because not all projects will achieve all of their performance targets.

Congressional appropriators, who operate under spending caps, will be reluctant to appropriate funds in excess of what is actually going to be paid out, since agencies would have to return the unused funds to the treasury. Congress should therefore pass an appropriations statute that authorizes long-term contracts and allows for future redirection of any unused funds to another closely related high-priority purpose.
Conclusion

The way our governments currently fund social service programs produces inadequate performance and insufficient innovation. The emerging social impact bond model shows real promise at driving better outcomes and spurring more rapid innovation.

It’s unclear how widely applicable the model will be. Will performance improvements be large enough to offer rates of return that attract a wide range of investors to this new asset class, or will only socially minded investors be willing to invest? Will governments be creative in structuring contracts that allow preventive investments in one program to be financed out of the savings they produce in other programs?

We won’t know the answers to these and other questions until we put the social impact bond model to an evidence-based test. But testing it should be a priority, given the potential benefits of more rapid progress in addressing our nation’s most pressing social problems.

We will almost certainly discover that this approach is not a panacea to the performance problems that bedevil our social service programs. Still, any new policy tool with the potential to accelerate solutions in even a subset of our nation’s most pressing social problems is an important breakthrough—one that deserves careful consideration from the policymaking, philanthropic, and investment communities.
Endnotes


3 See http://www.nursefamilypartnership.org/about/program-history for a history of the Nurse-Family Partnership.


5 Social impact bonds share several features with conventional bonds. The instrument allows the borrower to raise capital from external funders to finance long-term investments. If the endeavor succeeds, the lender will receive repayment of principal plus a pre-specified return-on-investment at a pre-specified date. However, unlike conventional bonds, the extent of repayment depends on the success of the particular investment, not simply on whether the borrower remains solvent.


8 The split between the two components depends on the service provider’s tolerance for risk and on the extent to which the service provider can control the outcome. In cases in which the service provider is highly risk averse and the outcome is largely outside the service provider’s control, the fixed payment will be large relative to the performance-related component. The intuition behind this result is that service providers need to be compensated to take on significant amounts of risk. If the service provider has only limited control over the outcome, it will not be worth paying to get the provider to take on that risk.

9 These numbers assume an average lag of three years between the upfront investment and the performance-based payment. This matches the design of the Peterborough pilot, where the median dollar of operating costs during the two-year service period is spent approximately three years before the performance payments would be received. The returns on successful projects need to be somewhat higher if the time period is shorter because there is less time for compounding at the higher rate on the successful projects to overcome the zero return on the unsuccessful projects. The general formula for the annualized returns needed on successful projects is \(r = \left(1 + r^*\right)^{1/t} - 1\), where \(r^*\) is the investors’ required annual rate of return, \(t\) is the number of years before repayment, and \(s\) is the probability of success. This formula arises from choosing \(r\) to set the actual return equal to the required return: \(s(1+r)^t=(1+r^*)^t\).


12 Isabel V. Sawhill and Jon Baron, “We Need a New Start for Head Start,” Education Week, March 3, 2010.


14 One way to do this is for the government to write payment contracts for successful interventions that pay investors their required returns even if net benefits for the portfolio during the contract period are negative. For example, the government could offer prizes for discovering a scalable intervention that successfully improves outcomes, an approach endorsed by the Obama administration. Alternatively, the government could write less generous contracts that only pay for within-period benefits of the intervention, but philanthropies could offer additional success-based payments, to subsidize and encourage learning.

There can be downsides to multidimensional performance targets. In particular, having a single clear target can often focus an organization's attention on performance more effectively than can a complex index of targets.

These include the benefits of randomizing when possible, the hierarchy of quasi-experimental techniques, the risks to internal validity from interactions between members of the treatment group and the control group, and the general equilibrium effects of large interventions.

Orley Ashenfelter, “Estimating the Effect of Training Programs on Earnings,” Review of Economics and Statistics, 60: 47-57 (1978). Throughout my research career I have been surprised by control group outcomes that were higher or increased faster than I would have anticipated. While conducting research on HUD’s Moving to Opportunity (MTO) demonstration, I read a study touting the success of the Boston-area METCO busing program based on a finding that around 80 percent of METCO parents were satisfied with their children’s teachers. A few weeks later, I noticed that 90 percent of parents in our Boston MTO control group—a group of Boston parents who were sufficiently dissatisfied about their current life situation to apply for a mobility program—gave positive answers to a (not identical) question about their view of their children’s teachers. The percent of parents with positive earnings in the MTO control group increased from 25 percent to more than 50 percent over four years.

A related challenge is how to design follow-on contracts to encourage continued innovation. Follow-on contracts should provide rewards for further performance improvements so that the SIBIO has the incentive not only to maintain performance levels but also to search for new approaches and possibly new service providers who can make further progress.

See, for example, the Coalition for Evidence-Based Policy’s list of programs with top-tier evidence at http://evidencebasedprograms.org/wordpress.
About the author

Jeffrey B. Liebman, Malcolm Wiener Professor of Public Policy at Harvard University’s John F. Kennedy School of Government, teaches courses in social policy, public sector economics, and American economic policy. In his research, he studies tax and budget policy, social insurance, poverty, and income inequality. Recent research has examined the impacts of government programs such as the Earned Income Tax Credit, Social Security, and housing vouchers. During the first two years of the Obama administration, Liebman served at OMB, first as executive associate director and chief economist and then as acting deputy director. From 1998 to 1999, Liebman served as special assistant to the president for economic policy and coordinated the Clinton administration’s Social Security reform technical working group. Liebman received his BA from Yale University and his MA and PhD in economics from Harvard.

Acknowledgements

The author thanks George Overholser and Jitinder Kohli, Senior Fellow at the Center for American Progress, for conversations that helped shape his thinking, and participants at a December 2010 meeting for comments on an earlier draft.
The Center for American Progress is a nonpartisan research and educational institute dedicated to promoting a strong, just and free America that ensures opportunity for all. We believe that Americans are bound together by a common commitment to these values and we aspire to ensure that our national policies reflect these values. We work to find progressive and pragmatic solutions to significant domestic and international problems and develop policy proposals that foster a government that is “of the people, by the people, and for the people.”