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Note: JBS Investor Relations commented on this report June 20, 2017. JBS full comments are included in this report.

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Chain Reaction Research report JBS: Financial Restructuring Could Be Delayed Due to Serious Allegations webinar July 11, 2017

Join Chain Reaction Research, Ceres, Christian Brothers Investment Services, and ICCR to learn more about the recently released report JBS: Financial Restructuring Could Be Delayed Due to Serious Allegations profiling the largest global processor of beef and pork.

Confirmed speakers include:

- Gerard Rijk, Profundo
- Nathalie Wallace, Ceres
- Marcela Pinilla, Catholic Brothers Investment Services
- Kate Kroll, Green Century Capital Management

Please register here for the free webinar July 11am EDT, 2017.

JBS: Financial Restructuring Could Be Delayed Due to Serious Allegations

June 28, 2017

JBS (JBSAY) is the world's largest meat company by revenues, capacity, and production including beef, poultry, lamb and pork. It is the largest beef exporter from Brazil. JBS sells its meat products under a range of brands including Swift, Friboi, Seara, Pilgrim's Pride, Gold Kist Farms, Pierce, 1855, Primo, and Beehive. JBS has executed an aggressive acquisition strategy outside Brazil. As a result, it has high net debt and low equity valuation multiples and now the company lacks room for continued consolidation. Consequently, JBS planned an IPO in May or June 2017 of its activities outside Brazil. This planned IPO of JBS Foods International (JBSFI) represents 85 percent of JBS sales. Barclays PLC is lead underwriter.

In March 2017, allegations of meat contamination, corruption, and deforestation led to a delay of its IPO, which should have generated proceeds of at least USD 1 billion. On May 12, 2017, the Brazilian Federal Audit Court (TCU) released an audit of alleged fraud into Brazilian Development Bank (BNDES) loans used by JBS to finance its Swift & Company acquisition. Because of these allegations, JBS shares dropped. On May 26, 2017, JBS Chairman of the Board resigned. On May 31, 2017, family-controlled J&F Investimentos SA agreed to pay BRL 10.3 billion (USD 3.16 billion) over 25 years as part of a leniency settlement over bribery allegations. On June 6, 2017, JBS announced the sale of its beef operations in Argentina, Paraguay, and Uruguay to Minerva for USD 300 million. Further divestments were announced in June 2017.

Key Findings

- **JBS corruption and a USD 3.16 billion leniency agreement by J&F** are connected to financial and governance risks that may prevent the company from reaching its goals of reducing net debt and unlocking shareholder value.
- **JBS conduct raises concerns over implementation of its Corporate Social Responsibility policies**. Cattle ranching is a major driver of deforestation in Brazil. It has large a greenhouse gas emissions footprint requiring ambitious and transparent action to eradicate deforestation from JBS supply chains.
- **JBS revenue and EBITDA may continue to be weak as many customers might be sensitive to ESG concerns** like corruption, contamination, deforestation and slave labor allegations. Waitrose, McDonald's and Domino's Pizza Brazil already have reacted. Assuming 33 percent revenue-at-risk in Brazil (USD 2.4 billion), this could affect more than 10 percent of JBS' market cap.
- **International investors may be hesitant to invest in JBSFI IPO amid growing allegations.** Investors increasingly have ESG and zero-deforestation policies in place. The current allegations and investigations create a climate in which an IPO can only occur with a large valuation discount versus peers. JBS USA bondholders and investors holding Pilgrim's Pride shares might also divest.
- **A risk of a larger-than-anticipated share-offering and/or low-priced divestments; both might dilute existing JBS equity.** To decrease its 3.6X Q4 2016 net debt/EBITDA ratio to 2X, JBS needs its JBSFI IPO to exceed USD 6 billion, probably with a valuation discount in that IPO. JBS equity dilution would be 30 percent if JBS would reduce its stake in JBSFI to 50 percent. This dilution considers lower interest charges due to the JBSFI IPO proceeds. In an alternative scenario if JBS continues with its divestments, its dilution might then be 63 percent.

JBS: JBS Foods International IPO Rationale

The Brazilian meatpacking company JBS is listed on the BM&F BOVESPA. The Batista family, via the holding company FB Participações, is the controlling shareholder of JBS. They own 42.3 percent while the Brazilian State Development Bank (BNDES) owns 21.3 percent. With 2016 sales of USD 49 billion, JBS is the world's largest meatpacker by revenue, capacity, and volume. JBS is active in beef, poultry, lamb, and pork as well as in hides. Its operations cover a large part of the meat value chain from slaughtering and packaging to branding. The company has activities in Brazil, several other Latin American countries, the USA, Europe, and Australia. On June 6, 2017, it announced the sale of its beef operations in Argentina, Paraguay, and Uruguay to rival Minerva for USD 300 million. Minerva is also an important meat exporter to many countries, including China.

Figure 1: JBS business units and contribution to net revenue 2016

Business Unit	
JBS USA Beef	41.8%
JBS USA Pork	10.9%
JBS USA Chicken	16.2%
JBS Mercosul	16.5%
Seara	10.6%
JBS Europe	4.0%

During the last decade, JBS executed an aggressive expansion strategy with the financial help of BNDES. JBS bought companies in neighboring Latin American countries and in Europe and in the USA. As shown in Figure 1 (left), this aggressive expansion strategy diversified its geography and revenue.

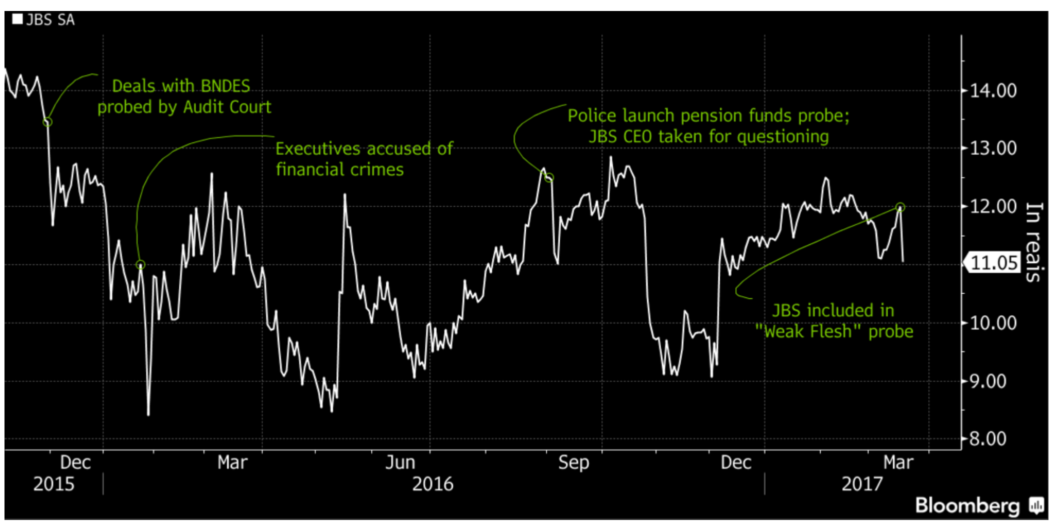
JBS North American subsidiary, JBS USA, has issued its own bonds. JBS USA has a 77 percent stake in Pilgrim's Pride and a separate stake in JBS Canada. In 2016, JBS established its Dutch subsidiary JBS Foods International (JBSFI). JBSFI includes all activities except for the Brazilian beef and global leather business. The IPO of JBSFI in New York was originally planned for H1 2017. In May, JBS announced it was delaying its IPO due to investigations targeting JBS owners. JBS says a new date will depend on market conditions.

JBS: Allegations of Contamination, Corruption, and Deforestation

As shown in Figure 2 (below), JBS has been the target of investigations since 2015. Since 2015, JBS share price has been impacted by multiple allegations of wrong-doing.

Figure 2: JBS stock performance amidst investigations, links are below:

- Deals with BNDES probed by Audit Court & executives accused of financial crimes
- Pension fund probe
- Operation Weak Flesh



Source: Bloomberg

JBS: Allegations of Bribery

Allegation of bribery reported by Bloomberg March 17, 2017.

In March 2017, Brazilian federal police released results from their two-year investigation of pork, poultry, and beef meatpackers. They served hundreds of court orders and detention warrants against leading meatpacking companies. Meatpackers companies allegedly payed bribes to health inspectors to forego inspections. Tainted meat from Brazil was reportedly used in school meals and sold to retail chains including Wal-Mart Stores Inc. Countries around the world, including China, the largest importer of Brazilian chicken and beef, the EU, and Japan reacted by temporarily suspending or restricting shipments from Brazil.

JBS Investor Relations June 20, 2017 response to Chain Reaction Research coalition partners inquiry below:

> *"The court order made no reference to product quality problems or any issue involving our manufacturing processes. The company reiterates that it does not tolerate any quality issues in its industrial processes. JBS and its subsidiaries comply fully with all food production and marketing regulations in Brazil and abroad and support efforts to sanction non-compliance. We follow strict quality standards with systems, processes and controls that guarantee food safety and product quality, which are the company's top priorities. Furthermore, our plants are audited annually by international health missions and by our customers. JBS has more certificates than any other Brazilian company from the BRC (British Retail Consortium), a global benchmark for protein production quality. The company is also certified for ISO 9001 quality management standards. In two years, company units have undergone 340 quality audits. These initiatives are in line with best practices for goods manufacturing."*

Among the searched facilities were also three JBS plants. JBS stressed that the court order made no reference to quality problems with its products and denied misconduct. JBS halted production for three days at all but three of its 36 Brazilian plants. JBS says the halt was required to adjust the production until the company had a definition regarding the embargoes imposed at the time by the countries importing Brazilian meat.

JBS Investor Relations June 20, 2017 response to Chain Reaction Research coalition partners inquiry below:

> *"For only 3 days in order to adjust the production until the company had a definition regarding the embargoes imposed at the time by the countries importing Brazilian meat.*
>
> *JBS implemented a 20-day furlough on April 3 at 10 of its 36 beef units in Brazil. Six of them resumed operations on April 24, as the company had announced previously. The other 4 plants resumed operations on May 2, after refurbishment activities, operational adjustments and equipment replacement activities have been concluded."*

On March 29, 2017, a class action lawsuit has been filed in a U.S. District Court against JBS on behalf of ADR shareholders. The lawsuit alleges that JBS executives bribed regulators and politicians to subvert inspections and hide unsanitary practices. This means that JBS may have produced materially false and misleading financial statements.

Joesley Batista, one of the two JBS owners, received judicial pardon and immunity in a plea deal with the Brazilian Federal Public Ministry in May 2017. Part of the Car-Wash

Operation, the plea deal from Mr. Batista and other JBS executives revealed an illegal donation scheme to Brazilian politicians. The list included campaign donations to more than 1,800 candidates from 28 political parties.

In May 2017, multiple media sources released a secretly recorded conversation between Joesley Batista and Brazilian President Michel Temer. During the conversation, President Temer endorsed bribes mentioned by Joesley Batista. The President denied the allegations, initially suggesting the recording was edited.

On May 17, 2017, media outlets reported that JBS Chairman Joesley Batista as part of a plea bargain in relation to corruption allegations had secretly recorded the President of Brazil endorsing that Batista was providing hush money to a previously powerful politician and a lobbyist so that they would remain silent while in jail.

JBS Investor Relations June 20, 2017 response to Chain Reaction Research coalition partners inquiry below:

> *"J&F understands that the collaboration with Brazilian authorities will mean a change for the better. All documents and information relating to the investigation have been delivered to the Justice. The Company also reiterates its commitment to continuing to work with the Federal Public Prosecutor's Office in the fight against corruption.*"

JBS: Allegations of Violating Brazilian Deforestation Laws

Allegation of JBS violating Brazilian deforestation laws reported by Reuters April 2, 2017.

Cattle ranching is currently the major driver of deforestation in the Brazilian Amazon. Responding to public pressure, Brazil´s largest beef producers in 2009 with a 65 percent market share of Brazilian beef exports, JBS-Friboi, Bertin, Minerva and Marfrig, committed to a cattle agreement for the Amazon. They committed to implement strict certification and monitoring systems to ensure the exclusion of beef and leather from newly deforested land, encroach on indigenous lands or protected areas from their supply chains. They also agreed to not buy cattle from ranches using slave or child labor.

Currently, JBS in Brazil sources from a pool of around 70,000 cattle suppliers that are screened through a social and environmental monitoring system. 40,000 suppliers are located in the Amazon region.

In March 2017, Brazil's environmental protection agency, IBAMA, raided JBS meatpackers in Redenção and Santana do Araguaia, in the state of Pará. IBAMA alleged that JBS for years knowingly bought cattle that were raised on illegally deforested land. According to IBAMA, JBS allegedly bought 50,000 illegal cattle since 2013 violating Brazilian legislation and forest laws. Half of those came directly from embargoed pastures. According to the IBAMA investigations, the remainder was allegedly bought via three-way "laundering" transactions that help to disguise the actual origin of the animals. Roughly 200 square miles of illegally deforested land under investigation by IBAMA equals the size of Manhattan.

On March 24, 2017, a federal court in the State of Pará granted JBS preliminary injunction request to lift the embargoes imposed on its beef processing facilities in the state that were imposed in reaction to IBAMA's investigations. IBAMA is reportedly appealing the ruling. JBS denied that it had purchased livestock from ranchers on land blacklisted by IBAMA. It stated that it was in full compliance with the 2009 Consent Decree it signed with federal prosecutors of Pará on environmental and land title regularization. The company claims that the triangulation cases are beyond JBS control capabilities as it has no access to the government's system for tracking animals. JBS is part of a newly formed working group, consisting of the Brazilian government, local state authorities, IBAMA, Federal Public Prosecutor's Office and industry, focused on resolving this issue. JBS says this demands a better disclosure of public information to track indirect cattle supplies.

JBS Investor Relations June 20, 2017 response to Chain Reaction Research coalition partners inquiry below:

> *"JBS does not purchase and has not purchased any livestock from the suppliers on the list of areas embargoed by IBAMA. It is a matter of public record that JBS has already responded to Greenpeace and demonstrated that the cases identified by IBAMA as "livestock triangulation" are beyond the control capabilities of any company's monitoring system in its current form, as presently there is no access to the government's system for tracking animals (Guia de Transporte Animal or GTA; the Brazilian equivalent term for a Livestock Movement Certificate). JBS is part of a newly formed working group, consisting of the Brazilian government, local state authorities, IBAMA, Federal Public Prosecutor's Office and the industry, focused on resolving this issue, which demands a better disclosure of public information to track back the indirect cattle suppliers across the supply chain.*
>
> *JBS is committed to a zero deforestation supply chain and was signatory to the Cattle Agreement in the Amazon. Cattle purchases made by JBS follow a monitoring system to ensure, throughout Brazil, complete fulfilment of the criteria for responsible livestock purchase. The most recent annual independent audit gave JBS a 99.9% compliance rating.*
>
> *The Company maintains a sophisticated socio-environmental monitoring system to ensure that all livestock is responsibly produced, and to identify and block any offending suppliers. Through geo-referenced farm data and satellite imagery, JBS analyses nearly 40,000 cattle suppliers in the Amazon region, on a daily basis covering 59 million hectares (590,000 km²) in the region, located across 437 municipalities. JBS also has access to farm condition analysis information from government agencies such as IBAMA and the Ministry of Labor of nearly 70,000 cattle suppliers.*
>
> *JBS cross-checks the information contained in the list of areas embargoed by IBAMA on a daily basis with its register of suppliers, in order to identify and block any purchase from farms behaving irregularly. This procedure is more restrictive than that required by Brazilian law (Federal Law 9605/98), which vetoes the commercialization of raw material only from the embargoed area.*
>
> *JBS continues to advocate the implementation of a "Green GTA" - the adoption of a new procedure whereby the official entity that issues the GTAs would be obliged to consult the public list of areas embargoed by IBAMA before issuing the document. For those properties (direct and indirect cattle suppliers) present in the list of areas embargoed by IBAMA, no GTAs would be*

> *issued, thereby preventing the entry of livestock from farms with deforestation issues into the market.*
>
> *JBS reiterates that this issue can only be addressed from a sectoral solution and that it has always been willing to lead it together with civil society, MPF and government.*
>
> *JBS has always been and is open to discussions with Ibama, other environmental agencies and nongovernmental organizations on new strategies for improving the instruments to restrain livestock triangulation from embargoed areas."*

JBS: Allegations of Slave Labor and Food Retailers Response

Allegation of JBS having slave labor in its supply chain reported by The Guardian June 6, 2017.

In June 2017, Brazilian NGO Repórter Brasil together with UK newspaper The Guardian exposed further allegations around slave labor and illegal deforestation in JBS beef supply chain. According to cited official documents, JBS allegedly paid GBP 2 million from 2013 to 2016 for cattle sourced from a farm in the state of Pará where Brazilian prosecutors in June 2016 uncovered men forced to work under inhumane and degrading conditions. The farm owner had previously been fined BRL 119 million (USD 36 million) for illegally deforesting an area of 33,000 hectares from 2012 to 2015.

JBS Investor Relations June 20, 2017 response to Chain Reaction Research coalition partners inquiry below:

> *"JBS does not buy cattle from any farms on the Brazilian Ministry of Labor's slave labor 'black list.' The farm named in the article has never been included on the 'black list.' As the story correctly says, as soon as JBS became aware of irregularities in the farm's operations in 2016, all livestock purchases from the Ana Paula Junqueira family were stopped immediately. JBS updates information about embargoed areas published by the Brazilian Environmental Agency (IBAMA) and the Ministry of Labor's 'black list' on a daily basis."*

JBS meat products are sold as tinned corned beef in the UK by retailers Waitrose, Marks & Spencer, Co-Op, Sainsbury's, Lidl and Princes. On June 8, 2017, The Guardian reported that Waitrose took corned beef linked to JBS off its shelves while investigating the claims. Waitrose stated:

> "*While we have found no such concerns in our own supply chain and have recent audits, including April 2017, we are taking these allegations seriously so have stopped sourcing any of our corned beef from there while we investigate fully*."

JBS: Allegations of Fraudulent BNDES Loans for Swift & Company Acquisition

Allegation of fraudulent BNDES loans to finance JBS Swift & Company acquisition by Nasdaq May 16, 2017.

On May 12, 2017, the Brazilian Federal Audit Court (TCU) released an audit of alleged fraud into BNDES loans. The TCU investigated irregularities related to the 2007 BNDES loans to JBS to finance the acquisition of Swift & Company for USD 1.4 billion. The

BNDES loans in question were a May 2007 loan for USD 600 million that in June 2007 was increased to USD 750 million. The audit revealed BNDES overpaid BLR 0.50 cents per JBS stock. The revenue from this transaction were used for the Swift & Company acquisition. Because of BNDES overpaying by BLR 0.50 cents per JBS stock, BNDES suffered a BLR 69.7 million loss. Another similar loan from BNDES to JBS is also under scrutiny by TCU.

In return, BNDES opened a separate probe into its loans to JBS as the TCU is only able to investigate public entities, such as BNDES.

BNDES, the second largest shareholder in JBS, approved the plan of the proposed JBSFI IPO May or June 2017 after it first rejected it.

JBS: Batista Resigns as Chairman of the Board and Leniency Agreement

On May 26, 2017, JBS Chairman of the Board resigned. On May 31, 2017, family-controlled J&F Investimentos SA agreed to pay BRL 10.3 billion (USD 3.16 billion) over 25 years as part of a leniency settlement over bribery allegations. This is meant to protect minority shareholders, ensure continuation of business and preservation of jobs. J&F stated that it sees the collaboration with Brazilian authorities as a change for the better and reiterated its commitment to work with the Federal Public Prosecutor's Office in the fight against corruption.

JBS Investor Relations June 20, 2017 response to Chain Reaction Research coalition partners inquiry below:

> *"The entire payment will be made by J&F Investimentos, which is controlled by Joesley and Wesley Batista, to protect minority shareholders and ensure that the Group's business continues to focus on providing quality products and services to its customers, works closely with its suppliers, and preserves jobs. J&F understands that the collaboration with Brazilian authorities will mean a change for the better. The Company also reiterates its commitment to continuing to work with the Federal Public Prosecutor's Office in the fight against corruption.*
>
> *J&F understands that the collaboration with Brazilian authorities will mean a change for the better. All documents and information relating to the investigation have been delivered to the Justice. The Company also reiterates its commitment to continuing to work with the Federal Public Prosecutor's Office in the fight against corruption."*

Entanglement in corruption and the high leniency payment are signs of weak corporate governance practices. Referring to the resulting considerable refinancing risks and liquidity pressure for the company, S&P Global Ratings on June 15, 2017, lowered its credit ratings on JBS from 'BB' to 'B+' on a global scale and to 'brBBB-' from 'brAA' on national scale.

Min. of Ag. Blairo Maggi Intervenes in Brazilian Meat Exports

On June 22, 2017, U.S. Department of Agriculture, in a possibly unrelated case, announced suspension of all fresh beef imports from all 13 authorized beef meatpacker exporting plants. Five of these plants were preemptively suspended by Brazilian authorities. These five plants include processing plants owned by the following companies in these regions:

- JBS: a plant in Mato Grosso do Sul.
- Minerva: Goias
- Marfrig: Sao Paulo, Mato Grosso, Rio Grande do Sul.

The Ministry of Agriculture Blairo Maggi, announced on June 22, 2017 that he will travel to the United States as soon as possible to reestablish meat exports from Brazil to the US.

The Ministry stated the temporary embargo affects all 13 Brazilian units authorized to export fresh meat. Five of the 13 units were preemptively suspended by Brazilian authorities.

JBS: Weak Earnings Trend Further Weakened in Q1 2017

As shown in Figure 3 (below), since 2013, JBS revenues have increased mostly due to acquisitions. These changes led to higher net debt. However, their EBITDA margin has been under pressure, partly due to the weak Brazilian economy. Consequently, the net debt/EBITDA ratio has increased to 3.6X end of 2016 since 2013.

Figure 3: JBS key stats 2013 to 2017, in USD billion

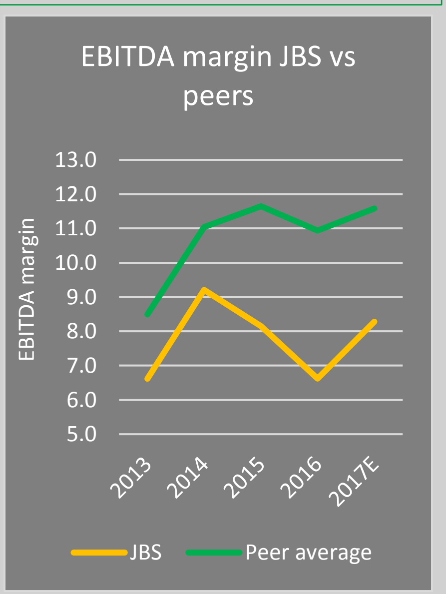
Indicator	2013	2014	2015	2016	2017E
Revenue	43.2	51.3	49.6	49.2	54.2
EBITDA	2.9	4.7	4.0	3.3	4.5
Net debt	7.4	10.1	9.5	11.9	14.4
Net debt/ EBIDTA	2.6	2.1	2.4	3.6	3.2

Source: Bloomberg (May 17, 2017); 2017 based on Bloomberg estimates.

As shown in Figure 4 (below), since 2013, JBS margin performance was weaker than its peer group:

- JBS has a lower EBITDA margin in the period from 2013 to 2016 versus the average of the developed and the developing market groups.
- The gap between JBS EBITDA margin and that of the total peer group has increased from 1.9 in at the end of 2013 to 4.3 at the end of 2016.

Figure 4: JBS EBITDA margin versus peer group, 2013 to 2017



Company	Country	2013	2014	2015	2016	2017E
Hormel Foods	USA	10.6	11.4	13.0	15.3	16.1
Maple Leaf Foods	CAN	0.7	1.01	6.6	11.3	11.0
Pilgrim's Pride	USA	9.6	15.8	14.7	11.3	12.2
Sanderson Farms	USA	10.3	16.1	14.7	13. 5	13.1
Tyson Foods	USA	5.5	5.2	7.0	9.6	10.3
Average developed		*7.3*	*9.9*	*11.2*	*12.2*	*12.5*
BRF	BRA	10.8	16.2	17.6	10.1	13.0
Industrias Bachoco	MEX	10.3	14.7	12.6	11.0	10.0
Marfrig Global Foods	BRA	7.4	8.5	7.6	7.7	8.7
Minerva	BRA	10.1	9.3	10.7	10.0	10.8

Average developing	*9.6*	*12.2*	*12.1*	*9.7*	*10.6*
JBS	**6.6**	**9.2**	**8.1**	**6.6**	**8.3**
Difference with peers	**1.9**	**1.8**	**3.5**	**4.3**	**3.3**

Source: Bloomberg and Profundo; Difference with peers = (Average developed + Average developing)/2 and then JBS subtracted (May 17, 2017)

In Q1 2017, JBS experienced negative impacts from their Brazilian contaminated meat allegations described earlier in this analysis. On the other hand, JBS USA, the entity that manages JBS USA and Canadian business, showed a positive financial performance. In total, revenue was down 14 percent (partly due to foreign exchange) to BRL 38 billion with EBITDA stable at BRL 2.1 billion. This occurred in an environment of strong international beef prices and upwards moving poultry prices. Input costs from corn and soy did not impact margins. Pork prices have been high since early 2017 but have decreased recently. In Q1 2017, the BRL had a higher value versus the USD than in Q1 2016, which normally is not supportive to margins and competitive position in the Brazilian marketplace. In Q1 2017, the net debt / EBITDA remained high at 4.2X.

JBS Foods International: IPO Plans

In 2016, JBS announced their plan to have an IPO of their newly established unit JBS Foods International (JBSFI) on the New York Stock Exchange. JBSFI represents 85 percent of JBS revenues and includes all activities outside Brazil plus the poultry business in Brazil. JBS Brazilian beef activities, which contribute about 15 percent to sales, are not included in JBSFI. JBS will include Brazilian beef activities, including management of the overall business, and a majority stake in the JBSFI IPO.

Reasons for JBSFI IPO

JBS is not the first Brazilian food company looking for a listing outside Brazil. In 2003, Brazilian brewer AmBev merged with Interbrew as an acquisition growth strategy. This year, JBS Brazilian meat competitor BRF announced an IPO of its halal meat business to grow its Middle East market share.

JBS has three reasons for its JBSFI IPO:

1. JBS wants to reduce its net debt by using the proceeds of the IPO of JBSFI. If total IPO proceeds are greater than USD 1 billion, their 2016 net debt of USD 15 billion would decrease. Their EBITDA 2016 was USD 3.3 billion, still suggesting a high proforma net debt/EBITDA of greater than 4X.
2. Through the establishment of JBSFI, which might get higher valuation multiples as shown in Figure 5 (below), JBS would be able to unlock value for its shareholders.
3. Through the proceeds of an IPO and through a higher valuation multiple than JBS, JBSFI should be better able to participate in the international consolidation of the food/meat industry.

As shown in Figure 5 (below), currently, the problem is that the valuation of JBS is low compared to its peers. The valuation discount is probably due to JBS high exposure to Brazil and its low and weakening EBITDA margin versus peers. Equity valuations in Brazil are currently under pressure from negative or low GDP growth, a volatile currency, and multiple corruption investigations. By listing JBSFI as a separate unit with activities in mature markets like the USA and Europe as well as in 'stable' emerging markets (excluding Brazil), JBSFI shareholders should experience a higher valuation for their assets. This plan should unlock value for the existing JBS shareholders as JBSFI is more exposed to markets with political stability and GDP growth.

Figure 5: Valuation multiples of JBS versus peers, 2017E

Company	Country	Market Cap (USD bln)	P/E	EV/EBITDA
Hormel Foods	USA	18.2	20.7	12.0
Maple Leaf Foods	CAN	3.2	23.8	11.3
Pilgrim's Pride	USA	6.2	11.8	7.3
Sanderson Farms	USA	2.6	13.0	5.7
Tyson Foods	USA	23.2	12.0	7.8
Average developed			*16.2*	*8.8*
BRF	BRA	10.8	7.4	9.8
Industrias Bachoco	MEX	2.7	14.0	7.0
Marfrig Global Foods	BRA	1.4	18.5	6.2
Minerva	BRA	0.8	9.8	5.5
Average developing			*12.4*	*7.1*
JBS		**9.1**	**6.4**	**5.4**
Difference with peers			**7.9**	**2.6**

Source: Bloomberg and Profundo (May 17, 2017)

Through a JBSFI listing in the USA and the lower exposure to Brazil, JBSFI could be able to attract new debt and equity against lower costs of capital. In this way, JBSFI would be better able, compared to JBS, to participate in further international consolidation.

JBS: Requires Financial Restructuring

Figure 3 (above) shows that JBS' net debt / EBITDA ratio had increased since 2013. At levels greater than 3X, Figure 6 (below) shows JBS net debt/EBITDA ratio is higher than its peers.

Company	Country	Net debt/ EBITDA
Hormel Foods	USA	-0.5
Maple Leaf Foods	CAN	-0.3
Pilgrim's Pride	USA	0.9
Sanderson Farms	USA	-1.0
Tyson Foods	USA	2.2
Average developed		*0.2*
BRF	BRA	2.4
Industrias Bachoco	MEX	-2.3
Marfrig Global Foods	BRA	3.5

Minerva	BRA	3.1
Average developing		*1.7*
JBS		**3.2**
Difference with peers		**-2.3**

Source: Bloomberg and Profundo (May 17, 2017)

Therefore, financial restructuring through the establishment of JBSFI and JBSFI IPO would be crucial to a better future, financially, for JBS. However, a USD 1 billion IPO would only be a small step towards debt reduction. With an EBITDA of USD 3.3 billion in 2016, JBS would need to free up greater than USD 9 billion to reduce its net debt/EBITDA ratio to 1.5X. To be successful in raising this amount, JBS and JBSFI need to have a 'very good IPO pitch' to investors.

On June 6, 2017, JBS announced its intended divestment from its slaughtering business in Argentina, Uruguay, and Paraguay in a USD 300 million sale to Minerva. Minerva said that this would expand its slaughtering capacity by 52 percent. The net sales of the purchased business are approximately USD 800 million. JBS would be divesting for a low valuation multiple as Minerva said it indicated a 5X to 6X EV/EBITDA acquisition.

On June 21, 2017, a judge at the 10th Federal Court of Brasilia suspended the divestment plans as these could interfere with the corruption investigation. In reaction, the company announced legal measures to appeal the decision. JBS carries a high debt and is clearly under pressure to reduce debt and increase liquidity.

Financial Risk Analyses Shows Five Key Risks to Shareholders

The financial impact from the allegations means investors should consider the following five risks to JBSFI IPO.

1. The short-term impact of lower meat sales in Q1 2017 will continue into Q2 2017. This will continue to hurt JBS revenues and operating profit. As the Brazilian market is 15 percent of JBS global revenues, total JBS revenues in Q2 2017 may decrease quarter-over-quarter by at least 7 percent.
2. JBS Brazilian revenue faces mid-term revenue-at-risk. Confidence in Brazilian meat might decrease, although JBS states that there is limited impact. Many customers are sensitive to contamination. After Saudi Arabia, China is the largest importer of Brazilian meat (660,000 metric tons annually). On June 6, 2017, Domino's Pizza Brazil announced it stopped buying from JBS. On the same day, Waitrose, with 350 supermarkets in the UK, pulled its corned beef from Brazil off its shelf while investigations were conducted.
3. Further share issuance by both JBS and JBSFI may dilute existing shareholders. The planned divestment of Argentina, Uruguay, and Paraguay for a low valuation multiple while reducing debt by USD300 million further dilutes existing shareholders. There are new plans for further divestments leading to proceeds of USD 1.6 billion. This may lead also to further value dilution (see below). Note that the dilution considers the impact of lower interest charges following the proceeds of a JBSFI IPO.
4. Because of deforestation and corruption allegations (meat and the ties with BNDES), investors might divest from JBS and/or might show no interest in

investing in JBSFI. Also, investors in Pilgrim's Pride and JBS USA might lose interest and divest.

5. Margins and net debt/EBITDA ratios may further weaken more than expected pushing investors to disengage from JBS and its subsidiaries. This might lead to higher than anticipated costs of capital for JBS and its subsidiaries JBSFI, JBS USA, and Pilgrim's Pride.

Revenue-at-risk in the mid-term. A recent study demonstrated that 40 percent of beef and 85 percent of leather production serves markets that are potentially sensitive to environmental concerns. The study says:

> "this (is) providing a partial explanation to why Brazilian producers have made recent commitments to reducing deforestation for cattle production".

Brazilian sales are 15 percent of JBS business, or USD 7.3 billion. Based on the 40/85 percentage numbers above, we assume that one third of JBS customers might change their product choices and move to another supplier due to the contamination and deforestation allegations. For instance, JBS client McDonald's has identified beef as a priority product in eliminating deforestation from its supply chain For instance, JBS client McDonald's has deforestation supply chain commitments. On June 6, 2017, Waitrose pulled corned beef off the shelves while investigating slave labor allegations, Domino's Pizza Brazil canceled JBS supply chain contracts over ESG concerns.

This means a potential annual revenue-at-risk of (0.33 x 7.3 =) USD 2.4 billion and EBITDA-at-risk of USD 120 million. This calculates to a shareholders' value (based on DCF) greater than USD 1 billion, or more than 10 percent of JBS market capitalization on June 21, 2017.

Assuming deforestation is one quarter of environmental concerns, deforestation concerns could affect Brazilian sales by USD 600 million, EBITDA by USD 30 million and market cap by greater than 2.5 percent (June 21, 2017).

The alleged 50,000 illegal cattle bought by JBS since 2013 possibly contrary to Brazilian deforestation laws, are valued at USD 50 million. This is spread over a period of four years. This is less than the revenue-at-risk due to de-forestation of the Brazilian business alone of USD 600 million.

Risk of larger-than-anticipated share offerings by JBSFI. A route through divestments also leads to equity dilution for existing shareholders. As JBS showed continuing weak performance in Q1 2017 and its net debt/EBITDA ratio remained at a high 4.2x level, JBS might feel pressured to sell a larger than anticipated stake in JBSFI, or to divest more of its assets.

In a scenario of an IPO listing of JBSFI, new shareholders may accept a net debt/EBITDA of ~2X for JBSFI, still above their peer groups' average. In that case, JBS needs to reduce its net debt by greater than USD 6 billion (proforma 2016). Analysis assumes that JBSFI will have a 10 percent discount in valuation versus Pilgrim's Pride, the number of shares is so huge that JBS will see its stake in JBSFI possibly falling to 50 percent.

Figure 7: JBS and JBSFI key numbers related to JBSFI IPO

USD millions	JBS	JBS ex JBSFI	JBSFI
EBITDA 2016	3,258	338	2,920
Result associate (JBSFI)		365	
EV/EBITDA (x) peer group JBSFI developed			8.8X
EV/EBITDA (x) JBSFI (10% discount vs Pilgrim's Pride)			6.6X
Proceed IPO JBSFI			6,223
EV JBSFI			19,131
Net debt 2016	14,412	1,441	6,747
Market cap JBSFI			12,383
Stake of new shareholders			50%
Net debt/EBITDA (x)	3.6X	2.0X	2.3X

Consequently (see figure below), JBS shareholders will be diluted by 30 percent in EPS and valuation would be high for JBS shareholders. The JBS share price would have downside risk. This dilution includes the impact of lower interest charges related to the proceeds of the JBSFI IPO.

Figure 8 (below) shows the JBS proforma for a greater than USD 6 billion IPO by JBSFI. In this scenario, JBS will have reduced its own net-debt/EBITDA to 2.0.

Figure 8: JBS 2016 proforma in USD 6 billion IPO scenario

2016 (USD million)	Old	Proforma after IPO	Comment
EBITDA	3,258	338	JBSFI is in associates
Operating profit	1,959	244	JBSFI is in associates
Interest expense	-958	-108	7.5% interest rate
Other restructuring cost	-869	-869	
Pre-taxes earnings	132	-733	
Pre-taxes earnings excluding other	1,001	136	Excl other interest expense/restructuring
Taxes	78	78	
Taxes excluding other	-259	-48	
Result associate (JBSFI)	0	365	50% stake in net profit JBSFI
Minority interest	-91	0	
Net profit	119	-290	
Net profit excluding other	651	453	Assuming 35% taxes rate
# of shares (million)	2,729	2,729	
Earnings per share basic (USD)	0.044	-0.106	

Earnings per share excl other(USD)	0.238	0.166	The underlying EPS
Dilution (%) in EPS		-30.4%	
Net debt	14,412	1,441	JBSFI is in associates
Net debt/EBITDA (x)	3.6	2.0	
Valuation multiples 17 May 2017			
Share price (USD)	3.35	3.35	
P/E (x)	14.0	20.3	
EV/EBITDA (x)	7.2	31.3	

Source: Bloomberg (May 17, 2017), Profundo, JBS Prospectus on JBSFI

The USD 300 million intended sale to Minerva could reduce JBS debt but leaves its net-debt/EBITDA ratio unchanged at greater than 4X. Minerva stated that it intends to buy the JBS divisions for an EV/EBITDA multiple of 5X to 6X.

On June 20, 2017, JBS announced a plan for further divestments which might lead to proceeds of USD 1.6 billion. Reuters reported rumors that Pilgrim's Pride is a Cargill takeover target. Reuters stated June 16, 2017:

> *"Exame, which did not say how it obtained the information, said companies including U.S. food producer Cargill Inc might be interested in acquiring certain JBS assets, such as Pilgrim's Pride."*

Shown in Figure 9 (below), if JBS choses a scenario of divestment of all its JBSFI assets instead of a listing of JBSFI, the following may occur. Assuming liquidity pressure, the EV/EBITDA multiple of the divested entities is 5.5X. Minerva stated that it intends to buy the JBS divisions for an EV/EBITDA multiple of 5X to 6X. The dilution in EPS is now 63 percent, hurting existing shareholders. The new proforma entity would have a net cash position, however its valuation would be high and as result JBS share price would have downside risk. At the same time, this dilution may be offset by JBSFI IPO proceeds that may generate additional revenue.

Figure 9: JBS 2016 proforma in divestment scenario

2016 pro forma (USD million)	Old	New proforma	Comment
EBITDA	3,258	338	Divestment of USD 2,920 million EBITDA
Operating profit	1,959	244	
Interest expense, etc.	-958	124	Proceeds USD 16 billion
Other restructuring	-869	-869	
Pre-taxes earnings	132	-501	
Pre-taxes earnings excluding other	1,001	368	
Taxes	78	78	
Minority interest	-91	0	
Net profit	119	-423	

Net profit excluding other	651	239	Assume 35% tax rate
# of shares (million)	2,729	2,729	
Earnings per share basic (USD)	0.044	-0.155	
Earnings per share excl other (USD)	0.238	0.088	
Dilution (%) in EPS		-63%	
Net debt	14,412	-1,648	
Net debt/EBITDA (x)	3.6	-4.9	
Valuation multiples 17 May 2017			
Share price (USD)	3.35	3.35	
P/E (x)	14.0	38.2	
EV/EBITDA (x)	7.2	22.1	

Source: Bloomberg (May 17, 2017), Profundo, JBS Prospectus on JBSFI

Fair Value Calculation
As shown in Figure 10 (below), this analysis values JBS in both scenarios of a JBSFI IPO and of a JBS divestment strategy. Its downside risk versus June 22, 2017 share price is still substantial. Downside risk remains respectively 12 percent and 44 percent in the two scenarios. Note that this methodology includes the USD 1 billion of value loss as annual revenue-at-risk in the EV/EBITDA methodology.

Figure 10: JBS fair value calculation

2016 pro forma (USD million)	JBSFI IPO scenario	Divestment scenario
Peer group valuation developing markets		
EV/EBITDA 2016 (x)	7.1	7.1
P/E 2016 (x)	12.4	12.4
1. JBS fair value calculation through EV/EBITDA methodology		
EBITDA 2016 proforma	338	338
EV/EBITDA 2016 (x) peers developing markets	7.1	7.1
EV (enterprise value) excl JBSFI stake	2,411	2,411
Value JBSFI 50% stake / 10% discount vs. Pilgrim's Prides valuation		
P/E 2016 peer group developed markets	10.8	
Results associate JBSFI	365	
Value JBSFI 50% stake (divestment proceeds)	3,944	
Net debt	1,441	-1,648
-/- ESG risk = revenue-at-risk	1,000	1,000
Equals		
Market cap JBS	3,914	3,059
# of shares (million)	2,729	2,729

Fair value per share (USD)	1.43	1.12
Fair value per share (Real)	4.57	3.58
2. JBS fair value calculation through P/E methodology		
P/E 2016 (x), peer group developing markets	12.4	12.4
Fair value per share (USD)	2.06	1.09
Fair value per share (Real)	6.58	3.47
Average fair value calculation (of EV/EBITDA and P/E methodologies)		
Fair value per share (USD)	1.75	1.10
Fair value per share (Real)	5.58	3.52
JBS share price 22 June 2017 (real)	6.34	6.34
Downside risk	-12%	-44%

Source: Bloomberg (May 17, 2017), Profundo, Exchange rate May 17, 2017 BRL/USD 3.19

ESG performance risks may lead to divestments or lack of interest. ESG performance risk might occur at the level of JBS (Brazil), JBS USA, Pilgrim's Pride and, in case of an IPO, JBSFI. Pilgrim's Pride is listed on Nasdaq. Norwegian Government Pension Fund, Deutsche Bank and T Rowe Price and other institutional shareholders own 22 percent of Pilgrim's Pride shares. Some of these asset managers and asset owners are beneficial owners.

The family office FB Participações owns 42.3 percent of JBS shares. BNDES owns 21.3 percent. Other institutional investors with significant ownership include Capital Group, the Norwegian Government Pension Fund and BlackRock. Similarly, some of these asset managers and asset owners are beneficial owners.

JBS USA has only issued bonds. The main holders are also international investors like State of California, Prudential, Barclays, Blackrock and Nordea which hold millions of US Dollars in several bonds. Given the current corruption, contamination and deforestation allegations, JBS faces a risk of losing these types of investors.

Finally, JBS SA (the parent company) has loans and bonds outstanding. On June 23, 2017, Bloomberg quoted sources which said that JBS was close to a renegotiating about USD 6.6 billion of debt owed to banks. JBS four biggest creditors in Brazil are:

- Banco do Brasil
- Caixa Economica Federal
- Banco Santander Brasil
- Banco Bradesco

These four creditors are said to have accepted the company's proposal for an extension of the maturity by 12 months (currently on average 18 months). In return, JBS would do an upfront payment of 10 percent of the debt and offer more collateral.

The Fair Banking Guide Brazil says that the deforestation policies by the leading banks are not optimal. However, some have taken action, for instance Banco do Brasil has a deforestation policy on Amazon soy.

Financial Risks: High Alert

JBS has significant issues to solve before it can continue with its planned IPO of JBSFI. JBS risks are:

- Due to investigations and allegations of corruption, contaminated meat, illegal deforestation in the Amazon and slave labor described earlier in this analysis, revenue and EBITDA may continue to be weak for JBS' activities particularly in Brazil.
- Including investigations on financial ties with BNDES, it means the JBSFI IPO can probably only occur with a large valuation discount versus peers.
- JBS will have difficulties to find investors for this JBSFI IPO. JBS risks that investors owning Pilgrim's Pride shares (78 percent is controlled by JBS) might divest from the stock. Also, JBS USA bondholders might divest.
- To reduce its high net debt/EBITDA ratio of 3.6X (Q4 2016), which is above industry average (1X), JBS JBSFI IPO needs to be greater than USD 6 billion. Under current circumstances, this is not possible. JBS may instead increase divestments.
- In the JBSFI IPO scenario: in combination with a discount in valuation multiples at the IPO offering in order to lure new investors, the EPS dilution/reduction to JBS shareholders would be 30 percent. The plan to unlock shareholders value for JBS shareholders by establishing JBSFI might dilute existing JBS shareholders.
- In the divestment scenario: the intended sale to Minerva for USD 300 million and a plan to divest a further USD 1.6 billion leads to EPS dilution for existing shareholders. If all JBSFI activities are divested, the dilution would be 63 percent.
- In both scenarios, the ratio net debt/EBITDA of JBS could be reduced to a lower level although the company might face continuing problems in refinancing debt. In both scenarios, existing shareholders would still face high EPS dilution and downside risk in their share price.
- If JBS wants to reach all its goals of reducing its net debt, unlocking shareholder value, and a better position given future consolidation of the global food industry, the company must increase its transparency, improve governance, achieve zero tolerance for corruption, and achieve zero-deforestation in its supply chains.