Explainer: GIF's impact statements

With reference to 2022 impact report
Updated 20 June 2023

SUMMARY AND NOTE TO THE READER

This note explains the ideas behind GIF's report on impact and impact per dollar in its 2022 Impact Report. It is meant for the non-technical reader who wants to get an overview of the concepts and methodology we used to quantify impact.

The note is written in FAQ form. For a comprehensive overview of how we assess impact, read it straight through. It starts by defining the key concepts on which the measurement is based: net benefits and PYIs, our homegrown unit of well-being. Building on that, the next section discusses how we calculate our *achieved* impact and social return (impact per dollar). It introduces the way we attribute GIF's share of an innovation's total impact. The final section turns to our projection of future, long-term impact.

BACKGROUND

What is SROR?

It stands for Social Rate of Return. We use it interchangeably with Social Rate of Investment. It's a way of representing the efficiency of financial investment in creating a flow of impact.

At GIF we've gotten in the habit of using SROR to refer to the efficiency of our achieved investment, but the term could also be applied to estimates of prospective returns.

What are net benefits?

Net social benefits = benefits enjoyed – cost of producing them

If a farmer pays $100 for extension services and inputs, and thereby increases her farm profit by $300, the net social benefit is $200.

What's a PYI?

It's a measure of benefit, intended to capture the change in a beneficiary's well-being. It's an abbreviation for the awkward term: person-year of income-equivalent. The premise is that people experience a change in well-being by comparing it to their current standard of living. So a 20% increase in consumption "feels" the same to people starting from different baselines.

If we manage to increase a person's annual consumption from $500 to $600 that's a 20% increase, so we say that we've conferred a benefit of 0.2 PYI units. We can add these units across a population. For instance, if we increase annual per capita consumption from $500 to $600 for 10,000 people, that's a total of 10,000*0.20 = 2000 PYI of benefits created.

Our measurement system has conversion factors for non-monetary benefits. For instance, an extra year of education is valued at 1 PYI, and a life saved at 50 PYI. We have conversion factors also for health benefits and for women's agency.

Why measure benefits both in PYIs and $?

The two measures give us complementary perspectives. Dollars are easier to communicate and easier to compare to costs. But PYIs are weighted to favour benefits for poor people. To continue the example above, the PYI lens means that we put a much greater weight on boosting someone from $500/yr to $600/yr (0.20 PYI) than on boosting someone from $1500 to $1600 (.07 PYI), even though the dollar benefit is the same. In fact, we count as 0 PYI any benefits to anyone living on more than $5PPP/day!

An even starker contrast: The PYI scoring system values a saved life at 50 PYI, regardless of where that life is saved. In contrast, when economists apply a dollar value to saving a statistical life, the result is that saving a life in DRC is valued at $80,000, while saving a life in Norway is valued at $19,000,000.

ACHIEVED BENEFITS

What does it mean to say that $1.68 billion in net social benefits were generated by just five GIF investments?

We chose the earliest five investments to reach scale. We reckoned the total social benefits, in dollars, that these investments have delivered to date, and added them up (without any discounting). This includes some benefits to people who are not poor.

How did you do that?

We have measures of these investments' outputs and can link outputs to benefits. Sometimes this is based on detailed studies, and sometimes on conservative assumptions. For instance, One Acre Fund has a sophisticated internal measurement system, validated by GIF-supported research, that tracks improvements in farm income due to their work.

What does it mean to say that $582 million of that $1.68 billion is "directly attributable" to GIF?

Many investors (to say nothing of founders, employees and others) contribute to the impact of an innovative investment. There's no standard way to divvy up recognition for impact creation among investors. One approach is for each investor, past, present and future, to say that they have 'contributed to' the total benefits (in this case $1.68 billion.) We take a more modest approach, and divide the social impact between GIF and its co-investors at the time we first investment, in proportion to the funding amount. The rationale is that GIF's role is critical to the innovation's survival and growth – this is how we operate.

But if subsequent investors followed the same rule, the total credit for impact might add up to more than 100%!

Yes, it's possible that a company may be saved repeatedly over the course of its growth, meaning that total claims on impact may exceed 100%. But that's not a problem. Consider the following analogy. In June 2022, swimmer Anita Álvarez fainted during a competition and sank to the bottom of the pool. Her coach, Andrea Fuentes, dived in and saved Álvarez's life. Fuentes was widely praised for the rescue. No one (as far as we know) complained that Fuentes deserved no credit for saving Álvarez's life, on the grounds that Álvarez's life had already been saved in a similar incident in 2021. Lesson: you can be saved twice from drowning -- or from bankruptcy.

Why are you counting benefits only from five investments? Are you cherry-picking results?

No, we are simply presenting a lower bound for all the benefits that will eventually arise from the investments we have already made. GIF prides itself on being a patient investor – it can take a decade or more for truly impactful innovations to make their mark on the world, and we are there for them. These five investments are the ones that matured the fastest and for which we have information to base our estimate of benefits. Over time, we expect these investments to continue to deliver benefits and others of the same pre-2019 vintage to begin to bear fruit. So attributed benefits for that vintage can only go up from $582 million.

How did you calculate the social rate of return on that past investment?

We took *all* of GIF's investment and operational costs pre 2019. This includes innovations that have not yet borne fruit and a few that will never bear fruit. Then we took the flow of net social benefits, in dollars, from just the five early-maturing innovations. We discounted costs and benefits back to 2015 at 7%. We found that each dollar of investment yielded on average $5 of benefits. Again this is a lower bound for the benefit/cost ratio. The pre 2019 costs are fixed (the denominator), but the benefits from that vintage will continue to grow (the numerator). The benefit/cost ratio can only get bigger.

PROSPECTIVE BENEFITS

How did you calculate total prospective benefits?

Total prospective impacts are the cumulative impacts from time of investment to 10 years later.

For every innovation, during diligence, we estimate the impact in PYI that would be expected in year 10 if the innovation successfully scales. However, we know that not all innovations will be successful. We are, after something like a venture capitalist, but in the social sphere. So we adjust the PYI downward to allow for the possibility of failure. For instance, suppose we project that the innovation, if successful, would deliver 100,000 PYI in year 10. However, realistically we think that it has only a 60% chance of success. Then we say that the risk-adjusted impact is 60,000 PYI.

The year 10 impact is a snapshot measure. To get cumulative impact, we assume a ramp up between current levels of impact and the risk-adjusted year 10 level. We then add in already-achieved impact.

Finally, we discount the flow of benefits back to year 1, using a 7% discount rate. We do this for each innovation, and add them all up to get the total, risk-adjusted, attributed impact.

Do you adjust the total impact to reflect GIF's share of impact?

Yes, we use the same attribution procedure as with the retrospective impact. If GIF put out one third of the funding round it participated in, it is attributed with one third of subsequent impact.

How did you calculate the prospective cost-effectiveness of the portfolio?

Cost effectiveness is measured as Impact/Cost.

Impact is the cumulative, risk-adjusted PYI described above. We discount it back to year 1 using a 7% discount rate.

To calculate cost, we look at the expected financial flows from years 1 to 10. For grants, this is straightforward. There are usually a limited number of specified tranches that will be paid out, at anticipated times. For risk capital, it's a little more complicated. We know the initial outlay in year 1, but we don't know the payback. Based on the financial analysis, we make our best guess of the return profile. This implicitly includes the risk of failure. We discount the flows of money out and money in back to year 1, using a 7% discount rate. We add up these costs taking all innovations into account, even those that we already know will not progress to scale.

The result is that we expect to generate at least 10.4 million PYI, creating about 1 PYI for every $9 invested.

I can't get my head around "1 PYI for every $9 invested" Is that a lot? How can I benchmark it against other development investments?

Let's compare the cost-effectiveness of GIF-style innovation – where you plant the seed of something that might have huge impact in the future – against established interventions that deliver effective here-and-now benefits. We can do this using a tool provided by Givewell.

Givewell is an organization that looks for best buys in charitable giving. Their measure of benefit is essentially the same as GIF's PYI. They go about their analysis very much in the same spirit as GIF. So we can compare our portfolio cost effectiveness with that of their top-rated recommendations.

One of their top favourites is the distribution of anti-malarial bed nets. They reckon it to be about ten times as cost-effective as giving people cash (which itself is known to be a highly

effective intervention.) GIF's portfolio comes in at about three times as effective as bed nets. So yes, 1 PYI for $9 is a lot.

Can you suggest any other benchmarks?

Sure. Keep in mind that since we measure impact relative to a beneficiaries' annual consumption, you can think of 1 PYI as the dollar value of a year's consumption. Even for a very poor person, a year's consumption is worth much more than $9. The equivalent value of a PYI depends on an innovation's beneficiaries (are they living on $1 PPP/day or $5 PPP/day) and on the exchange rate. When we do the math, we figure that we are prospectively creating $40 in net benefits (present value!) for each dollar of investment. That strikes us as a very good deal.

Any other thoughts?

We are in the process of reviewing the correct discount rate to use. The economics profession is converging on a 2% or 3% discount rate as the most theoretically appropriate and one that is increasingly used in practice. So likely in the next iteration, for consistency with other benefit cost analyses, we will display results at a lower discount rate. This will result in a higher level of calculated benefits and cost-efficiency.