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Calculating the Value of Impact Investing

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Summary. Impact investing—directing capital to ventures that are expected to yield social and environmental benefits as well as profits—provides investors with a way to “do well by doing good.” But whereas the business world has tools for estimating a potential investment’s... [more](#)

As concerns about scarcity and inequality become increasingly urgent, many investors are eager to generate both business and social returns—to “do well by doing good.” One avenue is impact investing: directing capital to ventures that are expected to yield social and environmental benefits as well as profits. But there’s a

problem: Although the business world has several universally accepted tools, such as the internal rate of return, for estimating a potential investment's financial yields, no analogue exists for evaluating hoped-for social and environmental rewards in dollar terms. Forecasting gains is too often a matter of guesswork.

Investors hoping to use a company's track record on social and environmental impact to assess future opportunities will similarly find little useful data to evaluate. The reporting of environmental, social, and governance issues is now standard practice at nearly three-quarters of the world's large and mid-cap companies, but it is usually confined to information about commitments and process and rarely scores actual impact on customers or society.

Key industry players have recognized these analytical shortcomings and have stepped up their quest to better understand impact measurement and management. Notable among them are Root Capital, the MacArthur Foundation, the Omidyar Network, Skopos Impact Fund, Bridges Impact+, the World Economic Forum, and the Rockefeller Foundation. This work has produced a number of interesting metrics, including social return on investment (SROI). The Impact Management Project, a collaborative launched in 2016 involving foundations and major investment managers, aims to weave all these threads together into a shared language about impact management and to develop a set of practical tools to implement best practices. Building on this work, the organizations we work for—the Rise Fund, a \$2 billion impact-investing fund for growth-stage companies managed by TPG Growth, and the Bridgespan Group, a global social impact advisory firm—have attempted over the past two years to bring the rigor of financial performance measurement to the assessment of social and environmental impact. Through trial and error, and in collaboration with experts who have been working for years in the field, the partnership between Rise and Bridgespan has produced a forward-looking methodology to estimate—before any money is committed—the

financial value of the social and environmental good that is likely to result from each dollar invested. Thus social-impact investors, whether corporations or institutions, can evaluate the projected return on an opportunity. We call our new metric the *impact multiple of money* (IMM).

Fewer people touched deeply may be worth more than many people hardly affected.

Calculating an IMM is not a trivial undertaking, so any business that wishes to use it must first determine which products, services, or projects warrant the effort. As an equity investor, Rise does a qualitative assessment of potential investments to filter out deals that are unlikely to pass the IMM hurdle, just as it filters out deals that are not financially promising. Companies with a social purpose and a potentially measurable impact get a green light for IMM evaluation. Rise will invest in a company only if the IMM calculation suggests a minimum social return on investment of \$2.50 for every \$1 invested. Businesses that adopt this metric can set their own minimum thresholds.

To be clear, numerous assumptions and choices are involved in this process, precluding any claim that our method can provide a definitive number. But we believe that this approach provides valuable guidance regarding which investments will or will not have a significant social impact.

In the following pages we explain how to calculate an IMM during an investment-selection process. The method consists of six steps.

1. Assess the Relevance and Scale

Investors should begin by considering the relevance and scale of a product, a service, or a project for evaluation. A manufacturer of home appliances may want to consider investing in energy-saving

features in its product lines. A health clinic provider may want to assess the potential social benefits of expanding into low-income neighborhoods.

With regard to scale, ask, How many people will the product or service reach, and how deep will its impact be? Rise's experience with calculating the product reach of the educational-technology company EverFi, one of its first impact investments, provides a good example. (The financial and participation data in this article is representative; the actual numbers are confidential.) Rise identified three EverFi programs that already had significant reach: AlcoholEdu, an online course designed to deter alcohol abuse among college students, which was given at more than 400 universities; Haven, which educates college students about dating violence and sexual harassment and is used at some 650 universities; and a financial literacy program that introduces students to credit cards, interest rates, taxes, and insurance, and is offered at more than 6,100 high schools. On the basis of projected annual student enrollments in these programs, Rise estimated that an investment in EverFi could affect 6.1 million students over a five-year period beginning in 2017.

Of course, a program's impact is not just about the number of people touched; it's about the improvement achieved. Fewer people touched deeply may be worth more than many people hardly affected. Consider another Rise investment, Dodla Dairy, which procures and processes fresh milk every day from more than 220,000 smallholder farmers across rural southern India. The number of farmers affected was known, so what Rise needed to assess was how much milk Dodla was likely to buy from them and at what price. With projected sales of 2.6 billion liters of milk over five years, Rise estimated that investments in Dodla would increase farm families' annual incomes by 73%, from \$425 to \$735. Smallholder farmers with a reliable buyer for their milk spend less time and money marketing and have the predictability and support needed to make long-term investments, increasing milk

yields and, therefore, income.

2. Identify Target Social or Environmental Outcomes

The second step in calculating an IMM is identifying the desired social or environmental outcomes and determining whether existing research verifies that they are achievable and measurable. Fortunately, investors can draw on a huge array of social science reports to estimate a company's impact potential. Over the past decade foundations, nonprofits, and some policy makers (including the U.S. Department of Education's Investing in Innovation Fund) have relied heavily on research results to guide funding for social programs. This "what works" movement has spurred the development of an industry around social-outcome measurement, led by organizations such as MDRC, a nonprofit social-policy research organization; the Abdul Latif Jameel Poverty Action Lab (J-PAL), at MIT; and Mathematica Policy Research, based in Princeton, New Jersey.

For AlcoholEdu we drew on a 2010 randomized controlled trial demonstrating that students who had been exposed to the program experienced an 11% reduction in "alcohol-related incidents" such as engaging in risky behaviors, doing or saying embarrassing things, or feeling bad about themselves because of their drinking. That would amount to some 239,350 fewer incidents. According to the National Institutes of Health, alcohol-related deaths account for about 0.015% of all deaths among college students in the United States. Rise estimated that AlcoholEdu would save 36 lives among the approximately 2.2 million students who were projected to engage with the program over a five-year period. (Lives saved, arguably the most important impact of less drinking, are relatively straightforward to monetize. But reducing alcohol abuse clearly has additional benefits for individuals and society.)

For Haven we focused on the prevention of sexual assault. Some 10.3% of undergraduate women and 2.5% of undergraduate men

experience sexual assault every year. According to a 2007 study that evaluated the effects of an in-person course on preventing sexual assault that was taught at a college in the northeastern United States, assault declined by about 19% for women and 36% for men among those who took the course.

Applying this data to 2.6 million students expected to experience the Haven program over five years, and assuming that an equal number of college women and men participated, Rise estimated that the program would avert 25,869 incidents of sexual assault among women, and 12,029 incidents among men.

3. Estimate the Economic Value of Those Outcomes to Society

Once they have identified the target outcomes, social impact investors need to find an “anchor study” that robustly translates those outcomes into economic terms. Cellulant, a regional African provider of a mobile payments platform used by banks, major retailers, telecommunications companies, and governments, is a good example. Cellulant worked with the Nigerian Ministry of Agriculture to redesign a corruption-plagued program that provided seed and fertilizer subsidies. The company developed a cell phone app that allows farmers to pick up their subsidized goods directly from local merchants, reducing the opportunity for graft. The program had been losing 89% of funds to mismanagement and corruption. Cellulant’s app now enables delivery of 90% of the intended aid.

Our task was to understand the economic impact on farmers when they received the subsidized seed and fertilizer. We used a reliable study that compared one season’s outcomes for farmers enrolled in the subsidy program with those for similar farmers who were not enrolled. The study found that participating farmers earned an additional \$99 that season by improving maize yields.

To choose an anchor study we look at several key features. First,

its rigor: Does the study systematically evaluate previous research results to derive conclusions about that body of research? Alternatively, does it present findings from a randomized controlled trial—which compares groups with and without a designated intervention? Both types of research are preferable to observational or case studies. Just as important is relevance: Does the study include people living in similar contexts (urban, say, or rural) and in the same income bracket? The closer the match, the better. Recent studies are better than older ones. And studies frequently cited in the research literature deserve extra consideration.

When uncertainty or a lack of reliable research stalls your work, seek guidance from an expert in the field. For example, we sought advice from the Center for Financial Services Innovation, in Chicago, when we could not locate appropriate studies demonstrating the impact of helping people establish a regular savings habit—one of three impact pathways we were examining for Acorns, a fintech company for low- and middle-income individuals. That call led us to research showing that even modest savings among the target group can reduce the use of high-cost payday loans.

To translate the outcomes of AlcoholEdu into dollar terms, we turned to the U.S. Department of Transportation's guidance on valuing the reduction of fatalities or injuries, which uses a measure called the value of a statistical life. According to this anchor study, a fatality is worth \$5.4 million. Thus AlcoholEdu could expect to generate social value of at least \$194 million by saving 36 lives.

In the case of Haven we found that researchers at the National Institutes of Health have done quite a bit of work on the economic impact of sexual assault. In fact, the NIH has pegged the legal, health, and economic costs of a single assault at \$16,657, adjusted for inflation. Rise multiplied the NIH figure by the estimated number of sexual assaults Haven would avert (37,898) to get close

to \$632 million. Because sexual assault is underreported, Rise believes that Haven's impact may be even greater.

Wrestling with Moral Issues

At times, monetizing social or environmental benefits and costs raises complex questions. For instance:

- Does an extra dollar of income have greater impact on someone in an emerging market versus someone in a developed market?
- When increased income is the target outcome, should we count that impact no matter how much the family was earning before, or only when it earned below a certain threshold?
- When saving lives is the desired outcome, can we put a dollar value on each person who benefits?
- Health economists' estimates of the value of a statistical life (VSL) vary dramatically by country—but should human lives be valued differently just because of an accident of geography?

To address such questions, Rise, an impact-investing fund, relies on research to ground decisions in evidence and provide an analytical basis for decision making. For instance, for some IMM's Rise has created a global weighted average value of a life saved rather than using a country-specific metric, to avoid the unintended consequence of tipping investments in favor of developed countries. For other IMM calculations Rise has looked at how impoverished people actually spend incremental dollars in contrast with those in a higher income bracket. Such difficult issues merit ongoing attention from the investment and research communities.

For EverFi's financial literacy program we relied on a 2016 study that looked at a similar program for high school students. It found that program participants had an average of \$538 less in consumer debt at the age of 22 than a similar group of students who hadn't been exposed to the program. On average, interest paid on that additional debt came to about \$81 over five years. Assuming that 1.3 million students completed the EverFi program over five years and they all saved \$81, the economic value of the program would total \$105 million.

We estimated that the social impact of the three EverFi programs combined had a five-year economic value of about \$931 million: \$194 million for AlcoholEdu, \$632 million for Haven, and \$105 million for financial literacy.

4. Adjust for Risks

Although we have proved to our satisfaction that social science research can be used to monetize social and environmental benefits, we recognize the risk in applying findings from research that is not directly linked to a given investment opportunity. Therefore we adjust the social values derived from applying the anchor study to reflect the quality and relevance of the research. We do this by calculating an "impact realization" index. We assign values to six risk categories and total them to arrive at an impact-probability score on a 100-point scale.

Two of the index components relate to the quality of the anchor study and how directly it is linked to the product or service. Together these account for 60 of the possible 100 points. Anchor studies based on a meta-analysis or a randomized controlled trial merit top scores, whereas observational studies rate lower. AlcoholEdu's study was in the former category; Haven's and the financial literacy program's studies were in the latter.

Establishing the linkage between an anchor study and the desired outcome of a product or service sometimes requires making assumptions, and with more assumptions comes greater risk. For example, the anchor study for EverFi's financial literacy program clearly linked the training to lower student debt, resulting in a maximum rating. But AlcoholEdu and Haven relied on studies with less clear linkages. AlcoholEdu assumes that its training leads to fewer negative alcohol incidents, resulting in lower rates of alcohol-related death. The anchor study for Haven assumes that sexual-assault-prevention training leads to fewer assaults, and thus to fewer of the consequences of those assaults.

The four remaining index components, each of which gets a maximum score of 10, are context (Does the study's social environment correspond to the project's? For instance, are they both urban, or is one rural?), country income group (Are the populations of the study and the project in the same country income bracket as determined by the World Bank?), product or service similarity (How closely do the activities in the study correspond to what the project provides? For example, is the product or service delivered to the same age group in both?), and projected usage (Is there a risk that once a product or service is purchased, it will not be used as intended? Consider that gym memberships have a high drop-off rate.).

In applying the index to EverFi's programs, Rise calculated impact-probability scores for AlcoholEdu, Haven, and the financial literacy program at 85%, 55%, and 75%, respectively. Then it adjusted their estimated monetary impact accordingly, arriving at \$164 million for AlcoholEdu, \$348 million for Haven, and \$77 million for the financial literacy program. The risk-adjusted impact for all three programs totaled \$589 million, down from \$931 million.

Investors can use social science reports to estimate a company's

impact potential.

Constructing the index proved challenging. We refined the risk categories and the values assigned to each many times on the basis of feedback from experts in evaluation and measurement. For example, one version emphasized the importance of comparing study results according to geography—say, country or continent. But experts advised that a more accurate comparison would juxtapose studies of similar income groups, regardless of country or living circumstances (urban versus rural).

The impact-realization index attempts to capture the most important elements of risk, but we recognize that it does not capture every threat to impact or all the nuances of risk between anchor studies and a company's product or service. We expect to make refinements as others bring new ideas to the table.

5. Estimate Terminal Value

In finance, terminal value estimates a business's worth in dollars beyond an explicit forecast period and typically accounts for a large percentage of the total projected value of a business. It is, however, a new concept in social investment, where attention usually focuses on quantifying present or historical impact. To be sure, for many projects (dispensing chlorination tablets, for example) the social impact (safer water) does not long outlive the program. But others (such as installing solar panels) can have a longer-term impact (the panels save energy long after they're installed). In some cases, therefore, it makes sense to estimate a terminal value.

Here's how Rise addresses this question: Starting with the estimated value of impact in the final year of investment, Rise assesses the probability that both output (people reached) and social value will continue undiminished for five more years. Companies with high probabilities on both counts get a discount rate of 5%, meaning that yearly residual value falls by 5%. Those

that score low get a discount rate of 25%.

To estimate the terminal value of EverFi's programs for a post-ownership period from 2022 to 2026, Rise assumed that their estimated \$159 million in total impact for 2021—the last year of its investment—would also be generated in each of the following five years. That figure was then discounted by 20% per annum compounded, reflecting assumptions about the number of users graduating from the programs and the likely duration of the training's impact. This resulted in a terminal value of \$477 million—the five-year residual value Rise could claim—for the three programs. Rise added that amount to the risk-adjusted \$589 million in impact realized during the investment holding period to get a total impact of about \$1.1 billion.

6. Calculate Social Return on Every Dollar Spent

The final step in calculating an IMM differs for businesses and investors. Businesses can simply take the estimated value of a social or environmental benefit and divide it by the total investment.

Suppose a company invests \$25 million to launch a line of low-cost eyewear for rural residents of developing countries, and its research leads to an estimate of \$200 million in social benefits, based on increased customer productivity and income. The company would simply divide \$200 million by \$25 million. Thus the eyewear generates \$8 in social value for every \$1 invested. The IMM expresses this as 8X.

Investors, however, must take an extra step to account for their partial ownership of companies they are invested in. Suppose Rise invests \$25 million to buy a 30% ownership stake in a company projected to generate \$500 million in social value. It can take credit only for the proportion of that value reflected by its stake: \$150 million. Rise divides \$150 million by its \$25 million investment and arrives at \$6 in social value for every \$1 it invested—an IMM of 6X.

Rise invested \$100 million for 50% of EverFi. It adjusted its share of EverFi's projected risk-adjusted \$1.1 billion in social value to \$534 million and divided that amount by its investment to arrive at an IMM of approximately 5X.

The great advantage of deriving an IMM is that it enables direct comparisons between investment opportunities. It's important, however, to realize that the number is not a precise multiple, like a traded stock's price-earnings multiple. For all the rigor that may lie behind a given IMM calculation, it is possible that some other analyst will rely on a different, equally valid anchor study that leads to a quite different number.

Treat the IMM as a directional measure instead. And make all the steps in your calculation transparent. When others understand your assumptions, they can help you refine them to generate more-robust numbers. We also recommend using sensitivity analysis to show what happens to an IMM if you change the underlying assumptions. This process will help you identify the key drivers of social value.

CONCLUSION

Speaking at the 2017 Global Steering Group for Impact Investment Summit, Sir Ronald Cohen, a leading impactinvesting innovator and advocate, contended that the field's rapid growth will reach a tipping point and "spark a chain reaction in impact creation," touching investors, big business, foundations, and social organizations. That could hasten the adoption of impact assessment in day-to-day business processes and operations.

But first businesses and investors must develop better ways to assess social and environmental impact. This is a priority concern not just for impact investors but for all those who want to see more private capital flow toward solving pressing social needs. We've embarked on this experiment to demonstrate the value of putting impact underwriting on the same footing as financial

underwriting. It's a model that Rise and Bridgespan seek to share with other investors and businesses, a commitment that led Rise to launch a new entity to foster research and aggregate studies needed to inform impact-investment decisions. In a world where more and more CEOs talk about profit and purpose, the IMM offers a rigorous methodology to advance the art of allocating capital to achieve social benefit.

In the process of editing this article for print, HBR omitted a paragraph provided by the authors noting that the methodology described built on prior work by many institutions, including most notably an existing framework developed by the Impact Management Project, a collaborative involving foundations and major investment institutions. HBR regrets the omission and has reinstated the paragraph in this digital version.

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