



Root Capital's Expected Impact Rating

*Companion piece to "Toward the Efficient Impact Frontier"
Stanford Social Innovation Review, Winter 2017*



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The purpose of this document is to provide more detail on the Expected Impact Rating that Root Capital developed to evaluate the expected impact of each loan relative to the net cost of that loan to Root Capital (i.e., subsidy required).

Our article "Efficient Impact Frontier" in the November 2016 Stanford Social Innovation Review provides an introduction to the Expected Impact Rating:

To measure expected impact, we developed a tool that we call the expected impact rating. This rating synthesizes various kinds of impact data that we collect on each borrower into a single number, thereby enabling us to compare the expected impact of disparate loans and to measure each loan's expected impact against its expected return. (Our purpose here is not to advocate for impact ratings in general or for our rating in particular. Instead, it is to describe one tool that has allowed us to develop the efficient impact frontier.)

Our use of this tool aligns with the framework set forth by Paul Brest and Kelly Born in a 2013 article in Stanford Social Innovation Review. Brest and Born distinguish between enterprise impact (that is, the impact that an enterprise has on its customers, its suppliers, or the environment) and investment impact (that is, the impact that a particular investment has on that enterprise). Another term for investment impact is "additionality." According to Brest and Born, additionality reflects the extent to which a given investment provides resources that add to what other investors would have provided in its absence.

The expected impact rating takes the form of a number from 0 to 10. To calculate that number, our team first sorts a loan into one of three categories of additionality. The lowest category (0 to 3.0) applies to cases in which a borrower likely could have received a similar loan from a commercial lender. The intermediate category (3.0 to 6.5) includes loans that a borrower likely could have obtained from some other mission-driven organization, but not from a commercial lender. And the highest category (6.5 to 10) applies to cases in which a borrower likely could not have received a similar loan on similar terms from any other source.

Then, within a given category of additionality, we assign to each loan a score for its expected enterprise impact. This score, which ranges from 0 to 3.5, is a composite of the baseline social and environmental need that a borrower aims to address (1 point), its expected performance in addressing that problem (2 points), and its operational scale (0.5 points). For this score, we give equal weight to social and environmental considerations. To quantify enterprise impact, we gather data on the following factors:

- *Poverty level in the regions where an enterprise operates*
- *Expected performance of an enterprise in addressing poverty*
- *Environmental vulnerability, as measured by water scarcity, soil degradation, threats to biodiversity, and exposure to climate change*
- *Expected performance of an enterprise in addressing environmental vulnerability*
- *Scale, as measured by the number of farmers and workers reached by an enterprise*

We elevate investment impact above enterprise impact because our aim is to subsidize only those loans that would not happen in a commercial market and because we have prescreened all of our borrowers for expected social and environmental impact. We understand that additionality is one of the most challenging aspects of our expected impact rating to evaluate: It requires our loan officers to make difficult judgments about the alternate lending options that an enterprise may or may not have. But we also understand that even if loan officers misjudge a certain portion of loans, they will make better lending decisions overall if we include additionality in our rating than if we do not. (To ensure that loan officers apply this metric consistently, we are now developing a training curriculum on this topic.)

We developed indicators for each of these components, and weighted them to get to ten points total.

Additionality has the greatest number of points – up to 6.5 – because we seek to prioritize the loans where our dollar is likeliest to make the difference for our clients. Social and environmental vulnerability receive 0.5 point each, and social and environmental performance receive one point each. Performance is weighted more than vulnerability because, while we want to work with businesses located in areas with the most need, we also want to prioritize businesses that are actively working to improve the situation. We give equal weighting to social and environmental components, because we see them as equally important to our mission. Finally, we give up to half a point for scale because all things equal, reaching more people is better.

Exhibit 1 illustrates how we combine and weight these components into the ten-point Expected Impact Rating. **Exhibit 2** shows the distribution of Expected Impact Ratings for Root Capital’s full 2015 portfolio.

While the tool is called the Expected Impact Rating, its components don’t truly measure impact – hence the term ‘expected impact.’ The indicators in the Rating are proxies for the types of impact we seek, and some are better proxies than others. For example, the Rating looks at whether a business is offering higher prices to farmers, whereas Root Capital’s ultimate goal is higher or more stable incomes for farmers, versus a counterfactual in which Root Capital did not offer the loan. The assumptions behind any expected impact rating need to be validated by ex-post impact evaluations (such as those we have undertaken, for instance, with [four enterprises in Guatemala](#)). Even if it is imperfect, we can use this Rating to guide our portfolio towards loans that generate higher impact relative to the cost incurred.

Exhibit 3 provides the detailed indicators, weights, data sources for the components of the Expected Impact Rating.

Our purpose is not to advocate for impact ratings, the particular method we chose for creating one, or for the variables we chose to include. We introduced the expected impact index simply because it was a necessary input for our efficient impact frontier.

Exhibit 1: Weighting Impact Components into a Ten-Point Expected Impact Rating

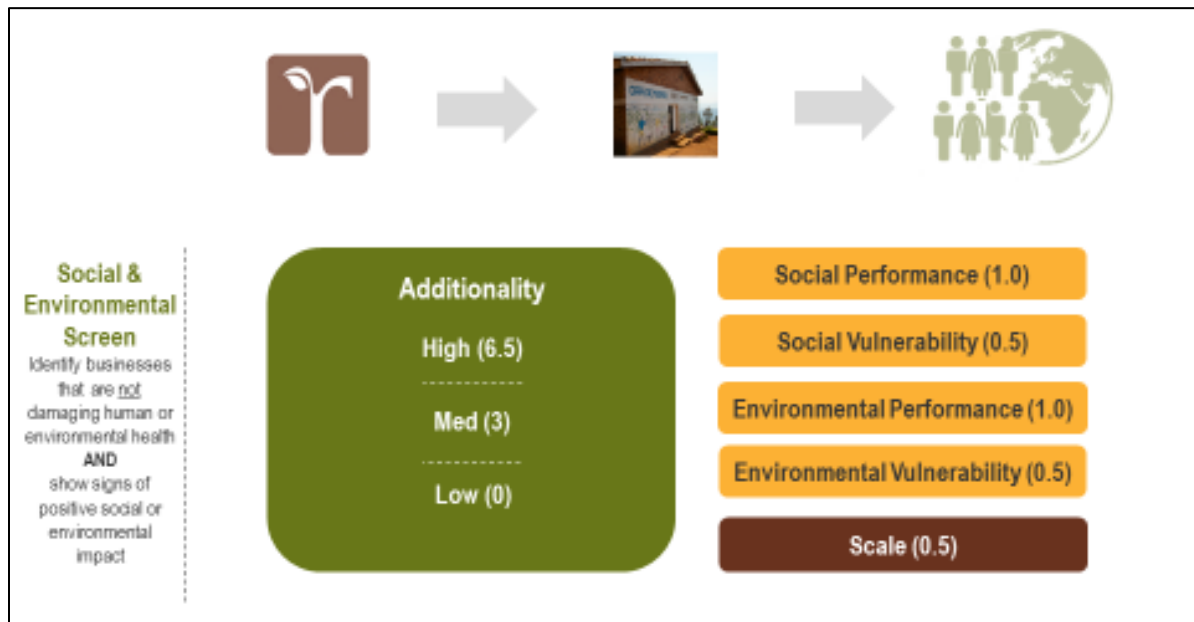


Exhibit 2: Distribution of Expected Impact Ratings, 2015 (486 loans)

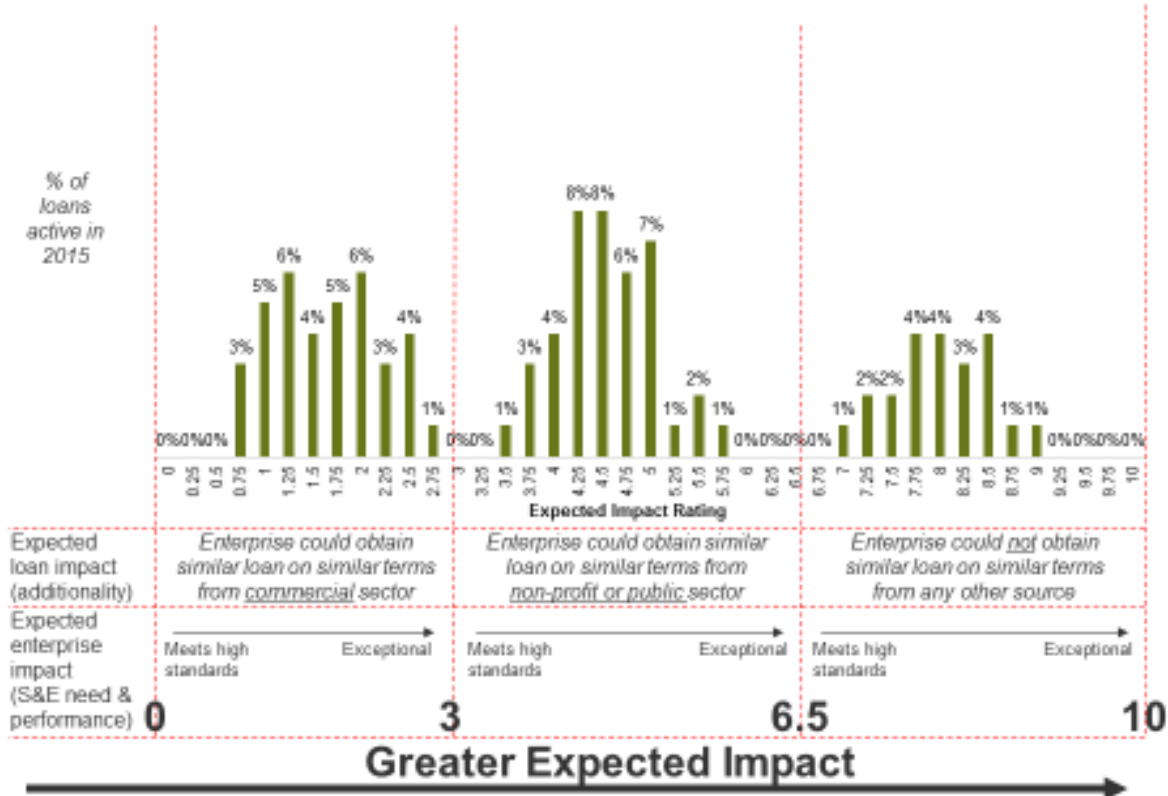


Exhibit 3: Indicators, Weights, and Data Sources of Root Capital’s Expected Impact Rating

<u>Theme</u>	<u>Sub-Theme</u>	<u>Indicator</u>	<u>Points</u>	<u>Data Source</u>
1. Expected Investment Impact / Additionality (up to 6.5 points)		Enterprise likely <u>could not</u> get a loan for this purpose, with similar collateral and for a rate & fee that is not more than 800 basis greater than Root Capital’s, and in the same currency, from any other source than Root Capital ¹	6.5	Loan officer assessment based on discussion with enterprise managers and enterprise financials
		Enterprise likely <u>could</u> get a loan for this purpose, with similar collateral and for a rate & fee that is not more than 800 basis more than Root Capital’s, and in the same currency, from a <u>non-profit / public lender</u>	3.0	
		Enterprise likely <u>could</u> get a loan for this purpose, with similar collateral and for a rate & fee that is not more than 800 basis more than Root Capital’s, and in the same currency, from a <u>commercial lender</u>	0.0	
2. Expected Social Impact (up to 1.5 points)	Poverty Level (up to 0.5 point)	Extreme poverty country, or region within a country (< \$2.50/day)	0.5	Progress out of Poverty (PPI) databases, Grameen Foundation ¹ . To determine whether producers or employees affiliated with each enterprise are living below these poverty lines, we mapped PPI poverty rates to our clients' sourcing regions and areas of operation.
		High poverty country, or region within a country (\$2.50-\$4/person/day)	0.25	
		Moderate poverty country, or region within a country (>\$4/person/day)	0.0	
	Social Performance (up to 1.0 point)	<ul style="list-style-type: none"> • For farmers, paying at least 10% higher than local market price • For employees, paying more than 20% higher than the local minimum wage, or more than 10% higher plus health insurance/benefits • Providing on-farm agronomic training plus one of 	0.25 each; up to 1.0 max	Enterprise records; if enterprise is certified (e.g., organic or Fair Trade), records of certification audit; loan officer discussion with enterprise managers; spot checks of enterprise operations and discussions with

¹ The threshold of 800 basis points was chosen to be conservative in counting our additionality. For instance, if we are offering a loan with an interest rate of 11% and a commercial bank is offering a loan with a rate of 19%, we would count that loan as having zero additionality.

		<p>following: centralized training, access to inputs, access to on-farm equipment, both to over 50% of farmers</p> <ul style="list-style-type: none"> • Providing or facilitating loans to over 25% of farmers • Providing a community service in education, health, access to water, or improved roads or transportation infrastructure to over 25% of farmers • Providing income diversification opportunities to over 25% of farmers • Food security & nutrition focus: selling food into local markets to improve food security • Gender inclusive: 30% or more participation by women as producers and/or employees; OR women-led <u>and</u> 20% or more participation by women 		affiliated farmers and employees.
3. Expected Environmental Impact (up to 1.5 points)	Environmental Vulnerability ⁱⁱ (up to 0.5 point)	<p>Enterprise located in or sourcing from an “environmental degradation hotspot,” defined as a region suffering from ongoing, significant degradation of one of the following natural resources:</p> <ul style="list-style-type: none"> • Biodiversity: Region contains exceptional levels of native biodiversity and is currently threatened by significant degradation. • Soil: Region is experiencing significant downward pressure on chemical and/or physical components of soil health, with a rating of “degradation or very low [soil] resilience.” • Water: Region with “extremely high risk” of water scarcity, based on its evaluation of local water quantity, water quality, and regulatory environment. 	0.25	<p>We used third-party, publically-available evaluations of environmental degradation for each natural resource:</p> <ul style="list-style-type: none"> • Biodiversity: Critical Ecosystems Partnership Fund • Soil: Land Degradation Assessment in Drylands project of FAO, UNEP, and Global Environment Fund • Water: Aqueduct Water Risk Atlas, World Resources Institute <p>To determine whether an enterprise operated in a particular hotspot, we created a map of enterprise operational and/or sourcing regions</p>

				in Google Earth, and compared this map to maps created by the third-parties cited above.
		Enterprise located in or sourcing from a “climate change hotspot,” in which climate change is expected to severely impact agricultural livelihoods. We classified a region as a climate hotspot if climate change probability maps indicated a 75%+ likelihood that climate change would push the area past either of two bioclimatic thresholds: <ul style="list-style-type: none"> • Maximum annual temperatures would flip above a key tolerance threshold for crops (30C); or • Length of the crop growing period would decline by 5%+. 	0.25	<p>We used analysis and maps produced by the CGIAR Research Program on Climate Change, Agriculture, and Food Security:</p> <ul style="list-style-type: none"> • Ericksen P, Thornton P, Notenbaert A, Cramer L, Jones P, Herrero M. 2011. Mapping hotspots of climate change and food insecurity in the global tropics. CCAFS Report no. 5. CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS). Copenhagen, Denmark. Available online at: www.ccafs.cgiar.org. <p>To determine whether an enterprise operated in a climate change hotspot, we created a map of enterprise operational and/or sourcing regions in Google Earth, and compared this map to the CGIAR probability maps.</p>
	Environmental Performance (up to 1.0 point)	Enterprise has an active environmental certification, including Aquaculture Stewardship Council, Fair trade (Fair Trade USA, FLO, IMO), Fair Wild, Forest Stewardship Council, Marine Stewardship Council, Organic (IFOAM standards only), Rainforest Alliance, Roundtable on	0.5	Enterprise and certifier records

		Sustainable Palm Oil, Smithsonian Migratory Bird Council, Utz		
		<p>Enterprise is engaged in climate change mitigation and / or adaptation activities, including:</p> <ul style="list-style-type: none"> • Enterprise manages or sources from farmers managing <u>diversified agroforestry</u> (i.e., traditional polycultural or rustic) agricultural systems • Enterprise manages or sources from <u>wild tree stands</u> (i.e., traditionally-managed Brazil Nut or Shea) • Enterprise engages in or facilitates farmer engagement in <u>a/reforestation</u>, resulting in the planting of > 100 trees / year • Enterprise uses or distributes <u>clean or appropriate technologies</u>, such as solar panels or biodigestors, that deliver recognized reductions in greenhouse gas emissions compared to industry-standard alternatives • Enterprise provides farmers with weather/crop early warning system • Enterprise engages in another form of adaptation or mitigation work, either alone or with partners 	0.25 each, up to 0.5	Enterprise records and partner records as relevant
4. Scale (up to 0.5 point)		Enterprise reaches <500 farmers and employees	0	Enterprise records
		Enterprise reaches 500 – 1500 farmers and employees	0.25	
		Enterprise reaches > 1500 farmers and employees	0.5	

¹ We selected Grameen Foundation’s Progress out of Poverty Index because it offered the best combination of comparability across countries and specificity at the region or district level within countries. The Progress out of Poverty Index estimates the likelihood that households in a defined geographic area are living on less than \$2.50 / person / day. If the likelihood is greater than 50%, we can safely assume that the average household in that area lives on less than \$2.50 / person / day. If the likelihood is less than 50%, we can safely assume that the average household in the area lives on more than \$2.50 / person / day. The PPI score gives no indication of the likelihood that the average household in a geographic area is living on more or less than \$4 / person / day, so we had to make

an assumption. Specifically, we coded geographic areas “more than \$4 / day” if there is less than a 30% likelihood that households in that area are living on less than \$2.50 / person / day.

ⁱⁱ It merits explaining why we wish to prioritize enterprises located in environmental hotspots. The vast majority of our clients operate in regions threatened by natural resource degradation or future risk due to climate change. This is the nature of working in the tropics. It is critical that these businesses do not contribute to the problem, but rather help farmers adopt environmentally sustainable practices. We screen prospective borrowers during due diligence to identify such businesses. All else being equal, we want to prioritize helping these borrowers succeed over borrowers operating in less threatened ecosystems.