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Finding the sweet spot in Brazil's sugar and ethanol industry

Thanks to its low production costs, Brazil's sugar and ethanol industry has long attracted international investors. However, low global sugar prices have plunged the industry into a crisis. Yet crisis breeds opportunity, and sustainability is an important factor enabling investors to distinguish the winners from the losers. Jürgen Siemer, Senior Agribusiness Analyst at RobecoSAM's Sustainability Investing research team discusses the main sustainability factors investors should watch for.

Integrating under-researched ESG information

ESG information is an important element in Robeco and RobecoSAM's investment strategies. RobecoSAM's dedicated Sustainability Investing Research analysts (SI analysts) identify the most material ESG factors for each industry and evaluate companies' performance on these factors. They then work closely with equity and fixed income analysts throughout the Robeco Group to integrate this ESG analysis into their investment cases for individual companies.

RobecoSAM considers any factor that can have a significant impact on a company's core business value drivers – namely growth, profitability, capital efficiency and risk exposure – to be financially material. Because these factors are relatively under-researched, the integration of financially material sustainability factors into the investment process allows our investment professionals to make unique and better-informed investment decisions for the long term.

Top-down analysis of an industry in crisis

To determine which sustainability factors are important for investors, we begin with a top-down analysis of the Brazilian sugar and ethanol industry and determine which long-term trends are likely to have an impact.

Brazil in the lead

Sugarcane has long been recognized as one of the world's most efficient crops in converting solar energy into chemical energy in the form of sugar. Its leaves as well as the byproducts of the cane crushing process – known as the bagasse – can be burned in cogeneration plants to produce steam and electricity, which is in turn used to run the mills. And the most efficient mills with cogeneration facilities sell their electricity surplus to the grid. Brazil is the world's largest sugar producer, accounting for 22 % of total production in 2013; the world's largest sugar exporter, with 44 % of the world's exports in 2013[1]; and with 25 % of the world's ethanol production in 2014, it is the second biggest ethanol producer after the US.[2]

The pricing crisis helps separate the wheat from the chaff

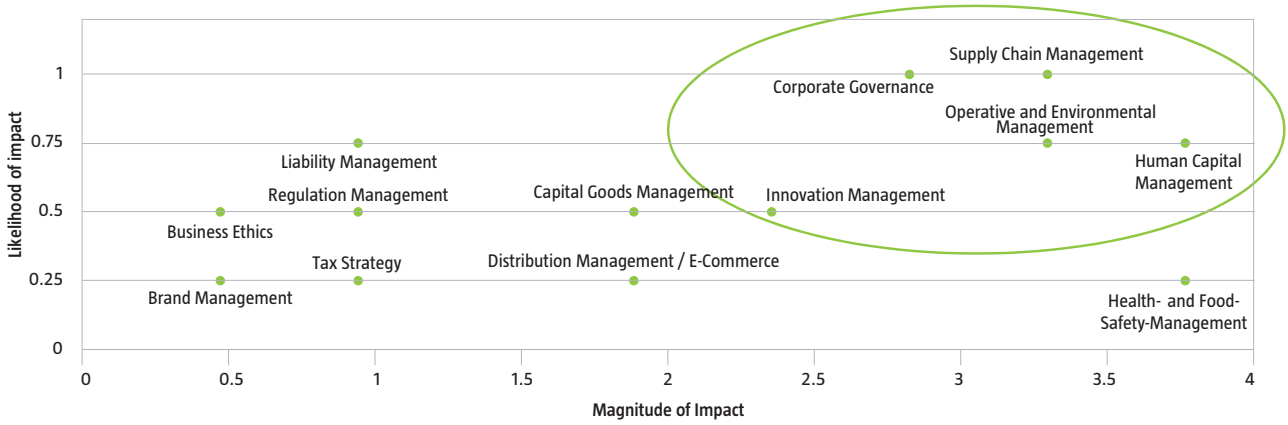
Sugar is a cyclical business and the current low global sugar prices have plunged the Brazilian sugar and ethanol industry into a crisis. However, times of crisis are also times of opportunity, especially from the point of view of international investors. We believe that sustainability analysis is essential to identifying higher-quality companies and that are therefore more likely to succeed over the long run, offering attractive opportunities for investors.

Our analysis reveals that the Brazilian sugar and ethanol industry basically consists of two separate worlds: at one end of the spectrum is a more traditional, local segment suffering from a lack of capital and investment and that faces various sustainability challenges. Unacceptable working conditions for cane cutters are usually found in this segment of the industry. Both the industry association and the Brazilian government have acknowledged the severity of the problem, and the Ministry of Labor has launched a program supported by the International Labour Organization to deploy specialized mobile enforcement teams to inspect working conditions at company operations and combat forced labor.

1 Food and Agriculture Organization, OECD
2 Renewable Fuels Association

Figure 1: Material sustainability factors for the Brazilian sugar and ethanol industry

Source: RobecoSAM



At the other end of the spectrum is a modern industry, often backed by international investors, whose facilities tend to be newer, with superior productivity, and with tighter monitoring of environmental and social standards. The harvest in this segment is highly mechanized, relies on skilled workers who can operate the machinery, and working conditions are generally much better. This progress, however, comes at a cost as the more modern sugar and ethanol operations offer fewer jobs to the unskilled rural poor. Therefore, as the industry continues to invest in more modern technology, it in its best interest to offer training programs to existing employees, which in turn contributes to the sustainable development of Brazil's rural areas.

Identifying the winners: five factors to watch

Which factors should investors consider when selecting stocks for their portfolios? We have prioritized the various factors according to their expected magnitude and the likelihood of their impact on growth, profitability, capital efficiency and risk, as shown in the materiality matrix in Figure 1. The factors in the upper right-hand corner are most likely to have a substantial financial impact, and we therefore focus our sustainability analysis on these factors.

The most material sustainability factors in the sugar and ethanol industry are:

- Operative and Environmental Management
- Human Capital Management
- Supply Chain Management
- Corporate Governance
- Innovation Management

Leveraging the data collected in the RobecoSAM Corporate Sustainability Assessment as well as other public sources, we analyze a company's performance on these factors in a disciplined manner. Below, we provide a brief description of each factor, as well as examples of specific variables we look at to assess companies' performance on these factors.

"Sustainability analysis helps investors identify the long-term winners in an industry in crisis."

Environmental Management

We use several operative and environmental parameters to evaluate the quality of a company's operative management. Historically, it has been common practice for plantations that rely on manual cutting to burn the leaves off the sugarcane prior to harvest, making it easier to cut the cane stalks. But this has negative environmental and health implications. As a result, in 2007, the state of São Paulo – which is responsible for 60 % of Brazil's sugarcane production – passed a law giving sugarcane producers in São Paulo until the 2014/15 harvest to eliminate cane burning.[3] Not only are the elimination of cane burning and the introduction of mechanization beneficial to the environment and field workers' health, they also improve productivity and efficiency. Modern combines also collect the leaves, which can be burned in the bagasse power plants to generate additional electricity.

Another environmental criterion relates to the large amounts of fresh water required for sugar and ethanol production. Where rainfall is insufficient and farmers irrigate the land, the amount of water drawn from rivers or wells needs to be closely monitored to control the high cost of irrigation and respect the water rights of communities further downstream.

3 UNICA - Brazilian Sugarcane Industry Association

Furthermore, sugar industry activities generate large amounts of waste, wastewater and emissions, which need to be monitored and kept below critical levels. Leakages affect the environment and the costs are borne by the company. More modern facilities produce significantly less wastewater and emissions per ton of cane processed.

Human Capital Management

The productivity of the mills requires a skilled and flexible workforce, which needs to be continuously trained. Companies' investment in training, measured in hours per full time employee (FTE), for instance, is therefore one of the criteria used in the analysis.

According to RobecoSAM's Media & Stakeholder Analysis (MSA) shown in Figure 2, which analyzes all media coverage of companies' involvement and response to environmental, economic and social crisis incidents, labor conditions of sugarcane workers is the sugar and ethanol industry's most significant sustainability topic in terms of severity. Employing workers as cane cutters without formal contracts under substandard, forced-labor working conditions remains a problem in Brazil, but is concentrated in remote, private plantations supplying cane to weak mills that turn a blind eye to these social problems.

Recognizing these challenges, the Brazilian government established a Special Mobile Inspection Group (GEFM) in 1995, under the Ministry of Labor, which combines the efforts of specially trained and equipped labor inspectors and prosecutors to combat forced labor. Companies caught with poor working conditions increasingly face stiffer penalties from the Brazilian government, though such labor issues tend to occur at less modern plantations that are less profitable than technologically advanced plantations with highly skilled employees and more attractive working conditions.

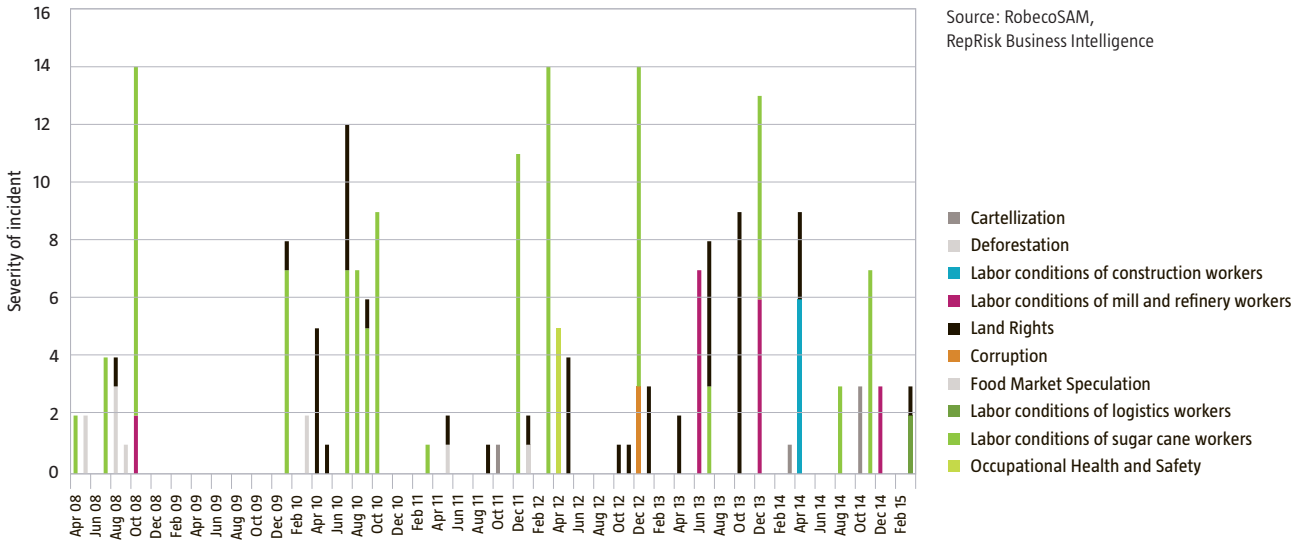
Supply Chain Management

Logistics from the field to the factory are a major cost factor. Inefficiencies such as waiting in queues or unexpected interruptions during the harvest can potentially turn otherwise profitable operations into loss-making ones. We therefore closely analyze performance parameters and the tools applied by companies for effective supply chain management.

Corporate Governance

Good corporate governance is essential given the growing size of the companies, the complexity of operations and the amount of investment required for the maintenance and modernization of facilities. We assess a company's management and board quality by looking at its

Figure 2: Labor conditions are the most significant sustainability topics in Brazil's sugar and ethanol industry



Source: RobecoSAM, RepRisk Business Intelligence

board members' experience and independence, board diversity, executive compensation structures, and check for possible conflicts of interest.

Innovation Management

Companies in the sugar and ethanol industry derive a competitive advantage from constant improvements to their processes. Since Brazilian mills often own and manage their sugarcane plantations, modern agricultural practices that enable higher yields are of prime interest to them. This, however, requires that companies constantly develop innovative production techniques in order to maintain a competitive advantage.

Investment opportunities

Although the recent devaluation of the Brazilian real has provided the industry with some relief, the current crisis will not come to an end until real sugar and ethanol prices begin to rise.

Investors should focus on identifying the sustainability leaders in the industry by assessing companies' performance on the most material sustainability factors discussed above. Such companies tend to be free of the social and environmental problems found in the more traditional segments of the industry. Moreover, they work with more modern factories and machinery, are more productive, and should benefit from the ongoing industry consolidation. Within the group of sustainability leaders, investors should concentrate on companies that focus on generating higher yields rather than on expanding acreage.

An example of such a leading company is São Martinho Group[4], which is among Brazil's top sugar and ethanol producers. Currently, the company operates four mills, one of which is São Martinho, the world's largest sugarcane mill, and another one of which is a joint-venture with Petrobras and exclusively produces ethanol. Most of São Martinho's sugar is exported to Europe and the Middle East. With a consolidated mechanization ratio of 87 %, an average agricultural yield of 100 tons of cane per hectare (non-irrigated) and superior logistics, São Martinho benefits from a competitive cost structure. The company is currently held in the RobecoSAM Sustainable Agribusiness Equities portfolio, which invests in companies that offer products and services that address key inefficiencies in the food and agribusiness value chain and that comply with critical sustainability criteria.

Another example is Adecoagro[4], founded in Argentina in 2002 by a group of Argentine and Brazilian entrepreneurs backed by foreign institutional investors. The company is a leading agro-industrial producer of food and renewable energy in South America. Adecoagro's biggest investment is in Brazil, where it operates three recently built sugar and ethanol mills and plans to further expand their production capacities. Its agricultural operations are fully mechanized, and all of its mills are equipped with state-of-the-art technology including full cogeneration capacity and have the flexibility to produce both sugar and ethanol. The company should harvest the benefits of its investments in sugar over the next few years as production and capacity utilization of its young asset base grow.

Provided that investments in such companies are made at an attractive valuation, investors can expect to reap the rewards when world sugar prices begin to rise again.

4 The company is mentioned for illustrative purposes only. Any reference to specific companies does not constitute a recommendation or advice to buy or sell certain securities or investment products.

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