



A Simple Approach to Screening Deals for Sustainability

Based on the General Theory of Impact

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Developing a Simple Initial Screen to Efficiently Sort Sustainable Opportunities

Introduction

This note explains how the general theory of impact developed in previous notes¹ can be used to create a simple but effective approach to the initial screening of sustainable investments.

Before getting into the details, let's step back and provide some context around where this approach to initial screening fits into the larger picture of sustainable investing.

In an ideal world we would have enough information to trace the impact of an asset in which we are considering an investment both backwards through the supply chains of inputs and forwards through a theory of change and secondary and tertiary impacts to the UN SDGs, to achieve a total picture of the assets sustainability profile.

This ideal is illustrated in Chart 1. At present we are nowhere close to having the required information.

Chart 1 Achieving a Total View of an Asset's Sustainability Profile



In the absence of the full range of information outlined in Chart 1, data on primary impact is a good place to start. Primary impact can be used as the basis of the general theory of impact² and it is the information that is most likely to be accessible from the records of a company and made available through accounting rules and stock exchange requirements.

¹ "The Short Version, 'Pricing Impact' written a story of discovery in 43 pages" David Wilton March 2020 and "Pricing Impact. Extending impact investing to price externalities and lower the cost of capital to impactful investments" David Wilton September 2019.

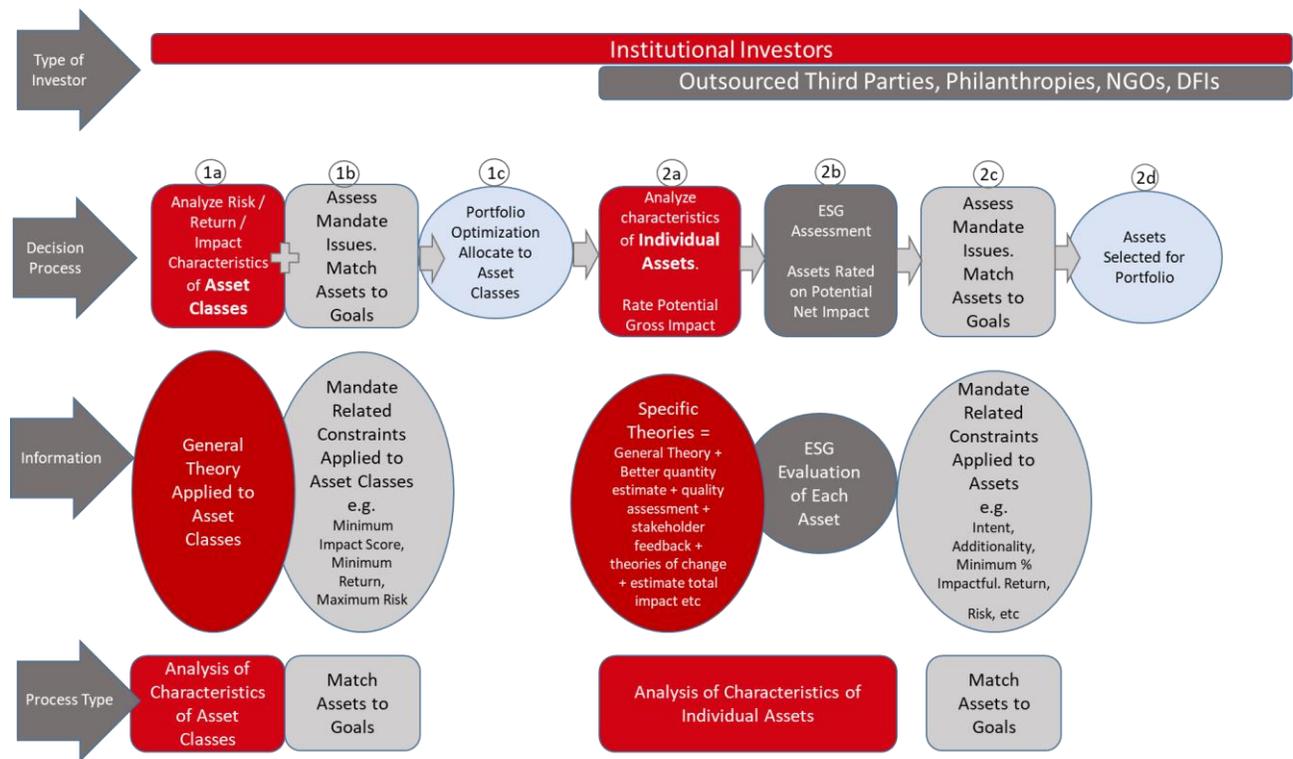
² Refer "Pricing Impact" *ibid*, Section 3.

Turning to the process by which institutional investors allocate capital, illustrated in Chart 2, we see that investors allocate capital in two parts using three types of information.

The first part of the capital allocation process is focused on portfolio optimization and uses a very simplified set of primary impact data – a general theory - to model the characteristics of classes of assets, in combination with a screening mechanism based on the individual investor’s mandate. The first part of the process is represented by steps 1a-1c in Chart 2.

The second part of the capital allocation process is focused on selecting individual assets. This part of the process uses a large amount of rich, complex, granular data to model the characteristics of individual assets in combination with a screening mechanism based on the individual investor’s mandate. The second step of the process is represented by steps 2a-2d in Chart 2.

Chart 2 Investment Process Used by Institutional Investors



The three types of information used by investors in the capital allocation process are:

- The general theory, applied to asset classes and used in portfolio optimization. The general theory is constructed with a minimal set of data points which are common to all assets in an asset class, have enough information content to be informative about the characteristics of asset classes but which are few enough in number to allow the modeling of the entire portfolio. The general theory is used in Step 1a in Chart 2.
- Deep, rich, complex data used to understand the characteristics of individual assets. This rich, complex data is used in steps 2a and 2b of Chart 2.

- Screens designed to identify assets most suited to achieving the objectives set by an investor's mandate. Screens are based on exclusions, limitations and targets such as minimum return or maximum risk. Screens are used in steps 1b and 2c of Chart 2.

In implementing the second part of the capital allocation process (steps 2a-2d) investors face an efficiency problem.

There are hundreds if not thousands of assets from which to select those which are ultimately placed in the portfolio. Sifting through these assets is time consuming due to both the sheer number of assets and also the large amount of granular data required to assess individual assets.

The efficiency problem can be addressed by constructing a mechanism with which to conduct the initial screening of investments that enables the efficient separation of stronger sustainability opportunities from weaker sustainability opportunities.

To be efficient a screening mechanism will need to:

- Have sufficient information content to credibly separate stronger opportunities from weaker opportunities while using the minimal amount of data that achieves sufficient information content. This is a role the general theory can play.
- Rely on data that is most likely to be available – use primary impact data.
- Be prepared to use good-faith estimates where data is lacking.
- Incorporate the three sets of data represented by steps 2a, 2b and 2c in Chart 2. That is, impact, ESG and the mandate screen.

Creating a Mechanism for the Initial Screening of Assets that includes Impact, ESG and Mandate Issues

(a) Scoring Impact- Identifying Potential to Create Positive Outputs

While the primary application of the general theory is to provide a combination of simplicity and information content that enables portfolio optimization, the simplicity and information content of the general theory can also be used to provide one part of an efficient initial screening mechanism for individual assets.

Chart 3 outlines the general theory that was developed in earlier notes³.

The objective of the impact part of the initial deal screening mechanism is the early and efficient identification of opportunities that are likely to be in Segment II of Chart 4.

In Chart 4 assets with above-average impact characteristics are located above the dashed diagonal line. These are the assets for which an above average percentage of outputs are impactful for any given level of output.

The assets likely to create the greatest quantity of impactful outputs in Chart 4 are those located in Segment II. These assets combine the largest quantity of outputs with the largest percentage of outputs which are in fact impactful.

³ ibid

Chart 3 The Determinants of an Asset's Ability to Create a Quantity of Impactful Outputs

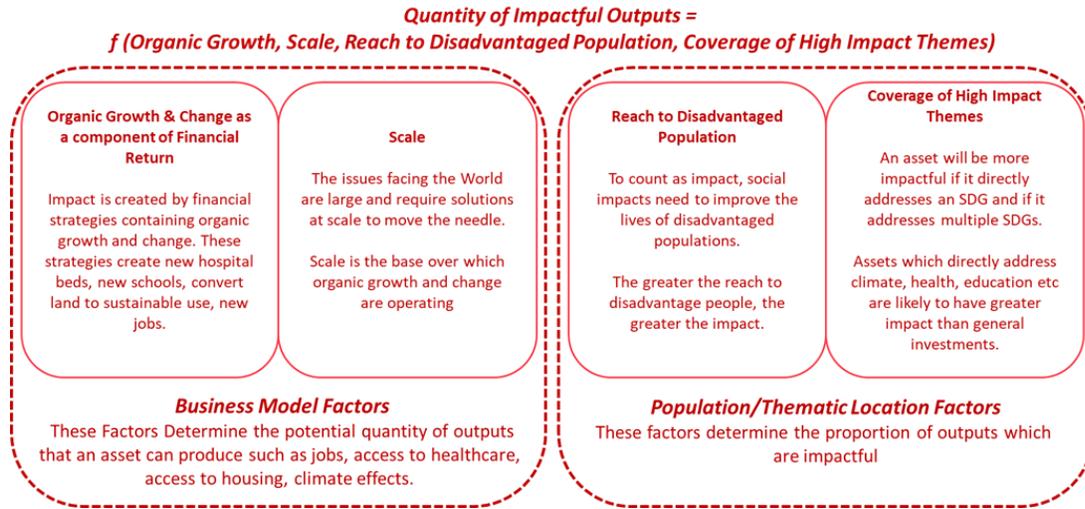
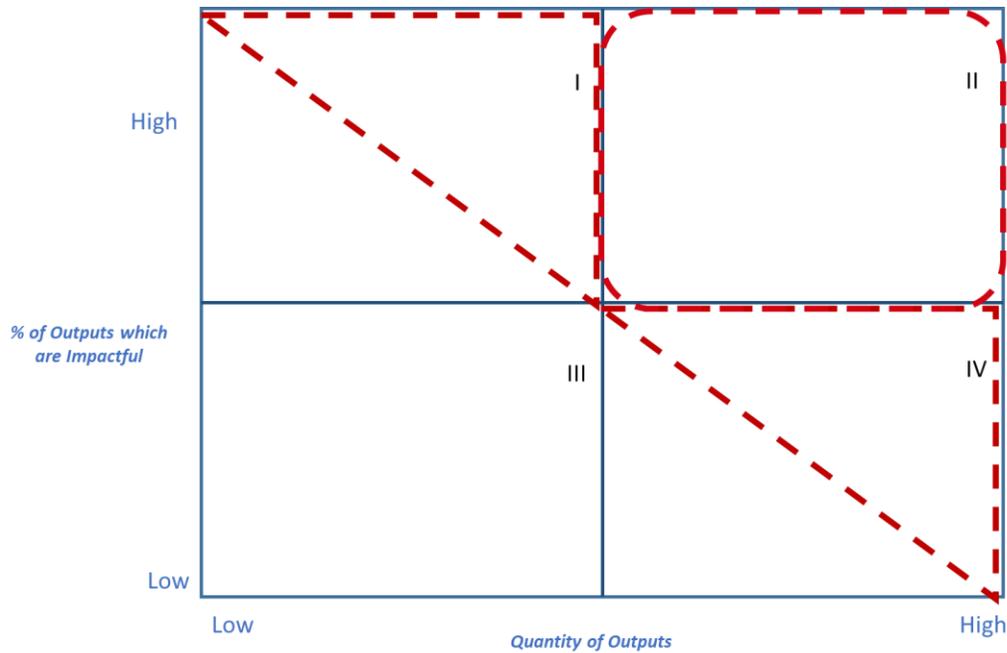
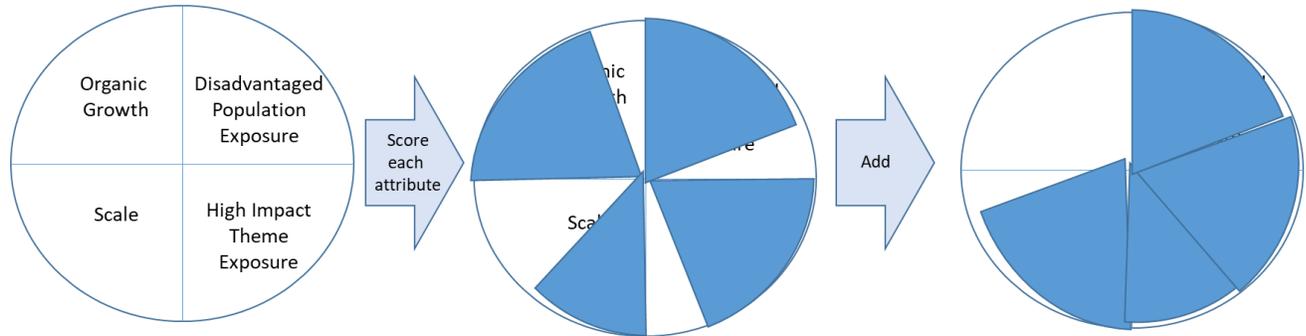


Chart 4 Framework for Assessing the Quantity of Impactful Outputs an Asset is Likely to Create



To construct the impact part of the initial deal screen we can score each of the four elements of the general theory separately (organic growth, scale, exposure to a disadvantaged population, exposure to a high impact theme) and then display the resulting scores in a pie chart, as illustrated in Chart 5.

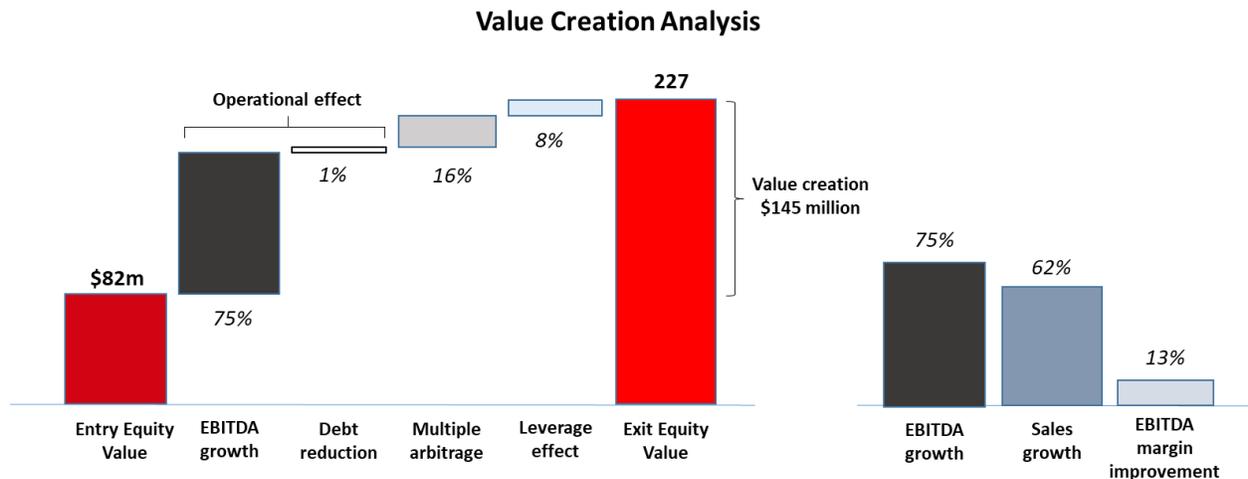
Chart 5 Illustration of Pie Chart Indicator



(i) Scoring Organic Growth

The rating for Organic Growth is based on the percentage of financial return expected to be generated by organic growth. As part of the financial model for the investment a value bridge analysis can be made as illustrated in Chart 6 and, based on this, the percentage of expected return attributed to organic growth can be calculated.

Chart 6 Example of a Value Bridge Analysis⁴

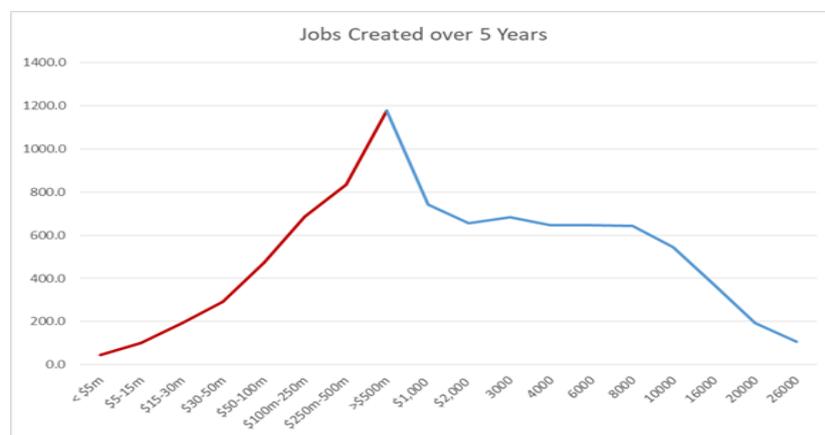


⁴ Source: Africinvest. For a worked example of a Value Bridge refer to the excel file 'Value Bridge Template Courtesy of Africinvest' available from <https://zhengpartners.co>

(ii) *Scoring Scale*

Creating a rating for Scale is less straight forward than organic growth as, while small scale leads to the creation of a smaller number of impactful outputs, large scale is not necessarily associated with the creation of a large quantity of impactful outputs. This is because the contribution of organic growth to financial return declines with scale, as illustrated in Chart 7.

Chart 7 Estimate of Jobs Created Over a Five Year Period – Outline of the Impact Opportunity Space⁵



To create a rating for scale we can use Table 1 which was developed in “The Short Version”⁶ using IFC portfolio data on (i) the average revenue CAGR for companies with a range of different levels of revenue at acquisition and (ii) the average dollar increase in revenue per new job created.

In Table 1 expected revenue CAGR is applied to revenue at acquisition and compounded for five years. The resulting increase in revenue is then divided by \$125k, which is the average-revenue-growth-per-new-employee from the IFC data, to estimate the number of new jobs created.

If we plug the actual initial revenue and expected revenue CAGR for the asset being considered into Table 1 and then divide the forecast number of jobs created by the maximum in Table 1 (1177.4, which occurs in the \$500-1000m initial revenue band), the resulting percentage can be used as the score for scale.

⁵ “The Short Version” ibid

⁶ “The Short Version, ‘Pricing Impact’ written a story of discovery in 43 pages” David Wilton March 2020 based on IFC data from “The Benefits of Private Equity Investment”, David Wilton, Commonwealth Trade and Investment Report 2013

Table 1 Estimate of Jobs Created Over a Five Year Period⁷

\$ Revenue at entry	Average revenue CAGR	Average Revenue CAGR Smoothed	Revenue Over 5 years Compounding at Smoothed CAGR, Starting at Range Mid Point					Total Revenue Growth \$m	Average Total Jobs Created over 5 years
			1	2	3	4	5		
< \$5m	36.20%	36.20%	3.4	4.6	6.3	7.6	9.1	5.7	45.5
\$5-15m	18.80%	20.00%	12.0	14.4	17.3	20.6	24.5	12.5	99.8
\$15-30m	19.20%	19.00%	26.8	31.9	37.3	43.6	51.0	24.3	194.0
\$30-50m	7.90%	17.00%	46.8	54.8	63.0	72.4	83.3	36.5	291.8
\$50-100m	14.80%	15.00%	86.3	99.2	114.1	128.9	145.7	59.4	475.2
\$100-250m	13.20%	13.00%	197.8	223.5	252.5	267.7	283.7	86.0	687.7
\$250-500m	6.00%	6.00%	397.5	421.4	446.6	473.4	501.8	104.3	834.7
\$500-1000m	4.40%	4.40%	783.0	817.5	853.4	891.0	930.2	147.2	1177.4
\$1000-2000m		2.20%	1022	1044.5	1067.5	1090.9	1114.9	92.9	743.6
\$2000-3000m		1.00%	2020	2040.2	2060.6	2081.2	2102.0	82.0	656.2
\$3000-4000m		0.70%	3021	3042.1	3063.4	3084.9	3106.5	85.5	683.8
\$4000m		0.50%	4020	4040.1	4060.3	4080.6	4101.0	81.0	648.0
\$6000m		0.33%	6020	6040.1	6060.2	6080.4	6100.7	80.7	645.4
\$8000m		0.25%	8020	8040.1	8060.2	8080.3	8100.5	80.5	644.0
\$10000m		0.17%	10017	10034.0	10051.1	10068.2	10085.3	68.3	546.3
\$16000m		0.07%	16011.5	16023.0	16034.4	16045.9	16057.5	46.0	367.9
\$20000m		0.03%	20006.1	20012.1	20018.2	20024.2	20030.3	24.2	193.8
\$26000m		0.01%	26003.3	26006.6	26010.0	26013.3	26016.6	13.3	106.2

Table 2 calculates the number of jobs created as a percentage of the maximum in Table 1 (1177.4) for each revenue bracket in Table 1 to provide an indication of the range of scores.

Table 2 Quantity of Output Relative to the Maximum⁸

Revenue at Entry	Jobs Created as a % of Maximum
< \$5m	4%
\$5-15m	8%
\$15-30m	16%
\$30-50m	25%
\$50-100m	40%
\$100-250m	58%
\$250-500m	71%
\$500-1000m	100%
\$1000-2000m	63%
\$2000-3000m	56%
\$3000-4000m	58%
\$4,000	55%
\$6,000	55%
\$8,000	55%
\$10,000	46%
\$16,000	31%
\$20,000	16%
\$26,000	9%

⁷ "The Short Version" ibid

⁸ "The Short Version" ibid

(iii) Scoring Exposure to a Disadvantaged Population

This will most likely be a best good-faith estimate as to the proportion of the company's clients or employees who are disadvantaged.

Which is relevant will depend upon the impact claim being made. If the claim is increased access to something beneficial such as education, health care or housing, it is clients who are relevant.

If the claim is job creation, it is employees who are relevant.

(iv) Scoring Exposure to High Impact Themes

This will be an estimate of how much of the company's business directly addresses a high impact theme such as education, health care, environment or housing.

Complications in Impact Scoring

(i) The scoring of Organic Growth and Scale is interdependent, not independent. That is, if organic growth and scale are scored independently of each other it will lead to an over-rating in cases in which one of the two factors is very low and the other is very high.

For example, a company in which organic growth is expected to contribute only 5% to financial return located in the \$500-1000m revenue bracket would get a 5% score for organic growth (a very thin pie slice) and 100% for scale (a full ¼ pie slice) but would be expected to create very little in the way of impact.

(ii) For social impact the scoring of exposure to a disadvantage population and exposure to a high impact theme is also interdependent, not independent. If exposure to a high impact theme is high, but there is little exposure to a disadvantaged population, little social impact will be created and independent scoring will lead to over-rating.

For example a company in health care but serving a wealthy population would score 0% for exposure to a disadvantaged population and 100% for exposure to a high impact theme, scoring in total a ¼ pie slice, when no impactful outputs are expected.

(iii) For environmental impact there is no need for exposure to a disadvantaged population as the entire planet benefits from an improved environment. In recognition of this, for environmental impact we can give the same score to exposure to the disadvantaged that the asset gets for exposure to an environmental theme.

Simple Solutions to these Complications

(i) *Organic growth and scale*. Rate each independently but, in cases where one of the two is low (eg < 25%) and the other high (eg > 75%) halve the rating of the higher one.

(ii) *Social impact*. Rate independently but, in cases in which exposure to a disadvantage population is low (e.g <25%) and exposure to a high impact theme is high (eg > 75%) halve the rating of thematic exposure.

(iii) *Environmental impact*. Give a score for disadvantaged exposure which matches the score for exposure to an environmental theme.

Examples

The five examples below will be used to illustrate the scoring process.

Company 1. Organic growth expected to contribute 80% of financial returns. \$5m revenue at acquisition. Expected revenue CAGR 25%. Education sector. 100% of pupils disadvantaged.

Company 2. Organic growth expected to contribute 60% of financial returns. \$600m revenue at acquisition. Expected revenue CAGR 5%. Health care sector. 50% of patients disadvantaged.

Company 3. Organic growth expected to contribute 70% of financial returns. \$400m revenue at acquisition. Expected revenue CAGR 8%. General manufacturing. 80% of employees disadvantaged.

Company 4. Organic growth expected to contribute 70% of financial returns. \$300m of revenue at acquisition. Expected revenue CAGR 10%. Climate – clean technology. Based in USA.

Company 5. Organic growth expected to contribute 5% of financial returns. \$10,000m of revenue at acquisition. Expected revenue CAGR 0.17%. Health sector. 10% of clients disadvantaged.

(i) Organic growth.

Company 1 80%. However, scale is very low (see below) so halve organic growth score: 40%.

Company 2 60%

Company 3 70%

Company 4 70%

Company 5 5% Scale is very high (see below) so due to low organic growth scale score will be halved.

(ii) Scale

Scale scores as per Table 3 below, with maximum set at 100%. Exception is company 5 as with very low contribution of organic growth the scale score needs to be reduced. How much to reduce the scale score is a little arbitrary – say reduce it to 25%.

Table 3 Illustration of Scoring Scale

\$ Revenue at entry	Average revenue CAGR	Average Revenue CAGR Smoothed	Revenue Over 5 years Compounding at Smoothed					Total Revenue Growth \$m	Average Total Jobs Created over 5 years	% of IFC Data Maximum
			1	2	3	4	5			
< \$5m	36.20%	36.20%	3.4	4.6	6.3	7.6	9.1	5.7	45.5	
Company 1 5m	25.00%	25.00%	6.3	7.8	9.8	11.6	13.8	7.6	60.6	5%
\$5-15m	18.80%	20.00%	12.0	14.4	17.3	20.6	24.5	12.5	99.8	
\$15-30m	19.20%	19.00%	26.8	31.9	37.3	43.6	51.0	24.3	194.0	
\$30-50m	7.90%	17.00%	46.8	54.8	63.0	72.4	83.3	36.5	291.8	
\$50-100m	14.80%	15.00%	86.3	99.2	114.1	128.9	145.7	59.4	475.2	
\$100-250m	13.20%	13.00%	197.8	223.5	252.5	267.7	283.7	86.0	687.7	
\$250-500m	6.00%	6.00%	397.5	421.4	446.6	473.4	501.8	104.3	834.7	
Company 4 300m	10.00%	10.00%	330.0	363.0	399.3	439.2	483.2	153.2	1225.2	104%
Company 3 400m	8.00%	8.00%	432.0	466.6	503.9	544.2	587.7	155.7	1245.8	106%
\$500-1000m	4.40%	4.40%	783.0	817.5	853.4	891.0	930.2	147.2	1177.4	
Company 2 600m	5.00%	5.00%	630.0	661.5	694.6	729.3	765.8	135.8	1086.2	92%
\$1000-2000m		2.20%	1022	1044.5	1067.5	1090.9	1114.9	92.9	743.6	
\$2000-3000m		1.00%	2020	2040.2	2060.6	2081.2	2102.0	82.0	656.2	
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\$10000m		0.17%	10017	10034.0	10051.1	10068.2	10085.3	68.3	546.3	
Company 5 10,000m	0.17%	0.17%	10017	10034.0	10051.1	10068.2	10085.3	68.3	546.3	46%
\$16000m		0.07%	16011.5	16023.0	16034.4	16045.9	16057.5	46.0	367.9	
\$20000m		0.03%	20006.1	20012.1	20018.2	20024.2	20030.3	24.2	193.8	
\$26000m		0.01%	26003.3	26006.6	26010.0	26013.3	26016.6	13.3	106.2	

(iii) Exposure to Disadvantaged Population

Company 1 100%.

Company 2 50%

Company 3 80%

Company 4 NA (Climate) = default score = thematic score of 100% (see below)

Company 5 10% Exposure to high impact theme is high (see below) so high impact theme exposure score will be reduced due to low exposure to disadvantaged population.

(iv) Exposure to High Impact Theme

Company 1 100%.

Company 2 100%

Company 3 0%

Company 4 100%

Company 5 100% Social theme exposure is high but very low exposure to disadvantaged population (see above), so halve score: 50%.

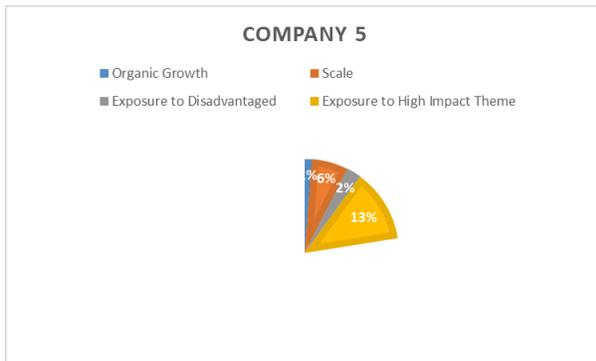
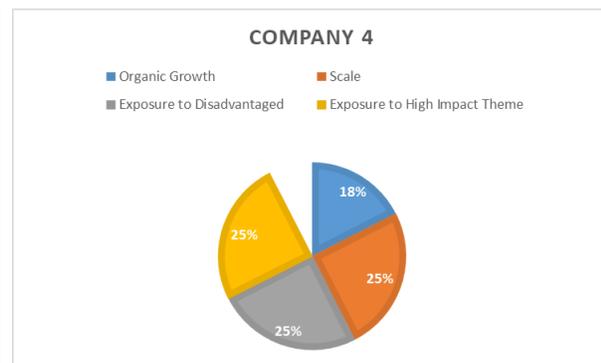
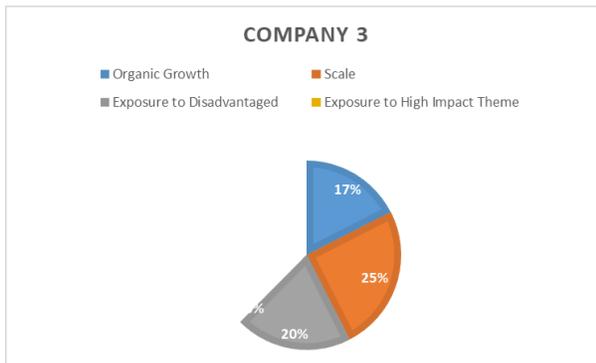
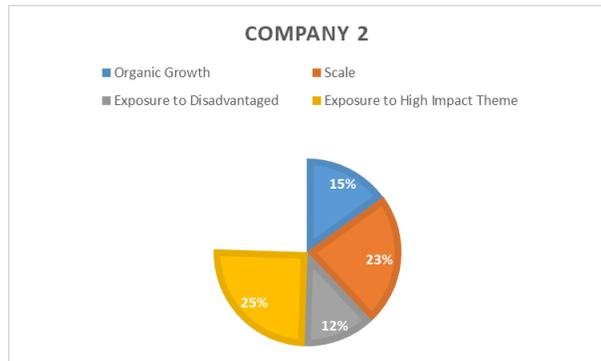
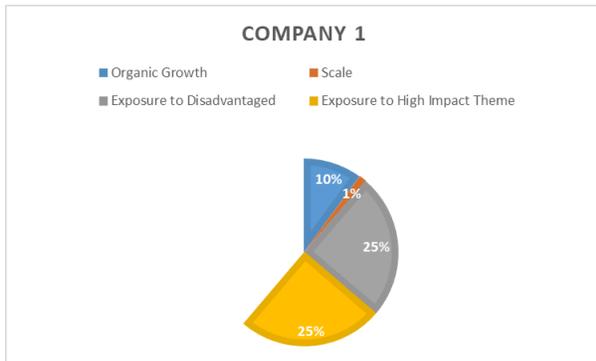
The individual ratings above are gathered in Table 4 and the total 'share of pie' is calculated.

Table 4 Data for Summary Pie Charts

	Organic Growth		Scale		Exposure to Disadvantaged		Exposure to High Impact Theme		Total Share of Pie
	1/4 Pie		1/4 Pie		1/4 Pie		1/4 Pie		
Company 1	40%		5%		100%		100%		61%
Company 2	60%		92%		50%		100%		76%
Company 3	70%		100%		80%		0%		63%
Company 4	70%		100%		100%		100%		93%
Company 5	5%		25%		10%		50%		23%

The scoring pie charts for each of the examples are provided in Charts 8 to 12 below.

Charts 8 to 12 Impact Scoring Pie Charts from Table 4



We would generally want impactful investments to score above 50%.

Company 1 has a profile that philanthropies, NGOs and investors with softer \$ will like as it 100% disadvantaged and 100% high impact sector. However, if we are looking solely at the potential to create a quantity of impactful outputs the very small scale leads to a lower rating.

Company 5 is the type of company that might be accepted into a portfolio operating a Thematic strategy rather than impact – that is, exposure to high impact themes without worrying too much about exposure to the disadvantaged.

Companies 2,3 and 4 are all mid cap growth with varying degrees of exposure to the disadvantaged and high impact themes.

This methodology should allow generalist mid-cap growth companies serving disadvantaged populations to score above 50% based on job creation for a disadvantaged population.

(b) ESG : Identifying the Risk of Negative Impact

The pie chart ratings based on the general theory focus on the potential of an asset to create positive outcomes which will contribute to the SDGs. They take no account of the risk that an asset might cause negative outcomes.

The initial sorting of opportunities will be more efficient if it incorporates an indicator of the risk that an opportunity will create negative outcomes corresponding to step 2b in Chart 2.

Such an indicator will both alert us to the possibility of negative outcomes at an early stage so that diligence can be appropriately focused and also help to prioritize opportunities.

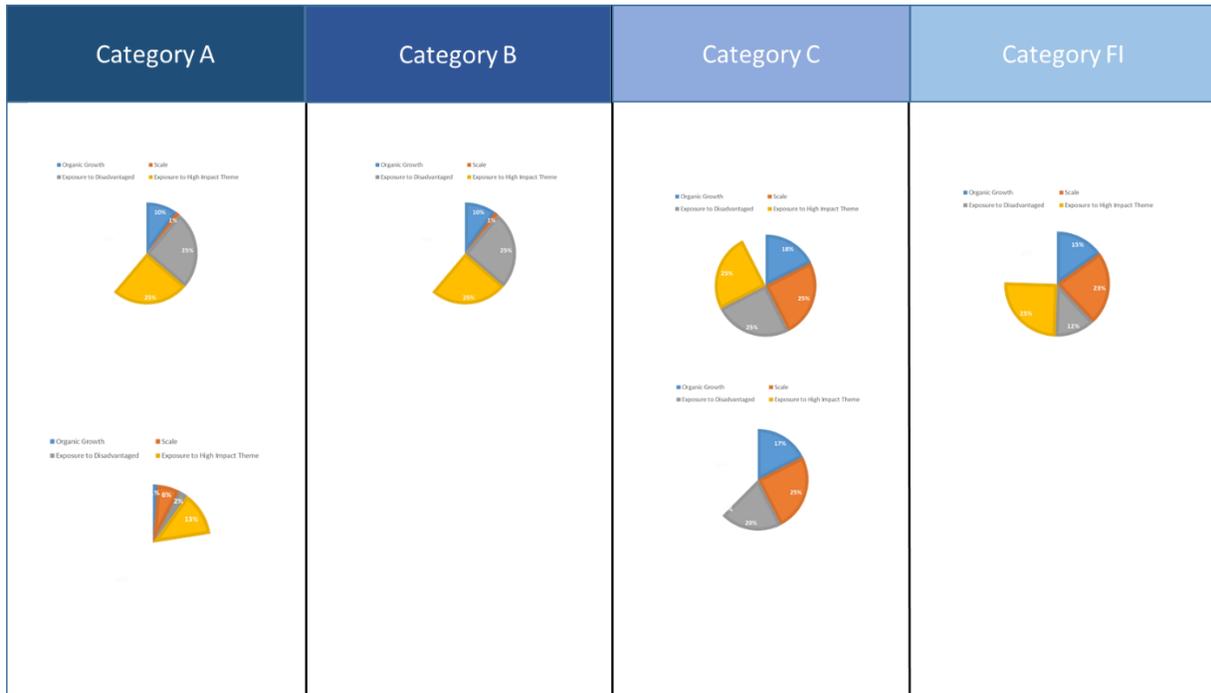
A simple way to incorporate an indicator of the potential for negative outcomes early in the screening process is to overlay the impact rating pie charts onto a grid representing an ESG risk rating methodology such as IFCs performance standards⁹.

Chart 13 illustrates such an overlay.

Combining the two pieces of information helps to refine our initial sorting of assets. For example Chart 13 enables us to see that of the two assets with identical impact profiles, one has the highest level of ESG risk, Category A, while the other is Category B which makes it more attractive on a risk-adjusted basis. Likewise the asset with the highest impact rating has a low Category C ESG risk rating, increasing its attraction.

⁹ https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards/performance-standards

Chart 13 Initial Deal Filter, Combining ESG Risk and Potential to Create Impactful Outputs



(c) Incorporating Investors' Mandates into the Initial Screening of Opportunities

Chart 13 incorporates an assessment of both potential impact and ESG risk into the initial screening of individual assets (steps 2a and 2b in Chart 2). This information is common to all investors. It focuses on the characteristics of individual assets in terms of potential to create impactful outputs and ESG risk and is analyzed to compare individual assets in relation to each other.

Mandate screens are tailored to each individual investor. They focus on the mandate of the investor and examine how the characteristics of an individual asset help an investor to meet the objectives of its mandate such as target return, risk tolerance, impact targets, thematic exposure requirements and requirements for additionality and intent (step 2c in Chart 2).

The effectiveness of the initial sorting of assets will be improved if mandate issues are included, so that the initial sorting framework covers each of steps 2a, 2b and 2c in Chart 2.

Extending the sorting framework to include mandate issues is possible, but requires customization for each investor as each investor will have its own individual mandate.

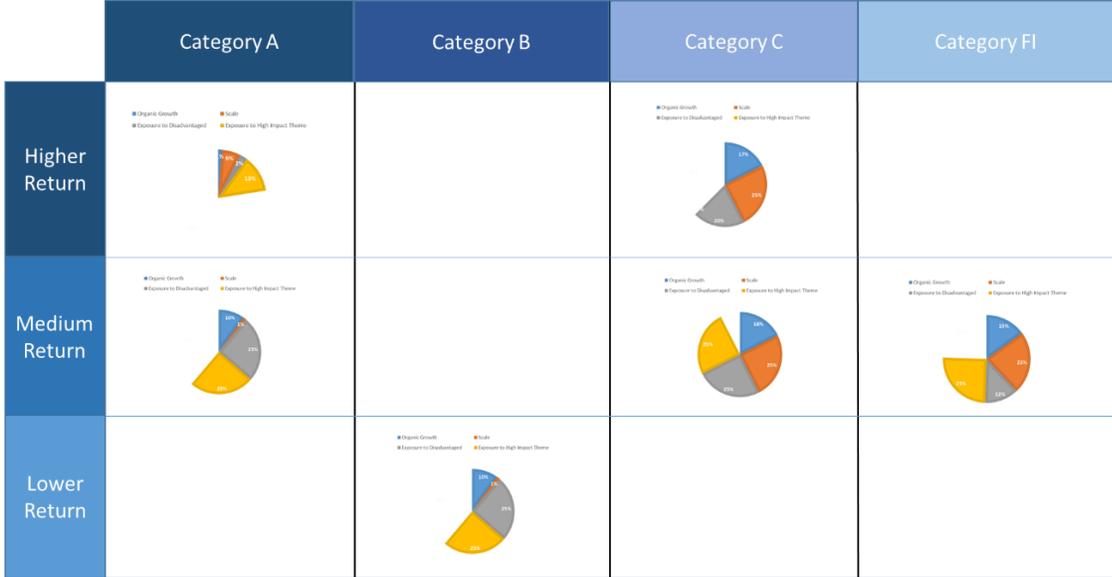
Charts 14 to 16 illustrate initial sorting frameworks customized for investors with different mandates.

A typical institutional investor will seek to maximize portfolio sustainability within constraints of risk and return, consequently Chart 14 employs return as a mandate filter.

A development finance institution will seek to maximize portfolio sustainability subject to staying within an additionality constraint, consequently Chart 15 employs additionality as a mandate filter.

An investor with a mandate to focus on a limited number of sectors will use the sectors within its mandate as a mandate filter, as illustrated in Chart 16.

Chart 14 Initial Deal Screen, Financial Mandate



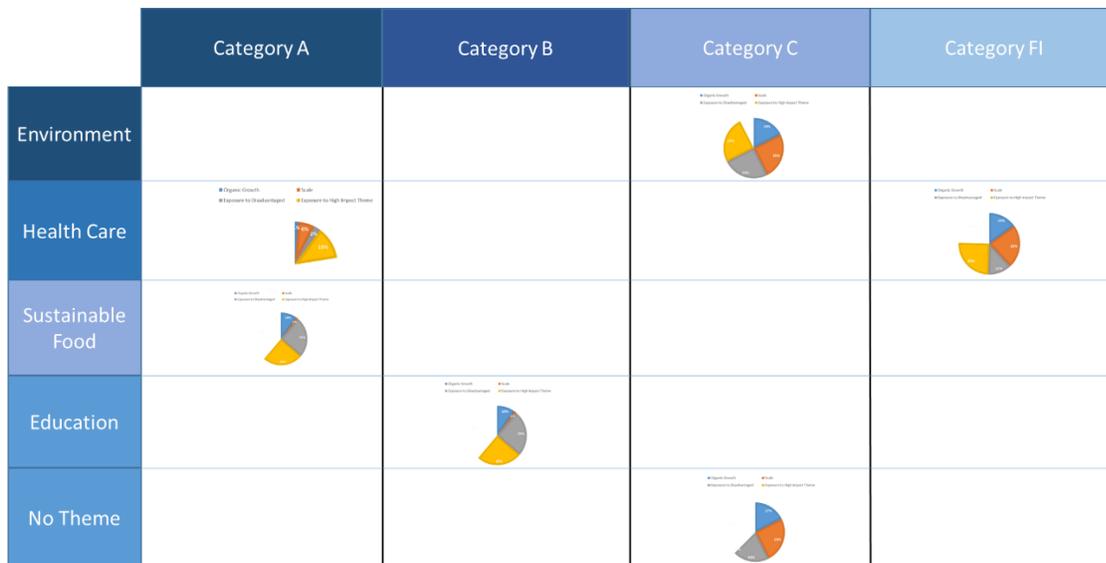
For an investor seeking to maximize sustainability within financial targets (Chart 14), the lower return Category B ESG rated asset will be eliminated from consideration. The most unambiguously attractive asset is that with higher return rated Category C. The medium return assets with Category C and FI ESG ratings are also attractive. The two assets with Category A ESG ratings are financially attractive but will require further investigation into the exact risks involved. The asset with higher return, a Category A ESG rating and a low impact score will provide a test of the investor’s commitment to sustainable investing.

For an investor such as a development finance institution with a binding requirement for additionality (Chart 15) the two low additionality assets will be removed from consideration. The assets with high additionality and Category B and FI ESG ratings will be attractive. The asset with moderate additionality, a Category C ESG rating and a high impact score will also be interesting. The asset with moderate additionality and a Category A ESG rating may not be attractive unless, after investing the specific risks involved, it is felt that the risks can be managed with a high degree of confidence.

Chart 15 Initial Deal Screen, Development Finance Mandate



Chart 16 Initial Deal Screen, Thematic Mandate



For an investor whose mandate requires investment in specific themes (Chart 16), the asset without any thematic exposure will be removed from consideration. Depending on the investors specific thematic focus, the other five assets all remain in play. However, the health care and sustainable food assets with Category A ESG ratings will require investigation into the specific risks involved and will be removed from consideration if the specific risks are considered too high or too difficult to manage with confidence.

Charts 14-16 illustrate a framework for efficient initial screening of assets which incorporates an asset's potential to create a quantity of impactful outputs, ESG risk and investor-specific mandate issues.