

Due Diligence and Valuation Report

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 Fair share value bracket: MXP 26.55 to MXP 29.86ⁱ
 Share price on date: MXP 20.85ⁱⁱ

Analyst Team

Shruti Gupta
shruti.gupta@arrowheadbid.com

Market Data

52-Week Range:	MXP 18.40 – MXP 21.51 ⁱⁱⁱ
Average Daily Volume:	88,601 ^{iv}
Market Cap. on date:	MXP 5,594.6M ^v

Estimated Blended Value per share (in MXP)

Value Bracket	DCF	Replacement Value	EV/ EBITDA	Weighted value/Share
Low	32.56	18.66	22.40	26.55
High	36.86	20.30	25.42	29.86

Fiscal Year (FY) Jan 1 – Dec 31

Summary

Proteak is a Mexico-based forestry company focused on plantation, processing and marketing of timber products. It is the largest timber company in Mexico and Central America.

The company operates in the Teak and MDF segments. Both segments have a vertically integrated structure, wherein the entire process from plantation to distribution is carried out in-house, resulting in cost advantages.

In 3Q16, the company's net sales increased 70% YoY to MXP 203.2MM. Excluding revaluations, net sales increased by 125% YoY to MXP 165.8MM. This was driven by the initiation sales of MDF boards under the brand Tecnotabla.

Teak

The company has 8,300 ha of teak plantations in Mexico, Costa Rica and Colombia. The harvest from the plantations is sold as teak round-wood. The company has also invested significantly in clone development techniques, resulting in high productivity and reduction in rotation cycle.

During 9M16, Proteak's teak sales decreased by 19% YoY to MXP 23.1MM. The decrease in sales corresponds to the shift from Colombian teak to Mexican teak. However, in order to maintain the profitability, Proteak continues to strengthen its



Company: Proteak Uno SAB de CV
 Ticker: BMV:TEAKCPO
 Headquarters: Mexico City, Mexico
 Chairman: Hector Bonilla
 Website: <http://www.proteak.com>

market position by advertising the Mexican teak in the Asian market. In 2Q16, the company also began commercializing young wood from Costa Rica.

MDF

In 2013, Proteak ventured into MDF boards production for domestic market to diversify its operations, with an annual processing capacity of 280,000 m³ per annum MDF plant.

In 2Q16, the company sold its first MDF board. During 3Q16, it had produced 40,000 m³ of MDF boards and had gained a market share of 17% by Oct'16.

Currently, over 90% of the MDF demand in Mexico is met through imports, signifying a huge potential opportunity for domestic production. Proteak is expected to cater 30% of the domestic MDF demand through import substitution. The company estimates to export 30-40% of the capacity of the MF Plant to international market. The company has setup facilities in the United States and plans to export MDF boards from FY17. The start-up of resin plant and the power generation facility in 2017 will significantly reduce the operating cost of the MDF plant.

Proteak has an agreement with FINSA, one of the largest producer and seller of wood panels in Spain, for technology transfer and joint operation of the MDF plant FINSA also acquired 5.2% of the company through capital raise in May 2015. The company also received MXP 2.1MM - last portion of capital committed from FinnFund in 4Q15.

In January 2017, Proteak entered into a credit agreement of USD 65MM with the International Finance Corporation (IFC) and the Promotion and Participation Agency for Economic Cooperation (PROPARCO). The company will utilize the funds for the growth and development of 10,000 hectares of commercial forest plantations. It also plans to repay part of the existing debt.

Valuation

Proteak’s Teak segment operates in a low-volatile, high-potential market, which guarantees capital preservation. We believe that the production of MDF boards will complement its teak business, given the differentiated business model and target markets.

The startup of the MDF board is a huge success, achieving a 17% market share within a few months of operations. We believe that the MDF unit will further gain a good market share due to competitive cost advantages over imports.

Proteak has ensured supply of certified wood from its own plantations located close to the MDF plant, as well as energy from its own cogeneration plant, thus lowering production, logistics and distribution costs. Further, the company can also generate additional income from the sale of carbon credits.

Given due diligence and valuation estimations based on a blend of Discounted Cash Flows, Replacement Value and EV/EBITDA multiple, we believe that Proteak’s fair share value lies between MXP 26.55 and MXP 29.86.

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Company Presentation

Proteak Uno, S.A.B. de C.V. (Proteak) is a Mexico-based forestry company focused on the plantation of trees, and processing and marketing of timber products. With nearly 18,000 ha of plantations and forestry operations in three countries, Proteak is the largest timber company in Mexico, and currently exports its products to over 15 countries across Asia, America, and Europe. The company operates in two business segments – Teak and MDF.

Proteak's teak segment derives revenue from sale of teak round-wood obtained from harvest. The company holds 8,300 ha of teak plantations in Mexico, Costa Rica and Colombia. The company has diversified its teak segment by production of MDF boards. During 3Q15, the company acquired three properties with a combined planting area of 900 ha for new eucalyptus plantations for the MDF plant. In 3Q16, the company started the 2016/2017 plantation campaign to contemplate 1,500 hectares of eucalyptus. Once completed, it will result in more than 10,000 planted hectares of certified eucalyptus for the supply of MDF plant.

The company sold its first MDF board under the brand name Tecnotabla in May 2016. Tecnotabla achieved a global market share of 17% as of Oct'16. This corresponds to 30% of market share for the thick nude MDF boards. The company is expected to cater to approx. 30% of the domestic market demand through import substitution. The MDF project is financed through a combination of debt and equity.

During 9M16, the company's debt level increased from MXP 1,357.7MM to around MXP 1,682.7MM. In November 2016, Proteak raised additional MXP 100MM from Banco Multiva S.A to manage its growing working capital needs.

In January 2017, Proteak signed a multilateral loan facility of USD 65MM with the International Finance Corporation (IFC) and the Promotion and Participation Agency for Economic Cooperation (PROPARCO). The company plans to invest loan proceeds for the growth and development of 10,000 hectares of commercial forest plantation. In addition, a part of the fund will be utilized to restructure the existing debt.

Total assets of the company increased by 9% during 9M16 to MXP 5,713MM. The increase was driven by an investment in the MDF plant and a 20% increase in non-current biological assets. By period-end, the company had cash and cash equivalents of MXP 93.2MM.

Portfolio and Premiums

Opportunity to gain share into import-dominated MDF market through competitive costs: Though the local MDF production in Mexico has increased over the years, it is insufficient to meet the domestic demand. As a result, a bulk of MDF consumed (~92%) is met through imports. The significant demand supply gap presents a potential opportunity for domestic production, which is further boosted by the cost benefits. We believe that Proteak can effectively leverage on this, and will be able to sell MDF at competitive pricing compared to imports, due to lower production, logistics and distribution costs. As of Oct'16, Tecnotabla (MDF boards) achieved a global market share of 17%.

MDF production will complement Teak sales through diversification and reduced risk profile: We believe that production of MDF will complement the teak round-wood business, given the mutually exclusive business model and target markets. As a significant share of the teak round-wood sales are derived from exports, sales from MDF boards will strengthen its position in the domestic market – providing a cushion against volatility in external economic conditions and exchange rates. MDF segment is also expected to provide a higher degree of certainty to the company's income in the medium term due to relatively shorter cycles (Eucalyptus plantations have relatively shorter rotation cycles of 5-7 years, compared to teak which has rotation cycles of 20-40 years).

Vertically integrated business model ensures availability of raw materials and cost-optimization: Proteak operates a vertically integrated business model, which enables it to improve and integrate processes across the value chain, resulting in cost optimization and increase in margins. In the teak segment, the plants are produced at its own nurseries, the company carries out the maintenance and harvesting, and the round-wood is distributed and marketed without reliance on intermediaries. It also ensures the

continuous supply of raw materials, as the company has flexibility to decide the harvest time from its plantations as per business needs. The MDF business also has a vertically integrated structure through supply of raw materials from eucalyptus plantations, a facility for resin production, and a cogeneration plant to ensure electricity and heat supply.

High plantation yield due to cloning and land preparation reducing rotation cycle: Proteak has extensive experience in land preparation techniques, and has the ability to plant in acidic soils. It also operates a nursery for clone development and research to ensure growth in the fields, leading to high yields in Teak from its plantations (Mean annual increment of up to 18m³/ha). In 2014, the company planted 100% of its acreage through genetically superior clones which will reduce the rotation cycle by three years along with an increase in yield.

FSC® certification ensures credibility of products amidst increasing regulations: Proteak's teak plantations are certified by Forest Stewardship Council® (FSC®) for Forest Management and Chain of Custody, verifying that the company has sustainable operations as per FSC® guidelines, and ensuring traceability to its source. The FSC® Certification entails the highest and most comprehensive international standards, as it reviews not only environmental and social development factors of all plantations, but their economic viability, as well. As almost all major teak markets have banned the export of natural teak, the FSC® certification becomes more relevant, as this ensures that the company's products are obtained from responsibly and sustainably managed forests. Further, FOMEX, acquired by Proteak in 3Q13, is also certified by FSC®. In addition to FSC® certification, Proteak's operations comply with the International Finance Corporation's applicable operating standards.

Potential revenue stream from sale of carbon credits: Sale of Certified Emission Reductions (CER), also known as carbon credits, can be a lucrative additional income source for Proteak. A product of Kyoto Protocol (2005), carbon credits aim at controlling greenhouse gas emissions. The company has registered its Fresh Breeze afforestation project in the Mexican states of Chiapas, Nayarit and Tabasco under VCS. The project will have a 40-year crediting period (from Oct 30, 2009 to Oct 29, 2049), with a renewal period of 20 years. During the first 20 years, the project is estimated to capture an average of 387.9kT CO₂ equivalent. Based on the project characteristics and risk profile, the prices range between US\$3-9 per carbon credit (equivalent to 1T CO₂ mitigated).

Portfolio and Risks

Illiquidity of assets: Plantation industry has a long-term horizon with rotation cycles of over 20 years, and does not generate any substantial cash flow till maturity. This exposes the company to liquidity risk, which is partially mitigated by the maturity profile of eucalyptus plantations.

Fluctuations in exchange rate can materially impact revenue: Currently, a substantial portion of the company's revenue is generated through sales from India and China – the world's largest teak markets. The concentration of revenue in a few countries exposes the company to fluctuations in exchange rate, and can have a material impact on the company's revenue.

Increasing regulations: The regulations in the forest sector are increasing due to increasing focus on the protection of natural forests. However, the company's FSC® certification ensures that the company's wood is obtained from legal and sustainable plantations, thus mitigating risk.

For a detailed risk assessment, please refer to the [Risk profile analysis](#) section.

Corporate Strategy

Focus on pricing to ensure premium market positioning and profitability: Proteak's strategy on the teak business is focused on maximizing its profitability through client and price optimization. The price increase, complemented by the ban on natural teak exports, has helped the company increase its profitability. We believe that the company's strategy will help it to maintain its premium market positioning and profitability in the long run.

Diversification into MDF boards production: Revenues from teak round-wood would be complemented by the sales of MDF boards. Proteak started selling MDF boards in May 2016. The MDF and Teak segment will have different target markets – while the teak segment is concentrated in Asian markets, the company will produce MDF for the domestic and U.S. markets. This will also reduce the concentration risk for the company, while simultaneously diversifying its income source.

Strengthening presence in new markets: Till 2014, exports to India accounted for more than half of the total round-wood sales, which exposes the company to volatility in Indian market and exchange rate fluctuations. To reduce the risk, the company is leveraging its extensive distribution network to increase its presence in China, Vietnam and domestic markets, while simultaneously exploring for new markets.

Commercial partnership with FINSA: In 1Q15, Proteak started selling FINSA panels, thereby increasing panel volumes and expanding its customer base to include FINSA's area of coverage in Mexico. This will also facilitate the availability of efficient distribution channels to sell Proteak's MDF board.

News

- **Proteak granted USD 65MM loan from IFC and PROPARCO:** On January 18, 2017, Proteak announced that it established a USD 65MM multilateral loan facility with the International Finance Corporation (IFC) and the Promotion and Participation Agency for Economic Cooperation (PROPARCO). The proceeds will be utilized for the growth and development of 10,000 hectares of commercial forest plantation. Proteak also plans to repay a part of its existing debt with the proceeds and restructure its debt profile.
- **Proteak raises MXP 100MM Loan from Banco Multiva S.A.:** On November 26, 2016, Proteak announced that, through its subsidiary ProMDF SAPI de CV, it had signed a loan agreement with Banco Multiva S.A. for MXP 100MM. The funds will be utilized towards the working capital needs of Tecnotabla.
- **Startup of MDF Plant:** On February 3, 2016, the company announced commencement of operations of MDF plant in Huimanguillo, Tabasco. The company's in-house plantation will supply certified wood in the process. The plants annual capacity is expected to reach its target capacity 280,000 m³ at a steady pace.
- **FINSA procures 5% participation of Proteak:** On May 25, 2015, the company announced that Financiera Maderera, S.A. (FINSA) acquired 5.2% of the company through its participation in the capital-raising exercise completed in May 2015.
- **Capital increase concluded:** On May 20, 2015, the company announced the closure of its capital increase exercise with a 100% subscription rate. Proteak had announced on March 20, 2015, to release 25MM Ordinary Participation Certificates (OPCs) at a price of 15 pesos per OPC. Funds generated will be utilized in expanding the company's industrial wood operations.
- **Update on Proteak's MDF project (May 4, 2015):** The company announced that the MDF project is planned to be operational in 2H15. 95 % of the plant's main building was completed and the turnkey supplier, Dieffenbacher, had already begun installing equipment. It also announced completion of USD 10MM investment from Finfund.
- **Proteak receives MXP 200MM loan from FND:** On March 18, 2015, the company received approval for MXP 200MM credit line from Financiera Nacional de Desarrollo Agropecuario, Rural, Forestal y Pesquero (FND). This credit will be used for planting and maintenance of Eucalyptus plantations to supply to the MDF Plant.
- **Proteak signs collaboration agreement with FINSA:** On January 26, 2015, the company announced an agreement with Financiera Maderera S.A. (FINSA), which includes the joint operation of Proteak's MDF plant, technology transfer and marketing of FINSA products in Mexico.
- **Arrival of the first machinery shipment for MDF Plant:** On November 6, 2014, Proteak announced the arrival of first machinery in the plant. The machinery shipment proceeded from Germany on October 16, 2014.
- **Proteak receives second tranche from IFC:** On October 14, 2014, the company received the second tranche of US\$10MM from International Finance Corporation (IFC) as a part of the credit line signed in July, 2012. This credit will be used for further expansion of the company's forestry operations.

- **US\$10MM investment agreement with Finnfund:** On October 9, 2014, the company signed a US\$10MM investment agreement with Finnish Fund of Industrial Cooperation Ltd. (Finnfund) and received the first tranche of US\$7.6MM. The proceeds will be invested in the MDF Project.
- **Increment in annual capacity of MDF Plant:** On August 13, 2014, the company increased the annual production capacity of its MDF plant by 40% to 280,000 m³ per year, with an investment of over US\$200MM. The company took this decision after assessing its strength and competitive advantages in a highly undersupplied market and making necessary adjustments together with the machinery supplier, Dieffenbacher. This expansion will enable the plant to cater up to 30% of the local demand for MDF through import substitution.
- **Proteak signs US\$91.2MM loan agreement:** On January 21, 2014, the company signed a US\$91.2MM (EUR 66.8MM) loan agreement with Ausfuhrkredit-Gesellschaft bank. The credit will be disbursed in US dollars, with a 50% risk-participation of Commerzbank Aktiengesellschaft and the guarantee of the German Federal Government through Euler Hermes. The proceeds will be used to purchase machinery for Proteak's MDF plant in Tabasco, Mexico.
- **Proteak renews FSC® certification:** On January 10, 2014, the company reported renewal of Forest Stewardship Council® (FSC®) certification for Forest Management and Chain of Custody on company's teak plantations in Mexico and Costa Rica. The certification signifies that the company has implemented the practices and procedures as per the Principles and Criteria of FSC® forest in all its activities and integrated social and environmental considerations to achieve a sustainable operation within the forestry sector.
- **Proteak begins construction of MDF plant with Dieffenbacher:** On November 14, 2013, the company reported it has entered into a turnkey contract with Dieffenbacher for a MDF plant to process wood from its eucalyptus plantations. The MDF plant will have a capacity of 600 m³ per day and will be constructed near Huimanguillo in Tabasco, Mexico. The plant is expected to be operational in 2015. Post the delivery of the plant, the company and Dieffenbacher will operate together for the first 18 months to ensure efficiency and productivity. The plant will be partly financed by Commerzbank.
- **FOMEX acquisition completed:** On September 5, 2013, the company reported that the acquisition of Forestaciones Operativas de México (FOMEX) was completed through its affiliate Pro-Eucalyptus Holding. The acquisition was for a consideration of US\$30.6MM. The transaction was funded partly through the share placement, the proceeds of which will also be used to establish a MDF plant in Tabasco with an annual capacity of 200,000m³.

Listing Information

Proteak Uno, S.A.B. de C.V is listed on the Mexican Stock Exchange (Bolsa Mexicana de Valores, BMV) since 2010 (Ticker: TEAKCPO)

Contacts

Registered office	Paseo de la Reforma 725, Col. Lomas de Chapultepec C.P. 11000, México, D.F.
Telephone	+52 (55) 6235-1504
E-mail	investors@proteak.com

Management and Governance

Proteak's management personnel have wide experience across different verticals of forestry business, thus providing strong project execution.

Personnel	Designation	Current and total experience
Hector Bonilla	Founder and Chairman	Hector Bonilla founded Proteak in 2001, and is the Chairman of the Board of Directors. Prior to Proteak, he founded Capital Consulting wherein he was a consultant for various companies across the food, retail, construction, and energy sectors. He is also the founder and Chairman of the Board of Mercury Data, which offers file storage and digitization of physical and electronically. He worked for 5 years with the Boston Consulting Group. He holds an MBA from Stanford University.
Gaston Mauvezin	Chief Executive Officer	Gaston Mauvezin is the Director General of Proteak since its share placement in 2010. Prior to joining Proteak, he was Chief Financial Officer of Atlas, a housing developer, wherein he was responsible for institutionalization of the company. He also served in Allied Domecq, and Booz Allen. He holds a degree in industrial engineering from University of Buenos Aires, and MBA from Harvard University.
Jose Garcia Moreno	Chief Financial Officer	Jose Garcia Moreno joined Proteak with over 20 years of experience in finance and strategy. He worked for 15 years with PepsiCo, where he served in various roles including Vice President and CFO of the beverage business in Latin America from Miami, CFO of food business in Russia from Moscow and Chief Financial and Strategic Planning for all Pepsi Co international from NYC. Before PepsiCo, he worked in Booz Allen & Hamilton and Procter & Gamble, he also has entrepreneurial experience in Internet and technology companies. He has a degree in mechanical engineering from UNAM and has an MBA from Harvard University.
Enrique Espinosa	Managing Director, Teak Operations Chief Operations Officer	Enrique Espinosa joined Proteak in 2012. He is responsible across processes such as harvesting, processing, logistics, distribution and marketing. Prior to Proteak, he was the Director General of Grupo Mexicano Lignum, a manufacturer of wooden furniture. He also served as Director of Grupo Elektra Furniture as head of its business unit in Mexico and Latin America. He holds a degree in law from the Panamerican University in Mexico City.
Omar Nacif	Managing Director, Wood Boards	Omar Nacif joined Proteak in 2013. Prior to joining Proteak, he spent 10 years in the fitness industry, including 6 years as CEO of Sports World, achieving over 300% growth, reaching 1,000 employees and raising capital through a private equity firm. Previously, he served as Director of e-commerce for Grupo Elektra and Financial Advisor for BBVA. He holds an Economics degree from UNAM.
Jurgen Stock	Executive Director, Forestry	Jurgen Stock joined Proteak as Research Manager in December 2007, and is currently the Director of Forestry. Prior to joining Proteak, he was Research Manager, Forestry Division of Smurfit Carton de Venezuela. He has worked on developing successful clonal propagation programs for forest species which increased the company's productivity by 40%. He has extensive experience in plantation management. He holds a degree in forest engineering and Master of Science from the University of the Andes in Merida, Venezuela.
Cesar Rodriguez Bejarano	Executive Commercial Industrial	Cesar joined Proteak in 2014 as Chief Industrial Commercial. He has over 15 years of experience in the steel industry and has had experience in client services, sales and purchases. Also, he is an expert in establishing supply chains. He has worked in companies such as New Process Steel and Ryerson Inc. He holds a degree in International Business from ITESM and has an MBA from EGADE Business School.

Business Segments and Assets

Overview

Proteak operates in two business segments – Teak and MDF. The company’s teak segment has 8,300 ha plantations in Mexico, Costa Rica and Colombia, and exports certified teak to over 15 destinations in Asia, America and Europe.

In 2013, Proteak acquired over 8,600 ha of eucalyptus plantations to diversify its portfolio into the MDF production.

The company started operations of MDF plant in February 2016 to produce MDF panels at an annual processing capacity of 280,000 m³. The company sold its first MDF board under the brand name Tecnotabla and has gained a global market share of 17% by Oct’16. The company expects to achieve 80% production capacity by FY17 and full production capacity by FY18. Proteak aims to achieve 30% of market share in domestic market and also targets to export 30-40% capacity of MDF plant to international market.

Company’s Segments

Business Model	Overview
<pre> graph TD Proteak --> Teak Proteak --> MDF Teak --> SC[Seeds and Clones] SC --> TP[Teak Plantations] TP --> HT[Harvesting Teak round-wood] HT --> MD[Marketing and Distribution] MDF --> EP[Eucalyptus plantations] EP --> PIM[Processing into MDF] PIM --> SD[Sales to domestic market] </pre>	<div style="background-color: #4F81BD; color: white; padding: 10px; border-radius: 5px;"> Primary / Flagship Projects </div> <p style="text-align: right;">Mexico, Colombia, Costa Rica</p> <ul style="list-style-type: none"> •Teak: Plantation Area - ~8,300ha, Key products - Teak roundwood, Key Markets - South-East Asia •Eucalyptus: Plantation Area - ~9,600ha, Key products - MDF Target Market - Mexico and USA
<p>Source: Company filings</p>	<p>Source: Company filings</p>

Teak

Summary: Proteak’s teak business is involved in plantation and sales of teak round-wood. It is divided into two segments – Forestry and Trading. The forestry segment operates teak plantations in Mexico, Costa Rica and Colombia. The trading segment is involved in marketing and distribution of teak round-wood to over 15 countries (mainly south-east Asian countries).

The teak business has a vertically integrated structure. While the raw material (seeds and clones) for the plantations are supplied through its clonal gardens; marketing and sales is carried

through its own sales network and is not dependent on intermediaries.

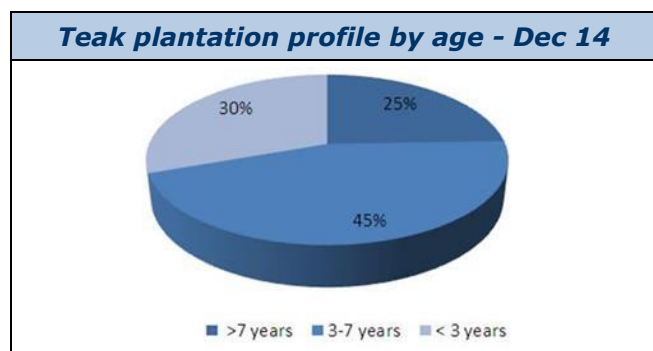
Proteak aims to earn profit from its teak business through client and price optimization. As of 3Q16 the company exported 400 containers of teak from its plantations to India, China and Vietnam

During 3Q16, Proteak commercialized 2,055 m³ of teak, 4% lower than 2Q16. The reduction relates to the shift from Colombian wood to Mexican wood.

The company is focusing to strengthen its position of Mexican teak in the Asian market to offset the reduction of matured plantations in the Colombian wood. To maintain its global market

share, the company also started commercialization of young wood from Costa Rica in 2Q16. Sales from Costa Rica increased by 19% in 3Q16 compared with 2Q16.

Asset Profile: As of 2015, the company has 8,591 ha teak plantations spread across Mexico (7,462ha), Costa Rica (771ha), and Colombia (358ha), with an estimated value of MXP 1,200MM.



Financial performance:

The company's teak sales decreased by 39% YoY to MXP 23.1MM in 3Q16 from MXP 37.8 MM in 3Q15. The decrease was due to the transition from Colombian wood to Mexican wood.

Costa Rica sales increased by 19% in 3Q16 compared with 2Q16. During 3Q16, average export prices were 4% higher than the target.

in MXP '000	3Q16	3Q15	Δ
Sales	23,112	37,872	(39%)
Cost of sales	23,917	29,161	(18%)
Gross Margin (excl. revaluations)	(805)	8,711	(109%)

in MXP '000	9M16	9M15	Δ
Sales	70,188	86,750	(19%)
Cost of sales	66,918	69,957	(4%)
Gross Margin (excl. revaluations)	3,270	16,793	(81%)

Forestry

Summary: The segment involves management and development of teak and eucalyptus plantations across all stages from site selection to harvesting. As of September 2016, the segment's assets included over 8,300ha teak plantations and over 9,600 ha eucalyptus plantations. During

the year, Proteak entered into a development program for *ejidos* (rural communities with communal land ownership) together with CONAFOR, the state government of Tabasco, and Ameplanfor.

As of 3Q16 eucalyptus plantations under the 2015-16 annual plantation program were finished and the 2016/2017 plantation campaign started.

The maintenance of teak plantations has been concluded and provided reasonable conditions of quality and productivity.

Supply of Raw Materials: The key raw materials for the forestry segment are seeds/clones for plantation. Over the years, Proteak is increasing the share of clones, which is resulting in higher yields and better quality from the plantations.

Forestry – Plantation phases: The forestry business segment involves the following phases:

Site Selection: In this phase, the company evaluates potential areas through a multi-factor analysis of key variables, and then analyzes the soil quality and expected return to identify, and acquire the suitable land for development.

Historically, the company's was able to acquire land below its budget price, demonstrating its experience and capability in site selection.

Land preparation and planting: This phase involves soil preparation through intensive mechanization to maximize effective plantation area and optimize conditions for surface planting and uniform growth.

To ensure growth in the fields, Proteak operates two advanced nurseries with a combined 4m+ plants capacity, responsible for clone development and plant care. The seedlings are then transferred to the field for plantation.

Combined with appropriate preparation techniques, the selected gene can generate Mean Annual Increment (IMA) of up to 18m³/ha/year.

Maintenance and Control: In the early years of plantation, this phase involves cleaning the plantation area and controlling the weeds and pest level to ensure optimal growth.

In the later years, maintenance involves pruning to ensure high quality and form logs.

Thinning: This process is carried out in teak plantations to maintain the required separation

between trees through reduction in the tree density.

The company carries out 3-5 thinnings between years 5 and 20 in a 25 year cycle, where it removes between 5% and 30% of the trees, depending on the specific plantation characteristics. Post the thinning, on average 16% of the initial plantation remains available for final harvest.

Harvesting and Shipping: After cutting, the trees with highest growth potential are allowed to mature for harvest. Proteak has the flexibility to time the harvests based on growth projections, market prices and business cycles.

Proteak has established reliable logistics operations in all three countries in which it operates. Additionally, it has developed specific tools for maximizing logging value and a unique identification system to trace its logs from field to end-customer.

Mature teakwood fetches premium due to greater diameter and heartwood content, and contributes ~70% of the plantation revenue.

Trading

Summary: This primary activity of this segment involves marketing and distribution of teak round-wood from the harvests to over 15 countries. In 2015, the company traded large volumes of unprocessed timber to the Asian markets - 552 containers to India, China and Vietnam from its plantations in Colombia.

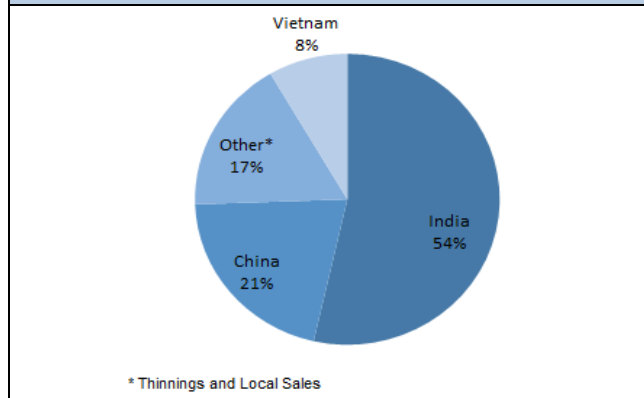
Products: Teak Round-wood

Supply of Raw Materials: Mature teak wood is the primary raw material for the segment, which is provided by harvesting the plantations. To ensure the supply of timber, the company makes an annual sales plan which drives the logging plan.

Distribution channel: Proteak has developed a network of customers and distributors in Mexico and other countries to market its products. The company is currently optimizing the logistics costs, and reducing the dependency on intermediaries.

The company's clients are primarily based in South-east Asia. Round logs are primarily exported to 3 countries - India, China and Vietnam. Of these, India and China account for 75% of the total sales.

Key Markets-Distribution(2014)



MDF

Asset Summary: In 3Q13, Proteak acquired FOMEX, which has over 8,600 hectares of eucalyptus plantations.

In 3Q16, the 2016/2017 plantation plan of 1,500 hectares of eucalyptus started. Once completed, Proteak will reach over 10,000 planted hectares of certified eucalyptus to supply the MDF Plant.

Summary: Proteak completed the construction of an MDF plant (under the brand name Tecnotabla) and started its operations in February 2016. Tecnotabla received a good market response-reaching a participation rate (Thick and thin MDF boards) of 17% as of October 2016.

Over 90% of the MDF board demand in Mexico is met through imports. The huge market potential of MDF has lead Proteak to venture in the MDF production. It targets domestic and international market to retail the MDF board. It aims to achieve 30% of the domestic market share.

Like the Teak segment, the MDF business also has a vertically integrated structure through supply of raw materials from plantations, a production facility for resin, and a cogeneration plant to ensure supply electricity and heat.

Proteak expects to start the resin plant and the power generation turbine by 4Q16. Once operational, the operating cost is expected to decline thereby achieving effective production.

Shipping to the United States:

Proteak plans to export 30% of the MDF production to the United States from 2018. Meanwhile the company will cater to the domestic market. Following are the details related to exports of MDF panels to United States:

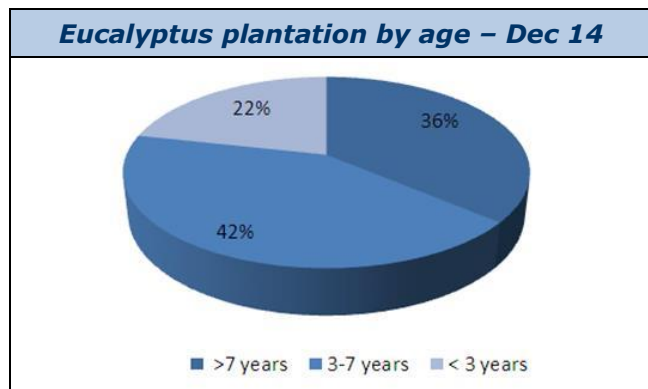
Transportation Partners	<ul style="list-style-type: none"> •QuickBooks-Enterprise: The company will process the orders •Landstar Global Logistics is the primary transportation partner
Shipping Methods	<ul style="list-style-type: none"> •Door to door flatbeds •Door to door dry vans •Ocean container shipments to various ports
Target Market	<ul style="list-style-type: none"> •Southeastern US markets •Southern middle parts of the US - Texas, Oklahoma.

Financial Performance: The start-up of the MDF Plant (under the brand Tecnotabla) has been a success. Tecnotabla has received positive market reception and has expanded to 7 new states in Mexico reaching a total of 21 states.

During 2Q16, the company sold its first MDF board of MXP 75MM and continues to increase the production speed of MDF boards. During 3Q16, the company produced 40,000m3 MDF boards and recorded its sales of MXP 135MM.

The company is also expanding its portfolio and is manufacturing MDF boards with different thicknesses ranging from 3mm to 28mm. Currently, the plant reached a 100% of its nominal capacity during its effective production days. The company expects to achieve full production capacity by FY18, with 80% production capacity target by FY17.

Asset Profile: In 3Q13, the company completed the acquisition of FOMEX for a consideration of USD 30.6MM. The key assets acquired include eucalyptus plantations (in Tabasco, Veracruz and Oaxaca), along with a nursery garden, offices and other forestry assets.



During 3Q15, the company acquired three properties totaling about 900 ha for eucalyptus plantations, of which 300 ha have already been incorporated. The company has initiated its 2016/2017 plantation campaign of 1,500 hectares of eucalyptus and expected to reach over 10,000 planted hectares to supply for its MDF plant.

MDF Plant: In February 2016, the MDF plant was fully commenced. The MDF panel production has an annual capacity of 280,000 m3 (40% increase from initial estimated capacity of 200,000 m3). The company expects to achieve 80% of production capacity by FY17 and full production capacity by FY18 yearend.

The plant, with an estimated capital cost of USD 200MM, is based at Tabasco in Mexico, and is built by Dieffenbacher through a turnkey contract. The plant is expected to meet 30% of the domestic MDF demand through import substitution.

During the first 18 months of operation, Dieffenbacher will co-operate the plant along with Proteak.

The project also comprises the following:

1. Cogeneration plant to supply heat and energy to the MDF plant – the 25MW plant will use a 12MW gas turbine, supplemented by waste from woods. In 2014, the company received the co-generation permit from the Energy Regulatory Commission. The cogeneration plant will generate surplus electricity than required for the MDF plant. The additional electricity will be sold, further reducing the electricity cost which will be lower than the company’s utility rate.
2. The resin production facility and utilization of an EVOjet M system, which will process 25T fiber per hour. Once the resin facility is operational, it will lead to 20% reduction in glue. The utilization of an EVOjet M system will further reduce the glue cost by 29%.
3. Supply chain operations.

Once the cogeneration plant and resin production facility are operational, it will significantly reduce the operating cost. Glue contributes about 26% of the production cost and energy contributes about 10% of the production cost.

Supply of Raw Materials: The raw material for MDF will come from the eucalyptus plantations.

Eucalyptus is a moderately coarse textured hardwood known for its strength, hardness and durability. Eucalyptus is a suitable raw material to manufacture MDF due to its high cellulose content (up to 48%), and relatively shorter rotation cycle of 4 to 7 years.

Development Program for communities: To facilitate incorporation of small producers into the value chain of commercial forestry plantations, Proteak initiated a program to develop Eucalyptus plantations in *ejidos* and small communities (in conjunction with CONAFOR and the state government of Tabasco and Amealpanfor).

In 3Q16, Proteak prepared and planted more than 300 ha under this scheme, successfully converting idle land into productive use. Proteak has also committed to buy all the wood production, which it will then supply its MDF plant.

Recent developments:

With MDF sales (Tecnotabla) of MXP 135MM in 3Q16, Proteak stands at 17% of market share as of Oct'16. The company plans to achieve 80% of production capacity by FY17, with ramp up to 100% by FY18.

In January 2015, the company signed an agreement with FINSA, to perform joint operations of Proteak's MDF Plant, technology transfer, and commercialization of FINSA products in Mexico. This is expected to shorten the learning curve and promises cost and quality effectiveness and production volume efficiency. During 4Q15, the on-site working team had recruited highly qualified and experienced personnel to support the MDF plant start-up.

Value added products:

For MDF panel exports business to the United States, Proteak plans to focus on value added products. It is adding new products like melamine and veneered boards to broaden its portfolio. This will result in higher average unit prices for the company. The products will be available in different thicknesses (9mm, 12mm, 15mm and 18mm).

The company plans to sell Melamine products in white and other designs and will start commercialization in FY17. Once the operation is fully stabilized, the ramp up will begin in 1Q17.

Products and Markets

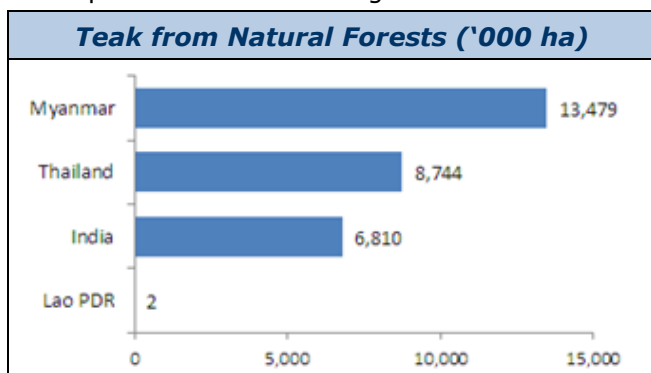
Teak^{vi}

Teak is one of the most valuable industrial round-woods due to its durability, visual appeal, and water and dust resistance. Teak is used in luxury markets and heavy-duty applications such as ship and yacht building, high-end furniture, and construction of wagons and railroad ties.

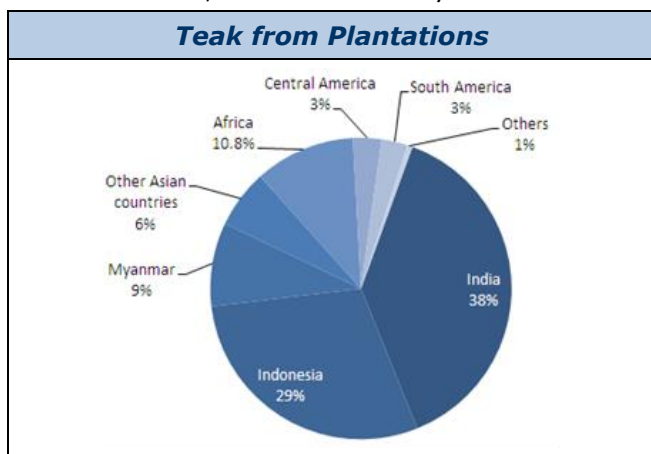
Sources and Production

Teak is primarily concentrated in tropical regions, particularly Asia, which has 95% of the world's natural and planted teak resources and 83% of the planted resources.

Natural Forests: FAO estimates 29.035MM ha of natural forests in India, Lao PDR, Myanmar and Thailand – the only countries with natural teak forests. However, these countries have banned the export of natural teak logs.

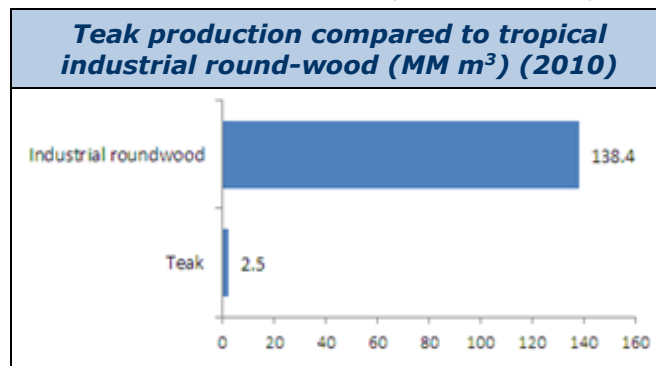


Teak from Plantations: FAO estimates 4.346MM ha of teak plantations, of which more than 75% is located in India, Indonesia and Myanmar.



As per studies by FAO and ITTO, teak forests cover ~0.6% of the total natural forest area, while teak plantations represent ~6.4% of the total tropical commercial plantation.

Production: As per estimates from FAO, global teak production was 2-2.5MM m³ in 2010, of which 1.5-2MM m³ was harvested from plantations. Global teak production represents ~2% of the tropical industrial round-wood production in terms of volume; however the share of teak in terms of value is expected to be higher.



Demand: Teak demand is driven by imports from Asian countries, particularly India, which is the largest importer of teak, and China. A significant demand for teak also exists in Europe and USA.

Due to increased deforestation in the past decade and efforts to preserve natural forests, the teak supply from natural forests have become negligible. As a result, teak demand is met by supply from plantations from Africa and Latin America, despite relatively lower quality. Teak is imported from these countries as round-wood, and then processed in the local markets.

In the long-term, teak demand is expected to increase as it substitutes other industrial round-woods less apt for plantation. The demand from plantations is also expected to increase post the ban on the export of natural teak in Myanmar.

Teak: Prices and drivers

Teak prices are driven by the quality of wood and supply in the market. Teak from the plantations is of relatively lower quality due to low heartwood content, difference in texture and shorter plantation cycles of 20-25 years (compared to natural teak with cycles of more than 40 years).

Teak from natural forests fetches a significant premium in the market, which is further enhanced due to its limited availability.

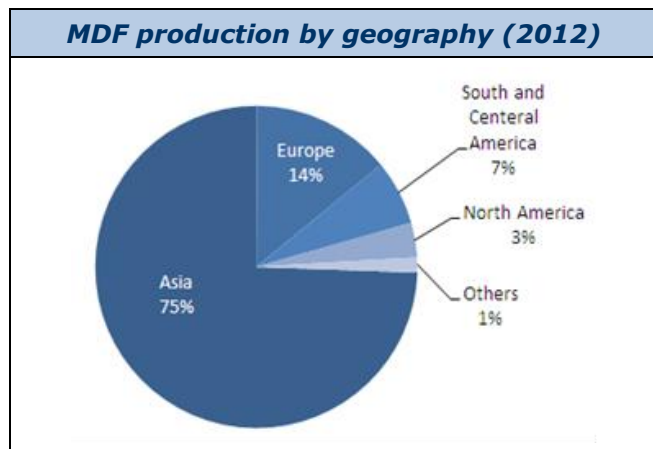
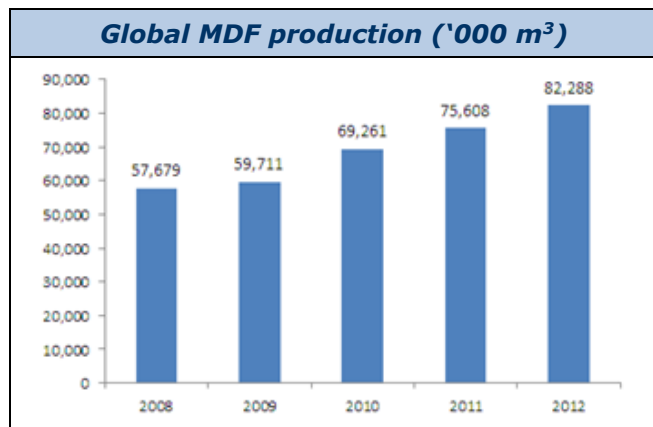
Prices for natural teak averages around US\$700/m³; and higher quality wood may fetch up to USD 2,000-3,000/m³ in the market. Teak prices from plantations are relatively lower, between US\$200-800/m³.

MDF

MDF (Medium Density Fiberboard) consists of cellulosic wood fibers glued under heat and pressure. It has density between 33-50 lb/ft³. The surface of MDF is flat, smooth, uniform, dense and knot-free. MDF is primarily manufactured from Eucalyptus and Pine wood.

Sources and Production^{vii}

MDF production is concentrated primarily in Asia, which contributes 75% to the global production. MDF production has increased at a CAGR of 9.3% from 2008-12 to reach 82.3MM m³ at 2012. Of this, production from China was 50.2MM m³ accounting for ~60% of global production.

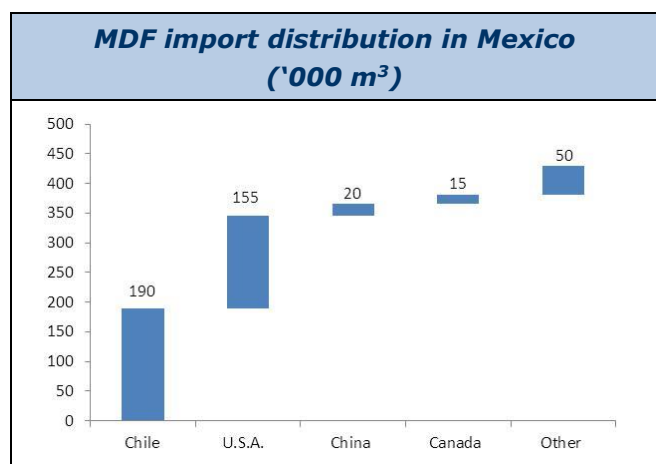
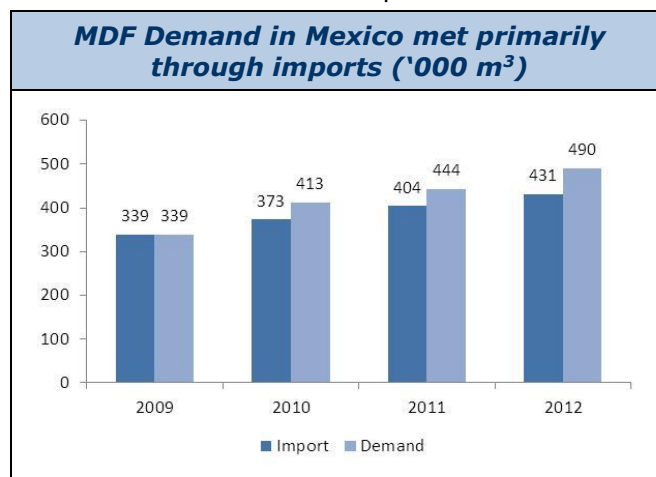


As per a report by BIS Sharpnel, the global MDF production is expected to increase to 99.1MM m³ by 2017. China is expected to account for more than 50% market share by 2017.

MDF Market in Mexico

Demand and Supply^{viii}: MDF accounts for ~25% share in the Mexican wood panels market. MDF consumption in Mexico has increased at a CAGR of 13% from 2009-12 to reach 490,000m³ in 2012.

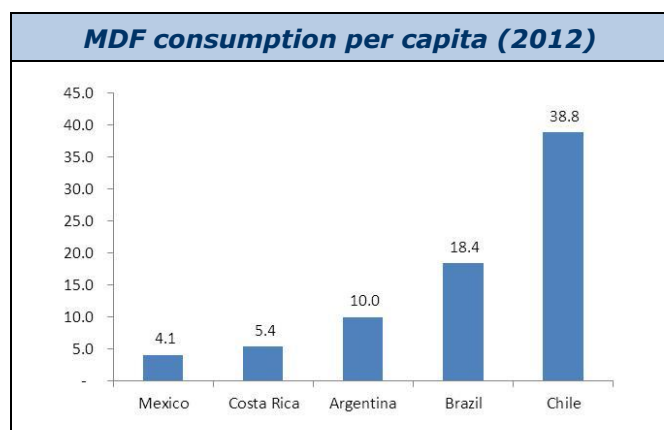
The bulk of MDF demand in Mexico is met through imports which represents more than 85% of the total consumption in 2012. MDF is primarily imported from Chile and USA, which together account for ~80% of total imports.



Opportunity for domestic production: Due to the existing demand supply gap and reliance on imports, there exists a potential opportunity for domestic production. Though local production has increased over the years, it is insufficient to meet the increasing MDF demand. This has prompted

several players to install MDF plants. Proteak, which owns FSC® certified teak plantations in Mexico and is one of the major Teakwood exporters, is now diversifying into MDF production. During 2013, Masisa, one of the key exporters of MDF to Mexico, also announced a 200k m³ MDF plant at a cost of US\$132MM. MDF plant facilities of Proteak, Masisa and Duraplay will add 680k m³ of capacity to Mexico's existing MDF capacity of 50k m³. The 3 mills will intensify production in 2016-2017. This will lead to a substantial shift from imported MDF. According to Wood Based Panels International, Mexico can potentially turn into a net exporter of MDF/HDF panels in the coming years.^{ix}

Per capita MDF consumption: Compared to other Latin American countries, Mexico has one of the lowest MDF consumption per capita.



We believe that the MDF consumption in the medium term will increase, driven by growth in the Mexican economy and the rise in disposable income, which will result in increased demand from furniture and housing. As per the report from Wood Based Panels International, Mexico's MDF consumption fell to 414k m³ in 2014 from 484k m³ in 2013. The flat consumption growth is expected to continue in 2015.

Prices and drivers

MDF prices in Mexico are driven by import prices, which constitute a significant share of supply. Since 2009, the average MDF import prices have increased at a CAGR of 4.7% to reach US\$399/m³ in 2012.

We believe that MDF price will rationalize in the near-to medium term due to expected increase in domestic production capacity.



Project Risk Profile Analysis

We believe that Proteak has a LOW risk profile. Our analysis is driven by the company's established business, low financing risk, experience in plantation business, and a strong and experienced management team.

Teak and MDF project

Project Stage Risk – LOW

- The company has over 8,300 ha teak plantations and over 9,600 ha of eucalyptus plantations. As of December 2014, approximately 42% of the teak plantations and 45% of the company's eucalyptus plantations were over 7 years' plantations.
- Teak is a revenue-generating segment, with established distribution network and clients.
- The startup of MDF plant has been a success. From 2Q16, the company started selling its own manufactured MDF board under the brand Tecnotabla.

Considering the maturity of plantations and the revenue generating teak and MDF segment, we believe the company have LOW project stage risk.

Financing/Capex Risk – LOW

- In January 2017, the company entered into a multilateral loan agreement of USD 65MM with the International Finance Corporation (IFC) and the Promotion and Participation Agency for Economic Cooperation (PROPARCO). The proceeds of the loan will be utilized towards the growth and development of 10,000 hectares of commercial forest plantation. Also, Proteak intends to repay a part of its existing debt and refinance its debt profile.
- On November 2016, Proteak obtained a credit of MXP 100MM from Banco Multiva S.A. The company intends to utilize the funds towards the working capital needs of Tecnotabla.
- In March 2015, the company received approval for MXP 200MM credit line from FND for plantation and maintenance of Eucalyptus plantations to supply to the MDF Plant. As of May 2015, the company received the first tranche of the authorized credit line.

- The company has already secured the requisite financing for the MDF project. Further, the capex volatility risk for MDF plant is mitigated by the *turnkey* agreement with Dieffenbacher.

Based on the above factors, we consider the company to have a LOW financing risk profile

Operational Risk – LOW

- The firm has extensive experience in land acquisition, preparation and maintenance, which has resulted in higher yields from its plantations. The company has also developed the ability to plant in acidic soils.
- The teak business has a relatively long-term horizon, with a rotation cycle of around 20-25 years. It does not generate any substantial cash flow till the plantations become mature.
- To remove uncertainty due to relatively long business cycle, the company has ventured into MDF production from eucalyptus plantations, which have relatively short maturity period.
- The company's teak and MDF sales are exposed to exchange rate risk, due to its export-oriented business. To mitigate this, the company is diversifying its customer base into newer markets.
- In January 2015, the company signed an agreement with FINSA to perform joint operations of MDF plant, technology transfer and market FINSA products in Mexico.
- The company's biological assets are not insured, and are prone to natural hazards.

We consider the company to have a LOW to MEDIUM operational risk. We believe the operational risk will reduce as the MDF plant becomes operational.

Key Personnel Risk – LOW

- The company has a strong management team to support the execution of its Teak and MDF projects.
- Proteak has 7 independent directors in its 13-member Board of Directors, thus strengthening its corporate governance. We believe Proteak has a LOW key personnel risk.

Risk Parameters – Definition

Project Stage Risk

The different stages in a plantation project are:

- **Stage 1:** Feasibility analysis. The company conducts a feasibility study to identify the type of wood suitable for plantation, and cost benefit analysis to project the Internal Rate of Return (IRR). This stage also involves creation of the detailed business plan for the company's assets and projects.
- **Stage 2:** Land acquisition, preparation and building scale of operations. Once the company determines the feasibility and economics of the project, it acquires land for plantation as per the business plan, and establishes the processes and procedures for land preparation, plantation, and maintenance. This stage also involves planting the trees, and performing regular maintenance and thinning till trees attain the required heartwood content and diameter.
- **Stage 3:** Harvesting and Marketing. The trees are harvested as they attain maturity as per the rotation cycle. The trees harvested are sold as roundwood directly, or are processed into higher-margin, value-added products.

We consider a project to have a lower risk profile if the trees from the plantations have reached maturity and are ready to be harvested; as this reduces the uncertainty regarding the sustainability of the project.

Project Financing Risk

Every project requires a huge capital investment during its initial stages. Usually, the plantation projects have very long maturity cycles, and it may take upto 25-30 years after the feasibility study for the project to generate cash, depending on the business cycle and operational

parameters. During this period, the company's invested capital is locked and does not generate any cash flow.

If the company already has other projects which are generating good cash flows, then it has an option to utilize those funds towards other projects and rely less on external sources of funds to meet its working capital requirements.

We consider a project to be of lower risk profile if the company has secured the funds for its projects, or has existing projects generating cash flows which it can use to fund the new projects.

Operational Risk

The most important assets of the plantation firms are its biological assets, which are exposed to various risks. While some of the risks caused by natural hazards such as floods, fire and unfavorable weather conditions are difficult to predict and control, other risk factors such as pest infection, illegal harvesting can be mitigated through proper checks and maintenance.

We consider a project to be of lower risk profile if the company has established proper checks, control, technology and procedures to increase the yield from plantations, and mitigate the other risks described above.

Key Personnel Risk

The company is run by a management who brings prior experience and knowledge to the table. Also, it is important that a company does not depend heavily on very few individuals who have vast experience in the field.

We consider a project to be of lower risk profile if the management team is highly qualified, has good number of years of experience in plantation and forestry field and has lower key employee dependence.

Value

The Fair Market Value for Proteak's shares stands between MXP 7,123.2MM and MXP 8,012.3MM.

The Fair Market Value for one of Proteak's Certificados de Participación Ordinaria, CPO's (publicly traded shares) stands between MXP 26.55 and MXP 29.86.

Proteak Uno, S.A.B. de C.V. – Balance Sheet Forecast

CONSOLIDATED BALANCE SHEET	<i>all figures in MXP '000, unless stated differently</i>		<i>Low bracket estimates</i>			
<i>year ending December 31</i>	2017E	2018E	2019E	2020E	2021E	2022E
Total Current Assets	1,597,820	2,201,277	2,968,058	3,841,377	4,625,791	5,217,996
Total Non-Current Assets	4,225,639	4,209,229	4,200,691	4,080,966	3,958,228	3,836,875
TOTAL ASSETS	5,823,459	6,410,506	7,168,749	7,922,343	8,584,018	9,054,871
Total Current Liabilities	434,159	498,390	525,556	495,592	511,017	509,521
Total Non-current Liabilities	1,662,825	1,727,409	1,780,523	1,887,057	1,516,063	1,131,731
TOTAL LIABILITIES	2,096,984	2,225,799	2,306,079	2,382,649	2,027,081	1,641,253
Total Shareholders Equity	3,726,475	4,184,707	4,862,670	5,539,694	6,556,938	7,413,618
TOTAL LIABILITIES and EQUITY	5,823,459	6,410,506	7,168,749	7,922,343	8,584,018	9,054,871

Proteak Comparables

The comparable multiple valuations use peers' operational performance, market information and assets to arrive at the fair share valuation for Proteak. The peers have been identified on the basis of similar industry and region.

The valuation is done by obtaining an estimate of the implied multiple by analyzing the market value of the company in relation to its operational performance and assets. The multiple is then applied to the underlying variable to estimate the implied market value of the company.

Ticker	Company	Enterprise Value^x (MXP MM)	Market Cap. (MXP MM)
DTEX3:BZ	Duratex SA	47,325.2	34,634.8
CMPC:CI	Empresas CMPC SA	182,871.3	113,267.7
EUCA4:BZ	Eucatex SA Industria e Comercio	3,678.5	1,816.3
MASISA:CI	Masisa SA	16,690.9	7,886.7
WY:US	Weyerhaeuser Co	640,123.2	484,359.7
DEL:US	Deltic Timber Corporation	23,777.2	19,158.5

Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent, depending on the sub-sectors in which the research is conducted. But all Arrowhead valuation researches possess an underlying set of common principles and a generally common quantitative process.

With Arrowhead commercial and technical due diligence, the company researches the fundamentals, assets and liabilities of a company, and builds estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance such as price/earning ratios, indicated as applicable, are mainly for reference. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

We have here presented the discounted cash flow estimate approach for FCFE valuation. We have also presented here the comparable method valuation based on the Enterprise Value per unit of EBITDA and Enterprise Value per unit of replacement value of peers. The fair value bracket is built on the basis of these three methods.

Arrowhead BID Fair Market Value Bracket

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analyses such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a valuation tool.

In principle, an investor comfortable with the high brackets of our key variable analysis will align with the high bracket in the Arrowhead Fair Value Bracket, and, likewise, in terms of low estimates. The investor will also note the company intangibles to analyze the strengths and weaknesses, and other essential company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in investor's own analysis.

The bracket should be taken as a tool by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that while on the one hand global capital markets contain inefficiencies, especially in terms of information, on the other, corporations and their commercial and technical positions evolve rapidly. This present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months). The reader should refer to important disclosures on page 21 of this report.

Information on the Proteak valuation

Proteak Valuation Methodology: The Arrowhead fair valuation for Proteak is based on the blended price of the Comparable Valuation method (EV/EBITDA and EV/Replacement Value) and Discounted Cash Flow Valuation Method (DCF).

Time Horizon: The Arrowhead fair valuation for Proteak is based on a DCF method. The time period chosen for the valuation is 2016E-2050E. While revenue is expected to ramp up significantly during 2016-2017 with the commencement of the MDF plant operations, the later years are heavily discounted and have a marginal effect on valuation, which are included primarily to present a full project cycle situation.

Underlying Business Plan: The company operates in two business segments – Teak and MDF. Proteak's teak segment has 8,300 hectares of plantations in Mexico, Costa Rica and Colombia, which is sold as round-wood, primarily to Asian Markets. The company also manufactures MDF boards from eucalyptus plantations. In 2Q16, the company started selling MDF boards under the brand Tecnotabla.

Terminal Value: Terminal Value is estimated to depend on a terminal growth rate of 2%, representing the maturity, technology change and prospective competitiveness in the business.

Prudential Nature of Valuation: This Arrowhead Fair Value Bracket estimate is a relatively prudential estimate, as it discounts the eventuality of the company acquiring and producing from projects other than Teak and MDF business segments.

Key variables in Proteak revenue estimations

Variable 1 – Hypothesis for Teak revenue

We have estimated the teak production based on the plantation profile of the company and its age-distribution. While prices of teak roundwood depend largely on the maturity and the heartwood content, we have also used a low and high bracket in determining teak prices.

Change in teak price sensitivity	2017E
Low	0%
High	3%

Variable 2 – Hypothesis for MDF revenue

Proteak have started selling MDF boards under the brand Tecnotabla from May 2016. While the annual utilization during the first year is relatively low, we have assumed significant ramp-up in utilization thereafter. We have used a low and high bracket to determine the MDF price. Based upon the management guidance, we have estimated a discounted MDF prices which will enable the company to increase its market share, and will be achievable due to lower costs from domestic production.

MDF price (US\$/m ³)	2017E
Low	270
High	280

Variable 3 – Exchange rate

We have estimated the US\$/MXP exchange rate based on the current and expected economic conditions.

US\$/MXP	2017E
Low	19.0
High	20.0

Analyst certifications

I, Shruti Gupta, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company.

Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2014, 2015 and 2016 and will receive fees in 2017 from Proteak Uno SAB de CV (Proteak) for researching and drafting this report and for a series of other services to Proteak, including distribution of this report and networking services. Arrowhead's partners are currently seeking, and expect to receive, an investment banking mandate from Proteak.

Aside from certain reports published on a periodic basis, the large majority of reports are published by Arrowhead BID at irregular intervals as appropriate in the analyst's judgment.

Any opinions expressed in this report are statements of our judgment to this date and are subject to change without notice.

This report was prepared for general circulation and does not provide investment recommendations specific to individual investors. As such, any of the financial or other money-management instruments linked to the company and company valuation described in this report, hereafter referred to as "the securities", may not be suitable for all investors.

Investors must make their own investment decisions based upon their specific investment objectives and financial situation utilizing their own financial advisors as they deem necessary. Investors are advised to gather and consult multiple information sources before making

investment decisions. Recipients of this report are strongly advised to read the information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision taking process.

Past performance of securities described directly or indirectly in this report should not be taken as an indication or guarantee of future results. The price, value of, and income from any of the financial securities described in this report may rise as well as fall, and may be affected by simple and complex changes in economic, financial and political factors.

Should a security described in this report be denominated in a currency other than the investor's home currency, a change in exchange rates may adversely affect the price of, value of, or income derived from the security.

This report is published solely for information purposes, and is not to be considered as an offer to buy any security, in any state.

Other than disclosures relating to Arrowhead Business and Investment Decisions, LLC, the information herein is based on sources we believe to be reliable but is not guaranteed by us and does not purport to be a complete statement or summary of the available data.

Arrowhead Business and Investment Decisions, LLC is not responsible for any loss, financial or other, directly or indirectly linked to any price movement or absence of price movement of the securities described in this report.

Valuation

WACC

Risk-free rate	6.0%	xi
Beta	0.70	xii
Risk premium	6.0%	xiii
Additional Risk Premium	2.0%	xiv
Cost of Equity	11.6%	
Terminal Growth Rate	2.0%	xv

	Teak	MDF	Exchange rate
Max value	<i>Please refer to the Key Variable Section</i>		
Min value			

FCFE (High) Time Period

	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Net cash from operating activities	321,718	735,348	1,002,579	1,064,535	1,346,658	1,254,938	1,224,002
Capital Expenditure	(143,224)	(131,275)	(137,838)	(16,500)	(6,000)	-	-
Net Debt Addition	198,127	71,244	59,774	113,194	(389,362)	(403,700)	(440,695)
Free Cash Flow to Equity	376,621	675,317	924,514	1,161,229	951,296	851,238	783,306
Discount Factor	0.83	0.74	0.66	0.59	0.53	0.48	0.43
Present Value of FCF	310,810	499,384	612,600	689,475	506,120	405,813	334,613

FCFE (Low) Time Period

	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Net cash from operating activities	279,615	657,284	902,602	954,996	1,213,467	1,127,815	1,097,552
Capital Expenditure	(136,062)	(124,711)	(130,946)	(15,675)	(5,700)	-	-
Net Debt Addition	190,801	64,584	53,114	106,534	(370,994)	(384,332)	(418,660)
Free Cash Flow to Equity	334,353	597,157	824,769	1,045,855	836,773	743,484	678,891
Discount Factor	0.83	0.74	0.66	0.59	0.53	0.48	0.43
Present Value of FCF	275,927	441,586	546,508	620,972	445,190	354,443	290,009

ARROWHEAD FAIR VALUE BRACKET – DCF

	High	Low
Terminal Value (TV)	26,593,756	23,433,884
Present Value of TV	586,799	517,076
Present Value of FCF + TV	9,719,689	8,566,883
+ Cash	170,822	170,822
Equity Value	9,890,511	8,737,705
Shares Outstanding (in '000)	268,326	268,326
Fair Value	36.86	32.56
Current Market Price	20.85	20.85

Replacement Value Multiple Valuation

ARROWHEAD FAIR VALUE BRACKET – Replacement Value		
	High	Low
Replacement Value – FY17E ^{xvi}	4,397,385	4,397,385
EV/Replacement Value Multiple ^{xvii}	1.2x	1.1x
Implied EV	5,276,862	4,837,123
+ Net Cash	170,822	170,822
Equity Value Bracket	5,447,684	5,007,945
Shares Outstanding (in '000)	268,326	268,326
Fair Value Bracket (MXP)	20.30	18.66
Current Market Price (MXP)	20.85	20.85

EV/EBITDA Multiple Valuation

ARROWHEAD FAIR VALUE BRACKET – EV/EBITDA		
	High	Low
EBITDA – FY17E	633,298	556,047
EV/EBITDA Multiple ^{xviii}	10.5x	10.5x
Implied EV	6,649,626	5,838,490
+ Net Cash	170,822	170,822
Equity Value Bracket	6,820,448	6,009,312
Shares Outstanding (in '000)	268,326	268,326
Fair Value Bracket (MXP)	25.42	22.40
Current Market Price (MXP)	20.85	20.85

ARROWHEAD BLENDED FAIR VALUE BRACKET

Value Bracket	DCF Valuation (MXP)	Replacement Value (MXP)	EV/EBITDA (MXP)	Value/ Share (MXP)
Low	32.56	18.66	22.40	26.55
High	36.86	20.30	25.42	29.86

Notes and References

- i *Arrowhead Business and Investment Decisions (ABID) Fair Value Bracket. See information on valuation on pages 18-23 of this report and important disclosures on page 21 of this report*
- ii *Bloomberg as on 08-Feb-2017*
- iii *Bloomberg as on 08-Feb-2017*
- iv *3-month average daily volume from Bloomberg as on 08-Feb-2017*
- v *Bloomberg as on 08-Feb-2017*
- vi *FAO: <http://faostat3.fao.org/faostat-gateway/go/to/home/E>
ITTO: <http://www.itto.int/>
<http://www.eastbysoutheast.com/burmese-teak-turning-a-new-leaf/>*
- vii *<http://www.decorativesurfaces.org/products/medium-density-fiberboard.html/details/>
<http://www.diyaudioandvideo.com/FAQ/MDF/>
http://www.ipst.gatech.edu/faculty/ragauskas_art/technical_reviews/Chemical%20Overview%20of%20Wood.pdf
<http://www.norbord.co.uk/news/global-demand-mdf-set-boom-industry-report-finds>
<http://www.ferret.com.au/c/BIS-Shrapnel/Global-medium-density-fibreboard-production-consumption-set-to-boom-says-BIS-Shrapnel-n2510849>*
- viii *SIAVI
FAO: <http://faostat3.fao.org/faostat-gateway/go/to/home/E>
<http://www.cambridgeforestproducts.com/images/presentations/BF-ANAFATA1011-AbridgedPDF.pdf>
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http://www.masisa.com/medios/archivos/info-financiera/comunicados/2012/Masisa%20S_A_%20Presentaci%C3%B3n%20de%20Resultados%203Q2013%20a%20Inversionistas%20Ing_%20final.pdf*
- ix *<http://www.wbpionline.com/features/producers-struggling-4718217/>*
- x *Bloomberg as on 08-Feb-2017*
- xi *Bloomberg as on 08-Feb-2017*
- xii *Arrowhead Estimate*
- xiii *Bloomberg as on 08-Feb-2017*
- xiv *Arrowhead Estimate*
- xv *Arrowhead Estimate*
- xvi *Replacement value is defined as the sum total of current and non-current biological assets, fixed assets and sales from one year of production at 100% capacity*
- xvii *Estimated based on analysis of peer multiples*
- xviii *Estimated based on analysis of peer multiples*