Zheng Partners LLC

郑和

Measuring Sustainability: Data + Flexible Analytical Tools versus Ratings

In the note "Pricing Impact"[1] I made the following observation in regard to operationalizing a general theory of impact using a scoring methodology:

"The method selected to operationalize the general theory will depend on the quantity of data available.

Scoring Systems. If data are scarce, a scoring method can be used to rate the potential of an asset class to create a quantity of impactful primary outputs. Scoring systems have the advantages of simplicity and transparency. They can be developed earlier than other quantification approaches in situations where there is not an adequate quantity of data to support more mathematically rigorous techniques.

…..

The difficulty with scoring systems is that they are inherently subjective and require judgement (again subjective) to cope with outliers."

My assumption was and remains that as access to impact information improves the analysis of the impact characteristics of assets will, in time, be implemented through the direct analysis of data by independent analysts rather than the formalized construct of a rating system.

Are Rating Systems the Natural Framework With Which to Assess Sustainability?

The shortage of data on the sustainability characteristics of assets has led to a proliferation of rating methodologies for ESG and Impact.

But are rating methodologies the natural way to measure the sustainability characteristics of assets or are they a passing phase until a large enough quantity of data is available for analysis?

Before answering this question, we need to briefly pause to look at the purposes for which investors need to understand the sustainability characteristics of assets. We need to do this as ratings may be a good approach for one purpose but not for another.

There are two different motivations for investors to analyze the sustainability characteristics of assets.

The first is in connection with portfolio construction. Investors want to identify those assets which best help them to meet the mandate of their portfolio. To do this investors need access to information on all the sustainability characteristics of an asset such as the asset's ESG profile, exposure to impactful themes, geographic location relative to a disadvantaged population and so on.

The second is in connection with improving financial return. Investors want to identify opportunities to make gains or avoid losses. To do this investors need to be able to zero-in on

[1] "Pricing Impact. Extending impact investing to price externalities and lower the cost of capital to impactful investments." David Wilton September 2019 page 71

those sustainability-related characteristics of an asset which have the potential to cause a meaningful change in its value.

Having described the two purposes for which investors need to analyze the sustainability characteristics of assets, let us now explore the suitability of ratings to meet these needs and see if ratings appear to be the long term solution or an interim solution until better data is available.

Starting with the need for information to guide portfolio construction, I think it is readily apparent that to assist investors to construct portfolios tailored to their mandates, disaggregated data is of more use than a rating.

For example, investors may be interested in particular high impact themes or geographies and not others. Investors may be willing to take exposure to assets rated B, C and FI for ESG risk by the IFC performance standards, but not the highest risk category A assets. Issues like intent and additionality may be relevant to their mandates or they may not be.

Disaggregated data combined with good analytical capability meets the need of portfolio construction for information on specific sustainability characteristics while an aggregated 'all in' sustainability rating cannot meet this need.

Turning to investors need for sustainability information in order to enhance returns or avoid losses, one way to approach the question of which type of data best meets this need is to compare the current treatment of bonds and equities.

The bonds of a company are rated while the equity is not.

The difference between the bonds and the equity of a company is that the bonds represent a pre-determined time-bound contractual cash flow while the equity represents a permanent share in the company, the value of which is affected by multiple factors.

The sole issue with bonds is the probability of an investor receiving the contractually determined cash flow on time and in full over the life of the bond. This enables bonds to be ranked from lowest risk to highest risk.

Once probabilities are determined by a small group of specialist firms (for example Standard and Poor's, Moody's, Fitch), bonds with similar maturities can be bundled in various ways to create synthetic instruments with the risk, yield and liquidity characteristics desired by an investor.

The equity of the company on the other hand contains no promise of a certain cash flow and is not amenable to the analytical framework of bond rating. There are good reasons why no one pretends to be able to credibly rank the equity of companies from best to worst.

The value of the equity of a company depends upon a wide range of factors. Equity valuation is assessed independently by thousands of analysts applying a range of techniques and

individually deciding which of the multiple factors that can affect the value of an equity are the most relevant in the present moment. Out of this hive of activity consensus emerges and retreats and emerges again.

Between these two different approaches of ratings and market consensus, where does sustainability fit?

Is sustainability regular and contained, analogous to the promised cash flow on a bond, to be rated by a small group of specialists whose ratings are then widely accepted?

Or, is sustainability irregular and multivariate, analogous to equity and better approached by thousands of independent analysts applying a range of techniques and deciding which factors are the most relevant to the situation, out of which consensus emerges?

Three things suggest to me that sustainability clearly falls into the irregular and multivariate camp and is best addressed by multiple independent analysts striving to determine which of the many possible factors are the most relevant to the situation.

The first is the sheer number of different types of sustainability. For example, refer to the number of indicators in IRIS+[2] and the different categorizations of ESG risk in the IFC performance standards[3].

The second is the fact that, analogous to equity, the relevance of the various factors to determining the risks and opportunities presented by an asset will vary over time for the same asset. At one moment it may be governance which poses the greatest risk and also presents the greatest opportunity, at another it may be a new technology which can lower the carbon footprint of a company's operations.

The third is an examination of the effect of different factors on (i) the value of equity, (ii) the value of debt and (iii) the quantity of impactful outputs such as jobs and access to healthcare that an asset produces.

This comparison is made in Table 1 which considers the strength of the effect of various factors on the valuation of equity, the valuation of debt and the quantity of impactful outputs produced.

Table 1 indicates that the pattern of response to these factors is much more consistent between equity valuation and the quantity of impactful outputs than it is between debt valuation and the quantity of impactful outputs.

Sustainability appears to be analogous to equity rather than to debt.

---

[2] https://iris.thegiin.org/standards/

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

Table 1 The Effect of Various Factors on Valuation and the Quantity of Impactful Outputs

	Equity Valuation	Debt Valuation	Quantity of Impactful Outputs	Impact similar to Debt or Equity?
Execution Risk	Very direct effect.	Effect only at extreme or in longer term.	Direct effect. Poor execution will reduce # of jobs / access created	Equity
Competition / Threat new business model	Direct effect	Effect only in longer term	Direct effect. Negative effect on company will reduce # of jobs / access created.	Equity
Earnings predictability / constancy	Some effect, but less than for debt	Direct effect as affects probable interest coverage	Less effect as impact is more directly related to revenue than to earnings	Equity
Leverage / interest cover	Some effect, but less than for debt	Direct effect	Indirect effect at extreme if over-leverage causes operational problems	Equity
Change in Bull / Bear sentiment	Direct effect	Less effect	Indirect effect at extreme if change in access to capital affects growth	Debt
Change in Monetary Policy	Indirect effect	Direct effect	Indirect effect if change in cost of capital affects growth	Equity

If sustainability is analogous to equity and is best approached by independent analysts determining which factors are most relevant to the situation, then the current dominance of rating methodologies must be a response to lack of adequate data for a full analytical approach and should be viewed as a transitory phase.

Issues with Rating Systems

It is in the interest of investors and the broader development of sustainable investing for the data required for sustainability analysis to be made available sooner rather than later as, while investors continue to be reliant on rating systems, they are faced with the inadequacies of these systems.

Two issues are of particular concern.

Firstly, rating methodologies bundle a number of factors into a single rating to represent the overall sustainability of an asset.

However, bundling creates a signal extraction problem for those investors who believe that one of the factors is much more relevant than the others and who would prefer to base decisions on that single factor alone or, at least, to apply their own weightings to the various factors.

For example, ESG rating methodologies combine factors relevant to each of E, S and G into a single rating. For a particular company an analyst might think that at the present time the E factors are much more relevant than the others for assessing the sustainability risks and opportunities presented by the company. In fact the analyst might think the most relevant data is a sub-set of E factors.

In this example rating systems pose two problems for the analyst.

It may not be known exactly which factors are included in the ratings and so the analyst may not be certain that the ones she considers most relevant for the particular situation are baked into the rating.

Further, even if it is known that the factors most valued by the analyst are included in the rating, the signal from these factors may be drowned out or distorted through the bundling with multiple other unrelated factors.

By bundling multiple factors to obtain an overall rating, a rating methodology may obscure or destroy information rather than enhance it.

Secondly, as noted in the quotation at the beginning of this note, rating methodologies are prone to subjectivity.

The low correlation between various ESG ratings has been documented[4].

Of particular interest is work by Eccles and Stroehle[5] which explores the question of *why* different providers of ESG ratings select different approaches which lead to low correlation between the ultimate ratings.

The study suggests that the low observed correlations are, at root, driven by differences in the origins of the firms providing ESG ratings – the background, experience and purpose of the founders - which lead to differences in metrics used, standards of materiality and weightings.

This same bias of initial experience or, as I will refer to it, bias of initial conditions, is evident also in impact rating methodologies.

It is standard practice in impact rating methodologies to include intent and additionality. Intent is relevant to the mandate of philanthropic entities and additionality is relevant to the mandate of development finance institutions (DFIs). It is these groups who have developed much of the thinking around impact investing.

---

[4] "Aggregate Confusion: The Divergence of ESG Ratings", Florian Berg, Julian F Koelbel, Roberto Rigobon, MIT Sloan School of Management Working Paper 5822-19 August 15 2019

[5] "Exploring Social Origins in the Construction of ESG Metrics", Robert Eccles and Judith C Stroehle, Working Paper, Said Business School, University of Oxford

However, as I have argued elsewhere[6], neither intent nor additionality is relevant to the mandates of commercial investors. Hard-wiring these concepts into the definition of impact investing eliminates from consideration by commercial investors many assets which produce socially or environmentally beneficial outputs and which are well-suited to the mandates of these investors. This slows the adoption of sustainable investing across total assets under management (AUM) and, rather, results in sustainability being a niche application across a smaller subset of AUM.

Initial conditions bias can be expected in the development of any new discipline such as sustainable investing. The initial form of the discipline is shaped by the experience set of the initial movers and subsequently needs to be re-shaped by the collective experience of a wider group in order to meet the needs of all potential applications.

Rating methodologies tend to embed and codify biases of initial conditions.

Analysis by numerous independent analysts will suffer from initial conditions bias but, with greater freedom to explore options and less sunk cost in development and group identity, will tend to more rapidly shed initial conditions biases through exploration and experience.

For sustainable investing to progress it is vitally important that the data required for the independent analysis of the sustainable characteristics of assets be made available through accounting rules and stock exchange listing requirements, so that the analysis of the sustainability of assets can develop in a manner analogous to equity analysis.

What Can Commercial Investors do Until Sufficient Data is Forthcoming?

Given that the bundling of data to create ratings limits investors' ability to base their actions on the information which they consider most relevant to the particular situation, creates signal extraction problems and incorporates non-transparent initial conditions bias, investors' response should be to seek non-bundled disaggregated data and to either create their own analytical capacity or seek providers who offer sufficient analytical flexibility to meet their needs.

Investors should request unbundled data for all sustainability rating methodologies, both ESG and impact.

Unbundled data will give investors the option to focus on the particular information they believe to be most relevant (if it is available) or to use the bundled score if they prefer.

Unbundling will also allow investors to choose whether or not to utilize mandate factors such as intent and additionality in their decision making.

---

[6] "The Short Version 'Pricing Impact' written as a story of discovery in 43 pages" David Wilton March 2020

Further, requiring unbundling will increase pressure on the providers of ratings to improve the quality and quantity of data available to them, which will in turn lead to greater signaling to companies, accountants and stock exchanges that more detailed sustainability data is required.

Greater demand for unbundling will help to send the signal that what investors need is better raw data combined with flexible investor-driven analytics and that what investors do not need is a better rating methodology, a better black box or a single market-dominating methodology.

To accelerate the provision of better sustainability data, investors should lobby for the disclosure of the sustainability data they require to make decisions and be open to collaborate in sharing the data they are able to collect from their portfolios to improve the data available to all investors.

What is the Likely Eventual Business Model for Providing Data on Sustainability?

The business of providing data on the sustainability of assets likely has three areas of value addition:

- Quality and quantity of the raw data.
- Flexibility and user-responsiveness of the analytical capability.
- Ability to provide unique and advantageous insights.

As the current quality and quantity of data is low, rating systems offer a viable initial response to the first two areas of value addition. Consequently, providers of sustainability data have put a lot of effort into developing rating systems.

However, this has led to a dominating focus on creating better rating frameworks and methodologies, somewhat losing sight of the ultimate goal of good data combined with user-responsive analysis.

Part of the attraction of creating a better methodology from a provider's perspective is the potential, in a nascent discipline, to develop 'the solution' which will give its creator a dominant market position.

Chart 1 suggests why the search for the ultimate methodology may be a journey up a blind alley.

The focus of competition currently appears to be to create the best rating methodology. However if, as I believe to be the case, sustainability will eventually be analyzed in the same way as equity, what is required is not the best rigidly defined process or black box but the most flexible and user-responsive analytical platform in combination with good data.

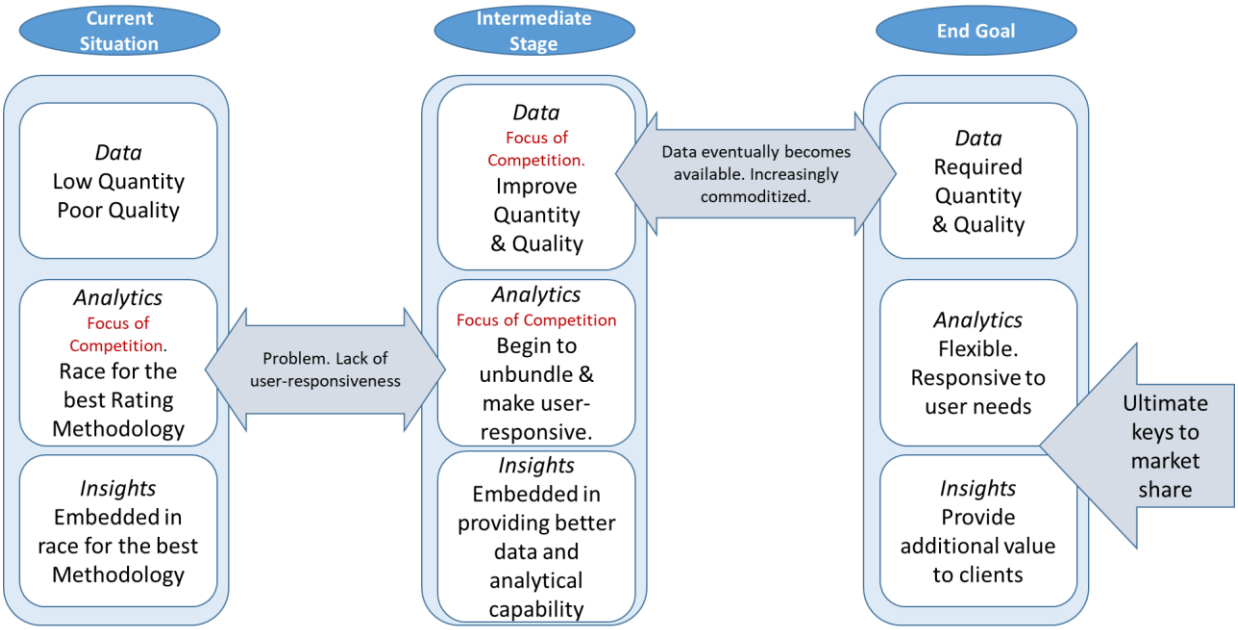
Consequently, as the need for flexibility is recognized, the market is likely to move on to an intermediate state in which providers of sustainability data are competing to provide both the

most flexible and user-responsive analytical platform and the best data with which to populate this platform.

A problem that is likely to occur in this intermediate state is that ultimately, as more sustainability data is made available through requirements for disclosure and listing, data will become more of a commodity.

The likelihood of this eventual outcome will reduce the incentive of private entities to invest in creating sustainability data. An entity investing heavily to generate better data may gain a short term advantage only to lose it as the availability of data improves.

Chart 1 Possible Progression of the Market for Provision of Sustainability Data



This suggests that not only is it important for investors to lobby the accounting profession and stock exchanges for greater disclosure of sustainability data, but that in the intermediate period until adequate data is provided from these sources, there is considerable need for collaboration to make what data exists available as a public good.