Itaú Asset Management

ESG Integration into fundamental equity valuation

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Presentation

This White Paper aims to share the Responsible Investment practices of Itaú Asset Management[1] , with a focus on integrating Environmental, Social and Governance (ESG) issues into our fundamental equity valuation models.

Prior to doing so, we introduce the basic concepts underlying the conceptualization and evolution of Responsible Investment (section 1) and a brief discussion of its potential advantages, in terms of risk-return metrics, over traditional investment approaches (section 2).

Later on, we explain the building blocks of Itaú Asset Management's ESG Integration Method (section 3). In short, the method aims to price the impact of ESG issues into fundamental equity valuations, coherently with Itaú Asset Management's investment philosophy.

To conclude (section 4), we reflect on lessons learned from developing and implementing our ESG integration method, and the path ahead to enhance Responsible Investment in Brazil and Latin America.

1. Responsible Investment

Broadly speaking, Responsible Investment is an investment philosophy that takes Environmental, Social and Governance (ESG) issues into account in its asset allocation, selection and ownership practices. Most practitioners of Responsible Investment integrate ESG issues into investment processes in order to achieve better risk-adjusted returns. Also known by the acronym SRI (Sustainable & Responsible Investment),

[1]Itaú Asset Management is the asset management division of Itaú Unibanco S.A.

Itaú Asset Management was **the first large investment manager in Brazil** to become a PRI signatory, in 2008.

it has been practiced for decades in various ways, but has gained wider acceptance since 2006, with the launch of the United Nations-supported Principles for Responsible Investment (PRI)[2]. A global network of institutional investors, PRI promotes the adoption of six investment principles and supports its signatories in implementating them.

Itaú Asset Management was the first large investment manager in Brazil to become a PRI signatory, in 2008. Since then, it has worked to promote these principles in the Brazilian market. Globally, the PRI has more than 1,200 signatories who are responsible for approximately 35 trillion dollars of investment assets (April 2013). Brazil has 62 PRI signatories, 29 being asset managers.

A survey conducted by the Global Sustainable Investment Alliance found that at least 13.6 trillion dollars under professional management globally[3] followed Responsible Investment criteria to some extent, representing roughly 22% of professionally managed assets in 2012. The trend points to growth in all markets.

Itaú Asset Management was experienced in Responsible Investment prior to joining the PRI and in 2004 launched the Itaú Excelência Social Ações Fundo de Investimento –FIES[4] (Itaú Social Excellence Stocks Fund) , marking the beginning of its ESG integration journey.

At its launch, FIES conducted sector-based negative screening and norms-based exclusion for specific stocks. This approached evolved over time to turn FIES into an incubator for ESG integration techniques developed by Itaú Asset Management. Since 2010, FIES has applied the ESG integration model to the remaining investment universe after the screening process. As of 2011, ESG integration has been rolled out to actively-managed listed equities funds.

Corporate Sustainability Index (ISE)

The Corporate Sustainability Index (ISE, in portuguese) of BM&FBOVESPA lists companies

[2]More information at www.unpri.org
[3]USA, Canada, Europe, Africa, Asia, Japan, Australia
[4]Before investing, read the Prospectus and Bylaw of the fund. Shares redemption requests are converted on the 1º business day and paid on the 4º business day subsequent to the request. This Fund uses strategies that may result in significant losses to its investors. Advertisement Material of the Fund. This Fund has prospectus and fact sheet with essential information, which may be consulted in www.itau.com.br.
The fund is offered to Brazilian investors in Brazilian territory only.
Investors with no residence in Brazil are generally not eligible to purchase or to otherwise participate in any offering of fund's shares. Fund's shares and any other securities mentioned herein have not been and will not be registered under the Securities Act of the United States of America or with any other regulatory authority of any state other than the Brazilian Securities and Exchange Commission (Comissão de Valores Mobiliários – CVM).
The information about the Fund is provided for informational purposes only and does not constitute or should not be construed as an offer to buy or sell or solicitation of an offer to buy or sell any Fund's shares, including but not limited to the United States of America ("U.S.").

that manage ESG issues well. Since its launch, in 2005, the number of investment funds with ESG criteria has grown considerably. However, total assets under management in these funds have stabilized at around USD 1 billion[5], a very small portion of Brazil's total investment industry. The majority of these funds deploy either passive or active strategies basing their investment universe on ISE.

After a period where most strategies were based on ISE, there is a growing market interest to develop more sophisticated techniques for ESG integration. These go beyond offering funds with explicit ESG criteria, but instead develop analytical tools that include ESG integration within fundamental equity valuation by modeling impacts on companies' cash flows and cost of capital.

At Itaú Asset Management, we believe ESG integration is a journey. In our recent experience with this approach, we achieved higher accuracy in the analysis of Brazilian listed companies. Because our models have incorporated governance issues for a longer period of time, this paper will further focus on Environmental and Social issues within ESG integration. We believe this is the ultimate frontier in Responsible Investment not just in Brazil, but globally.

2. The ESG Alpha

ESG integration is gaining traction with mainstream investors based on the belief that it can generate higher risk-adjusted returns (alpha). A growing body of academic and practitioner research studies corroborate this ESG alpha hypothesis.

Recent reviews of empirical academic studies conducted by Mercer[6] in 2007 and 2009 appear to confirm the ESG alpha at an international level. It was the conclusion of 20 out of the 36 studies reviewed, while 13 suggest a neutral correlation between ESG and financial performance, and only 3 point to negative alphas. These final studies backtested performance only for portfolios that used negative screening. This therefore indicates that more sophisticated strategies such as Best-in-Class and ESG integration deliver neutral (13 studies) or positive alphas (20 studies).

Some studies test the alpha hypothesis from specific ESG issues, such as:

- Eco-eficiency (Derwall et al., 2005);
- Environmental management (Bauer & Hann, 2009);
- Employee relations (Statman and Glushkov, 2009; Edmans, 2011);
- Community relations (Kempf and Osthoff, 2007; Statman and Glushkov, 2009);
- Customer relations (Gruca, 2005; Fornell, 2006);
- Board diversity (Cenci, Hoepner, Rezec, Schertler, 2012).

However, it is not simple to capture ESG alpha, as the most sophisticated integration approaches demand appropriate expertise: specialist ESG managers (>50% ESG AuM) outperform peers with lower levels of expertise (Gil-Bazo et al., 2008). This finding corroborates the need for investors to investigate closely the specific ESG integration approach used by asset managers.

Academic studies focused on the Brazilian market are still scarce, given the shorter track record of ESG integration in the market. Responsible Investment practioners typically compare the performance of ISE with Ibovespa, Brazil's stock market main index, where ISE has had a clear advantage since 2011.

A study by Prof. Ricardo Rochman from Fundação Getúlio Vargas, a business school, compared the return and volatility of listed equity funds in the Sustainability category with Ibovespa (IBOV). The results point to a significant advantage of Sustainability Funds for all periods.

[5]ANBIMA category: Listed Equities – Sustainability and Governance (April 2013).
[6]Demystifying Responsible Investment Performance (2007) e Shedding Light on Responsible Investment (2009)

We consider ESG issues to the extent that they **can materially affect the value of assets** where we invest.

Figure 1: Brazilian Sustainability Funds x IBOV

Sustainability Funds have higher returns and lower volatility than IBOV

Period ending in 31/May/12	Funds cumul. return	IBOV cumul. return	Funds volatility	IBOV	Number of funds
12 months	-2.39%	-15.68%	15.87%	23.10%	15
24 months	6.73%	-13.57%	14.24%	19.82%	15
36 months	30.11%	2.43%	15.09%	19.38%	14
48 months	-8.03%	-24.94%	22.41%	26.16%	12
60 months	21.95%	4.25%	21.92%	25.37%	9
72 months	65.06%	49.17%	20.64%	23.96%	9

Source: Exame.com (11/Jun/2012), based on Prof. Ricardo Rochman's study (FGV)

Another study by Dimas Hartz Pinto from Federal University of Rio de Janeiro indicated the result to be a technical draw, according to statistical significance tests between ESG funds and traditional funds run by the same manager.

An underlying assumption of Responsible Investment is that returns are generated in the long run, since the adoption of sustainable practices cause structural changes to companies' business models. This does not impede ESG issues to impact corporate results in the near term, but does suggest that the positive effects of ESG integration may take time to materialize in Responsible Investment portfolios.

This market landscape presents a significant opportunity for performance differentiation for those asset managers who understand ESG risks and opportunities in the different industries and develop capabilities to anticipate companies' value creation and/or destruction.

Itaú Asset Management believes in the potential for alpha generation and therefore has continued to develop its proprietary ESG integration method. Because Corporate Governance (G) has been considered by the broader market for a longer time, we present here the method and process used to analyze Environmental (E) and Social (S) issues.

3. Itaú Asset Management ESG Integration Method

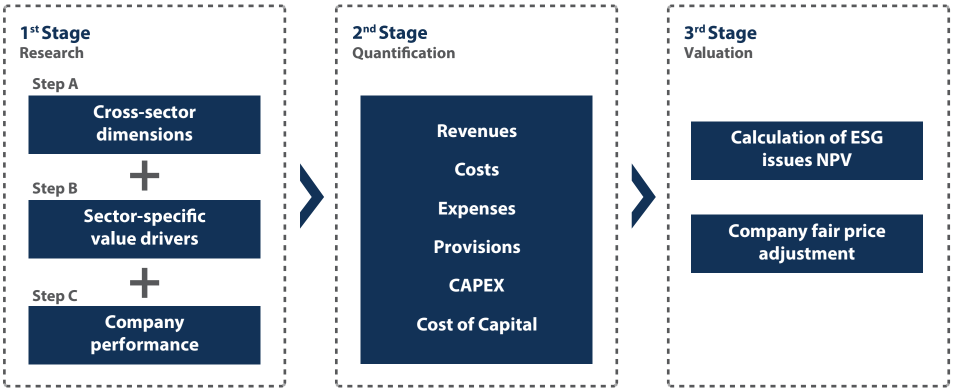
As managers of our clients' assets, we have a duty to base our investments on a comprehensive understanding of all risks and opportunities that result from our decisions.

We consider ESG issues to the extent that they can materially affect the value of assets where we invest. Our approach to Responsible Investment helps us achieve our fiduciary duties, creating value for our customers by providing returns better adjusted to their risk profiles.

The ESG Integration Method of Itaú Asset Management incorporates these variables into our fundamental equity valuation model, by analyzing ESG impacts on cash flow and the cost of capital. The objective is to adjust individual target stock prices and to anticipate events that result in value creation or destruction. This approach provides flexibility to our portfolio managers, who use the ESG valuation inputs to varying degrees, according to their specific strategies and mandates.

The method does not use negative screening to exclude sectors or companies and so reduce the investment universe. Nevertheless, such exclusions may be added as an additional filter for clients with exclusive funds or managed portfolios. (see figure 2)

Figure 2: Itaú Asset Management's ESG Integration Method - Overview
Three stages: ESG research, quantification and valuation



3.1. 1st Stage - Research

In the Research stage, our analysts collect ESG data and information related to the differerent sectors and companies covered. The Research is structured in 3 steps, as follows.

Step A
Cross-sectoral Dimensions:

While developing Itaú Asset Management's ESG Integration method, we identified and clustered ESG issues in eight cross-sectoral dimensions. These are ranked according to their relevance for specific sectors.

These eight dimensions act as a radar to capture sector and company specific ESG information: however, the focus is given to the most material issues for each sector. It is important to mention this materiality assessment is specifically geared to the Brazilian market and its political, economic, legal and cultural context.

Figure 3: Cross Industry Dimensions
Associated risks and opportunities

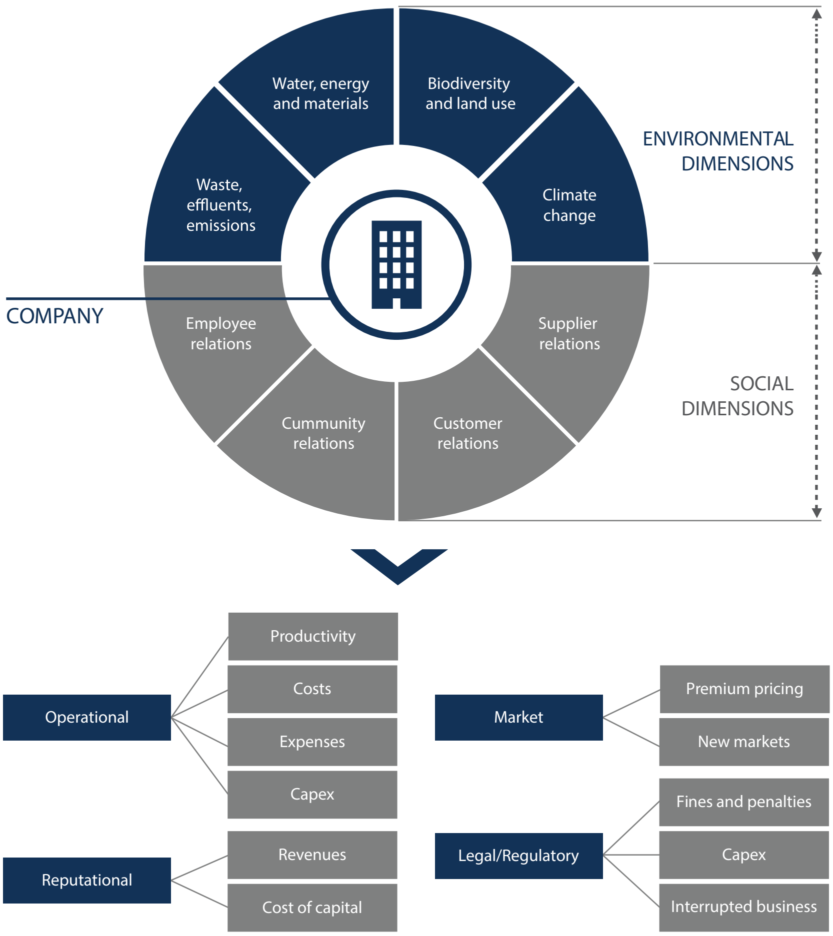


Figure 4: Cross Industry Dimensions
Example of materiality in 3 diferent sectors

Dimension	Telecoms	Real Estate	Iron and Steel
Climate change	Low	Moderate	High
Biodiversity and land use	Low	Moderate	Low
Water, energy and materials	Moderate	Moderate	High
Waste, effluents and emissions	Low	High	Moderate
Customer relations	High	High	Low
Community relations	Moderate	High	High
Supplier relations	Low	Moderate	Low
Employee relations	Low	High	High

Source: Itaú Asset Management analysis

Step B
Sector specific value drivers

In this stage, our analysts adjust cross-sectoral dimensions to the specific value drivers for each sector, which includes identifying types of risks and opportunities, deriving metrics and understanding time horizons where events could materialize.

Figure 5: Climate Change Dimension
Example of risks and opportunities, time horizon, and metrics for the Iron & Steel sector

Steel is a carbon intensive industry. There are two risks that arise from this fact:

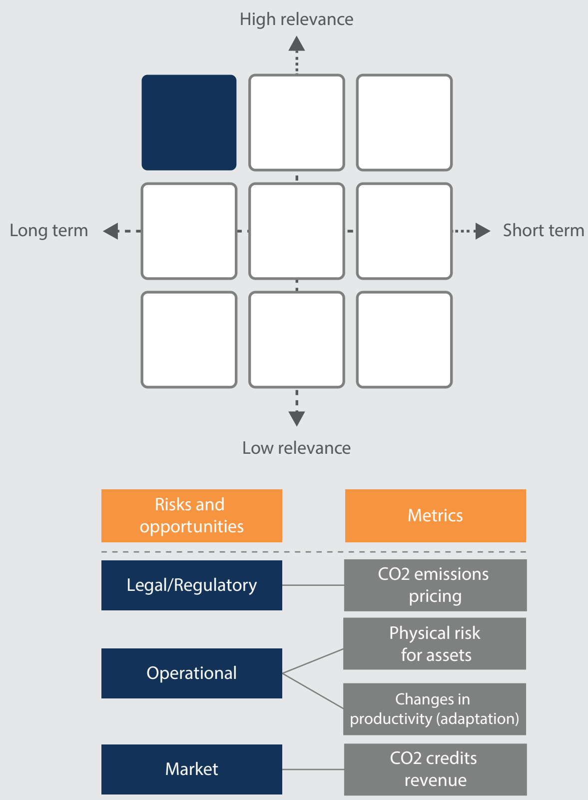
- Operational, related to the loss of assets due to extreme climate phenomena associated with climate change;
- Regulatory, related to the development of new legislation regarding GHG emissions.

There is also an opportunity:

- Market, carbon credits create a new stream of revenue.

At the moment, in Brazil, all eyes are on negotiations concerning the development of adaptation and mitigation plans for different sectors.

In future, a more strict policy is expected, which will define a carbon price for companies.

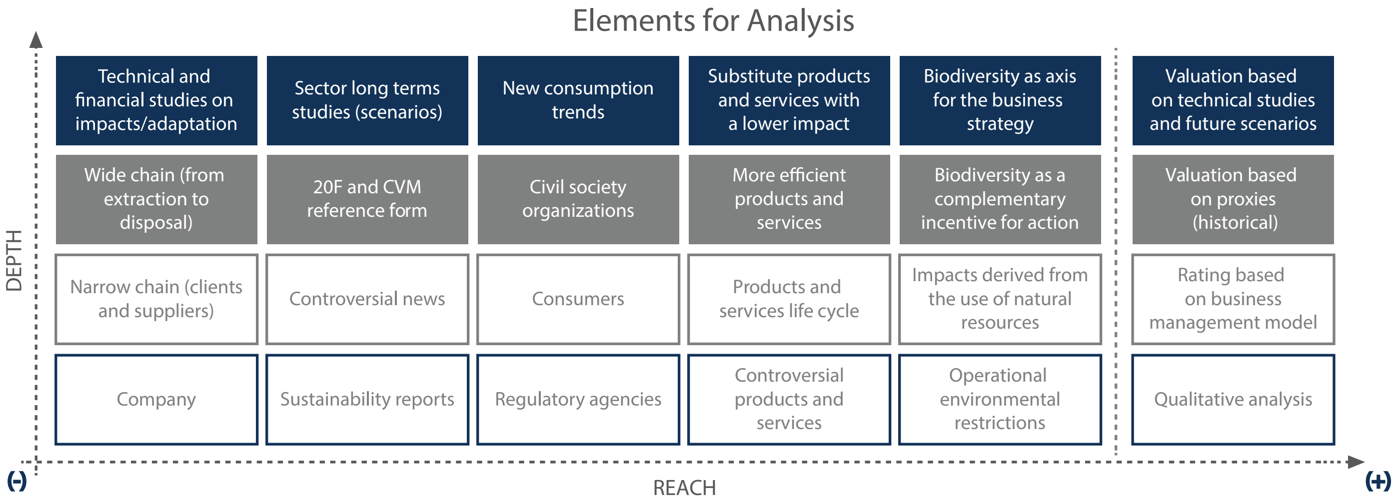


Step C
Company exposure and performance

In this stage, we analyze the exposure of each company to its material ESG dimensions and how the company performs and manages these issues. To obtain relevant information, our analysts scan a variety of sectoral and thematic research, annual and sustainability reports, regulatory filings and other official company communications, as well as structured and unstructed databases and newsflow.

In addition to secondary data, company visits and stakeholder consultations are of fundamental importance to reduce information asymmetries and enhance objectivity. The relatively narrow investment universe in Brazil (less than 350 stocks) means Itaú Asset Management can be very thorough in the analysis, while our size relative to the domestic market means we have unrivaled access to senior management teams.

Figure 6: Information sources used in 1st stage – Research
Example of information sources



3.2. 2nd stage - Quantification

The second stage involves the transformation of research inputs, which are mostly physical or qualitative, into quantitive material for valuation. To do so, the analysts perform the following activities:

- Identification of adequate indicators or metrics to quantify environmental and social impacts;
- Segregation of recurrent vs. episodic events, spotting those already priced by traditional analysis;
- Determination of cash flow lines best suited to reflect the impacts;
- Estimation of probabilities for materialization of events, categorized in "high" (> 75%), "moderate" (50% to 75%) and "low" (< 50%), to be used in performance simulations;
- Estimation of time horizon for the impacts, categorized in "long term" (> 5 years), "mid term" (1 to 5 years) and "short term" (< 1 year).

To calibrate the impacts and project them appropriately on future cash flows and cost of capital, we undertake an additional analytical step to identify:

- ESG variables which are manageable vs. those that are inherent to the given sector or business model;
- Relevant company initiatives to set itself apart from its sector peers;

This approach **provides flexibility to our Portfolio Managers**, who use the ESG valuation inputs to varying degrees, according to their specific strategies and mandates.

- Implementation stage for those initiatives (plan, pilot project, roll out, implemented);
- Whether initiatives represent effective change to business model or company behavior, and are implemented through core business or support functions.

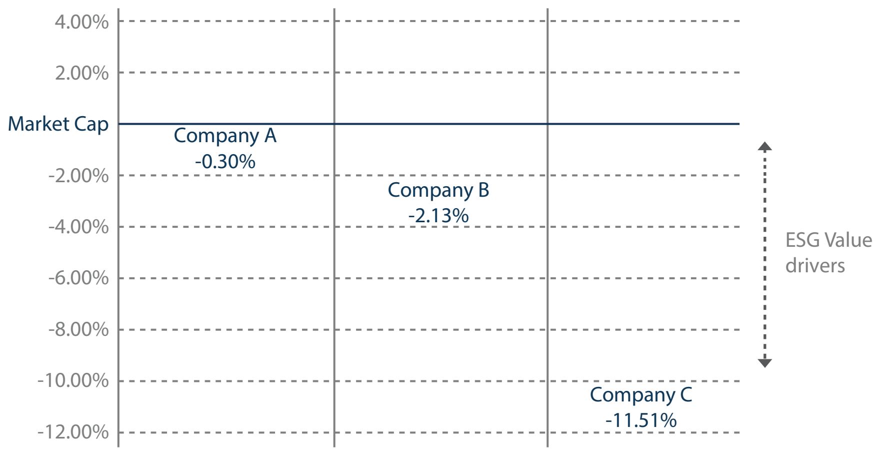
After the quantification process, the analysts will have the necessary variables to include ESG issues in projected cash flows and cost of capital, as well as conducting stress tests and sensitivity analyses.

3.3. 3rd stage - Valuation

This stage involves integrating quantified ESG issues into our valuation models using the Discounted Cash Flow (DCF) method. By doing so, it is possible to find the Net Present Value (NPV) of ESG issues and compare them to companies' fair values.

Figure 7: Example of Valuation

Impact of a highly material ESG issue to companies of same sector*



*NPV of ESG issue divided by equity value of companies in 23/May/2012

4. Lessons Learned

Environmental and social issues are relevant for businesses and have the potential to impact the equity value of exchange-listed companies. The ability to integrate these issues into equity analysis and portfolio construction is advantageous to increase the potential for alpha generation. This capability is acquired through a disciplined research and quantification method, and adequate training for equity analysts.

Itaú Asset Management's ESG integration method is innovative as it incorporates ESG direcly into our fundamental equity valuation models through the Discounted Cash Flow approach. The monitoring of eight cross-industrial dimensions and the execution of a rigorous research and quantification process allow

Our methodology go beyond offering funds with explicit ESG criteria, but instead develop analytical tools that include **ESG integration within fundamental equity valuation** by modeling impacts on companies' cash flows and cost of capital.

our team to anticipate risks and opportunities before they materialize in stock prices.

We've learned that ESG risks not only materialize abruptly, through extreme events, such as the inclusion of a company in the Brazil's Ministry of Labor "forced-labor black list", which impedes companies in borrowing money from banks. The accumulation of subtle performance issues, in a gradual manner, usually goes unnoticed by the market. Therefore, monitoring employee-relations indicators helps not only to measure the probability of extreme sanctions, but also anticipates changes in workforce productivity, the occurrence of strikes and creation of liabilities that will affect margins quarter after quarter.

At Itaú Asset Management we are working hard to align our investment practices to a sustainable development paradigm while maintaining our fiduciary duty to deliver better risk adjusted returns to our individual, private bank, and institutional clients. Our proprietary ESG integration method does not exclude any industry or company from the investment universe, unless requested by clients of exclusive funds or managed portfolios.

To conclude, it is important to emphasize that equity valuation is not hard science: the inclusion of extra-financial issues, such as ESG, requires additional skills and continuous learning. We believe that practicing and reviewing our methods continuously will make us better stewards of our clients' assets.

[7] Source ANBIMA - Brazilian Financial and Capital Markets Association - July, 2014

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