A Social Rate of Return Approach to Measuring the Portfolio-Level Impact of Social Innovation Funds: A Case Study of the Development Innovation Ventures Program

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September 2017
DIV: A new model for social innovation funds

- Launched in 2010 – first-of-its-kind
- Tiered, evidence-based innovation fund focused on portfolio-level impact – designed to incentivize smart risk-taking (go small in relatively unproven innovations; go bigger in better tested ones)
- Open across sectors, geographies, organization type, and scaling strategies (private and public sectors)
- Emphasis on rigor of evidence, cost-effectiveness, and scale potential
- Engagement with development economics research community

INTRODUCTION

Stage 1: Piloting
Stage 2: Testing
Stage 3: Transitioning to Scale
Innovation in Measuring Portfolio-Level Impact

**Introduction**

The interest rate that equalizes the Net Present Value of Benefits and Investment Costs is known as the Benefit-cost ratio (BCR)

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BCR = \frac{\text{Net Present Value of Benefits}}{\text{Net Present Value of Investment Costs}}
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The Social rate of return (SROR) is defined as the interest rate that equalizes the Net Present Value of Benefits and Investment Costs.

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SROR = \text{The interest rate that equalizes the Net Present Value of Benefits and Investment Costs}
\]

Notes:
- **Annual Net Benefits** = Number of people reached * Net benefits per person
- **Discount rate = 12%**
- Value Disability Adjusted Life Year (DALY) at per capita GDP
- Include those reached by innovations in original and adapted form; not addressing attribution
- Estimate at 2 points in time: as if benefits ceased in 2016 and as if continue at current scale to 2021
- Focus only on DIV’s earliest portfolio – investments made in 2010-2012 (first 3 years of DIV) – to allow sufficient time for innovations to scale
Road Safety Stickers in Minibuses

- Road accidents fell 25%
- Scaled to over 34,000 minibuses
- Annual net benefits = $13.9 million
- BCR through 2021 = 16.9
EXAMPLE 2

Chlorine Dispensers for Safe Water

- Water treatment rose 45 percentage points
- 2.2 million users
- 1,060 deaths averted
- Annual net benefits = $30 million
- BCR through 2021 = 16.9
Solar Power Home Systems

• $67 in energy savings per person per year
• 150,000 D20 systems sold
• Annual net benefits = $5.9 million
• BCR through 2021 = 11.7
From Individual Project to Portfolio Return

Key question for innovation funders

How to measure portfolio-level impact, not just individual projects, to ensure taking smart risks?

• 43 DIV awards (grants) made in 2010-2012; total DIV investment value of $17.3 million
• Calculating BCR and SROR for every innovation is:
  • Unrealistic
  • Impossible
• Instead, estimate (conservative) lower bound on portfolio BCR and SROR:
  • NPV benefits for subset of innovations / cost of total portfolio
  • Pessimistic assumptions on future reach
• Focus on projects with high reach (i.e., number of beneficiaries), since:
  • Benefits = number of people reached * benefits per person
  • Implies reach is necessary, but not sufficient, for substantial benefits
DIV innovations reaching > 1 million beneficiaries

**Voter report cards**
10 million reached
India

**Election monitoring technology**
6.5 million reached
Afghanistan, Kenya, Uganda, South Africa,

**Road safety stickers**
3 million reached
Kenya, Uganda, Tanzania

**Dispensers for safe water**
2.3 million reached
Kenya, Uganda, Malawi

**Digital attendance monitoring**
1.8 million reached
India

**Psychometric credit assessment**
1 million reached
$1.5 billion in loans facilitated
15 countries

Reach = the number of people reached by innovations supported by DIV, or their adapted forms
**RESULTS**

Strong results, even with conservative assumptions

**Benefit-Cost Ratio**

- Benchmark: 1
- Actual (2015): 3
- Projected (2021): 7.5

**Implied Social Rate of Return**

- Benchmark: 15
- Actual (2015): 39
- Projected (2021): 54

**Reminders:**

- Based on benefits of *only* those 3 innovations discussed earlier, but costs of *total* portfolio
- Projected assumes benefits continue at current levels through 2021
- Returns would be much higher if other innovations and future scaling of these innovations were included

DIV generated **at least $3 in social benefits for every $1 in costs incurred**

DIV generated **at least a 39% return on investment**
Factors Associated with Scale

• Working with those already at scale:
  • Many social entrepreneurs focus on commercial sales to ultimate consumers
  • But most innovations that reached significant scale were adopted by organizations that were already big (e.g., governments, large firms)

• Low cost per person

• Rigorous evidence /development researcher involvement

• Highest reach per dollar spent from pilot and testing stage awards, not larger scale grants
Conclusions

• Tiered, evidence-based, open innovation fund can deliver measurable results
  • DIV generated **at least $3 in social benefits for every $1 in** costs incurred
    and **at least a 39% return on investment** – likely significantly higher, given conservative assumptions

• Stay focused on portfolio-level social return to ensure:
  • Smart risk-taking on piloting and testing, and
  • Scaling when warranted by rigorous evidence of impact and cost effectiveness