PROFILES OF EIGHT INTEGRATED COST APPROACHES TO MEASURING AND/OR ESTIMATING SOCIAL VALUE CREATION

APPENDICES

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APPENDICES

APPLICATIONS OF INTEGRATED COST APPROACHES TO MEASURING AND/OR ESTIMATING SOCIAL VALUE CREATION

Appendix E

	Prospective	Ongoing *Testing assumptions along the way*	Retrospective
Cost-Effectiveness Analysis	X	X	X
Cost-Benefit Analysis	X	X	X
REDF SROI		X	X
Robin Hood Foundation Benefit-Cost Ratio	X	X	X
Acumen Fund BACO Ratio	X	X	X
Hewlett Foundation Expected Return	X		
Center for High Impact Philanthropy Cost per Impact	X		X
Foundation Investment Bubble Chart		X	X

CONCEPTUAL BASIS FOR INTEGRATED COST APPROACHES TO MEASURING AND/OR ESTIMATING SOCIAL VALUE CREATION

Appendix F

	Cost-Effectiveness Analysis	Cost-Benefit Analysis	Other
REDF SROI		x	
Robin Hood Foundation Benefit-Cost Ratio		x	
Acumen Fund BACO Ratio	x		
Hewlett Foundation Expected Return	x		
Center for High Impact Philanthropy Cost per Impact	x		
Foundation Investment Bubble Chart			x

COST-EFFECTIVENESS ANALYSIS

Purpose	▪To combine appropriate measures of impacts with costs so that program and policy alternatives within the same domain can be ranked according to their effectiveness relative to their results ▪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)
Method of Measurement	Cost-effectiveness ratio: a ratio of cost to a non-monetary benefit or impact (e.g. cost per QALY, cost per high school graduate, cost per child cured of malaria). The ratio of effectiveness to cost is sometimes informally termed the "bang for the buck"
Methodology	▪Break out all cost elements by stakeholder (identify who pays) and by time (specify when the cost is incurred) ▪Break out all impact elements by stakeholder (identify who benefits) and by time (specify when the benefit is realized) ▪Express benefits in "natural" units (e.g. life year saved, child graduating from high school) ▪Discount stream of costs and benefits by appropriate discount rate (4 percent is typical for social program benefits) ▪Calculate cost-effectiveness ratio ▪Compare cost-effectiveness ratios when benefits are calculated in common units

COST-EFFECTIVENESS ANALYSIS

EXAMPLE: **One-year home visiting program for children**	**A one-year home visiting program for 100 children would reduce the expected number of emergency room (ER) visits per child in each of the subsequent three years by one visit.** • 100 children • One fewer ER visit per child over three years • Each ER visit costs an average of $200 • The program costs $300 per child or $30,000 **The cost-effectiveness ratio = 289 ER visits averted/$30,000 in program costs = 9.6 ER visits averted per thousand dollars spent.** • 289 ER visits averted = 100 participants x 1 visit per participant x 3 years, discounted at 4% • Costs are not discounted because they occur in the first period. *Note: these calculations can all be done on a per child basis—all 100 children do not need to be included in the calculations.*

Sources: 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*.

COST-EFFECTIVENESS ANALYSIS

Benefits	▪Based on scientifically sound impact study (randomized experimental design or quasi-experimental design for impact information) ▪Aids in decision-making or priority setting by assessing the comparative costs of achieving the same benefit within a domain ▪Eliminates need to monetize social impacts that are difficult to express in units of money ▪Allows for integrated-cost analyses of programs for which it is difficult to measure the values of the improvements in market terms
Limitations	▪It can be difficult to distinguish which costs and benefits are part of a program and which are not; requires a scientifically sound impact study ▪Lack of standards for calculating cost elements of programs ▪Lack of standards for discount rates ▪Cost-effectiveness ratios per se are limited to a single impact so it's difficult to fully reflect the multiple benefits of a program ▪The cost-effectiveness ratio for a single program is often difficult to interpret (e.g. most people do not have an intuitive sense of whether averting 9.6 ER visits per thousand dollars is a lot or a little) ▪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 compare CE ratios across domains (e.g. health and education) or within a domain (e.g. all education practices)
Utilization	CEA can be used to prioritize interventions if they have common units of impact: the one with the highest ratio is the preferred place to invest the next dollars. CEA emerged in the 1960s as an important method for choosing among costly weapons systems. CEA is widely used across various sectors, including evaluating health services whereby benefits are calculated in common units of quality-adjusted life years (QALYs) or disability-adjusted life years (DALYS).

Sources: 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*; Karoly, Lynn A. "Re: Cost-Benefit Studies of Social Programs" to Melinda Tuan, 20 and 21 May 2008.

COST-BENEFIT ANALYSIS

Purpose	Cost-benefit analysis (CBA) monetizes the benefits and costs associated with an intervention and then compares them to see which one is greater. Cost-benefit analysis ideally allows one to compare one program's benefit-cost ratio or net value or internal rate of return against another program across and within domains to make funding or allocation decisions.
Methods of Measurement	▪Benefit-Cost Ratio ▪Net Value or Net Present Value ▪Internal Rate of Return
EXAMPLE: **One-year home visiting program for children**	A one-year home visiting program for 100 children would reduce the expected number of emergency room (ER) visits per child in each of the subsequent three years by one visit. ▪100 children ▪One fewer ER visit per child over three years ▪Each ER visit costs an average of $200 ▪The program costs $300 per child or $30,000

COST-BENEFIT ANALYSIS

Methodology **Benefit-Cost Ratio**	▪Identify program results from a scientifically sound impact study (randomized experimental design or quasi-experimental design for impact information) ▪Break out all cost elements by stakeholder (identify who pays) and by time (specify when the cost is incurred) ▪Break out all outcome elements by stakeholder (identify who benefits) and by time (specify when the benefit is realized) ▪Convert all benefits and costs into common units, most often dollars (or euros or yuan, etc.) ▪Discount stream of costs and benefits by appropriate discount rate (4 percent is typical for social program benefits) ▪Calculate present value costs and present value benefits ▪Compare the present value benefits and costs by looking at their ratio (benefit-cost ratio) ▪If the calculated benefit-cost ratio is greater than one, the project is considered worthwhile ▪The greater the margin by which benefits exceed costs, the better the investment in the program
EXAMPLE: **One-year home visiting program for children**	**The benefit-cost ratio for the program is $57,700/$30,000 = 1.9.** ▪$57,700 is calculated by multiplying 100 participants x 1 visit per participant x $200 per visit x 3 years, discounted at 4% ▪Costs are not discounted because they occur in the first period *Note: these calculations can all be done on a per child basis—all 100 children do not need to be included in the calculations*

Sources: 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*; Karoly, Lynn A. "Valuing Benefits in Cost-Benefit Studies of Social Programs." RAND, 2008. p. 8.

COST-BENEFIT ANALYSIS

Methodology Net Value or Net Present Value	▪Identify program results from a scientifically sound impact study (randomized experimental design or quasi-experimental design for impact information) ▪Break out all cost elements by stakeholder (identify who pays) and by time (specify when the cost is incurred) ▪Break out all outcome elements by stakeholder (identify who benefits) and by time (specify when the benefit is realized) ▪Convert all benefits and costs into common units, most often dollars ▪Discount stream of costs and benefits by appropriate discount rate (4 percent is typical for social program benefits) ▪Calculate present value costs and present value benefits ▪Subtract present value costs from present value benefits to get the net present value (NPV) ▪The higher the NPV the better the investment in the program
EXAMPLE: One-year home visiting program for children	**The NPV is $57,700 - $30,000 = $27,700.** ▪$57,700 is 100 participants x 1 visit per participant x $200 per visit x 3 years, discounted at 4%

Sources: 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*.

COST-BENEFIT ANALYSIS

Methodology **Internal Rate of Return (IRR)**	•Identify program results from a scientifically sound impact study (randomized experimental design or quasi-experimental design for impact information) •Break out all cost elements by stakeholder (identify who pays) and by time (specify when the cost is incurred) •Break out all outcome elements by stakeholder (identify who benefits) and by time (specify when the benefit is realized) •Convert all benefits and costs into common units, most often dollars •Discount stream of costs and benefits by appropriate discount rate (4 percent is typical for social program benefits) •Calculate present value costs and present value benefits •Subtract present value costs from present value benefits to get the net present value (NPV) •Calculate the internal rate of return (IRR) using the following formula and solving for "r" where NPV = 0 and "I" is the projected net benefit (e.g. undiscounted cash flow = benefits - costs) in year 0, 1, 2, etc. (doing this manually is very laborious whereas you can do this in Excel in less than a minute) $$NPV = I_0 + \frac{I_1}{1+r} + \frac{I_2}{(1+r)^2} + \ldots + \frac{I_n}{(1+r)^n}$$
EXAMPLE: **One-year home visiting program for children**	$$NPV = (30{,}000) + \frac{20{,}000}{1+r} + \frac{20{,}000}{(1+r)^2} + \frac{20{,}000}{(1+r)^3} = 0 \qquad r = 45\%$$ The IRR for the program is 45%—the value another program would need to generate in order to be equivalent to the projected cash flows from the one-year home visiting program. Another program with an IRR higher than 45% would indicate a better investment, an IRR lower than 45% would indicate a less beneficial investment. However, IRR does not indicate the comparative levels of investment required upfront or the overall dollar value of returns for the program which are important considerations in decision-making.

Sources: 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*; Karoly, Lynn A. "Valuing Benefits in Cost-Benefit Studies of Social Programs." RAND, 2008. p. 8; Pisello, Tom. "What's the Difference Between NPV and IRR?" [Available Online] http://searchcrm.techtarget.com/expert/KnowledgebaseAnswer/0,289625,sid11_gci1281056,00.html.

COST-BENEFIT ANALYSIS

Application— **Benefit-Cost Ratio**	The benefit-cost ratio is often used when comparing how large the benefits are compared with the cost of a project. This is especially helpful when there is some uncertainty regarding the actual value of costs and benefits. A benefit-cost ratio of 1.2, for example, tells you that the estimated benefits of a project are 20 percent greater than the costs. This means costs could be as much as 20 percent larger than estimated in the analysis and the project will still be worthwhile. In contrast, the NPV will not offer this kind of information. However, the benefit-cost ratio does not allow one to choose between mutually exclusive projects when their costs are different—the project with the higher benefit-cost ratio is not necessarily the one with the higher NPV. Also, benefit-cost ratios can change depending on whether some outcomes are viewed as benefits or reductions to cost, requiring great consistency in categorizing costs and benefits in two programs that will be compared.
Application— **NPV**	NPV is one way of determining whether a project is worthwhile. In choosing between projects, the higher the NPV, the better the investment. Economists generally prefer using the NPV in cost-benefit analyses. However, the NPV may depend on the scale of the project. A mediocre, large-scale program may have a larger NPV than an outstanding smaller program.
Application— **IRR**	The IRR is often used to compare investing in a project with some target rate of return (e.g. the opportunity cost of that capital). If the IRR for a project is greater than that target rate, the project is desirable. However, because the IRR is of no value in choosing between projects by itself (as the important factor is the interest rate used for discounting), an IRR should always be calculated accompanied by an NPV. *"At best, IRR is a slightly more complicated substitute for NPV, at worst it offers decisions that are exactly wrong."* - Zerbe

Sources: 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*; Zerbe, Richard O., Jr. and Allen S. Bellas. A Primer for Benefit-Cost Analysis. Cheltenham: Edward Elgar Publishing Limited. 2006.

COST-BENEFIT ANALYSIS

Benefits	▪Based on scientifically sound impact study (randomized experimental design or quasi-experimental design for impact information) ▪Provides the single bottom-line summary by reducing all impacts to a common currency ▪Can demonstrate that a program can "pay for itself" ▪Framework is flexible—allows one to look at returns for particular stakeholders ▪Incorporates primary and secondary, tangible and intangible, direct and indirect benefits when monetizable
Limitations	▪It can be difficult to distinguish between which costs and benefits are part of a program and which are not; requires a scientifically sound impact study ▪Can't always measure all the impacts or the costs ▪Can't always monetize all the measured impacts or all the costs (e.g., some costs are value of participant's time) ▪Lack of standards on how to monetize measured impacts—no standard use of shadow prices ▪Lack of standards for calculating cost elements of programs ▪Lack of standards for evaluating impacts of programs—no common measures, no common metrics, no common timeframe for analyses ▪Lack of standards in calculating benefit-cost ratios—no standard discount rate, no standard use of sensitivity analysis (e.g. changing discount rate to see how results differ) ▪If one rank orders potential projects or interventions according to 1) NPV, 2) benefit-cost ratio, and 3) IRR, one will not necessarily get the same ranking (e.g. two programs with the same NPV can have different IRRs if the flow of costs and benefits over time differ)
Utilization— General	In theory, CBA allows one to select the "best" program within and/or across domains (e.g. best program between health and education) or within a domain (e.g. best program among all education practices). In practice, because of incomplete information on costs and outcomes, and lack of standards in CBA methodology in evaluating social programs, a bigger number doesn't necessarily mean a program is better. As a result, CBA is less useful in making the argument that one should choose program x over program y and CBA is more often used to look at a particular program and to justify continued spending on that program.

Sources: 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*.

REDF SOCIAL RETURN ON INVESTMENT (SROI)

Overview of Organization	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.
Purpose	**To answer a series of questions regarding REDF's philanthropic investments in social purpose enterprises to help move people out of poverty:** ▪How can we measure the success of our efforts? ▪How do we—practitioners and philanthropist/investors—know whether we're accomplishing what we set out to do? ▪How can we—practitioners and philanthropist/investors—make informed decisions about the ongoing use of our resources? ▪How can we test and convince others of what we believe to be true: that for each dollar invested in our portfolio agencies' efforts, there are impressive, quantifiable resulting benefits to individuals and to society?
Method of Measurement **Draws on CBA concepts**	**Social Return on Investment:** a set of metrics that quantify and monetize social return—these social returns are then viewed in a broader context of social outcomes and outputs that are impossible to monetize, or difficult to even quantify

Sources: Gair, Cynthia. "A Report from the Good Ship SROI." The Roberts Foundation 2002; The Roberts Foundation. "SROI Reports." The Roberts Foundation 2000; Tuan, Melinda and Julia Jones. "SROI Reports: Overview and Guide." The Roberts Foundation 2000.

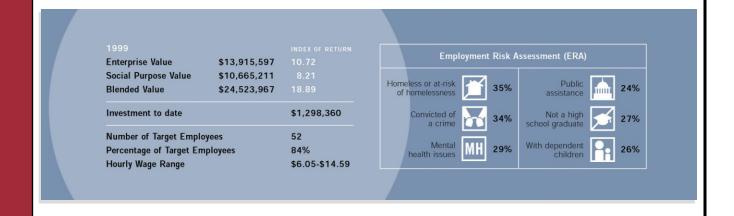# REDF SOCIAL RETURN ON INVESTMENT (SROI)

Methodology*	▪**Stage 1: Calculate Enterprise Value**. Using a discounted cash flow analysis of the projected ten-year business performance of social purpose enterprises in the REDF Portfolio, calculate each enterprise's economic value: the total cash the enterprise is expected to generate in today's dollar, assuming that the business continues indefinitely, excluding social operating expenses and subsidies (e.g. costs of providing extra supports and supervision to target employees).
	▪**Stage 2: Calculate Social Purpose Value**. Using a discounted cash flow analysis of each enterprise's ten-year projected socio-economic results based on historical and ongoing social outcome data for target employees (baseline, 6, 12, 18, 24 month follow-ups), calculate its Social Purpose Value. Identify socio-economic factors: direct, demonstrable cost savings and revenue contributions that are associated with individuals' employment in a social purpose enterprise (e.g. increased employee income taxes and tax dollars saved when REDF Portfolio enterprise employees reduce their dependence on public assistance, homeless shelters, and other government-supported services).
	▪**Stage 3: Calculate Blended Value**. Blended Value = Enterprise Value + Social Purpose Value – Debt.
	▪**Stage 4: Calculate Enterprise Index of Return**. The Enterprise Index of Return summarizes a social purpose enterprise's financial performance—its Enterprise Value—compared to the investment made in it. Enterprise Index of Return = Enterprise Value/Total Investment to Date.
	▪**Stage 5: Calculate Social Purpose Index of Return**. The Social Purpose Index of Return summarizes a social purpose enterprise's monetizable social impact compared to the investment required for this portion of the enterprise. Social Purpose Index of Return = Social Purpose Value/Total Investment to Date.
	▪**Stage 6: Calculate Blended Index of Return**. The Blended Index of Return compares the Blended Value of the social purpose enterprise to the total investment to date. It shows the return on both business and social mission activities. Blended Index of Return = Blended Value/Total Investment to Date.

Sources: Gair, Cynthia. "A Report from the Good Ship SROI." The Roberts Foundation 2002; The Roberts Foundation. "SROI Reports." The Roberts Foundation 2000; Tuan, Melinda and Julia Jones. "SROI Reports: Overview and Guide." The Roberts Foundation 2000.
*A 26-page detailed methodology for calculating these six sets of metrics for REDF's SROI can be found at http://redf.org/download/sroi/sroi_method_3.pdf.

REDF SOCIAL RETURN ON INVESTMENT (SROI)

EXAMPLE:
Rubicon Landscape Services

Rubicon Landscape Services is a social purpose enterprise fully owned and operated by Rubicon Programs, Inc. a nonprofit community development corporation based in Richmond, California. The enterprise provides grounds maintenance and landscape installation services to large-scale residential, commercial and institutional properties throughout the San Francisco Bay Area and employs disabled or economically challenged individuals. In 1999-2000, Rubicon Landscape Services achieved gross sales of $3.9 million and employed 52 target employees. Enterprise sales were expected to increase to $7.8 million by 2004 in order to employ a projected 78 to 140 target employees.

1999		INDEX OF RETURN
Enterprise Value	$13,915,597	10.72
Social Purpose Value	$10,665,211	8.21
Blended Value	$24,523,967	18.89
Investment to date	$1,298,360	
Number of Target Employees	52	
Percentage of Target Employees	84%	
Hourly Wage Range	$6.05-$14.59	

Employment Risk Assessment (ERA)

Homeless or at-risk of homelessness	35%		Public assistance	24%
Convicted of a crime	34%		Not a high school graduate	27%
Mental health issues	29%		With dependent children	26%

Sources: Gair, Cynthia. "A Report from the Good Ship SROI." The Roberts Foundation 2002; The Roberts Foundation. "SROI Reports." The Roberts Foundation 2000; Tuan, Melinda and Julia Jones. "SROI Reports: Overview and Guide." The Roberts Foundation 2000.

REDF SOCIAL RETURN ON INVESTMENT (SROI)

EXAMPLE: **Rubicon Landscape Services**	▪**Stage 1: Calculate Enterprise Value**. Rubicon Landscape Services generates $13,915,597 in Enterprise Value, excluding social operating expenses and subsidies. ▪**Stage 2: Calculate Social Purpose Value**. Based on social outcome data collected on target employees, on average, Rubicon Landscape Services saves $12,277 in public assistance and social service costs and generates $1,880 in new taxes per target employee. This translates into $15,236,969 in total projected social savings and new taxes for the enterprise. $15,236,969 total projected social savings and new taxes - $4,571,759 total projected social operating expenses and subsidies = $10,665,211 Social Purpose Value. ▪**Stage 3: Calculate Blended Value**. ($13,915,597 Enterprise Value) + ($10,665,211 Social Purpose Value) – ($56,841 accrued long-term debt) = $24,523,967 Blended Value. ▪**Stage 4: Calculate Enterprise Index of Return**. ($13,915,597 Enterprise Value)/($1,298,360 Total Investment to Date) = 10.72 Enterprise Index of Return. ▪**Stage 5: Calculate Social Purpose Index of Return**. ($10,665,211 Social Purpose Value)/($1,298,360 Total Investment to Date) = 8.21 Social Purpose Index of Return. ▪**Stage 6: Calculate Blended Index of Return**. ($24,523,967 Blended Value)/($1,298,360 Total Investment to Date) = 18.89 Blended Index of Return. ▪These indices of return mean that for each dollar invested in Rubicon Landscape Services, $10.72 of enterprise value, $8.21 of social purpose value and $18.89 of blended value are created for society as a whole.

Sources: Gair, Cynthia. "A Report from the Good Ship SROI." The Roberts Foundation 2002; The Roberts Foundation. "SROI Reports." The Roberts Foundation 2000; Tuan, Melinda and Julia Jones. "SROI Reports: Overview and Guide." The Roberts Foundation 2000.

REDF SOCIAL RETURN ON INVESTMENT (SROI)

Benefits	▪Based on actual historical and ongoing outcomes for individual employees of social enterprises (changes in individuals' lives) ▪Gives funders clarity regarding their philanthropic grantmaking: investment timeframes, capital requirements and projected returns. This forces funders to be extremely clear about expectations for and the appropriateness of any given investment as well as future funding opportunities and the types of enterprises and stages of business development in which one should invest ▪Total investment to date represents the total investment by all funding sources
Limitations	▪Based on outcome data, not impact data (no comparison or control groups) ▪Practitioners must invest significant financial and human resources to conduct a SROI analysis ▪Funders must invest significant financial and human resources to design and implement a SROI analysis, including funding to consultants at all stages of building the infrastructure needed to capture the relevant social outcome data on an ongoing basis ▪SROI metrics have limited application outside of the broader context of the business data, social impact data, and qualitative information about the social purpose enterprise ▪Only primary, tangible, and direct benefits are included (not secondary, intangible, or indirect—e.g. does not include benefits to children of employed parents) ▪Does not consider interdependencies ▪REDF's SROI captures benefits accrued to the public sector, not to individual stakeholders, and therefore has had limited appeal to individual funders, foundations, and even governmental agencies since those individual stakeholder savings have not been separated out in the SROI reports

Sources: Gair, Cynthia. "A Report from the Good Ship SROI." The Roberts Foundation 2002;The Roberts Foundation. "SROI Reports." The Roberts Foundation 2000; Tuan, Melinda and Julia Jones. "SROI Reports: Overview and Guide." The Roberts Foundation 2000.

REDF SOCIAL RETURN ON INVESTMENT (SROI)

Utilization	▪REDF published its SROI Reports in 2000 and has not issued new reports since then. According to REDF, the SROI analyses were too time and resource intensive given that the results did not help inform their portfolio members' program delivery or business operations. In contrast, the social outcome data underlying the SROI analyses did inform practice and have continued to be collected and used. Whereas the influence of a full SROI analysis on fundraising has been unclear, the social outcome data underlying the SROI analyses *has* helped their portfolio members fundraise for the enterprises. ▪REDF's SROI framework has been instrumental in furthering the practice of integrating costs in measuring social value creation in philanthropy and nonprofits. REDF's SROI is widely cited and many other philanthropic, nonprofit, for-profit enterprises have referenced or incorporated "SROI" analyses by improving upon REDF's original methodology (e.g. Acumen Fund, Global Social Venture Competition, Hewlett Foundation).

Sources: Gair, Cynthia. "A Report from the Good Ship SROI." The Roberts Foundation 2002;The Roberts Foundation. "SROI Reports." The Roberts Foundation 2000; Tuan, Melinda and Julia Jones. "SROI Reports: Overview and Guide." The Roberts Foundation 2000.

REDF SOCIAL RETURN ON INVESTMENT (SROI)

Utilization: **In the Social Sector**	▪A group of international practitioners have built upon the concepts underpinning REDF's SROI framework to include: -Applying SROI to any type of organization or company in any industry -Accounting for social and environmental value created -Including stakeholder analyses -Using shorter timeframes over which to project outcomes (5 years) -Adjusting results for the interdependencies of outcomes attributable to a set of organizations
Limitations: **Utilization in the Social Sector**	▪Uneven data quality collected through a variety of means including stakeholder interviews, estimates, assumptions, some output and outcome data collection, anecdotal information ▪"Outcome" data are typically not based on change in outcome compared to comparison or control groups given expense of doing randomized experimental design evaluations ▪Only primary, tangible, and direct benefits are included (not secondary, intangible, or indirect—e.g. does not include benefits to children of employed parents) ▪Calculations for interdependencies are based on estimates ▪Nonprofits typically have few resources to measure impacts, outcomes, or outputs—many are using anectodal and estimated information and have little tangible data about the impact on individuals ▪Practitioners must invest significant financial and human resources to conduct a SROI analysis, including funding to consultants at all stages of building the infrastructure needed to capture the relevant social impact, outcome and output data on an ongoing basis

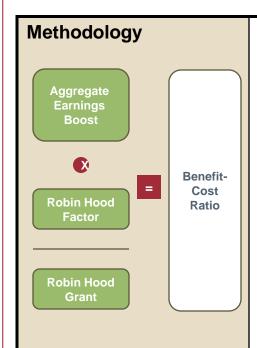Sources: The New Economics Foundation. "Measuring Real Value: A DIY Guide to Social Return on Investment." [Available Online] http://www.neweconomics.org/gen/uploads/4qcbgz45bk3t5e552edflr2d04072007200455.pdf. May, 2007. *nef defines "impacts" as "outcomes adjusted for 'deadweight' (i.e. the effects of what would have happened anyway) and 'displacement' (i.e. the extent to which the organization displaces outcomes of other organizations); Scholten, Peter, Jeremy Nicholls, Sara Olsen and Brett Galimidi. *Social Return on Investment: A Guide to SROI Analysis*. Lenthe Publishers, 2006.

ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

Overview of Organization	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.
Purpose	▪To translate the projected and actual outputs and outcomes of diverse programs into a single, monetized value that measures the poverty fighting benefits of any program: the boost to income—or, to take into account improvements in health and other factors of general well-being, the boost to living standards—of poor individuals due to the grant. ▪To provide a systematic, consistent, quantitative analysis as one part of the process for evaluating existing and potential charitable investments at Robin Hood Foundation. *Note: the purpose is* **not** *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.*
Method of Measurement **Draws on CBA concepts**	Benefit-Cost Ratio

Sources: Weinstein, Michael. "Measuring Success: How Robin Hood Estimates the Impact of Grants." (working draft) January 31, 2008; Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 23 April 2008; Robin Hood Foundation website; Weinstein, Michael email communications with Melinda Tuan, July, August, September 2008.
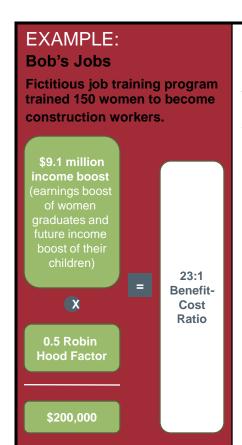
ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

Methodology	
Aggregate Earnings Boost ⓧ **Robin Hood Factor** ——— **Robin Hood Grant**	**=** **Benefit-Cost Ratio**

- **Estimate aggregate earnings boost:** use external and in-house research to estimate the amount by which a program boosts the lifetime earnings (or, more generally, living standards) of each participant above what that participant would have earned in the absence of the program. Then add these individual calculations together to arrive at an estimate of the program's aggregate earnings boost.

- **Estimate the "Robin Hood Factor":** the proportion of a program's success truly attributable to Robin Hood's grant. This figure is often based in part, but only in part, on the ratio of Robin Hood's grant to the grantee's total program cost.

- **Note the cost of the program to Robin Hood:** in other words, the dollar amount of the Robin Hood grant. The number excludes the value of extensive pro bono technical assistance that Robin Hood provides its grantees.

- **Calculate the Benefit-Cost Ratio:** multiply [(Aggregate Earnings Boost) x (Robin Hood Factor)] and divide the answer by the cost of the Robin Hood grant.

Sources: Weinstein, Michael. "Measuring Success: How Robin Hood Estimates the Impact of Grants." (working draft) January 31, 2008; Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 23 April 2008 and email communications July, August, September 2008; Robin Hood Foundation website.

ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

Appendix J

EXAMPLE:
Bob's Jobs
Fictitious job training program trained 150 women to become construction workers.

$9.1 million income boost (earnings boost of women graduates and future income boost of their children)

X

0.5 Robin Hood Factor

———————
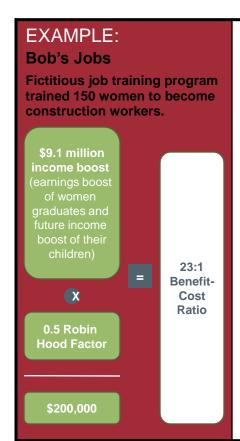
$200,000

=

23:1 Benefit-Cost Ratio

Robin Hood Foundation provided $200,000 for a job training program for women.

Of the 150 trainees, 75 completed the training and were placed in construction jobs. Of those 75 graduates, 3 dropped out before 3 months on their jobs, 41 kept their jobs for between 3 and 12 months, and 31 kept their jobs for more than one year.

- **Estimate the Robin Hood Factor:** The Robin Hood grant was $200,000 out of a total $350,000 program cost. Robin Hood % = $200,000/$350,000 = 0.6. However, **Robin Hood Factor set at 0.5** because staff estimates that cutting the grant would not reduce successful outcomes in proportion to the share of the program budget because the grantee could raise substitute funds.

Sources: Weinstein, Michael. "Measuring Success: How Robin Hood Estimates the Impact of Grants." (working draft) January 31, 2008; Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 23 April 2008 and email communications July, August, September 2008; Robin Hood Foundation website.

23

ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

EXAMPLE:

Bob's Jobs

Fictitious job training program trained 150 women to become construction workers.

$9.1 million income boost (earnings boost of women graduates and future income boost of their children)

X

0.5 Robin Hood Factor

———————

$200,000

=

23:1 Benefit-Cost Ratio

▪**Estimate earnings boost for enrollees:**

Estimate pre-training compensation for each enrollee, taking account of the individual's actual work history (if possible) as a guide. Then estimate the difference between each enrollee's post-training compensation and her pre-training compensation. The calculation yields an estimate of the earnings boost for each of the 150 trainees.

For enrollees who did not graduate and for the three graduates who dropped out of work in under three months, we assume that their earnings remained unchanged and, therefore, their earnings boost equaled $0.
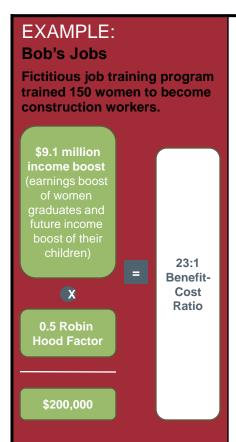
For each of the 41 short-term employed graduates, earnings boost is assumed to last for only the 3-12 months that they kept their jobs. The aggregate earnings boost—adding together the earnings boost of each of these 41 enrollees—comes to $120,000.

For the 31 long-term employed graduates, earnings boost is calculated as the present discounted value of the annual earnings boosts over a presumed (in this example) 30-year career. The earnings boost, at about $372,000, aggregated over the 31 long-term employed graduates, comes to $8 million.

Total earnings boost of 150 trainees: $0 + $120,000 + $8 million = **$8.1 million**

Sources: Weinstein, Michael. "Measuring Success: How Robin Hood Estimates the Impact of Grants." (working draft) January 31, 2008; Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 23 April 2008 and email communications July, August, September 2008; Robin Hood Foundation website.

ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

Appendix J

EXAMPLE:
Bob's Jobs

Fictitious job training program trained 150 women to become construction workers.

$9.1 million income boost (earnings boost of women graduates and future income boost of their children)

x

0.5 Robin Hood Factor

_____

$200,000

=

23:1 Benefit-Cost Ratio

▪**Estimate income boost of children of graduates:**

1. From literature, for every $10,000 increase in parental income, future incomes of children rise by 3.6 percent.

2. The average number of children per trainee is 1.8; 50 percent of the children drop out of high school, earning an average of $16,000; 22 percent graduate high school and do not proceed to college, earning an average of $22,500; 17 percent attend college but do not graduate, earning an average of $27,300; 4 percent earn associate's degrees, earning an average of $35,000; and 7 percent earn a bachelor's degree, earning an average of $55,000.

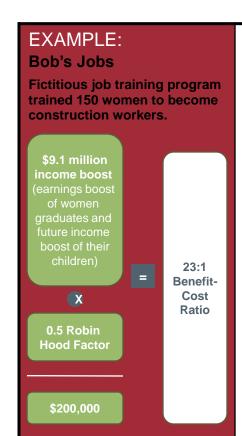Therefore, average projected income of children of trainees is:

(0.5 x $16,000) + (0.22 x $22,500) + (0.17 x $27,300) + (0.04 x $35,000) + (0.07 x $55,000) = $23,000/year

3. The income boost of children of the 31 long-term employed graduates:

$372,000 average earnings boost of parent x 1.8 children/parent x (1/$10,000) x (.036 X $23,000) = $55,476, or **$1 million at present value**

ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

EXAMPLE:
Bob's Jobs

Fictitious job training program trained 150 women to become construction workers.

$9.1 million income boost (earnings boost of women graduates and future income boost of their children)

X

0.5 Robin Hood Factor

―――――――――

$200,000

=

23:1 Benefit-Cost Ratio

Total income boost = earnings boost of graduates + income boost of children = $8.1 million + $1 million = $9.1 million

▪**Calculate Robin Hood benefits** = Total income boost x Robin Hood Factor (the percentage of grantee-created benefits that would disappear if Robin Hood withdrew its grant) = $9.1 million x 0.5 = **$4.5 million**

▪**Note the cost of the program to Robin Hood = Robin Hood grant: $200,000**

▪**Calculate the Benefit-Cost ratio**: Robin Hood benefits/Robin Hood cost = $4.5 million/$200,000 = **23:1**

Thus, for every dollar spent by Robin Hood, the earnings of poor individuals rise by $23. Note that 23:1 does not mean that the earnings of poor individuals rise by an average of $23. This ratio captures the impact per dollar spent by Robin Hood, not the impact per trainee or impact per graduate.

Sources: Weinstein, Michael. "Measuring Success: How Robin Hood Estimates the Impact of Grants." (working draft) January 31, 2008; Weinstein, Michael. "Re: Robin Hood Foundation Benefit-Cost Ratio and Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 23 April 2008, email communications July, August, September 2008; Robin Hood Foundation website.

ROBIN HOOD FOUNDATION BENEFIT-COST RATIO

Benefits	▪Systematically identifies cost-effective investments and prompts further analysis of those with uncharacteristically high or low benefit-cost ratios ▪Makes comparisons of diverse programs within the Robin Hood Foundation possible by capturing their best estimate of the aggregate benefit to poor people (measured in part by the projected boost in future earnings) that each grant creates per dollar cost to Robin Hood ▪Quantitative nature limits personal and personality grantmaking biases among portfolio managers and makes explicit previously unidentified risks and unspoken assumptions, forcing portfolio managers to be transparent to each other and the board about their evaluations of programs
Limitations	▪Combines results of variety of randomized experimental design evaluations, quasi-experimental design evaluations, self-report data, expert research/projections on potential outputs and outcomes ▪Not designed to make funding decisions across program areas ▪Uses a range of timeframes up to 30 years for projecting calculated benefits ▪Involves many layers of assumptions regarding benefits, outputs, outcomes, and impacts ▪Does not address interdependencies between outputs, outcomes, and impacts ▪Only looks at perspective of Robin Hood Foundation as philanthropic stakeholder ▪"Robin Hood Factor" subjective measure
Utilization	▪Program staff look to make grants to programs that yield high benefit-cost ratios and these metrics have influenced grantee selection and grant size but distribution of spending across portfolios follows as a passive consequence of decisions about individual grants ▪Presented to the board of directors for every grant proposal for new or renewal funding, board is very compelled by the idea of applying investment principles to philanthropy

ACUMEN FUND BACO RATIO

Overview of Organization	Acumen Fund is a $50 million 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. It funds a variety of institutions including nonprofit organizations and small, medium and large companies to 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.
Purpose	▪To quantify an investment's estimated social output* and compare it to the universe of existing charitable options for that explicit social issue ▪To inform investors where their philanthropic capital will be most effective—answering "For each dollar invested, how much social output will this generate over the life of the investment relative to the best available charitable option (BACO)?"
Method of Measurement **Draws on CEA concepts**	Best Available Charitable Option (BACO) Ratio

Sources: Acumen Fund Concept Paper: The Best Available Charitable Option (BACO), (Draft), 1/24/07; Trelstad, Brian. "Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)" to Melinda Tuan, 30 April 2008.
*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")

ACUMEN FUND BACO RATIO

Methodology	
Methodology	▪**Identify the BACO**, based whenever possible on existing charities providing similar goods and services to Acumen's investment. In cases where a viable local comparison does not exist, develop realistic hypothetical options based on other geographies or from plausible "what if" scenarios
	▪**Calculate the net cost** of the BACO and the Acumen Fund investment over 5-7 year investment period
	▪**Project total social outputs** for BACO and Acumen Fund investment over 5-7 year investment period (assumes social outputs are delivered at same rate over 5-7 years). Discount Acumen Fund investment's total social output based on what percentage of the company's social output can be credited specifically to Acumen's financing (assumes scale of impact is roughly proportional to the capital invested as a percentage of the enterprise's total capital base). Discount Acumen Fund investment's total social output based on how effective the solution is at reaching the bottom of the pyramid (BOP) (e.g. what percentage of the customer base is in the BOP)
	▪**Calculate the net cost per unit of social output** for BACO and Acumen Fund investment by dividing net cost by total social output for BACO and Acumen Fund investment. Divide BACO net cost per unit of social output by Acumen Fund investment net cost per unit of social output to calculate the BACO Ratio
	▪**Qualify the results by creating a Scenario Analysis:** calculate the BACO Ratio against a range of three financial scenarios using a 25% discount rate for the Acumen investment (full return on investment–principal plus interest, return of principal only, complete loss) and range of three social output scenarios without discounting social outputs (initial projections from investment plan, conservative projections based on moderate growth plans calculated by Acumen portfolio manager, revised projections updated on a real time basis using actual social output* data)
	▪**Typically select the conservative "center" value** of the resulting BACO Ratio Scenario Analysis as the most appropriate BACO Ratio estimate

ACUMEN FUND BACO RATIO

EXAMPLE: **Acumen Fund investment of a loan to A to Z Textile Mills in Tanzania to manufacture long-lasting bed nets** vs. **the BACO of a grant to UNICEF to distribute traditional bed nets to protect people from malaria**	▪**Acumen Fund considered making a $325,000 loan to A to Z Textile Mills in Tanzania in order to transfer an innovative technology for long-lasting insecticide treatment bed nets (LLITNs) to the local manufacturer and expand their capacity to produce these nets** ▪**Identify the BACO:** Acumen Fund identified making a $325,000 grant to UNICEF to distribute traditional insecticide-treated bed nets (ITNs) as the BACO to the $325,000 loan to A to Z Textile Mills ▪**Calculate net cost** of BACO and Acumen Fund investment:

Table 1: Net Cost Analysis	BACO (ITNs)	Acumen Fund investment
Committed funds	$325,000	$325,000
Cost of disbursement & mgmt	$65,000	$130,000
Expected return	0	6% annually for 5 years
Return [principle + interest earned =] *(financial leverage)*	0	$422,500
Net revenue (Cost) [return – disbursement – costs =]	**($390,000)**	**($32,500)**

Sources: Acumen Fund Concept Paper: The Best Available Charitable Option (BACO), (Draft), 1/24/07; Trelstad, Brian. "Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)" to Melinda Tuan, 30 April 2008.

ACUMEN FUND BACO RATIO

EXAMPLE:

Acumen Fund investment of a loan to A to Z Textile Mills in Tanzania to manufacture long-lasting bed nets

vs.

the BACO of a grant to UNICEF to distribute traditional bed nets to protect people from malaria

- **Project total social outputs** for BACO and Acumen Fund investment:

Table 2: Social Impact Projections

		BACO (ITNs)	Acumen Fund investment
Comparable product cost		$3.50	
Total output	bed nets	92,857	2,000,000
Investor share of output		100%	20%
Investor output *(enterprise efficiency)*	bed nets	92,857	400,000
Impact factor	persons protected / bed net	2	2
Social impact [total output * impact factor =]		185,714	800,000
Bottom Of Pyramid (BOP) Penetration	% customers in BOP	100%	50%
BOP impact [social impact * BOP Penetration =]		185,714	400,000
Product efficacy *(technology leverage)*	# of effective years of malaria protection	2.5	5
Total social impact [BOP impact * product efficacy =]	person years of malaria protection	464,286	2,000,000

ACUMEN FUND BACO RATIO

EXAMPLE:

Acumen Fund investment of a loan to A to Z Textile Mills in Tanzania to manufacture long-lasting bed nets

vs.

the BACO of a grant to UNICEF to distribute traditional bed nets to protect people from malaria

▪**Calculate net cost per unit of social output** for BACO and Acumen Fund investment by dividing net cost by total social output for BACO and Acumen Fund investment. Divide BACO net cost per unit of social output by Acumen Fund investment net cost per unit of social output to calculate BACO Ratio:

Table 3: BACO Ratio

		BACO (ITNs)	Acumen Fund investment
Net cost	[cost – return]	$390,000	$32,500
Total social impact	person years of malaria protection	464,286	200,000
Net cost / Unit of social impact	**$ / person year**	**$0.839**	**$0.016**
BACO RATIO	cost-effectiveness multiple		**52**

Sources: Acumen Fund Concept Paper: The Best Available Charitable Option (BACO), (Draft), 1/24/07; Trelstad, Brian. "Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)" to Melinda Tuan, 30 April 2008.

ACUMEN FUND BACO RATIO

EXAMPLE:

Acumen Fund investment of a loan to A to Z Textile Mills in Tanzania to manufacture long-lasting bed nets

vs.

the BACO of a grant to UNICEF to distribute traditional bed nets to protect people from malaria

▪**Qualify the results** by creating a Scenario Analysis:

Table 4: Scenario Analysis

SUMMARY of BACO Ratio Results

		Financial Return		
		(1) Return of principal + interest	(2) Return of principal only	(3) Complete loss
Social Output	(A) Initial projections, 2003	90	23	6
	(B) Conservative projections, 2004	**52**	16	4
	(C) Revised projections, 2006	28	7	2

▪**Select a value of the Scenario Analysis** as the most appropriate BACO Ratio estimate. In this case, the Acumen team felt confident the enterprise would likely return principal plus interest and achieve conservative projections for social outputs and therefore selected 52 as the most appropriate BACO Ratio estimate. If the BACO Ratio is greater than 1, the Acumen Investment is projected to be more cost-effective per person year of malaria protection than the BACO and therefore a worthwhile investment.

Sources: Acumen Fund Concept Paper: The Best Available Charitable Option (BACO), (Draft), 1/24/07; Trelstad, Brian. "Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)" to Melinda Tuan, 30 April 2008.

ACUMEN FUND BACO RATIO

Benefits	▪Provides quantitative analysis for Acumen Fund investors to determine whether it is more cost-effective to invest debt or equity into an enterprise than giving a grant to an NGO per desired social output ▪Scenario analysis of various BACO Ratios can provide a reality check for projected results ▪Clearly lays out assumptions in calculations
Limitations	▪Primarily prospective ▪Only captures social outputs ▪Does not capture social outputs of investment beyond 5-7 year investment period ▪Does not capture the qualitative "system change" that may result from the investment ▪Entire methodology depends on choosing the right charitable alternative ▪Can't compare one investment opportunity to another unless the unit of social output is identical ▪Each BACO Ratio calculation is based on a number of researched assumptions including financial and social output projections
Utilization	▪Acumen Fund investors and senior management use the BACO Ratio framework to inform their portfolio decision-making. The BACO Ratio provides a quantifiable indication of whether their social investment will "outperform" a plausible alternative, ensuring their philanthropic capital is allocated in the most socially efficient manner ▪Since 2004, Acumen Fund portfolio managers conduct a BACO analysis as part of their due diligence process for all potential new investments, they are encouraged to do the BACO on an annual basis for their current investments but only a couple have done it ▪Acumen has only made 5-6 investments to date where they had calculated a BACO and have now exited—a few of them had retrospective BACOs of less than 1 (e.g. hearing aids investment would have been more effective as a grant to buy hearing aids and send them overseas)

Sources: Acumen Fund Concept Paper: The Best Available Charitable Option (BACO), (Draft), 1/24/07; Trelstad, Brian. "Re: Acumen Fund Best Available Charitable Options (BACO) and Portfolio Data Management System (PDMS)" to Melinda Tuan, 30 April 2008.

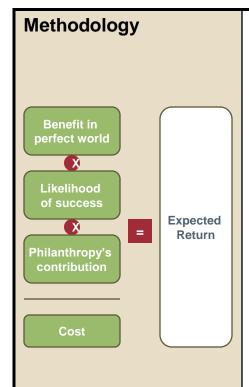# HEWLETT FOUNDATION EXPECTED RETURN

Overview of Organization	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; Performing Arts; Philanthropy; Population; and Global Development (including improving the effectiveness of resources for development, supporting effective policies to assist the world's poorest farmers, ensuring quality education in the developing world, and focusing on Sub-Saharan Africa, India, and Mexico)
Purpose	**To ask and answer the right questions for every investment portfolio:** ▪What's the goal? ▪How much good can it do? ▪Is it a good bet? ▪How much difference will <u>we</u> make? ▪What's the price tag? **Expected Return provides a systematic, consistent, quantitative process for evaluating potential charitable investments**
Method of Measurement **Draws on CEA and CBA** concepts**	Expected Return

Sources: Redstone Strategy Group, LLC. "Making Every Dollar Count: How Expected Return Can Transform Philanthropy." April 10, 2008; Brest, Paul and Hal Harvey. "Chapter 10: Impact on Steroids: Measuring the Social Return on Your Philanthropic Investment." Money Well Spent: A Strategic Guide to Smart Philanthropy. Forthcoming, Bloomberg Press, November, 2008; and Brest, Paul. "Re: Hewlett Foundation's Expected Return Methodology" to Melinda Tuan, 24 April 2008.
*Hewlett Foundation's ER methodology uses the terms "outcome" and "benefit" to describe "social outputs" (e.g. they describe the number of poor people for whom income is doubled as an "outcome" or "benefit")
**The benefits of Hewlett's ER methodology can be monetized as they measure the number of people with incomes of <$2/day that are doubled.

HEWLETT FOUNDATION EXPECTED RETURN

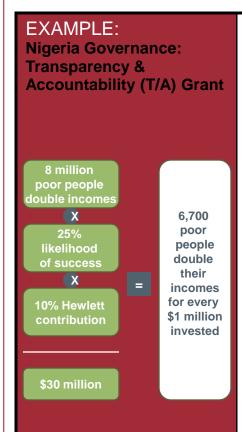| Methodology	
Benefit in perfect world ⊗ **Likelihood of success** ⊗ **Philanthropy's contribution** — **Cost** **=** **Expected Return**	▪**Define the target:** the estimated output* the program will be achieving, and the geographic and topical scope in which that output is to be achieved by: **1.** choosing a yardstick by which the success of each investment is ultimately measured, **2.** defining the geography, and **3.** defining the playing field ▪**Estimate the outputs* in a perfect world** by identifying and quantifying the links between an investment and the desired output*, often based on previous research ▪**Estimate the likelihood of success of the program**, taking into account three components that are combined to provide a risk estimate: **1.** strategic accuracy, **2.** grantee success, and **3.** external conditions ▪**Estimate a philanthropy's contribution**, the extent to which a specific philanthropy's share of a collective investment is responsible for driving the output*, by combining two components: **1.** financial contribution (percentage of an individual philanthropic organization's contribution relative to the overall philanthropic contribution needed to achieve the outcome, and **2.** degree of influence (how essential the philanthropy's investment is to achieving the outcome) ▪**Estimate the cost of the program** based on past grants and expected grantee requirements including two components: 1. program costs, and 2. overhead costs ▪**Multiply** the (output* in a perfect world) x (likelihood of success) x (the philanthropy's contribution) and divide the product by the cost = expected return

Sources: Redstone Strategy Group, LLC. "Making Every Dollar Count: How Expected Return Can Transform Philanthropy." April 10, 2008; Brest, Paul and Hal Harvey. "Chapter 10: Impact on Steroids: Measuring the Social Return on Your Philanthropic Investment." Money Well Spent: A Strategic Guide to Smart Philanthropy. Forthcoming, Bloomberg Press, November 2008; and Brest, Paul. "Re: Hewlett Foundation's Expected Return Methodology" to Melinda Tuan, 24 April 2008.
*Hewlett Foundation's ER methodology uses the terms "outcome" and "benefit" to describe "social outputs" (e.g. they describe the number of poor people for whom income is doubled as an "outcome" or "benefit")

HEWLETT FOUNDATION EXPECTED RETURN

Appendix L

EXAMPLE:
Nigeria Governance: Transparency & Accountability (T/A) Grant

Among more than 100 investment categories that were subjected to Expected Return (ER) analysis, the Hewlett Foundation considered a $30 million investment over 8 years by the Global Development program to improve transparency and accountability (T/A) in Nigeria to support activities such as expenditure tracking, budget monitoring, and "citizen report cards" on the quality of public services.

- **Define the target:** Doubling the income of Nigerians currently living on less than $2/day

- **Estimate the outputs in a perfect world:** Cross-country research suggests that improving governance increases gross national income per capita and raises the well-being of the very poorest citizens by a relatively predictable amount. Applying that research, program staff estimated that investments by Hewlett and others could double the incomes of about eight million Nigerians currently living on less than $2/day

- **Estimate the likelihood of success of the program:** After consulting with experts from Nigeria, elsewhere and taking into account its own experience, program staff gave its theory of change for Nigerian governance a 25 percent probability for success

- **Estimate a philanthropy's contribution:** Program staff calculated Hewlett's estimate of the portion of success for which the Foundation's efforts could be credited based on a combination of the amount of dollars invested and the influence of those dollars. While Hewlett's financial share of the theory of change would likely be less than five percent, given that Hewlett's involvement was intended to be catalytic, the team estimated Hewlett's contribution at 10 percent

- **Estimate the cost of the program:** $30 million over eight years (no discounting using present value because "all of the investments the foundation was comparing were operating in a similar time horizon and because there is little agreement on an appropriate discount rate for efforts to improve human wellbeing.")

- **According to the ER calculation, every $1 million that Hewlett spent would likely contribute to the doubling of income for 6,700 poor people.** When this result was combined with another analysis that gave credits for improvements in wellbeing, the T/A investment in Nigeria achieved a "program outcome index" score** of about 400 whereby strategies with ERs of at least 150 were further investigated for funding

Calculation:

8 million poor people double incomes

X

25% likelihood of success

X

10% Hewlett contribution

——————

$30 million

=

6,700 poor people double their incomes for every $1 million invested

Sources: Redstone Strategy Group, LLC. "Making Every Dollar Count: How Expected Return Can Transform Philanthropy." April 10, 2008; Brest, Paul and Hal Harvey. "Chapter 10: Impact on Steroids: Measuring the Social Return on Your Philanthropic Investment." Money Well Spent: A Strategic Guide to Smart Philanthropy. Forthcoming, Bloomberg Press, November 2008; and Brest, Paul. "Re: Hewlett Foundation's Expected Return Methodology" to Melinda Tuan, 24 April 2008.
*The methodology behind calculating the program outcome index score is currently not available for distribution.

HEWLETT FOUNDATION EXPECTED RETURN

Appendix L

Benefits	▪Systematically identifies cost-effective investments and down-grades those with low returns to philanthropic intervention ▪Draws complex, diverse strategies together under a single, measurable goal with a standard metric of success within a domain (e.g. global development) ▪Quantitative nature limits grantmaking biases and makes explicit previously unidentified risks and unspoken assumptions, changing the way program officers think about grant-making ▪Helps find the optimal geographic scope, balancing global and in-country investments to most effectively reach populations
Limitations	▪Purely prospective ▪Methodology for calculating "program outcome index" is complicated to explain and currently not available for distribution ▪Can't compare across domains (e.g. global development and the environment) ▪Only looks at perspective of Hewlett Foundation as philanthropic stakeholder (although other funders could use the ER methodology to calculate their own philanthropy's ER) ▪Does not address interdependencies ▪"Likelihood of success" subjective measure ▪"The philanthropy's contribution" subjective measure
Utilization	Only used to date in global development area but plan to use in other areas. Forces foundation program people to test their implicit assumptions against the number. Pushes program officers to understand causal links in theory of change and evaluate whether program is achieving what was thought to be necessary. *"The concept of expected return…is about ensuring that your philanthropic interventions will give you a reasonable shot at making a difference—even though you may never actually know the effect of your particular dollars. Enough dollars on the margin can add up to something decidedly non-marginal."* – Paul Brest

Sources: Redstone Strategy Group, LLC. "Making Every Dollar Count: How Expected Return Can Transform Philanthropy." April 10, 2008; Brest, Paul and Hal Harvey. "Chapter 10: Impact on Steroids: Measuring the Social Return on Your Philanthropic Investment." Money Well Spent: A Strategic Guide to Smart Philanthropy. Forthcoming, Bloomberg Press, November 2008; and Brest, Paul. "Re: Hewlett Foundation's Expected Return Methodology" to Melinda Tuan, 24 April 2008.

CENTER FOR HIGH IMPACT PHILANTHROPY COST PER IMPACT

Overview of Organization	The Center for High Impact Philanthropy (CHIP) 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.
Purpose	▪To provide information and tools that allow philanthropists to understand where their gifts have the greatest potential to do good ▪To define the *efficient frontier of philanthropy*, where nonprofit financing is linked to potential for impact
Method of Measurement **Draws on CEA concepts**	▪Cost per Impact

Sources: Rosqueta, Katherina, 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; Rosqueta, Katherina, Hillary Rhodes to Melinda Tuan, 4 June 2008.

CENTER FOR HIGH IMPACT PHILANTHROPY COST PER IMPACT

Methodology	▪Identify a promising practice/model in CHIP's current fields of interest: U.S. Education, Global Health and Global Economic Development ▪Project future costs and/or take actual costs from previous implementations ▪Obtain empirical results from past implementations of the model. Sources of results include randomized control trial evaluations, quasi-experimental design, and internal and external program evaluations. Results are stated in terms of incremental benefit over baseline (e.g., an additional high school graduate) ▪Divide costs by the results to produce "cost per impact" ▪Alternatively, take **cost per beneficiary** (e.g., cost of delivering program/number of students in program) x **success rate** (e.g., number of students in program/number of students positively "changed" by program) = "cost per impact"
EXAMPLE: **U.S. Education**	Children's Literacy Initiative (CLI) trains pre-kindergarten through third grade teachers in effective literacy teaching techniques. A rigorous external evaluation using a randomized control trial design assessed CLI's Philadelphia Kindergarten Literacy Intervention Project during the 1995-1996 school year. It compared the literacy skills of Kindergarteners in 6 urban schools: two which received CLI's training and books, two which received the books only, and two which received neither the books nor the program. Children in the CLI classrooms outperformed the other groups across all measures. In a separate, more recent White Plains, NY evaluation (not a randomized experimental design), CLI results showed that 49% of kindergarten students met literacy benchmarks before teachers were trained by CLI, whereas 81% of kindergarten students met literacy benchmarks after teachers were trained by CLI, representing a 65% increase in performance, or a 32% increase in the percentage of kindergarten children meeting literacy benchmarks after their teachers were trained by CLI.

Sources: Excerpts from Rhodes, H.J., Noonan, K., and Rosqueta, K. *Pathways to Student Success: A Guide to Translating Good Intentions into Meaningful Impact*. Center for High Impact Philanthropy, School of Social Policy & Practice, University of Pennsylvania. Working draft. September 2008 (expected publication Fall 2008); Rosqueta, Katherina, 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: Rosqueta, Katherina, Hilary Rhodes to Melinda Tuan, 4 June 2008.

CENTER FOR HIGH IMPACT PHILANTHROPY COST PER IMPACT

CLI Investment

EXAMPLE: U.S. Education - Literacy Training for Teachers	Assumptions:	Input/Calculation	Notes
	Costs (per investment)	$1,000,000.00	
	Investment duration (yrs)	3	Per CLI, minimum dosage required to change teacher practice for lasting impact
	Number of teachers CLI trained	20	Per CLI, # of teachers could be trained with $1mm investment over 3 years
	Number of students per CLI class per year	25	From NCES, average class size for kindergartners nationally
	Average Kindergarten teacher tenure	14	From NCES, average public school teacher tenure
	# of years required to be CLI trained	3	Same as minimal dosage
	Average teacher tenure post CLI training	11	14 years average tenure minus 3 years CLI training
	Additional percentage of kindergartners meeting literacy benchmarks	32%	Per CLI, best case scenario; results from White Plains, NY evaluation, where before program, 49% of students met benchmarks and after three years training, 81% met benchmark (a 65% increase)
	Results:		
	Total # CLI students per year	500	20 teachers times 25 kindergartners on average in classroom
	Total # students "touched" across teacher tenure	5500	500 students times 11 years teacher tenure post CLI training
	Incremental number of students meeting literacy benchmarks	1760	5500 total students "touched" across teacher tenures times 32% additional percentage of kindergartners meeting literacy benchmarks
	Cost per Incremental student:	**$568.18**	Cost of $1,000,000 divided by 1760 incremental students meeting literacy benchmarks

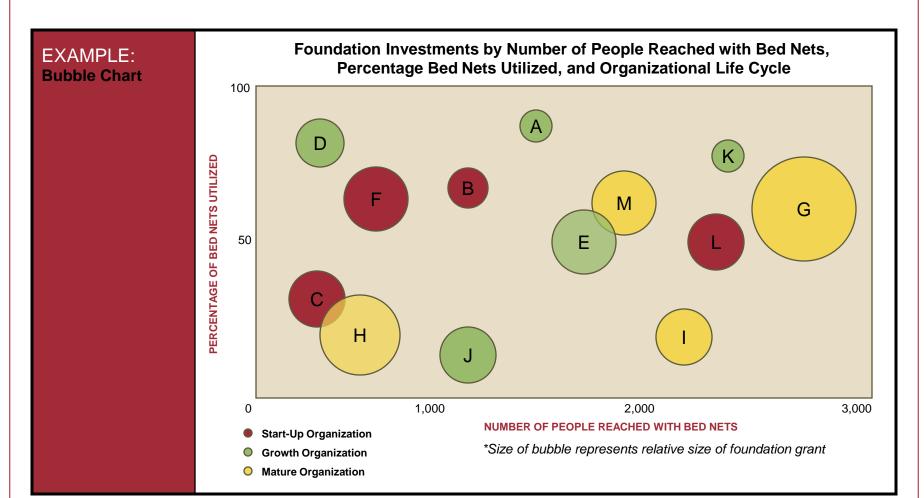# CENTER FOR HIGH IMPACT PHILANTHROPY COST PER IMPACT

Benefits	▪Simple — "we will have less than ten variables in the model" ▪Requires minimum modeling and assumptions ▪Based on actual program outcomes: some from randomized experimental design evaluation research, some from quasi-experimental evaluation research, some from pre-post research ▪Allows variety of impact measures to maximize use of existing data (e.g., their global health estimates consider addressable impact, program effectiveness and coverage rates, drawing on work by Jim Ricca, USAID and other funders/Lives Saved Analysis) and allow for different philanthropic objectives
Limitations	▪Difficult to find randomized experimental design outcomes for each possible strategy a philanthropist may consider investing in within a domain (e.g. U.S. urban education) ▪Methodology combines results of variety of research studies (randomized experimental control, quasi-experimental, pre-post outcomes) into one cost per impact calculation ▪Cost data calculated from projections of existing program expenses or cost per beneficiary estimates ▪Subjective selection of cost and benefit components: "Not a 'scientific' cost-benefit analysis"—does not include all the possible benefits or costs in its effort to be simple and transparent, e.g. estimate does not account for indirect costs ▪Comparability possible only where models explicitly target same impact (i.e. can compare diverse models addressing high school graduation rates or interventions aimed at reducing under five mortality)
Utilization	Currently working on developing sector reports for philanthropists on U.S. education and malaria in global health. Each guide will contain a handful of cost per impact examples for "promising practices" within the issue area. The hope is their measures of cost per impact will be relevant to both philanthropists (e.g. they will understand how to look at cost per impact within an issue area and identify promising practices to fund in the future) and nonprofit leaders (e.g. an executive director can request and obtain public money to scale up a program by demonstrating a favorable cost per impact). Ideally, philanthropists will adopt or adapt these promising practices by creating new delivery platforms, combining promising practices in new ways, or scaling up existing programs. Additionally, it is hoped that nonprofits will consider using Cost per Impact to improve their productivity.

Sources: Adapted from Rhodes, H.J., Noonan, K., and Rosqueta, K. *Pathways to Student Success: A Guide to Translating Good Intentions into Meaningful Impact*. Center for High Impact Philanthropy, School of Social Policy & Practice, University of Pennsylvania. Working draft. September 2008 (expected publication Fall 2008); Rosqueta, Katherina, 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; Rosqueta, Katherina, Hilary Rhodes to Melinda Tuan, 4 June 2008.

FOUNDATION INVESTMENT BUBBLE CHART

EXAMPLE:
Bubble Chart

Foundation Investments by Number of People Reached with Bed Nets, Percentage Bed Nets Utilized, and Organizational Life Cycle

PERCENTAGE OF BED NETS UTILIZED

NUMBER OF PEOPLE REACHED WITH BED NETS

- Start-Up Organization
- Growth Organization
- Mature Organization

Size of bubble represents relative size of foundation grant

Sources: Huggett, 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 2008; Fay Twersky, Brian Elliot, Melinda Tuan interpretation.

FOUNDATION INVESTMENT BUBBLE CHART

Benefits	▪Simple display of information from a lot of organizations ▪Depicts performance of organizations across multiple areas and the actual and relative investment by foundation to date in each organization ▪Allows comparison of performance of organizations across foundation portfolio or within sub-groups across multiple categories ▪Flexible display—can plot different variables, outcomes, or descriptors on x or y axis and through use of color coding
Limitations	▪Only depicts individual foundation investment (but could depict total foundation investment to date or total philanthropic investment if desired) ▪Does not depict cost per participant (but could if selected bubble size to indicate cost per participant or x or y axis) ▪Only captures performance at single point in time*
Utilization	Foundation board of directors and senior management teams could use the bubble chart to assess the relative performance and cumulative foundation investment (or total philanthropic investment) against the indices of performance they care about most. The data on the x and y axes and use of colors can be changed to analyze any number of possible relationships between measures of performance. All of these analyses can be used to discuss performance, explore why one program or a group of programs are positioned where they are, and inform future investments.

Sources: Bridgespan Group presentation formats for variable x vs. impact; Olsen, Sara. "Re: Integrated Cost Approaches to Measuring Social Impact" to Melinda Tuan, 30 April 2008; Rosling, Hans, talk at the 2006 TED Conference in Monterey, CA highlighting novel ways of presenting global statistics.
*There is new software called Trendalyzer developed by Hans Rosling which "unveils the beauty of statistical time series by converting boring numbers into enjoyable, animated and interactive graphics," including a mesmerizing bubble chart in motion.