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**MEASURING AND/OR ESTIMATING  
SOCIAL VALUE CREATION:  
Insights Into Eight Integrated Cost Approaches**

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Prepared for

**Bill & Melinda Gates Foundation  
Impact Planning and Improvement**

Prepared by

**Melinda T. Tuan**  
P.O. Box 805  
Narberth, PA 19072  
610-368-1462  
mtuan@verizon.net

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# 1. OVERVIEW

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## 1.1. Introduction

In the field of philanthropy, there is currently a great deal of enthusiasm for applying “business principles” and “investment analyses” to decisions about funding nonprofit organizations and programs. As Lynn A. Karoly, Ph.D., Senior Economist with the RAND Corporation states, “the ‘discipline’ associated with these hard-nosed business management approaches is perceived to be a useful antidote to the often emotional appeals” that accompany funding decisions in philanthropy and policy discussions and decision-making in the public policy arena.<sup>1</sup> These approaches all integrate measures of cost in their calculations of the relative benefits of funding a particular program or organization.

As the social sector considers whether and how to more systematically integrate cost into measuring the social impact of its philanthropy, it may be helpful to do three things:

- 1) Identify and review the leading and promising approaches to incorporating cost into measuring and/or estimating social value in the social sector
- 2) Analyze the relative strengths and weaknesses of these approaches and identify any cross-cutting issues
- 3) Understand how these examples and insights can inform the social sector’s explorations about the costs of achieving social impact

To these ends, this paper will describe and analyze eight approaches to integrating cost in measuring and/or estimating social value creation. These include two classical methodologies (cost-effectiveness analysis and cost-benefit analysis) and six promising approaches that have been developed by philanthropic and nonprofit organizations in the last decade. Most of these new methodologies draw on concepts from cost-effectiveness and cost-benefit analysis.

The purpose of profiling and analyzing these approaches is not to choose the right one, for there is no perfect methodology. Rather, it is to present some fresh *possibilities* for thinking about the cost-benefit of philanthropic investments. These various approaches provide different lenses for viewing social value creation and bring a new level of rigor and creativity to the measurement or estimation of social value. They also illustrate the host of *limitations* related to efforts to measure and/or estimate social value, both technical and big picture issues, most of which are cross-cutting issues for the field.

The implications of these possibilities and limitations will serve as a reference point for those in the social sector who are considering whether and how to craft their own approaches to integrating cost into their social impact measurement efforts. Additionally, these implications will help clarify whether it is possible to pursue a methodology that can be adopted across the sector.

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<sup>1</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. “Chapter Two: Overview of Cost and Outcome Analysis.” *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 5.

## 1.2. Purpose

This paper was commissioned by Impact Planning and Improvement (IPI) to take a first look at some of the leading examples of integrated cost approaches to measuring and/or estimating social value in the social sector. The paper and the companion appendices are structured to provide the larger context for and generate further discussion among philanthropic and nonprofit leaders in the social sector regarding the current efforts and future plans throughout the sector to integrate cost into social impact measurement activities. To aid in this effort, the paper provides a common language (**Appendix A**) and detailed examples of the various methodologies for leading practitioners to reference as they consider whether, where, and how to go deeper in understanding these issues and the implications for their organizations and the sector as a whole.

This paper *does not* represent a comprehensive scan of all the integrated cost efforts in the nonprofit and philanthropic sectors. This paper also *does not* review the more extensive historical and current uses of cost-effectiveness analysis and cost-benefit analysis to measure impact in the government sector. This paper *does*, however, illustrate some different ways cost is being integrated into a variety of measurement frameworks that are currently being used or contemplated by leading philanthropic and nonprofit organizations. The paper includes a high level view of eight different methodologies, the technical limitations and big picture issues represented by these collective methodologies, and the implications for the social sector. A lengthy and detailed set of appendices covers each of the eight methodologies with a higher degree of granularity, includes an example of how each methodology is applied, and also discusses each approaches' benefits, limitations, and utilization.

## 1.3. Methodology

This paper is based on interviews with leading practitioners and experts in measuring and/or estimating social value (**Appendix B**); a meeting of leading practitioners, experts, funders and staff from the Bill & Melinda Gates Foundation held in October, 2008 to discuss a draft version of this paper (**Appendix C**); a brief literature review of cost-effectiveness analysis and cost-benefit analysis and materials about the six profiled organizations and approaches (**Appendix D**); and ongoing conversations with Fay Twersky and Kendall Guthrie of Impact Planning and Improvement.

## 1.4. A Word on Language

The organizations we profiled in this paper often use different words to describe the same thing or use the same word to describe different things. This can be very confusing and obfuscate the true methodologies or results behind the various approaches. To provide greater clarity, we refer to **Appendix A: Glossary of Terms** to define the many technical terms used in this paper. In addition, we will use the term "social value creation" or "social value" throughout the paper to refer to the general concept and practice of measuring social impacts, outcomes, and outputs through the lens of cost. When appropriate, we will footnote terms that are defined differently in the various methodologies for measuring and/or estimating social value and explain, to the best of our knowledge, what they really mean.

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## **2. CURRENT STATE OF INTEGRATED COST APPROACHES TO MEASURING AND/OR ESTIMATING SOCIAL VALUE**

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Based on interviews with experts, leading practitioners, and a scan of the literature, integrated cost approaches to measuring and/or estimating social value in the social sector have not yet reached maturity. This is due in large part to the lack of maturity in social program evaluation methodologies and the variety of purposes organizations have for conducting these types of analyses.

### **2.1. Lack of maturity in social program evaluation**

In 2007, the MacArthur Foundation commissioned the RAND Corporation to conduct a study of 39 effective social programs that have been evaluated using scientifically rigorous methods. Of these, 22 social programs had been the subject of one or more cost-benefit analyses. The purpose of the study was to examine the state of the field of valuing benefits in social programs. Dr. Lynn Karoly, Senior Economist at RAND, published a paper in November 2008 which concluded that “the application of the cost-benefit methodology in evaluations of social programs has not reached maturity.”<sup>2</sup> Karoly’s findings which led her to this conclusion included factors such as:

- Many important benefits that accrue from effective social programs are rarely, if ever, monetized
- Shadow prices (the dollar values assigned to outcomes) in cost-benefit analyses of social programs do not consistently capture the full range of societal benefits or costs
- Even when there is well-established literature for valuing outcomes, shadow prices are not being consistently used across studies of social programs
- Some cost-benefit analyses use methods to project future outcomes based on early outcomes, but such approaches have yet to become routine and standardized

Overall, these limitations point to the fact that the field of social program evaluation—the process of collecting social impact and social outcome data—and the methods of calculating the costs of social program delivery are not very well developed or established in the social sector.

Despite these limitations, some people expect to be able to compare the social value of various social programs similar to how they compare the financial return on investment (ROI) of various companies. This is not a reasonable or realistic expectation given that the infrastructure necessary to calculate social value creation for social programs is virtually non-existent. The infrastructure that makes financial ROI calculations possible (e.g. the accounting profession, brokers, financial analysts, financial reporting, financial concept development), has taken a long period of time (some might argue centuries) to develop and there are still constant debates about how economic value is measured and how much value companies are creating.

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<sup>2</sup> Karoly, Lynn A. “Valuing Benefits in Benefit-Cost Studies of Social Programs.” RAND, 2008.

In comparison, the social sector has really only begun to measure social outcomes in the last few decades. While there are a handful of groups such as RAND and MDRC that conduct cost-effectiveness analyses and cost-benefit analyses and a few SROI consultants, there is no social auditing profession that does these types of analyses in a uniform manner for the social sector. Until a tremendous amount of resources are invested in creating a comparable infrastructure for measuring and analyzing the results for the social sector, integrated cost approaches to measuring and/or estimating social value will continue to be practiced more like an isolated art form than widespread science.

## 2.2. A Variety of Purposes

There appears to be little consensus among leading practitioners of integrated cost approaches to measuring and/or estimating social value about how one should use cost-related impact data to make certain investment decisions. In general, there are four philosophical positions behind the methodologies and organizations self-identify in one or more of the different categories:

- 1) One can and should use cost and impact data to make funding allocation decisions *across* program areas

Michael Weinstein, Chief Program Officer at Robin Hood Foundation is emphatic in stating his case: "It's impossible not to do it. If you're making grants, you're placing your bets—you are assigning implicit values to the activities that you fund. Some environmentalists don't like the idea of deciding how many snail darters equal the value of a polar bear, even though they've made that decision implicitly once their organizations set their annual budgets. There is, however, virtue in being explicit—making decisions with analysis aforethought rather than relying on outcomes dictated by an amorphous process that doesn't face up to tradeoffs. Perhaps we can agree that spending money to save three snail darters at the cost of foregoing a program that would save five polar bears would be ridiculous. But should we spend money to spare the extinction of snail darters at the cost of losing half the population of polar bears? Better to face tradeoffs explicitly than to behave passively, implicitly."<sup>3</sup>

Paul Brest, President of the William and Flora Hewlett Foundation shared his perspective: "I think you can only do it when you have a common outcome. Our six programs range from performing arts to environment to global development. In contrast, Robin Hood's different programs are all concerned with alleviating poverty in New York. But even when you have a common outcome, it's a bit tenuous as the margins of error are huge. The interesting question from all this is: 'Why do we think it's important?'"<sup>4</sup>

- 2) One can only use cost and impact data to make funding allocation decisions *within* program areas

Brian Trelstad, Chief Investment Officer for Acumen Fund stated, "I think once you've chosen an area that matters to you then you should play this game. But there should be limits. You can compare programs once you get in the sector of global

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<sup>3</sup> Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 29 July 2008.

<sup>4</sup> Brest, Paul. "Re: Hewlett Foundation's Expected Return Methodology" to Melinda Tuan, 18 July 2008.

health, but you can't compare global health vs. arts vs. climate change. You can't boil it down to that. It's foolish to say one climate change initiative is worth more than two education initiatives."<sup>5</sup>

- 3) One can *ideally* use cost and impact data to making funding decisions across program areas but in *reality*, one would be lucky to have access to cost and impact data to make funding allocation decisions within a program area *at all* not to mention assessing whether a program in and of itself is a worthwhile investment

Kat Rosqueta, Executive Director of the Center for High Impact Philanthropy explained their approach: "We're not looking for a unifying measurement across domains...We're developing a conceptual framework of having the biggest impact across a dollar unit. We're not trying to do this across global health and urban education. In fact, we're not even trying to use the same unit within urban education. Given the lack of good, empirical information to build on, the required assumptions and modeling would make the results academic."<sup>6</sup>

- 4) One should use cost and impact data to promote the work of individual nonprofit organizations and promote the use of social value creation metrics to build the field of social program evaluation

Jeremy Nicholls, Fellow at New Economics Foundation (nef) described his purpose for developing and promoting the social return on investment (SROI) methodology: "Many organizations with social objectives were not reporting on the relationship between their investment and the outcomes they were achieving. What we want is a consistent approach to measuring value: get organizations to forecast social returns, build the systems to track those over time, then look back and see how those went. A turning point would be if we could get investors and funders interested—where their funding criteria included using SROI principles. Then we could get to a level where there will be enough commonality of measures that there will be comparability within areas."

Across these four philosophical perspectives, there is another way to categorize the purposes of measuring and/or estimating social value using the element of time. The three primary applications are:

1. Prospective—looking forward to possible philanthropic investments to determine whether or not the projected costs and benefits in the future indicate a favorable investment in the present
2. Ongoing—testing assumptions and projections regarding intended social value creation along the way, in order to aid in course correction
3. Retrospective—looking back at past philanthropic investments to determine whether or not they were favorable investments given the costs incurred, in order to inform future decisions

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<sup>5</sup> Trelstad, Brian. "Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)" to Melinda Tuan, 30 April 2008.

<sup>6</sup> Rosqueta, Kat, Hilary Rhodes, and Kathleen Noonan. "Re: Center for High Impact Philanthropy Cost Per Impact Measures and other Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 8 May 2008.



As with the previous set of purposes, the various approaches may incorporate one or more of these possible applications (**Appendix E and Appendix F**).

### **2.3. No Silver Bullet(s)**

It is important to consider each of these methodologies in the greater context in which the organization makes decisions. Regardless of the specific purpose, each methodology and its accompanying results are only one factor in an organization's decision-making process. Jed Emerson, Founding Director of REDF, explained: "At REDF we went to great lengths to create a set of analyses so SROI wasn't boiled down to one number. We specifically tried to avoid the trap of coming up with a single numeric."<sup>7</sup>

Susan Stout, recently retired Manager of the World Bank's Results Secretariat cautioned: "There is incredible 'silver bulletism' around in the donor (and perhaps foundation) worlds—seeking that 'one special number' that will tell us if we are succeeding or failing. This is driven by bureaucratic fantasy, not reality. The chances that we could come up with a metric that avoids an inevitably subjective process of judgment and choice are infinitely small (else politics would be a much simpler and boring topic). It's usually driven by a desire to define 'a bottom line' that will do for philanthropy and public sector management what profit/loss statements do for the private sector. It's just not going to happen that way."<sup>8</sup>

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<sup>7</sup> Emerson, Jed. "Re: Integrated Cost Approaches to Measuring Social Impact and REDF's SROI" to Melinda Tuan, 1 May 2008. Note: Despite REDF's desires to avoid the trap of a single numeric, many of the subsequent cost integrated measurement methodologies based their approaches on the single SROI metric of the blended value index of return.

<sup>8</sup> Stout, Susan. "Re: Perspectives on Cost-Benefit Analysis and Cost-Effectiveness Analysis in Global Health" email communication to Philip Setel, April 2008.

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### **3. PROFILES OF EIGHT INTEGRATED COST APPROACHES TO MEASURING AND/OR ESTIMATING SOCIAL VALUE**

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The following is a high level overview of eight different approaches to integrating cost into measuring and/or estimating social value creation. The first two are “classical” approaches, including cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA). The next six approaches represent leading practitioner methodologies, including both philanthropic and nonprofit organizations.

#### **3.1. Cost-Effectiveness Analysis (CEA) (Appendix G)**

Cost-Effectiveness Analysis (CEA) involves the calculation of a ratio of cost to a non-monetary benefit or outcome (e.g. cost per high school graduate, cost per child cured of malaria). This ratio is sometimes informally termed the “bang for the buck”. CEA is used in situations when monetizing the benefits of a program or intervention is not possible or appropriate. However, measures of cost-effectiveness can only account for one area of program impact at a time. And, since program impacts are measured in natural units (e.g. life year saved, child graduating from high school), unless those units are common across all areas of impact, it is not possible to aggregate across them.<sup>9</sup>

The purpose of CEA is two-fold: 1) to combine appropriate measures of outcomes with costs so that program and policy alternatives within the same domain can be ranked according to their effectiveness relative to their results; and 2) to side-step the uncertainties about how to value different aspects of program benefits by looking at the ratio of benefits to costs without reducing them to common units (e.g. monetary units). CEA is used in the private, public, and nonprofit sectors and is widely used in health care where costs of intervention are compared to their impact on an individual’s quality-adjusted life years (QALYs) or disability-adjusted life years (DALYs).

#### **3.2. Cost-Benefit Analysis (CBA) (Appendix H)**

Cost-benefit analysis (CBA) monetizes the benefits and costs associated with an intervention and then compares them to see which one is greater. CBA is the most demanding approach to analyzing costs and outcomes as it requires a comprehensive measurement of costs and program impacts (e.g. primary and secondary, direct and indirect, tangible and intangible impacts), and the ability to place a dollar value on program impacts across stakeholders. Thus, CBA provides a full accounting of the net benefits to society as a whole, as well as various stakeholders.

The purpose of CBA is twofold: 1) to help decide whether a program or intervention is of value to the decision-maker and 2) to compare the program to alternatives and choose the one with the greatest measure of merit. The output from cost-benefit analysis can be measures of net benefits (benefits – costs) also known as the net present value (NPV); the ratio of benefits to cost (benefit-cost ratios); or the internal rate of return (IRR)—which is the rate of growth a project is expected to generate.<sup>10</sup>

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<sup>9</sup> Karoly, Lynn A. “Valuing Benefits in Benefit-Cost Studies of Social Programs.” RAND, 2008, p. 6.

<sup>10</sup> Ibid.

CBA is widely used across the public, private, and increasingly the nonprofit sector to help decision-makers prioritize or decide among various uses of funds for programs and projects.

### **3.3. REDF SROI (Appendix I)**

REDF is a nonprofit philanthropic social venture fund founded in 1997 in San Francisco, CA. REDF supports employment for low-income and formerly homeless individuals by making grants to a portfolio of nonprofit organizations in the San Francisco Bay Area that fully own and operate various social enterprises. REDF developed its SROI framework in the late 1990's culminating in the publication of the SROI Reports and several SROI methodology documents and tools in 2000.

The purpose of REDF's SROI was to demonstrate the social, enterprise, and blended value accrued to society compared to the total investments for each of the social enterprises in its portfolio on an ongoing and retrospective basis. Since 2000, REDF has not released any further SROI reports. It is instead focusing on continuing to measure and report on the social outcomes of the enterprises in terms of individuals' changed lives without monetizing the outcomes or comparing these to their associated costs.

Even though REDF is no longer implementing its SROI methodology, the concepts underpinning REDF's SROI framework greatly influenced many of the approaches that have evolved in the past decade. A group of international practitioners including Jed Emerson, principals at new economics foundation (nef), Scholten & Franssen, SVT Group, and others published a revised approach to calculating SROI in 2003. This revised approach integrated REDF's SROI methodology with steps in cost effectiveness analysis and several other methodologies into an overarching SROI framework. This "SROI Framework" was updated in a book published in 2006.<sup>11</sup>

Major points that differentiate the evolving methodology from that of REDF include: applying SROI to any type of organization or company in any industry; accounting for social and environmental value created for individual stakeholders; including stakeholder analyses; using shorter timeframes (5 years); and adjusting results for the interdependencies of outcomes attributable to a set of organizations. An international, decentralized network including two relatively new organizations, SROI UK and the European SROI Network (ESROIN), continues to refine the SROI methodology and advocate for its use throughout Europe, the United States, and South and Southeast Asia.

### **3.4. Robin Hood Foundation (Robin Hood) Benefit-Cost Ratio (Appendix J)**

Robin Hood is a nonprofit founded in 1988 to target poverty in New York City (NYC). Robin Hood provides ongoing grants to over 200 NYC-based nonprofit organizations that fight poverty in four general areas: Jobs & Economic Security; Education; Early Childhood & Youth; and Survival. Robin Hood developed its Benefit-Cost Ratio methodology in 2003 to capture the best estimate of the collective benefit to poor individuals that Robin Hood grants create per dollar cost to Robin Hood (measured in part by the boost in income of poor individuals due to the grant).

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<sup>11</sup> Scholten, Peter, Jeremy Nicholls, Sara Olsen, Brett Galimidi. *Social Return on Investment: A Guide to SROI Analysis*. Lenthe Publishers, 2006.

The purpose of Robin Hood’s Benefit-Cost Ratio is to translate the outcomes of diverse programs into a single, monetized value that measures poverty fighting on an ongoing basis to answer the question: “Which programs to fund and how much to spend on each.”<sup>12</sup> Robin Hood program officers are required to calculate Benefit-Cost Ratios for all of their new and renewal program funding proposals on an annual basis (i.e., the “which programs” question). Robin Hood does not, however, use the Benefit-Cost Ratios to make allocation decisions among portfolios—decisions are made about individual grants regardless of the portfolio of which they are a part. The distribution of spending across portfolios follows as a passive consequence of decisions about individual grants.<sup>13</sup>

### **3.5. Acumen Fund (Acumen) BACO Ratio (Appendix K)**

Acumen Fund is a nonprofit global venture fund founded in 2001 in New York City. Acumen provides capital investments ranging from \$300,000 to \$2,000,000 in primarily debt or equity to a variety of institutions including nonprofit organizations and small, medium and large companies. These funds support business models with a payback or exit in roughly five to seven years that can be effective in reaching the “base of the pyramid” (BOP)—or the billions of poor. Acumen invests globally in four areas: Water; Health; Housing; and Energy. Acumen developed its Best Available Charitable Option (BACO) Ratio methodology in 2004 to quantify a potential investment’s social output<sup>14</sup> and compare it to the universe of existing charitable options for that explicit social issue.

The purpose of the BACO Ratio is to help portfolio managers assess the prospective merit of an individual investment opportunity versus making a charitable grant. Ideally, the BACO Ratio is re-assessed on an annual basis post-investment. To date, Acumen portfolio managers have calculated BACO Ratios for all of their portfolio companies (some retrospectively, some as part of the due diligence process) and there are about 25 active investments. Only a few annual BACO re-assessments have been calculated to date.

### **3.6. William and Flora Hewlett Foundation (Hewlett) Expected Return (Appendix L)**

The William and Flora Hewlett Foundation was founded in 1966 to solve social and environmental problems at home and around the world. Hewlett concentrates its global grantmaking on six major areas: Education; Environment; Global Development; Performing Arts; Philanthropy; and Population. Hewlett developed its Expected Return (ER) methodology in 2007 to evaluate potential charitable investments through a systematic, consistent, quantitative process in order to “make every dollar count.”

The purpose of ER is to help Hewlett program officers ask and answer the right questions for every investment portfolio. Expected Return forces program officers to test their implicit assumptions and theory of change/logic model against the ER number, quantify high-level tradeoffs between investments within an investment portfolio, and ideally make better prospective funding decisions within their

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<sup>12</sup> Weinstein, Michael. “Re: Robin Hood Foundation Benefit-Cost Ratio” email to Melinda Tuan, 29 July 2008.

<sup>13</sup> Ibid.

<sup>14</sup> Acumen Fund’s BACO methodology uses the term “social impact” to describe “social outputs” (e.g. they describe person years of malaria protection as a “social impact”).

investment portfolios. To date, Hewlett has only used ER in its global development area to make grantmaking decisions but plans to use it in other areas.

### **3.7. Center for High Impact Philanthropy (CHIP) Cost per Impact (Appendix M)**

The Center for High Impact Philanthropy was established in 2006 by alumni of The Wharton School of the University of Pennsylvania (UPenn) who were frustrated by the difficulty of measuring and maximizing the impact of their charitable gifts. Based out of the School of Social Policy & Practice at UPenn, CHIP is a resource center designed to guide philanthropists and their advisors as they decide where to allocate their philanthropic dollars.

Since 2006, CHIP has been developing its Cost per Impact methodology and intends to promote it as a measure critical to high impact giving. CHIP is currently working on its first of several philanthropic sector reports. These reports analyze opportunities for individual philanthropists to have impact and provide exemplary case examples with associated cost per impact estimates. The purpose of Cost per Impact is to provide philanthropists an answer to the question, "How much does change cost?"

### **3.8. Foundation Investment Bubble Chart (Appendix N)**

Some nonprofits and foundations are using a bubble chart to display comparative information regarding multiple organizations. The purpose of the bubble chart is to illustrate a set of reporting metrics at the organizational or program level that are common across the programs of a nonprofit or a segment of a foundation portfolio. Sample measures include number of people reached with bed nets vs. percentage of bed nets utilized. The bubble chart allows one to assess the individual and relative performance of programs or organizations compared to the program size or foundation investment at a single point in time.<sup>15</sup>

### **3.9. Summary of All Methodologies**

In reviewing these different methodologies for measuring and/or estimating social value creation, Paul Brest, President of the William and Flora Hewlett Foundation posited that in essence, all the methodologies are about expected return:

$$\text{Expected Return} = \frac{(\text{Outcome or Benefit} \times \text{Probability of Success})}{\text{Cost}}$$

Most funders assume their probability of success; then choose to either monetize the benefits (CBA) or not (CEA). A few funders also discount the numerator by the proportion of their philanthropic contribution.

As a heuristic, Brest's simplification of all the integrated cost methodologies is helpful. However, the eight different approaches have differently nuanced answers to these questions:

- How are the outcomes or benefits estimated? (e.g. randomized control experiments, outputs used as proxies for outcomes, timeframes, etc.)

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<sup>15</sup> Hugget, Jon. The Bridgespan Group presentation "Business Planning: What it Is and Why it Matters" p. 7; Olsen, Sara. "Re: Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 30 April; Fay Twersky, Brian Elliot, Melinda Tuan interpretation.

- How are the costs calculated? (e.g. cost of grants and administration, cost of total program, etc.)
- How are uncertainties and partial attribution of results accounted for? (e.g. probability of success, philanthropic contribution, interdependencies, etc.)
- How are the outcomes or benefits translated into natural units or monetized? (e.g. shadow prices, discount rates, etc.)

At this point in time, no single methodology has been widely adopted throughout the social sector. And it is premature to declare that one “right” method for measuring and/or estimating social value creation should be promoted. However, for organizations that are interested in integrating a cost approach to measuring social impact, there is significant value in employing a single, consistent methodology throughout the organization. Philanthropic organizations and nonprofit practitioners are finding the discipline inherent in the process of measuring and/or estimating social value creation improves their own practice and helps them focus on the best methods to achieve their social mission.

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## 4. TECHNICAL ISSUES AND LIMITATIONS

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In reviewing the eight different methodologies, we identified a number of technical issues that cut across many of the approaches. These issues include the use of:

- Assumptions
- Discount rates
- Timeframes
- Shadow prices
- Interdependencies
- Value judgments

These technical issues represent limitations of the tools used to integrate cost approaches for measuring and/or estimating social value.

### 4.1. Assumptions

There are a multitude of assumptions involved in all of these methodologies and calculations. Some assumptions, such as the “Robin Hood Factor” or Hewlett’s “philanthropy’s contribution” cannot be easily tested or measured. Other assumptions, including projections of outputs or outcomes, or applications of “expert research” to a similar program’s outcomes, can be measured retrospectively for their accuracy. However, this does not seem to be done on a consistent basis in any of the examples.

In response to one of the skepticisms of Hewlett’s Expected Return methodology that “you’re putting in a lot of incredibly speculative numbers,” Brest argues: “But ‘doing the numbers’ presses program officers to test their intuitions, and that’s likely to sharpen them.”<sup>16</sup> Weinstein of Robin Hood Foundation acknowledges that “there’s no way to get around the ugly problem. The virtue of our metrics is that they are brutally clear about the assumptions we’re making along the way, some of them embarrassing.”<sup>17</sup>

In examining some of the assumptions and their application in sensitivity or scenario analyses, it is clear that several organizations are overly optimistic in their projections. This optimism includes projections of social outputs, social outcomes and impacts, projections of financial performance, and the timeframe for achieving these results. A few of the organizations’ methodologies have been in existence for long enough to confirm that the actual social value created from specific individual investments was significantly less than the originally projections.

### 4.2. Discount rates

In order to calculate the cost-effectiveness or cost-benefit of an intervention which results in benefits in future years, one must discount those benefits to reflect the time value of money. However, “while there is consensus that future outcomes should be discounted, there is no consensus as to what rate should be used” says

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<sup>16</sup> Brest, Paul. “Re: Hewlett Foundation’s Expected Return Methodology” to Melinda Tuan, 24 April 2008.

<sup>17</sup> Weinstein, Michael. “Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact” to Melinda Tuan, 23 April 2008.

Karoly.<sup>18</sup> Karoly adds that while 4 percent is typical in the drug, criminal justice, and children and youth intervention policy areas, other fields use different discount rates. In medicine, discount rates of 3 to 5 percent are recommended and in other fields discount rates of 10 percent or higher have been used. "The choice of rate may be a function of the time preference of the stakeholder or decision-maker"<sup>19</sup> adding to the lack of consistency in how costs and benefits are calculated across the field.

### **4.3. Timeframes**

There are a variety of timeframes being used throughout these methodologies. For example, Karoly found that some programs that serve children and youth do not track their participants into the future while others do. As a result, the amount of actual outcome data available for analysis varies widely across programs.<sup>20</sup> There is also little consistency in the use of timeframes for analysis, regardless of whether there is actual impact or outcome data. REDF used a ten-year horizon for calculating benefits, Robin Hood a range up to 30 years, nef 5 years. All of these variations on timeframe contribute to very different results that cannot be compared to one another because of the timeframe issue.

### **4.4. Shadow prices**

In order to use cost-benefit analysis, all costs and benefits must be monetized. However, as Karoly states, a "significant challenge in applying the cost-benefit approach is to have appropriate 'shadow prices' or dollar values to attach to each of the short- and long-term outcomes that a social program may affect."<sup>21</sup> In some cases, shadow prices are easy to obtain, while in other cases, their derivation may be more complex and subject to debate among experts. For example, there is no market price for the intangible cost of crime to a victim of crime. In practice, individual evaluators and researchers select their own shadow prices so there is little consistency and therefore the results are not easily comparable.

### **4.5. Interdependencies**

Interdependencies refers to the idea that the outcomes of one or a series of interventions are dependent on other interventions. In order to see change in X you would also need to see change in Y. For example, the outcome of improved high school graduation rates through a peer tutoring program is dependent in part on the level of function of the family in which the student resides. This issue of interdependency is especially important when the timeframe for the projected benefits of the intervention is further out into the future. In early childhood interventions, much of the child's future achievements/benefits are dependent on what happens with the rest of the child's life circumstances and experiences. It is fiction to not account for the interdependencies in calculating the future benefits, yet very few approaches do account for them.

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<sup>18</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Chapter Two: Overview of Cost and Outcome Analysis." *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*.

<sup>19</sup> Ibid, footnote, p. 18

<sup>20</sup> Karoly, Lynn A. "Valuing Benefits in Benefit-Cost Studies of Social Programs." *RAND*, 2008, p. 42.

<sup>21</sup> Ibid. p. 3.



Only one approach, the improved “SROI Framework”, tries to address the issue of interdependencies<sup>22</sup> in its methodology. The methodology incorporates interviews with various stakeholders involved with a single intervention (e.g. funders, the government and other nonprofits addressing the same or related issue, etc.) to understand how their efforts are related to that intervention. The methodology then instructs the practitioner to assign a certain “share” of the projected social return on investment to the intervention based on that feedback. But this method of estimating interdependencies is just that—an estimate. Ultimately, determining what proportion of an observed change is due to the activities of a single organization is methodologically challenging given the complexity of change and the difficulty of determining what would have happened any way.

#### **4.6. Value judgments**

Classical cost-effectiveness analysis and cost-benefit analysis (and therefore any approach that incorporates these methodologies) do not currently incorporate a consistent approach to dealing with value judgments. Each study reflects the values of the researcher as to how the costs and benefits are distributed among stakeholders and how the various outcomes are valued.

One value judgment has to do with the value of a life. For example, in using DALYs and QALYs in healthcare, should one weight the value of a thirty-year old’s life saved or improved more than that of a 70-year old? Another value judgment is that of distribution. One can argue that an additional dollar to a poor person is worth more than an additional dollar to a wealthy person, but how much more? There are many other types of value judgments which are embedded in each methodology (e.g. deciding whether x outcome is really a benefit to person y) and these all influence the results of the analyses.

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<sup>22</sup> nef refers to interdependencies as “share of outcome” or “attribution” in its report “Social Return on Investment: Valuing What Matters. Findings and Evaluation from a Pilot Study.” 2004. Scholten, Peter, Jeremy Nicholls, Sara Olsen, Brett Galimidi. *Social Return on Investment: A Guide to SROI Analysis*. Lenthe Publishers, 2006.

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## 5. BIG PICTURE ISSUES

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All of these technical limitations and issues point to the bigger picture issues involved with implementing integrated cost approaches to measuring and/or estimating social value, namely:

- the inconsistent use of language
- the lack of common measures in the social sector
- the lack of quality data on social impacts, outcomes, outputs, and cost
- the lack of incentives for transparency
- unintended consequences
- inadequate utilization
- the cost of measurement

### 5.1. Inconsistent Use of Language

There is currently no standard lexicon for the social impact measurement field. This results in a situation where “a variety of terms are used, sometimes imprecisely, to refer to the methods in the general class of cost and outcome analyses, including benefit-cost analysis and cost-effectiveness, among others.”<sup>23</sup> Across the eight organizations and approaches profiled for this paper, we found a wide spectrum of uses and definitions for the same words and found different words being used to describe the same calculation or result. This lack of consistency in the use of language is a manifestation of the nascent stage of the field of social program evaluation in the social sector. It also presents a significant challenge to those looking to compare and contrast methodologies and results between various organizations and programs.

In particular, the words “outcome” and “impact” were used by multiple organizations to describe “outputs” in their methodologies and calculations. For example, Acumen Fund writes about its BACO Ratio as a ratio of cost per outcome or cost per social impact,<sup>24</sup> but as Brian Trelstad, Chief Investment Officer for Acumen explained, “The BACO is based solidly on outputs...we don’t have the resources to prove outcomes so we focus on the clearest set of outputs, and even then there is little reliable information on the output side.”<sup>25</sup>

Several organizations used different words or phrases to describe the same concept of the calculation of a philanthropy’s or nonprofit’s share of the results of an intervention. In Robin Hood’s case, Weinstein described their estimation of the “Robin Hood Factor” as “an assessment of proportionality. After all, Robin Hood’s impact is not always proportional to our grant. For example, there are programs to which we give relatively small amounts of money (as a percentage of a grantee’s

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<sup>23</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. “Chapter Two: Overview of Cost and Outcome Analysis.” *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 5 - 26. 2001.

<sup>24</sup> Acumen Fund. “Acumen Fund Concept Paper: The Best Available Charitable Option (BACO).” (Draft). 1/24/07.

<sup>25</sup> Trelstad, Brian. “Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)” to Melinda Tuan, 30 April 2008.

total budget) but which would collapse entirely if we withdrew our money."<sup>26</sup> In talking about the same concept, the Hewlett Foundation described their estimation of "the philanthropy's contribution" which is calculated by combining the percentage of an individual philanthropic organization's contribution relative to the overall philanthropic contribution needed to achieve the outcome and how essential the philanthropy's investment is to achieving the outcome."<sup>27</sup>

In a different application, nef used "share of outcome" or "attribution" to describe an effort to measure the interdependencies—the proportion of a program's success truly attributable to the organization's intervention—in cases where "outcomes are influenced by other organizations and factors and especially where the stakeholders' objectives can only be achieved through the combined efforts of more than one organization."<sup>28</sup> At first glance, however, it can appear that nef's "share of outcome" is referring to the same kind of calculation as Hewlett's "philanthropy's contribution" and Robin Hood's "Robin Hood Factor."

These are just a few examples which highlight the challenges involved with researching, replicating, or even discussing these various approaches to integrating cost into measuring and/or estimating social value in the absence of a common lexicon and language.

## **5.2. Lack of Common Measures in the Social Sector**

Very few common measures are currently being used to evaluate social impact in the social sector, whether within a program area or across program areas. As Karoly noted in her study of 39 social programs with proven effectiveness and rigorous evaluations, "The use of the cost-benefit framework to evaluate social programs requires the ability to place a value on the outcomes affected by the program. Ideally, such values would be attached to all outcomes and applied in a consistent manner across programs so results can be compared. Our review...highlights the diverse array of outcomes affected by these programs...Even programs that have a common objective (e.g., early childhood intervention) do not necessarily incorporate common measures into the evaluations."<sup>29</sup>

Karoly explained that without common measures, "you can't make the argument that you should invest in program x vs. program y because the outcomes are different. It's really a problem of apples to oranges."<sup>30</sup> Even the very best methodology cannot compensate for the lack of common measures, as each intervention is measuring its results differently.

Of the eight methodologies we profiled, only one organization is collecting common measures across its entire portfolio of investments: REDF. Not coincidentally, REDF has always had a portfolio made up of less than 20 organizations in the same grantmaking area: supported employment through social enterprises. Karoly argues

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<sup>26</sup> Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 23 April 2008.

<sup>27</sup> Redstone Strategy Group, LLC. "Making Every Dollar Count: How Expected Return Can Transform Philanthropy." April 10, 2008.

<sup>28</sup> The New Economics Foundation. "Measuring Real Value: A DIY Guide to Social Return on Investment." p. 27.

<sup>29</sup> Karoly, Lynn A. "Valuing Benefits in Benefit-Cost Studies of Social Programs." RAND, 2008. p. 77.

<sup>30</sup> Karoly, Lynn A. "Re: Cost-Benefit Studies of Social Programs" to Melinda Tuan, 20 and 21 May 2008.

for a set of guidelines that researchers would follow to build a more consistent cost-benefit research methodology, including the establishment of common measures by program area. The health field is the one area which stands out in its use of common measures, namely DALYs and QALYs, which then allows for comparison of cost-effectiveness ratios of all health interventions.

Most people agree that the lack of common measures within program areas limits the ability to compare results across program areas. For example, "Cost effectiveness in the field of education is far behind what they've done in health. If we were to define one magic ratio or measure in a uniform way across both education and health we'd have to water down all these great things we know in health to accommodate the immaturity in education evaluation"<sup>31</sup> explained Hilary Rhodes, Research Fellow, U.S. Education at CHIP. And, despite the maturity of measuring results in the health field, many of the technical issues discussed earlier present challenges and limitations to how CEA is being used in the health field. For example, there are continued debates about which costs should be included and varying opinions on which of the differing value judgments (e.g. age weighting, distribution) should be embedded in various analyses.<sup>32</sup>

Susan Stout, recently retired Manager of the World Bank's Results Secretariat, summed it up this way: comparing results across program areas is possible "only if we are willing to do the analytics to translate any result (output or outcome) into a dollar (or yuan or euro) value. While DALYs move the health field significantly forward to getting everyone to consider cost effectiveness—they do not extend to other fields very well, which makes the really interesting comparative judgments especially difficult."<sup>33</sup>

### **5.3. Lack of Quality Data on Impacts, Outcomes, Outputs, and Costs**

Another significant issue in measuring and/or estimating social value, beyond the lack of common measures, is the lack of quality data for these measures overall. Karoly commented on this issue in her book chapter on how to conduct a cost-benefit analysis: "The analyst must use creativity and informed guesswork...rarely will there be enough data of high enough quality that all entries (of costs and benefits) can be estimated with high confidence. Large blocks of entries may need to be based on educated guesswork if they are not to be left entirely blank. Of course this affects the reliability of the analysis, but in our view, it should not be taken as an excuse to abandon analysis altogether."<sup>34</sup>

In conversations with the designers of the eight approaches profiled in this paper, the issue of the poor quality or total lack of data for impacts, outcomes, outputs, and

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<sup>31</sup> Rosqueta, Kat, Hilary Rhodes, and Kathleen Noonan. "Re: Center for High Impact Philanthropy Cost Per Impact Measures and other Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 8 May 2008.

<sup>32</sup> Brock, Dan W. and Daniel Wikler. "Ethical Issues in Resource Allocation, Research, and New Product Development." 2006. *Disease Control Priorities in Developing Countries (2nd Edition)*, ed., 157-164. New York: Oxford University Press. DOI: 10.1596/978-0-821-36179-5/Chpt-14.

<sup>33</sup> Stout, Susan. "Re: Perspectives on Cost-Benefit Analysis and Cost-Effectiveness Analysis in Global Health" email communication to Philip Setel, April 2008.

<sup>34</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Chapter Two: Overview of Cost and Outcome Analysis." *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 15.

cost and the implications for their methodologies arose multiple times. Kat Rosqueta, Executive Director of CHIP described the problem as follows: “The framework is sophisticated but the level of information to put into the framework is not. When you see how there are layers and layers of garbage in, you’re going to get garbage out, no matter what the calculation is. And then you have to question the usefulness of that calculation.”<sup>35</sup>

CHIP’s difficulties in obtaining reliable cost information for its Cost per Impact calculations are reflected in Acumen Fund’s challenges in obtaining reliable information on social outputs (not to mention outcomes) for its projected BACO Ratios. nef’s Jeremy Nicholls lamented the lack of social impact data saying “sometimes the data just isn’t there for control groups or comparison groups. You’d think there would be some system-wide result or benchmark for results but there isn’t.” Until the quality of available social impact, outcome, output, and cost data improves significantly, it will continue to be very difficult to measure social value creation with any degree of fidelity.

#### **5.4. Lack of Incentives for Transparency**

Even if the sector was able to produce quality data on social outputs, outcomes, impact and cost, the question remains whether there are any incentives for philanthropic and nonprofit organizations to share this information in a transparent fashion. As Trelstad noted, “There is a fear of failure in the social sector. There may be a difference between how endowed institutions versus those who have to go out and raise it view this; but it’s not clear what incentives we have to show our losers to our donors.”<sup>36</sup>

Trelstad added that *if* the social sector is able to generate high quality data to allow analyses and comparisons of organizations or programs based on their cost-effectiveness “*there will be* clear ‘winners’ and ‘losers’ based on these analyses.” Without proper incentives for organizations to be transparent about their data, whether good or bad, the poorer results will likely be buried and only the good results showcased to the detriment of the social sector as a whole.

#### **5.5. Unintended Consequences**

A popular adage states: “You get what you measure”. However, the challenge is: what you measure may not be what you intended. It is important to be aware of or try to predict the potential unintended consequences of any effort to integrate cost into measuring and/or estimating social value. The very nature of unintended consequences is that they are often unexpected—which means it is difficult to plan for them in advance. The profiled organizations experienced a couple consequences that that are worth mentioning for future reference.

One potential unintended consequence is that nonprofits may try to “game” whatever social value measurement system the funding organization develops. In at least one of the profiled approaches, grantees of the funding organization have been known to “cherry-pick” the programs they present to the foundation for funding.

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<sup>35</sup> Rosqueta, Kat, Hilary Rhodes, and Kathleen Noonan. “Re: Center for High Impact Philanthropy Cost Per Impact Measures and other Integrated Cost Approaches to Measuring Social Impact” to Melinda Tuan, 8 May 2008.

<sup>36</sup> Trelstad, Brian. Measuring and/or Estimating Social Value Creation Meeting, Bill & Melinda Gates Foundation, Seattle, October 20-21, 2008.

Knowing the methods by which the funder calculates its social value ratios, the nonprofits pick the programs that address the easiest-to-serve populations—which are more likely to generate higher scores and therefore secure continued funding.

Another unintended consequence is that quantitative metrics will become the sole focus for measuring social value creation, to the exclusion of qualitative analyses. Jed Emerson cautioned, “The metrics must be understood in the context of the narrative. It needs to be about judgment, analysis and perspective, not just the data.” Emerson compared measuring social value creation to the light spectrum: “The metrics are the visible light; the qualitative analyses are the gamma rays and ultraviolet rays which are not visible to the naked eye. No one would argue that gamma and ultraviolet rays do not exist or are not relevant, just because you can’t see them as easily.”<sup>37</sup> Similarly, the social sector should not lose perspective on the spectrum of measures for value creation, including both quantitative and qualitative results.

A third unintended consequence is the reality that any measurement effort is an intervention in and of itself both within a foundation and with its grantees. Whatever a foundation decides to emphasize in terms of how to measure its social impact will change the way foundation staff think and act regarding the selection of programs and organizations. Foundation grantees that are evaluated through a new measurement framework will also change in response, sometimes for the better, sometimes for the worse as mentioned earlier.

## **5.6. Inadequate Utilization**

In our review of these approaches to integrating cost into measuring and/or estimating social value creation, it is clear that great effort has been put into the development of each methodology. What is not clear is whether these methodologies are being used as originally intended. It appears that in at least several cases, there is a great distance between the theory and practice.

Several of the utilization issues are related to the technical and big picture issues discussed earlier. Cost-benefit analysis overall is intended to be used to compare one program versus another program. However, due to the lack of common, quality data, such comparisons are inappropriate. CHIP is encountering similar challenges in developing its Cost per Impact methodology because of a lack of quality cost data. Additionally, it remains to be seen whether philanthropists respond well to CHIP’s calculations of Cost per Impact as their methodology is still being developed and tested.

In other cases, the organization’s methodology is described as essential to informing decisions, yet in reality it appears that the methodology plays primarily a promotional role for the organization. The results demonstrate to funders and boards of directors that elegant analyses are being conducted but the results are not necessarily being used to inform ongoing practice.

For example, many of the organizations use methodologies which involve making multiple assumptions in order to project the future benefits of a particular investment decision. Very few of the organizations have re-assessed those

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<sup>37</sup> Emerson, Jed. Measuring and/or Estimating Social Value Creation Meeting, Bill & Melinda Gates Foundation, Seattle, October 20-21, 2008.

assumptions on an annual basis due to the relative newness of the methodologies, limited time and resources, and in some cases, lack of interest. This means that the assumptions in these methodologies are not being tested on an ongoing basis. And if the assumptions aren't being tested or adjusted, they will have little influence in informing the development of more accurate assumptions and calculations. It is ironic that the outcomes of these methodologies are not often being used to inform the ongoing practice of using the same methodologies. This may then lead to poor investment choices in the future.

## **5.7 Cost of Measurement**

Measuring data—social outputs, outcomes, impacts, and costs—requires a lot of resources. Collecting and analyzing data can be very expensive and this expense is often borne by the grantees of foundations that require such data. Typically, nonprofits have limited time and money to pursue activities outside of their mission-based programming. Additionally, most nonprofits do not have the administrative depth or expertise to track social outcome and cost data. Ideally, funders will include the cost of data collection in their grants to funded nonprofit organizations. However, even though in several cases, the funder took on the majority of the financial burden to implement the social value measurement methodology (e.g. hiring third-party consultants to track the data, providing grants for information systems infrastructure), the process still required a significant investment of time from the funded nonprofits. In a couple cases, the funder underestimated the costs of measurement to both the foundation and grantees, as actual costs far exceeded original projections for the evaluation efforts.

There is a cost/benefit to implementing any integrated cost method for measuring and/or estimating social value. In REDF's case, the board and senior management concluded that their time and resources, and that of their portfolio members, were better invested in tracking the individual social outcomes of the portfolio enterprises than continuing to calculate returns to society as a whole through its SROI framework. From inception, the intention of REDF's SROI was never to compare the individual investments but rather argue for the merits of investing in the portfolio of social enterprise organizations and the field of social enterprise as a whole. However, when SROI was presented in its final form to REDF's primary funder, George R. Roberts, he asked whether the SROI results had changed the management team's investment decisions for the portfolio. When the team responded that it didn't change any of their decisions, and as the original intent was not to use SROI to decide upon specific investments, Roberts suggested they discontinue calculating SROI metrics and instead focus on collecting and analyzing data that would inform their ongoing investment decisions.<sup>38</sup>

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<sup>38</sup> Emerson, Jed. "Re: REDF's SROI" to Melinda Tuan, 4 December 2008.

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## 6. SUMMARY OF ISSUES AND IMPLICATIONS FOR THE SOCIAL SECTOR

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Five summary points regarding the eight integrated cost approaches to measuring and/or estimating social value creation are worth recounting:

- 1) Integrated cost approaches to measuring and/or estimating social value are still in the nascent stages of development due to the lack of maturity in the field of social program evaluation.
- 2) The eight approaches profiled represent a variety of philosophical purposes for blending costs and social outputs, outcomes, or impacts: internal decision-making cross portfolios, internal decision-making within portfolios, and general promotion and field building. They also serve varying practical purposes: making prospective investment decisions, informing ongoing practice, and retrospectively evaluating philanthropic investment decisions.
- 3) There is no perfect or precise solution. Each method has its strengths and weaknesses, and no single method has been widely adopted throughout the social sector.
- 4) There are many unresolved technical and big picture issues embedded in the methodologies which determine the distance between the theory and the practice and affect overall utilization.
- 5) The lack of a common language, common measures, quality data, and incentives for transparency represent key limitations for the utilization of any efforts to integrate cost into measuring and/or estimating social value.

In moving forward, it is essential for the social sector to be very clear about the purpose and benefit of creating and implementing an integrated cost approach to measuring social value; and the implications of pursuing any such approach. In particular, it is important to be mindful of the following dangers:

- 1) The lure of false precision: In reviewing all the detailed and sometimes quite complicated methodologies, it can be easy to be convinced of the certainty of the results of these seemingly precise calculations.
- 2) The desire for a silver bullet: It is tempting to focus on a single numeric to indicate whether an investment is successful or not. However, social value metrics should be interpreted in their greater context in order to make the best investment decisions.
- 3) The risk of cherry-picking: Cost-benefit metrics may overwhelmingly indicate that one intervention should be favored over another. Yet sometimes the problems that are the most cost-effective to solve do not end up focusing on the neediest or hardest to serve populations.

It is crucial to note that any high-fidelity approach the social sector develops to integrate costs into measuring social value will be limited by and directly affected by the sector's ability to produce high quality data. Ultimately, the sector's largest efforts will not be about choosing the right model or method. Rather, the most significant effort will involve getting the right data to make whichever model or methodology a foundation or nonprofit organization chooses useful. Without high quality data, any practitioner's results will be based on one assumption after another



or “layers and layers of garbage.” If the social sector is interested in creating more precise, meaningful approaches to measuring and/or estimating social value, foundations will need to invest in increasing the quality of the social and cost data infrastructure across the various program areas represented in the social sector.

Lastly, it is important to emphasize that any data, high quality or not; and any model for analyzing data, high fidelity or not, are subject to interpretation. The same data can be interpreted by different people and organizations to reach diametrically opposed conclusions. The true value of high quality data and analyses of any integrated cost approach to measuring and/or estimating social value creation will be to stimulate high quality conversations about the implications.

In closing, there are two important questions for the social sector to consider in light of the lessons learned and insights from the profiled promising practices for integrating cost into measuring and/or estimating social value:

- 1) “What is the primary purpose for the social sector to pursue an integrated cost approach to measuring and/or estimating social value?” and,
- 2) “What will the sector do with the resulting information?”

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## 7. AUTHORSHIP AND RESEARCH CREDITS

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This report was written and researched by Melinda T. Tuan.

Melinda is an independent consultant who works with the senior leadership of philanthropic organizations to research and create content regarding strategies for thoughtful and effective philanthropy. In addition to her current work with the Bill & Melinda Gates Foundation, Melinda recently completed four years as a Senior Fellow with Rockefeller Philanthropy Advisors and two years as a Special Advisor to Bridgestar/The Bridgespan Group. Other recent clients include Grantmakers for Effective Organizations and the Eagles Youth Partnership, the philanthropic arm of the Philadelphia Eagles Football Team.

Previously, Melinda co-founded and managed REDF (formerly The Roberts Enterprise Development Fund) with Jed Emerson and George Roberts of KKR. REDF is a social venture capital fund that works with a portfolio of nonprofit organizations employing formerly homeless and low-income individuals in market-based business ventures. While at REDF, Melinda invested in a portfolio of fifteen nonprofit organizations running over thirty different businesses employing over 2,000 formerly homeless and low-income individuals over a seven-year period. In addition, she coordinated the design and development process for REDF's social return on investment (SROI) framework which was architected by Jed Emerson, and managed the development of REDF's ongoing assessment of social impacts (OASIS).

Prior to REDF, Melinda was a manager at a national healthcare nonprofit and a management consultant specializing in growth strategies for Fortune 500 companies. Melinda has volunteered with numerous community-based organizations in Honolulu, Boston, and the San Francisco Bay Area that serve homeless and very low-income populations. Additionally, she co-founded Boston Cares, a nonprofit volunteer service organization, and was involved in the start-up of a social-mission driven company called Dayspring Technologies in San Francisco.

Melinda is recognized nationally for her work in high engagement philanthropy, foundation effectiveness, evaluation, nonprofit capacity-building, and social enterprise. She has lectured at leading business schools in the country including Stanford and Wharton, and published articles, business school cases, and a book chapter entitled "Cultivating a Culture of Measurement" in *Funding Effectiveness* by Grantmakers for Effective Organizations. Melinda currently serves on the Board of Managers for Evergreen Lodge, a social-purpose destination resort located just outside Yosemite National Park, and the Advisory Council for REDF.

Melinda graduated from Harvard University *magna cum laude* with an AB in Social Studies focusing on urban poverty and homelessness and she holds an MBA and certificate in nonprofit management from the Stanford Graduate School of Business. She resides in Narberth, Pennsylvania with her husband and three children.

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## APPENDIX A: GLOSSARY OF TERMS

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**Assumptions:** What you have to believe to be true in order to have confidence in X—a belief.

**Baseline:** A state of the world without the program that can be compared to the world with the program in place.<sup>39</sup>

**Benefit-Cost Ratio:** One of two common ways to compare the benefits and costs of an intervention. Dividing the monetized benefits by the monetized costs yields a benefit-cost ratio. A ratio of greater than one means the benefit is greater than the cost and a ratio of less than one means the cost is greater than the benefit.

**Causal Effects/Causality:** The full range of tangible and intangible outcomes that may be affected by the program. These outcomes are ideally captured in a well-designed and well-implemented randomized experimental design evaluation, where members of the target population for the program are randomly assigned to participate or not participate in the program. The difference in outcomes between the two groups can be calculated as the impact caused by the program.

**Common Measures:** Standard measures of impact (outcomes) that can be used across a variety of programs in a field of study (e.g. IQ scores for children within the field of education).

**Cost Analysis:** Generates a measure of the program cost based on a comprehensive measurement of the economic value of the resources required for program implementation.<sup>40</sup>

**Cost-Benefit Analysis (CBA):** Takes the perspective of society as a whole and considers the costs and dollar-valued outcomes aggregated across all stakeholders (government sector or individuals as taxpayers, program participants or private individuals, the rest of society). The output from cost-benefit analysis can be measures of net benefits (benefits – costs), the ratio of benefits to cost (benefit-cost ratios), or the internal rate of return (the rate of growth a project is expected to generate). By requiring comprehensive measurement of costs and program impacts, and the ability to place a dollar value on program impacts across stakeholders, CBA is the most demanding of the cost and outcome analysis approaches. At the same time, it is also the most comprehensive in providing a full accounting of the net benefits to society as a whole, as well as various stakeholders.<sup>41</sup>

Using education as an example, one would calculate the monetary value of having an educated child (e.g. measured in terms of human capital or increased economic productivity) *minus* the cost of educating the child. The units for CBA are simply

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<sup>39</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Chapter Two: Overview of Cost and Outcome Analysis." *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 8.

<sup>40</sup> Karoly, Lynn A. "Valuing Benefits in Benefit-Cost Studies of Social Programs." *RAND*, 2008, p. 6.

<sup>41</sup> *Ibid.*

dollars (or euros, or yen), not a ratio. In an ideal world, CBA allows one to compare apples to oranges in that everything is monetized.

**Cost-Effectiveness Analysis (CEA):** The calculation of a ratio of cost to a non-monetary benefit. The focus may be on one domain of impact (e.g. crime, student achievement) or multiple areas of impact. However, measures of cost-effectiveness can only account for one area of program impact at a time. Since program impacts are measured in natural units (e.g. life year saved, child graduating from high school), unless those units are common across all areas of impact, it is not possible to aggregate across them.<sup>42</sup> The units for CEA are ratios (cost per something). For example:

- cost per quality-adjusted life year (QALY) or disability-adjusted life year (DALY)
- cost per person cured of malaria
- cost per child educated for one additional year
- cost per automobile accident avoided

It is common to invert the ratio, calculating the cost per unit of benefit purchased. For instance, health care programs are often evaluated in terms of the cost per QALY saved. In those cases, smaller numbers indicate more efficient programs. The cost-effectiveness ratio for a single program is often difficult to interpret without knowing the context, but if one calculates the cost-effectiveness ratio for each available intervention, the one with the highest ratio is the preferred place to invest the next dollars. (If the ratios are computed in terms of cost per unit benefit, not benefit per unit cost, then the intervention with the smallest ratio would be preferred).<sup>43</sup>

**Cost Savings Analysis:** A term sometimes used to refer to a cost-benefit analysis done from the perspective of the government generally or a particular government agency. It compares only the costs to government for program implementation and the savings (or costs) to government generated from a program and its associated program impacts. Cost savings analysis is used when asking questions such as whether the benefits of a program to government pay back the costs taxpayers invested in the program.<sup>44</sup> Cost savings analysis values all program impacts in dollars. The output from cost-savings can be measures of net savings (savings – cost), the ratio of savings (savings-cost ratios), or the internal rate of return.<sup>45</sup> While this term is used in the vernacular to mean many things, “Cost Savings Analysis” is a technical term used by economists to evaluate the benefits of public funding streams.

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<sup>42</sup> Karoly, Lynn A. “Valuing Benefits in Benefit-Cost Studies of Social Programs.” RAND, 2008, p. 6.

<sup>43</sup> Ibid.

<sup>44</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. “Chapter Two: Overview of Cost and Outcome Analysis.” RAND: *Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 20.

<sup>45</sup> Karoly, Lynn A. “Valuing Benefits in Benefit-Cost Studies of Social Programs.” RAND, 2008, p. 4 -7.

**Table 1.1—Types of Cost and Outcome Analysis and Associated Information Requirements<sup>46</sup>**

Type of Analysis	Outcome of Analysis	Information Requirement
Cost	Cost of Program	<ul style="list-style-type: none"> <li>○ Comprehensive measure of program costs</li> </ul>
Cost-effectiveness	Measure of cost per unit change in a specific outcome, value for one impact at a time	<ul style="list-style-type: none"> <li>○ Comprehensive measure of program costs</li> <li>○ Measures of program impacts in natural units</li> </ul>
Cost-savings	Measure of net savings to government, inclusive of all impacts Measure of ratio of government savings to costs Measure of internal rate of return to government	<ul style="list-style-type: none"> <li>○ Comprehensive measure of program costs, specific to government sector</li> <li>○ Measures of program impacts at each point in time in natural units</li> <li>○ “Shadow prices” to value all outcomes in dollars, specific to government sector</li> </ul>
Cost-benefit	Measure of net benefit to society, inclusive of all impacts <sup>47</sup> Measure of ratio of benefits to costs Measure of rate of return to society	<ul style="list-style-type: none"> <li>○ Comprehensive measure of program costs at each point in time, in aggregate and specific to various stakeholders</li> <li>○ Measures of program impacts at each point in time in natural units</li> <li>○ “Shadow prices” to value all outcomes in dollars, in aggregate and specific to various stakeholders</li> </ul>

**Cost-Utility Analyses:** A type of cost-effectiveness analysis where outcomes include a quality of life component (e.g. QALYS, DALYS).

**Disability-Adjusted Life Year (DALY):** The DALY relies on an acceptance that the most appropriate measure of the effects of chronic illness is time, both time lost due to premature death and time spent disabled by disease. One DALY, therefore, is equal to one year of healthy life lost.<sup>48</sup> When calculated, the DALY is the number of years of life lost due to premature death (compared to a standard life expectancy) plus the years of life lived in a state of less than full health.<sup>49</sup> The principal difference between QALYs and DALYs is that QALY weightings are derived by asking patients to rate their health status whereas in DALYs the weightings are derived by asking

<sup>46</sup> Karoly, Lynn A. “Valuing Benefits in Benefit-Cost Studies of Social Programs.” RAND, 2008, p. 6.

<sup>47</sup> When costs and/or benefits accrue over multiple time periods, the dollar streams are discounted to reflect the time value of money. Thus, the relevant outcome is net present value savings or benefit.

<sup>48</sup> Wikipedia.

<sup>49</sup> [http://www.health.qld.gov.au/nathlthrpt/performance\\_framework/glossary.pdf](http://www.health.qld.gov.au/nathlthrpt/performance_framework/glossary.pdf)

health experts or the general public to rate a whole series of health states (e.g. if one lost a limb, became blind, was confined to a wheelchair.)<sup>50</sup>

**Discounting:** The practice of weighing or valuing outcomes that occur sooner more than outcomes that are delayed. It is obvious why this should be so with money. One would rather have \$1,000 today than \$1,000 next year, because if a person had \$1,000 today he or she could invest it and have more than \$1,000 next year. The same logic of "discounting" or applying "time preferences" can be applied to non-monetary outcomes, and at the same rate.<sup>51</sup>

**Discount Rate:** The discount rate is a financial metric that may be used to determine the present value of future payments or expenditures.<sup>52</sup>

**Expected Value:** A term used by mathematicians to represent the average amount one "expects" as the outcome of the random trial when identical odds are repeated many times. The value itself may not be expected in the general sense—the "expected value" itself may be unlikely or even impossible.<sup>53</sup> For example, people buying a lottery ticket that has a 1/10,000 chance of paying \$10,000 can expect to get zero since that is overwhelmingly the likely outcome. They can be certain they won't get \$1. But the expected value of their winnings is \$1.<sup>54</sup>

Note: this definition of expected value is different from how Hewlett Foundation describes its methodology which is named "Expected Value."

**Impacts:** The long-term sustainable and sometimes attributable change due to a specific intervention or set of interventions.

**Interdependence/Interdependencies:** The idea that the outcomes of one or a series of interventions are dependent on other interventions. For example, the outcome of improved high school graduation rates through a peer tutoring program is dependent in part on the level of function of the family in which the student resides. In order to see change in X you would also need to see change in Y.

**Internal Rate of Return:** IRR is a strictly (theoretical) mathematical formula and is one of the many ways return on investment (ROI) can be measured. One can think of IRR as the rate of growth a project is expected to generate. In the following equation, one would calculate the IRR by solving for "r" where the net present value (NPV) of the investment equals "0" and "I" is the projected cash flow in year 0, 1, 2, etc.

$$NPV = I_0 + \frac{I_1}{1+r} + \frac{I_2}{(1+r)^2} + \dots + \frac{I_n}{(1+r)^n}$$

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<sup>50</sup> [http://www.health.qld.gov.au/nathlthrpt/performance\\_framework/glossary.pdf](http://www.health.qld.gov.au/nathlthrpt/performance_framework/glossary.pdf)

<sup>51</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Chapter Two: Overview of Cost and Outcome Analysis." *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 18.

<sup>52</sup> Wikipedia.

<sup>53</sup> Ibid.

<sup>54</sup> <http://economics.about.com/library/glossary/bldef-expected-value.htm>

IRR is often used in capital budgeting and primarily shows the value another investment would need to generate in order to be equivalent to the cash flows of the investments being considered. IRR illustrates overall returns in clear percentage terms and is great for comparing project returns head to head. Generally speaking, the higher a project's internal rate of return, the more desirable it is to undertake the project. As such, IRR can be used to rank several prospective projects a firm is considering. Assuming all other factors are equal among the various projects, the project with the highest IRR would probably be considered the best and undertaken first.<sup>55</sup> However, IRR does not indicate the comparative level of investment required upfront or the overall dollar of returns.<sup>56</sup>

**Inputs:** The resources used to run the program: the money, people, facilities, and equipment.

**Natural Unit:** Natural units are outcomes measured in non-monetary terms. They are typically used in cost-effectiveness analysis as the denominator of the cost-effectiveness ratio (cost per natural unit x). Examples of natural units include "life year saved" and "child graduating from high school." Natural units are not necessarily also common measures.

**Net Present Value:** One of two common ways to compare benefits and costs by looking at their difference. Subtracting monetized costs from monetized benefits yields the net value. Because discounting is often involved, this is most often called the net present value, or NPV.

**Net Value:** (see "Net Present Value")

**Outcomes:** The changes that occur over time following an intervention or set of interventions. Outcomes can be measured at a variety of levels: individual, organizational, community, system, funding stream, etc... Outcomes may be direct or indirect. Direct outcomes follow from the outputs (e.g. getting a job) and indirect outcomes follow from the direct outcomes (e.g. increase in income due to the job gained).

**Outputs:** The direct and tangible products from the activity (e.g. the number of people trained).

**Payback Period:** The length of time a program must remain in operation to recoup the initial investment.<sup>57</sup>

**Present Value:** The value today of an amount of money in the future.<sup>58</sup> The idea is that given a discount rate (e.g. 4%); one should feel the same about receiving \$57,700 today and receiving \$20,000 at the end of each of the next three years. In

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<sup>55</sup> Investopedia.

<sup>56</sup> Pisello, Tom. "What's the Difference Between NPV and IRR?" [Available Online] [http://searchcrm.techtarget.com/expert/KnowledgebaseAnswer/0,289625,sid11\\_gci1281056,00.html](http://searchcrm.techtarget.com/expert/KnowledgebaseAnswer/0,289625,sid11_gci1281056,00.html)

<sup>57</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program." RAND, [Available Online] [http://www.rand.org/pubs/monograph\\_reports/MR1336/index.html](http://www.rand.org/pubs/monograph_reports/MR1336/index.html). p. 18.

<sup>58</sup> Henderson, David R. "The Concise Encyclopedia of Economics." [Available Online] <http://www.econlib.org/library/Enc/PresentValue.html>

terms of non-monetary outcomes, one could discount 100 emergency room visits per year for the next three years by the same rate to get a present value of 289 visits.<sup>59</sup>

**Quality-Adjusted Life Year (QALY):** A single measure of health outcome that simultaneously captures gains from reduced morbidity (quality of life gains) and reduced mortality (quantity of life gains).<sup>60</sup> QALYs are calculated by multiplying the number of years of life that would be added by the intervention by the improvement in quality of life from that intervention (measured on a scale between 0 and 1 where 1 is a state of full health and 0 is the worst possible health state). The principal difference between QALYs and DALYs is that QALY weightings are derived from asking patients to rate their health status whereas in DALYs the weightings are derived by asking health experts or the general public to rate a whole series of health states (e.g. if one lost a limb, became blind, was confined to a wheelchair.)<sup>61</sup>

**Quasi-Experimental Designs:** Evaluation research that includes a comparison or control group chosen on the basis of matched characteristics but not random assignment.<sup>62</sup> Quasi-experimental design evaluations are considered to deliver somewhat less certainty than results from randomized experimental design evaluations, but more certainty than pre-post evaluations. This method is used when finding randomly assigned groups is not possible or appropriate.

**Randomized Experimental Designs:** Evaluation research conducted whereby the control and treatment groups are as similar as possible except for participation in the program. In experimental evaluations, individuals are randomly assigned to the control group (i.e., the group that receives no new program services or faces the status quo) or the treatment group (i.e., the group that receives the program services or faces the policy alternative). Thus, any differences can be attributed to the impact of the program or policy.<sup>63</sup>

**Return on Investment (ROI) and Rate of Return (ROR):** In finance, **rate of return (ROR)** or **return on investment (ROI)**, or sometimes just **return**, is the ratio of money gained or lost on an investment relative to the amount of money invested. ROI is usually given as a percent rather than decimal value. ROI is also known as **rate of profit**. ROI does not indicate how long an investment is held. However, ROI is most often stated as a percentage in an annual or annualized rate of return, and it is most often stated for a calendar or fiscal year.<sup>64</sup>

ROI is used to compare returns on investments where the money gained or lost—or the money invested—is not easily compared using monetary values. For instance, a \$1,000 investment that earns \$50 in interest obviously generates more cash than a

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<sup>59</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Chapter Two: Overview of Cost and Outcome Analysis." *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. p. 18.

<sup>60</sup> [http://www.health.qld.gov.au/nathlthrpt/performance\\_framework/glossary.pdf](http://www.health.qld.gov.au/nathlthrpt/performance_framework/glossary.pdf)

<sup>61</sup> Ibid.

<sup>62</sup> Karoly, Lynn A., M. Rebecca Kilburn, James H. Bigelow, Jonathan P. Caulkins, Jill S. Cannon. "Chapter Two: Overview of Cost and Outcome Analysis." *RAND: Assessing Costs and Benefits of Early Childhood Intervention Programs: Overview and Applications to the Starting Early, Starting Smart Program*. pp. 10 – 11.

<sup>63</sup> Ibid.

<sup>64</sup> Wikipedia.



\$100 investment that earns \$20 in interest, but the \$100 investment earns a higher return on investment.

- $\$50/\$1,000 = 5\%$  ROI
- $\$20/\$100 = 20\%$  ROI

**Shadow Prices:** Shadow prices are dollar values that are attached to each of the short and long-term outcomes that a social program may affect. Shadow prices are typically used in cost-benefit analyses. In some cases, such economic values may be readily obtained, while in others, their derivation may be more complex and subject to debate among experts.<sup>65</sup> One example of a difficult to obtain economic value is the intangible cost of crime for crime victims. There is no market price for this intangible item; therefore a shadow price must be developed for it for use in a cost-benefit analysis.

**Social Impact:** (see Impact)

**Social Return on Investment (SROI):** A term popularized by REDF in the late 1990s that now has widespread use in both the nonprofit and increasingly for-profit sectors for describing any number of approaches to estimating or calculating the social output or outcomes or impact of a program or enterprise. There is currently no standard definition for SROI although it is widely referenced in the work of nonprofits, philanthropy, and socially responsible businesses.

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<sup>65</sup> Karoly, Lynn A. "Valuing Benefits in Benefit-Cost Studies of Social Programs." RAND, 2008. p. 3, p. ix.

## **APPENDIX B: LEADING PRACTITIONER AND EXPERT INTERVIEW LIST**

<b>Person</b>	<b>Affiliation</b>	<b>Topic</b>
Paul Brest, President	William and Flora Hewlett Foundation	Hewlett Foundation Expected Return; Evolution and application of SROI
J. Gregory Dees, Professor	Fuqua School of Business, Duke University	History of development of financial markets, corollary to social capital market
Jed Emerson, Managing Director for Integrated Performance	Uhuru Capital Management  Founding Director, REDF	Origins of the for-profit and social capital markets; blended value investing  REDF Social Return on Investment (SROI)
Lynn A. Karoly, Ph.D., Senior Economist	RAND Corporation Author of MacArthur Foundation funded study of cost/benefit analysis efforts in valuing social programs	Cost-benefit analysis Cost-effectiveness analysis
Kieran McGrath	Former Senior Program Officer, Robin Hood Foundation	Utilization of Robin Hood Benefit-Cost Ratio
Jeremy Nicholls, Fellow	The New Economics Foundation Chief Executive, SROI UK	Evolution and application of SROI
Sara Olsen, Founding Partner	SVT Group	Evolution and application of SROI, bubble chart display
Kat Rosqueta, Executive Director; Kathleen Noonan, Associate Director; Hilary J. Rhodes, Ph.D., Research Fellow, U.S. Education; Carol McLaughlin, MD, MPH, Research Director, Global Public Health	Center for High Impact Philanthropy, School of Social Policy & Practice, University of Pennsylvania	Center for High Impact Philanthropy Cost per Impact methodology
Peter Scholten, CEO	Scholten & Franssen	Evolution of SROI in Europe
Susan Stout, Recently Retired Manager	World Bank's Results Secretariat	Value and challenges of comparing results across sectors, "silver bulletism"
Brian Trelstad, Chief Investment Officer	Acumen Fund	Acumen Fund Best Available Charitable Option (BACO)
Michael M. Weinstein, Chief Program Officer	Robin Hood Foundation	Robin Hood Foundation Benefit/Cost Ratio

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## **APPENDIX C: "MEASURING AND/OR ESTIMATING SOCIAL VALUE CREATION" MEETING PARTICIPANTS OCTOBER 20 – 21, 2008**

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The Bill & Melinda Gates Foundation would like to acknowledge and thank the following leading practitioners and experts and internal foundation participants for their thoughtful and stimulating participation in the "Social Value Creation" Meeting. These participants individually and collectively helped advance the Foundation's thinking on pragmatic and rigorous ways to measure and/or estimate social value creation and have already helped advance the field through their input to this paper.

### **External Participant List**

Ivan Barkhorn  
Managing Director  
Redstone Strategy Group

Brad Presner  
Metrics Manager  
Acumen Fund

Paul Brest  
President  
William and Flora Hewlett Foundation

Kat Rosqueta  
Executive Director  
Center for High Impact Philanthropy

Chris DeCardy  
Vice President and Director of  
Communications  
The David and Lucile Packard  
Foundation

Susan Stout  
Retired Manager  
World Bank Results Secretariat

Jed Emerson  
Managing Director for Integrated  
Performance  
Uhuru Capital Management, LLC

Brian Trelstad  
Chief Investment Officer  
Acumen Fund

Lynn A. Karoly, PhD  
Senior Economist  
RAND Corporation

Michael Weinstein  
Chief Program Officer  
Robin Hood Foundation

Christina Leijonhufvud  
Managing Director  
Investment Bank/Social Sector Finance  
JPMorgan Chase

Melinda Tuan  
Consultant  
Bill & Melinda Gates Foundation

Carol A. McLaughlin, MD, MPH  
Research Director, Global Public Health  
Center for High Impact Philanthropy

Sara Olsen  
Founding Partner  
SVT Group

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## **APPENDIX C: "MEASURING AND/OR ESTIMATING SOCIAL VALUE CREATION" MEETING PARTICIPANTS OCTOBER 20 – 21, 2008 (continued)**

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### **Foundation Participant List**

Rashmir Balasubramaniam  
Program Officer, Water, Sanitation &  
Hygiene  
Global Development

Eleanor Bell  
Senior IPI Officer  
Impact Planning and Improvement –  
Cross Foundation

Jim Bromley  
Deputy Director  
Financial Planning and Analysis

Jana Carlisle  
Senior IPI Officer  
Impact Planning and Improvement-  
United States

Michael Deich  
Director  
Policy & Governmental Affairs

Brittany Faulkner  
Senior Assistant  
Impact Planning and Improvement –  
Cross Foundation

Elvis Fraser  
Deputy Director  
Impact Planning and Improvement –  
Cross Foundation

Alex Friedman  
Chief Financial Officer

Gargee Ghosh  
Sr. Program Officer, Development  
Finance & Policy  
Global Health

Kendall Guthrie  
Interim Deputy Director  
Impact Planning and Improvement –  
United States

Kim Hamilton  
Deputy Director, Policy & Advocacy  
Global Development

Deborah Jacobs  
Deputy Director, Global Libraries  
Global Development

Elisa Mandell  
Special Policy Officer  
Global Development

Sara Meyer  
IPI Officer  
Impact Planning and Improvement-  
United States

Keith Olson  
Director  
Financial Planning & Analysis

Casey Owens  
Special Assistant to CFO

Dan Radcliffe  
Associate Program Officer  
Global Development

Abbie Raikes  
Senior IPI Officer  
Impact Planning and Improvement –  
Cross Foundation

Jeff Raikes  
Chief Executive Officer

Amy Ratcliffe  
Senior IPI Officer  
Impact Planning and Improvement –  
Global Health

Jeffrey Ried  
Program Officer  
Global Development

Philip Setel  
Deputy Director  
Impact Planning and Improvement –  
Global Health

Fay Twersky  
Director  
Impact Planning and Improvement

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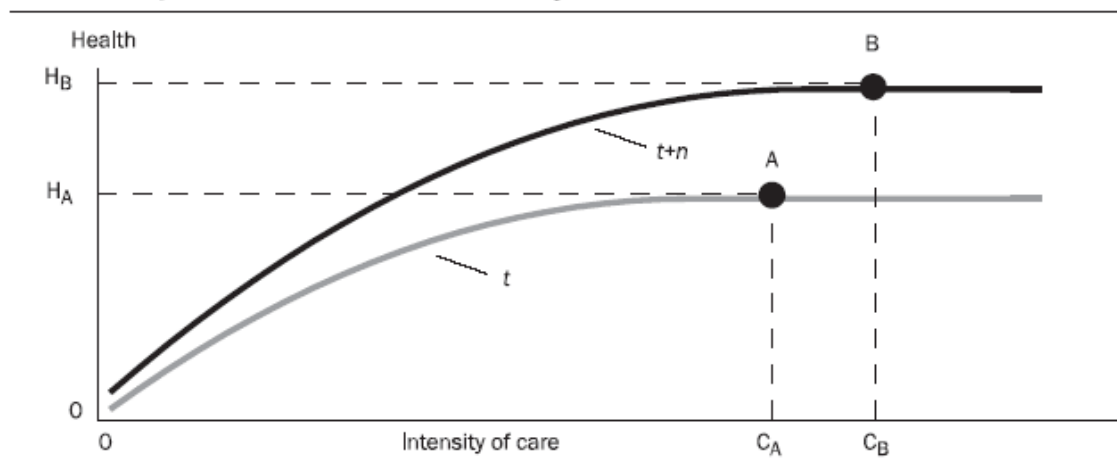
## APPENDIX O: THE FLAT OF THE CURVE

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One additional issue that is relevant to the foundation has not been addressed by the profiled approaches: how to determine where the “flat of the curve” lies in measuring the costs and impact of a program. The term was popularized by Dr. Alain Enthoven, a professor emeritus at Stanford Graduate School of Business to describe the decreasing benefit of increased health care expenditures beyond a certain level of investment/cost. The term was first used in a national defense context in the 1960s to describe “a point where even small increases in target destruction capability would require enormous increases in...cost.”<sup>66</sup>

The following graph depicts the flat of the curve and shows the relationship between health and intensity of care at two different times,  $t$  and  $n$  years later ( $t + n$ ). In both periods, points A and B represent the level of intensity of care that is at the flat of the curve. At this point, any further health care provided does not actually result in an improvement in health while it does require increased costs. At any given time, policy usually involves choosing between more care or less; good decisions require comparing incremental benefit and incremental cost.<sup>67</sup>

**EXHIBIT 1**  
**Relationship Between Health And Intensity Of Care**



SOURCE: Author's analysis.

Another way to think of the flat of the curve is as the opposite of a tipping point—it is the point at which further investment will not result in greater social impact. As the social sector continues to see its grantmaking as having a catalytic role in addressing major social issues, it will be important for the sector to consider where the flat of the curve lies for an issue area or a particular program (e.g. eradicating malaria through distribution of bed nets). Indeed, there is a benefit to the social sector in

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<sup>66</sup> Enthoven, A.C. and K.W. Smith, “How Much is Enough: Shaping the Defense Program 1961-1969.” RAND. 2005.

<sup>67</sup> Fuchs, Victor R. “Perspective: More Variation In Use Of Care, More Flat-Of-The-Curve Medicine: Why does it occur? What should be done about it?” Health Affairs. 7 October 2004.

determining where the flat of the curve is for its own efforts to measure the cost vs. impact of its philanthropy overall—namely, what is the point of diminishing returns for the social sector’s measurement efforts?