GNAM Investment Competition

EGADE BUSINESS SCHOOL
CYDSA

October 31st 2015

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Company Highlights

- 70-year history and publicly traded since 1973.
- 1.6% CAGR and 20% EBITDA margin since 2010.
- In 2010 announced a series of strategic projects to increase competitiveness and growth rate.
- Renewed its corporate structure adding a business unit for Real Estate Development and appointed a new Corporate General Director.
- Entered a joint venture with SalTec International into developing salt cavern hydrocarbon storage.
- In November 2014 they successfully refinanced their debt, improving its debt profile and reducing their financing cost.
- Analyst coverage on CYDSA has just been re-started by two firms on the 2nd semester 2014.

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Company Profile

Ticker: CYDSASA
Mexican Stock Exchange
Headquartered in Monterrey, Mexico
Industrials, Chemicals
Market Cap: 900 MUSD
Current Price: $ 25.49 MXN
Target Price: $30.4 MXN
Expected Return: 19%

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Strategic projects

- Increase in salt production capacity by 42.5% up to 570,000 tons.
- A new Chlor-Alkali industrial unit with cutting-edge technology, lower energy demand and a higher focus on specialty chemicals.
- Expansion into other business units with higher margin potential
  - Real Estate Development for their 66.5 hectares
  - Energy
    - Two Cogeneration plants for electricity generation
    - Hydrocarbons underground storage in salt mines

Company Characteristics

- CYDSA has developed a strong business portfolio through both diversification and high vertical integration.
- It focuses on industries with high barriers to entry.
- Its chemical manufacturing chain is highly integrated owning mines from which it extracts brine that can be then sold as salt for human consumption and food industry or as raw material in its production of chlorine, caustic soda and chemical specialties.
- Their new business unit increased integration and profitability by taking advantage of empty salt mines to store hydrocarbons such as natural gas for government owned companies or private clients.
- Real Estate business unit to make the most of their decommissioned plants by developing them into residential or mixed-use projects.

Company Characteristics (cont'd)

- Ability to generate earnings

Historic yearly Returns (%)				
	2011	2012	2013	2014
ROE	9.16%	10.22%	7.78%	7.69%
ROIC	6.89%	8.23%	5.46%	4.33%
ROA	5.26%	5.46%	4.32%	4.24%

ROA has been affected by the 239% increase in the asset base from new investments from the end of 2012 to the second quarter of 2015. Since those assets are not yet operational, their positive impact through an increase on revenue and cost reduction is not yet recorded on the income statement. From 2016 forward we expect this ratio to increase significantly since the new assets will allow higher margins and therefore have a direct positive impact in net profit.

The drop in ROE was due to the issue of new equity and to the spike in the price of natural gas in Mexico by almost 25% and electricity by 2.2%. This factors should not be an issue after 2016 thanks to the Energy Reform and CYDSA becoming electrical self-sufficient. We expect ROE to increase to the 10 – 12% range after all the projects become operational in 2016 and 2017.

Company Characteristics (cont’d)

Based on a Dupont Analysis, we expect ROE grow through increases in:

- **Profit Margin**: by reducing costs with the new electrolysis technology and the Cogeneration Plants and higher margins from specialty products.
- **Asset turnover**: in 2016 all assets “in construction” will become operational and generate an increase in sales.
- **Equity multiplier**: The company negotiated a 400 MUSD credit line and could increase its financial leverage to be more in tune with peers.

- Dividends

Historic Dividend Payouts					
Year	DPS (MXN)	Total (millions MXN)	Year	DPS (MXN)	Total (millions MXN)
2014	$0.2314 and $0.1369	$215	**2010**	$0.0989	$55
2013*	$0.2543 and $0.2967	$302	**2009**	$0.0884	$83
2012	$0.1438	$75	**2008**	$0.0742	$267
2011	$0.1883	$261			

*Split 2.8296:1

Barriers to entry

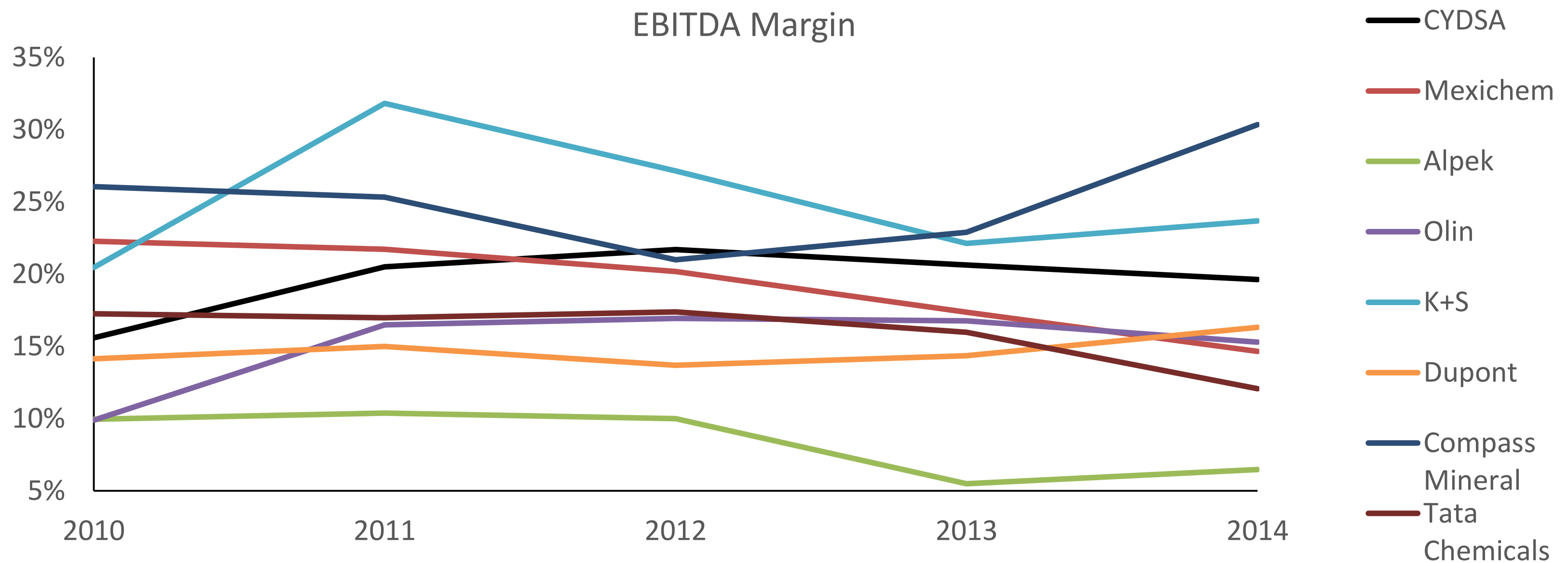
- Exploitation of salt mines requires acquiring a government concession.
- Refining salt to the quality required by laws for human consumption is costly
- There are large scale players in the Mexican salt industry: CYDSA, ESSA, Mexichem.
- CYDSA owns the most famous edible salt brand "La Fina" with an estimated market share of 55%.
- High capital requirements and lead time for a chlor-alkali plant + economies of scale
- Price volatility since chlorine and caustic soda demand is not synchronized
- Continuous monitoring by safety and environmental regulators
- Storage of hydrocarbons requires a government permit through the Energy Regulator.
- Requires advanced ground studies that are uncommon in Mexico.
- Companies must employ very advanced drilling technology and techniques which are more related to shale oil & gas drilling and are still uncommon in Mexico.
- CYDSA obtains a higher profit margin by also having a commercial interest on the retrieved salt.
- High onsite steam consumption for the Cogeneration plant to be highly profitable.

Expected Industry growth

- Salt annual growth rate expected at 2.6% driven by population growth.
- Recent medical studies have challenged the salt reduction myth.
- Mexican chemical industry is expected to grow at 6% until 2019 driven by production from China moving back to Mexico.
- Surging PVC demand thanks to the Real Estate boom by Mexican REITS (*Fibras*) and the National Housing Program 2014 – 2018.
- Automotive industry boom to push PVC, steel and chlorine demand.
- Energy Reform to increase oil extraction and chlorine demand for oil wells acidizing.
- Pulp and paper industry has shown a high growth increasing demand for caustic soda.
- Mexico has the sixth-largest reserve of technically recoverable shale gas in the world according to the EIA and an almost non existent storage capacity.

High margins relative to competition

Historic Margins					
	2010	2011	2012	2013	2014
Gross Margin	34.2%	37.9%	38.5%	37.0%	36.0%
Operating Margin	11.7%	16.7%	18.2%	16.6%	13.7%
EBITDA Margin	15.6%	20.5%	21.7%	20.6%	19.6%
Profit Margin	26.8%	9.2%	10.4%	9.7%	10.5%



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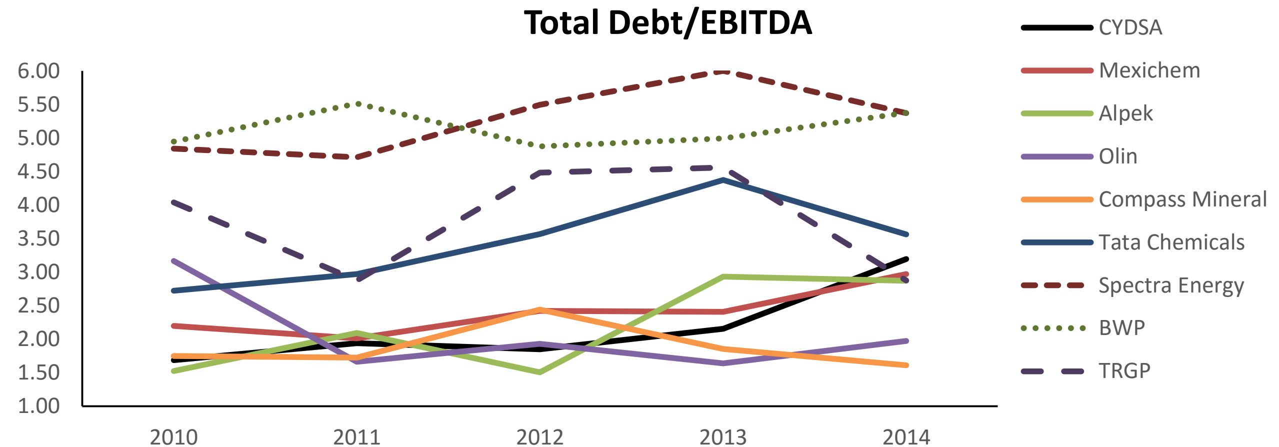
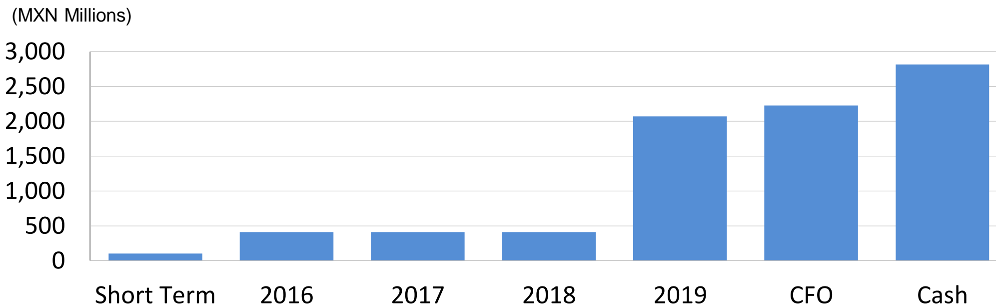
Debt

The recent increase in Total/EBITDA was required by the investment in CAPEX. Peers in the underground storage business have a higher ratio than companies in the chemical and salt industries.



Debt profile



In November 2014 they successfully refinanced their debt, improving its debt profile and taking advantage of current low interest rates to reduce their financing cost.

Source: Company reports at 31/12/204

Management & Governance

- A key driving force behind the Company's transition into segments with higher potential.
- Insider ownership is high ca. 51% but the board of directors includes six independent members (31%).
- Antonio Zamora Gallant who was the CFO of Mexico´s largest milk producer (Grupo Lala) and a key participant in taking the company public being the first IPO of a dairy company in the country.
- The biggest drawback of current management has been a low effort on promoting the liquidity of the stock which still falls on the medium - low bracket of the Mexican Exchange. New strategies have been put into place lately and shown promising results.

SWOT Analysis

Strengths	Weaknesses
• Market leader in packaged edible salt. • Vertically integrated allowing good cost control. • Chlorine and caustic soda are essential in the chemical sector value chain. • Healthy liquidity position; quarterly debt amortizations can be covered with cash flow from operations. • Recent capital investments have increased capacity, reduced energy costs and improved profitability.	• Price volatility for both chlorine and caustic soda which are determined in the international commodities market. • Profitability of this chemical division requires a strict cost control. • Chlorine sales are highly dependent on demand for PVC, which is highly linked to oil prices. • The business units with higher expected growth are still in the development phase • An global economic slowdown might hurt the company´s ability to repay debt
Opportunities	**Threats**
• Reduce energy consumption with ODC electrolysis. • Expanding their salt business to Central America. • Expanding the offer of high value added products used in oil & gas extraction. • Expanding into new businesses taking advantage of the Energy Reform.	• High volatility in the international price of commodities which still account for an important part of the portfolio. • Difficulty to rapidly adjust costs according to a change in price. • China economic slowdown increases the risk of a market oversupply of commodities, chemical specialties and salt.

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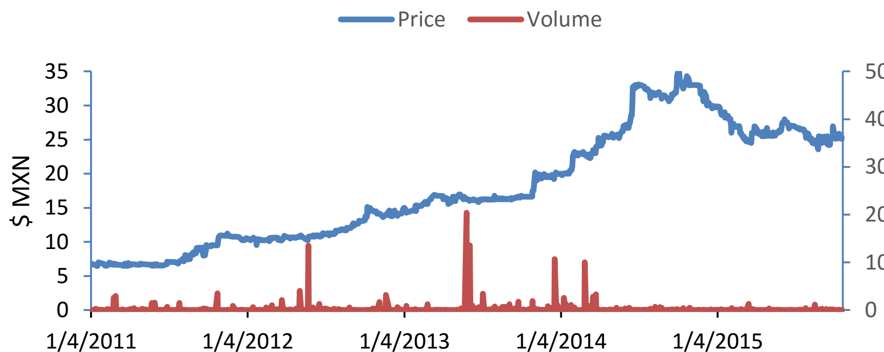
Valuation



Sensitivity Analysis

		Perpetual growth				
	30.36	2.5%	3.0%	3.8%	4.2%	4.5%
WACC	9.50%	29.9	31.0	33.0	34.2	35.2
	10.00%	28.9	29.7	31.4	32.4	33.3
	10.40%	28.1	28.9	30.4	31.2	32.0
	11.00%	27.1	27.8	29.0	29.7	30.3
	11.50%	26.4	26.9	28.0	28.6	29.2

Multiple	Salt	Chlor-Alkali	Refrigerants
P/E	23.1	24.7	26.2
P/BV	23.2	23.2	35.2
P/Sales	9.6	7.1	10.5
P/EBITDA	14.7	13.0	16.9
EV/Sales	11.1	7.9	12.5
EV/EBITDA	19.0	18.0	20.9

Segment	% Sales 2014	Valuation
Salt	30%	5.2
Chlor-Alkali	43%	7.0
Refrigerants	23%	4.7
Total	96%	17.6

*Textile segment accounts for 4% of revenues but we expect it to be divested in the short term

CAPM	
Ibbotson Mid-Cap Premium	1.14%
Risk free rate (Mexican 10yr bond)	4.16%
Market Premium	7.76%
Estimated Beta	0.86
Cost of equity	11.98%

Cost of capital	
W_d	18.00%
W_e	82.00%
K_d	4.30%
K_e	11.98%
WACC	10.40%

Target Price calculation	
Methodology	Price ($ MXN / share)
DCF	23
Relative Valuation	17.6
Underground storage	6
Real Estate properties	3
Target price	30.4

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Investment Risks

- An economic slowdown of the US which would affect the activity of Mexican companies especially in the PVC chain and automotive sectors which drive demand for basic and specialty chemicals.
- An increase in Chinese imports could impact our anticipated sales.
- In the Real Estate segment, an unexpected decrease in property prices or a surge in remediation costs could negatively impact project´s profitability.
- Lower-than-anticipated project returns due to higher capex, longer execution periods or strict regulatory framework in the energy sector which may limit the potential of the underground storage business unit.

EGADE BUSINESS SCHOOL – INVESTMENT THESIS

by Manuel Parra and Gustavo Zavala

Industrials, Chemicals

Mexican Stock Exchange

CYDSA

Date: 31/10/2015	Current Price: $ 25.49 MXN (30/10/2015)	Target Price: $30.4 MXN
Ticker BMV: CYDSASA	Headquarters: Monterrey, Mexico.	Expected Return: 19%

Highlights:

- Conglomerate with a 70-year history in the Mexican industrial sector, publicly traded since 1973.
- Historically active in M&A transactions, the last of which was divesting its PVC and plastics business in 2010. Since then, they´ve had a 1.6% CAGR and 20% average EBITDA margin.
- In 2010 announced a series of strategic projects to increase competitiveness and growth rate. This included two Cogeneration Plants, a new Chlor-Alkali factory with cutting-edge technology and a higher focus on specialty chemicals and an expansion of their salt production capacity.
- Recently renewed its corporate structure adding a business unit for Real Estate Development. Also appointed a new Corporate General Director, who previously acted as CFO of Mexico´s largest milk producer (Grupo Lala) taking the company public for $940 million dollars in 2013.
- Entered a joint venture with SalTec International into developing salt cavern hydrocarbon storage.
- In November 2014 they successfully refinanced their debt, improving its debt profile and taking advantage of current low interest rates therefore reducing their financing cost.
- Analyst coverage on CYDSA has just been re-started by two firms on the 2nd semester 2014.

Financial Summary

	2012	2013	2014
Revenue Growth	6.3%	(5.7%)	4.7%
EBITDA margin	21.7%	20.6%	19.6%
EPS	1.01	0.84	0.95
Shares outstanding	565.9	600.0	600.0
P/EPS	14.73	23.85	31.36
EV/EBITDA	5.45	9.95	17.62

Market Profile

Price Range LTM (MXN)	23.01 - 34.5	Shares Outstanding (millions)	600
Stock performance LTM	-15.51%	Market Cap (MXN millions)	$15,132
Daily average volume LTM	55,463	Float (%)	35%
Average BV per share LTM	$13.41	Beta*	0.86

Valuation Summary

DCF	$32
Multiples	$26.6

Investment Thesis

"The time to get interested is when no one else is. You can't buy what is popular and do well"
Warren Buffett

We consider CYDSA has acknowledged its limited long term growth possibilities in what had been its historical core segments (chlorine-caustic soda, textiles and refrigerants) and has therefore expanded into other business units with higher margin potential. For example, their chemical division is slowly shifting from a production of commodities like chlorine and caustic soda into chemical specialties such as sodium hypochlorite and synthetic hydrochloric acid. This not only increases revenue but also reduce its dependency on internationally determined prices and currency exchange risk.

The company has also ventured in the energy sector with two Cogeneration Plants and the development of a new zone for brine extraction where the new drilled wells have the required technical capabilities for underground storage of gas and other hydrocarbons. On December 2014 they signed a 10 year contract with Mexican oil giant PEMEX and still have enough storage capacity to satisfy other potential national clients. Since 1998 they´ve been working closely with SalTec International on this project.

Lastly, they created a Real Estate business unit to make the most of their decommissioned plants. They are currently studying whether to sell the land as is or develop them into residential or mixed-use projects. Most properties are in valuable prime locations in Monterrey, Aguascalientes and San Luis Potosí.

Based on the company´s core segments that provide stable and predictable cash flows and the potential profits from the new business units, our valuation shows that the stock is currently 19.3% undervalued. It would seem the market has not yet priced in the cash flows and growth potential from the new ventures as well as the expected increase in revenue and margins from their operating improvements as well as the higher focus on more value added products in the chemical division.

SWOT	
Strengths	**Weaknesses**
• Market leader in packaged edible salt. • Vertically integrated allowing good cost control. • Chlorine and caustic soda are essential in the chemical sector value chain. • Healthy liquidity position; quarterly debt amortizations can be covered with cash flow from operations. • Recent capital investments have increased capacity, reduced energy costs and improved profitability.	• Price volatility for both chlorine and caustic soda which are determined in the international commodities market. • Profitability of this chemical division requires a strict cost control. • Chlorine sales are highly dependent on demand for PVC, which is highly linked to oil prices. • The business units with higher expected growth are still in the development phase • An global economic slowdown might hurt the company´s ability to repay debt
Opportunities	**Threats**
• Reduce energy consumption with ODC electrolysis. • Expanding their salt business to Central America. • Expanding the offer of high value added products used in oil & gas extraction. • Expanding into new businesses taking advantage of the Energy Reform.	• High volatility in the international price of commodities which still account for an important part of the portfolio. • Difficulty to rapidly adjust costs according to a change in price. • China economic slowdown increases the risk of a market oversupply of commodities, chemical specialties and salt.

Industry Overview and Competitive Positioning

We believe their participation in two of the hottest Mexican market segments (Energy and Real Estate) will increase analyst coverage on the stock and hence it's trading volume; making it an interesting candidate for institutional investment portfolios. Therefore investors who take advantage of the current underpricing might receive an attractive return in the long run.

Consistent return on capital

CYDSA has been far from the 15% - 20% range which financial analysts consider really attractive. However, peer companies in the chemical industry in Mexico have shown similar behavior. On the contrary, international companies on the chlor-alkali industry have had higher returns but they tend to focus more on specialty products than commodities which is the new strategy CYDSA is trying to pursue.

Historic yearly Returns (%)				
	2011	**2012**	**2013**	**2014**
ROE	9.16%	10.22%	7.78%	7.69%
ROIC	6.89%	8.23%	5.46%	4.33%
ROA	5.26%	5.46%	4.32%	4.24%

The drop in ROE that occurred in 2013 was due to the issue of new equity and to the spike in the price of natural gas in Mexico by almost 25% and electricity by 2.2%. In 2015 these costs have decreased and they should not be an issue after 2016 thanks to the Energy Reform and CYDSA´s new ability of being electrical self-sufficient through its new two Cogeneration Plants. We expect ROE to increase to the 10 – 12% range after all the projects become operational in 2016 and 2017. This includes the new chemical plant, two Cogeneration Plants and the natural gas storage facility.

Based on a Dupont analysis we expect these projects to positively impact ROE through an increase in:

- **Profit Margin**: by reducing costs with the new electrolysis technology and the Cogeneration Plants, an increase in margins by focusing more on specialty products.
- **Asset turnover**: in 2016 all assets which appeared on the balance sheet under the label "in construction" will become operational and generate an increase in sales.
- **Equity multiplier**: because of its troubled past with debt repayment, the company tends to favor low financial leverage. However it has some of its credit line left; giving the company the ability to increase its financial leverage to be more in tune with peer companies.

On the other hand, ROA has been negatively affected by the increase in the asset base from new investments such as the two Cogenerations Plants and the new Chlor-Alkali Plant currently under construction. This increased the asset base by 239% from the end of 2012 to the second quarter of 2015. Since those assets are not yet operational, their positive impact through an increase on revenue and cost reduction is not yet recorded on the income statement. Nevertheless before the rapid increase in assets from new investment, in 2011 and 2012 the company´s ROA was above 5% which has been traditionally a rule of thumb benchmark liked by investment professionals. From 2016 forward we expect this ratio to increase significantly since the new assets will allow higher margins and therefore have a direct positive impact in net profit.

CYDSA is also developing a history of returning cash to shareholders through dividends. They´ve managed to increase payment even through their recent times of high CAPEX investment.

Historic Dividend Payouts					
Year	**DPS (MXN)**	**Total (millions MXN)**	**Year**	**DPS (MXN)**	**Total (millions MXN)**
2014	$0.2314 and $0.1369	$215	**2010**	$0.0989	$55
2013*	$0.2543 and $0.2967	$302	**2009**	$0.0884	$83
2012	$0.1438	$75	**2008**	$0.0742	$267
2011	$0.1883	$261			

*Split 2.8296:1

Barriers to entry

CYDSA has developed a strong business portfolio through both diversification and high vertical integration. It focuses on industries with high barriers to entry. Its chemical manufacturing chain is highly integrated owning mines from which it extracts brine that can be then sold as salt for human consumption and food industry or as raw material in its production of chlorine, caustic soda and chemical specialties. Also, their new business unit increased integration and profitability by taking advantage of empty salt mines to store hydrocarbons such as natural gas for government owned companies or private clients.

Barriers in the Mexican Salt industry

The main barrier is that the Mexican Government owns all resources located under the surface of the ground, so companies must apply for and acquire a government concession. In the case of salt obtained from evaporation of sea water, Mexican law establishes a rights payment of $1.75 MXN per ton of salt and a $0.1082 MXN per ft^2 of federal coast land used for sea salt evaporation. Also, the process of refining salt to the quality required by laws for human consumption is costly. This forbids small salt producers located in coastal regions from competing in the food segment which has the highest profit margins. Currently there are only a few big players in the Mexican salt industry: CYDSA, ESSA, and Mexichem.

ESSA is 51% owned by the Mexican Government through a trust fund while the rest is owned by Mitsubishi. It focuses on solar evaporation of sea water with its production being exported mainly to Japan for the chemical industry and highway deicing while only 1% goes for human consumption.

On the other hand, Mexichem has a business units focused on the Chloro-Vinyl chain. They extract salt and process it to obtain chlorine and soda. Then they transform chlorine along with ethylene into vinyl chloride monomer (VCM) which they polymerize to produce polyvinyl chloride (PVC) resin.

As stated above each of the companies involved in salt production serve a very specific market with CYDSA being the one that satisfies local demand. Globally raw salt is transported, usually by ship, only for deicing or chemical purposes. Other table salt producers in Mexico are small family-owned companies such as Salinera de Yucatán and Sales del Valle. However, CYDSA owns the most respected edible salt brand “La Fina” with an estimated market share of 55%.

Barriers in the Mexican Chemical Industry

Barriers for the production of chemicals in the chlor-alkali segment include raw material which is salt and that was covered above. Next come the high capital requirements and lead time to build a chlor-alkali plant. The production process is very vulnerable to economies of scale due to high fixed costs and high energy consumption both as electricity and steam. These plants also present a high safety risk due to the storage of chlorine and hydrogen which requires the approval of safety regulators and increases insurance costs. Also, there is a strict control by environmental regulators due to the risk of air and water pollution.

Another difficulty is that the process generates chlorine and caustic soda simultaneously while both are used in different industries so demand isn't synchronized. Production is driven by the demand for chlorine in the local market. According to industry reports, chlorine is difficult to store and transport economically so it is generally produced near or in adjacent sites from consumers. On this regard, CYDSA owns plants located in major industrial districts such as the petrochemical complex called *Pajaritos* in Veracruz.

Meanwhile, caustic soda is usually supplied as a 50% aqueous solution and can be stored for long periods and is easily transported (rail, road and ship). This easiness of supply causes a highly volatile price.

Barriers in the Mexican Electricity production Industry

Regulatory barriers are very low since the Energy Reform enacted at the end of 2013. However, CYDSA has a technical advantage over most competitors. For a Cogeneration Plant to be highly profitable, the company must have an intensive use for steam which for obvious reasons must be consumed onsite. On this regard, CYDSA uses huge amounts of steam in salt production and therefore has a competitive advantage. They could expand their Cogeneration business, up to a certain point since electricity, contrary to steam, can be supplied to the power grid and consumed by clients anywhere in Mexico.

Barriers in the Underground Storage business

It took CYDSA ten years to develop the project, obtain government permits and complete three storage sites. Salt caverns are specially drilled to be usable as storage units after salt extraction. Therefore, old salt caverns cannot be retrofitted for hydrocarbons storage which gives CYDSA a first-mover advantage.

Other barriers to entry are:

- Exploitation of salt mines requires applying for and acquiring a government concession.
- Storage of hydrocarbons requires a government permit through the Energy Regulator (CRE).
- Requires advanced ground studies that are uncommon in Mexico and must be hired from abroad.
- Companies must employ very advanced drilling technology and techniques which are more related to shale oil & gas drilling and are uncommon in Mexico.
- CYDSA obtains a higher profit margin by also having a commercial interest on the retrieved salt.

Expected Industry growth

Yearly consumption of salt per capita in Mexico is estimated at 4 kg which includes meal preparation, snacks and precooked ready to eat food. According to the Mexican Ministry of Economy, its consumption is inelastic and the average annual growth rate is 2.6% driven mainly by population growth. This rate might increase slightly in the years to come considering Mexican population dynamics.

Also, recent medical studies have challenged the salt reduction myth and concluded that salt consumption is not linked to health problems such as heart trouble and high blood pressure. This might help to slightly increase salt consumption or at least avoid the previously expected drop caused by the current trend of a healthy lifestyle. Such studies like the PURE study in the New England Journal of Medicine and the Institute of Medicine study were funded by governmental and other sources not by the salt or food industry.

Chlor-Alkali and chemical specialties

According to the European IPPC Bureau, chlorine production of a country is an indicator of the state of development of its chemical industry and its growth is highly linked to GDP. Chlor-Alkali products are used as raw materials in several industries such as PVC, pulp & paper and polyurethanes. Chemical specialties such as hydrochloric acid (muriatic acid) are widely used in several industries such as oil production, where it is a key component for oil well acidizing, steel pickling and the processing of food ingredients.

According to RnR market research, the chlor-alkali industry is globally valued at $71B with an expected annual growth rate of 6%. Meanwhile, according to Euromonitor the Mexican chemical industry as a whole is expected to grow at 6% until 2019 driven by production from China moving back to Mexico since labor costs became 20% lower in Mexico.

There are several factor that could increase the local demand for chlorine:

- Real Estate boom thanks to the expansion of Mexican REITS (*Fibras*) and government incentives as part of the National Housing Program 2014 - 2018. One of the main drivers of PVC production and chlorine demand is construction since PVC is still the preferred housing piping material.

- Automotive Industry boom: PVC is used in the underbody coatings, cable insulation, passenger compartment parts (dashboard, door panels, arm rests), exterior parts (weather strips and window sealing profiles). Mexico has increasingly received foreign investment in this industry. The Ministry of Economy expects ca. $7 billion dollars in investments in the next couple of years. This will also push the demand for automotive steel which requires chlorine for its pickling process.

- Energy reform that allows private Mexican and foreign companies to participate in oil extraction. An increase in oil well drilling will require increasing amounts of chlorine used for oil wells acidizing and for steel pickling.

- Mexico announced its Infrastructure Investment Plan for 2013-2018 also targeting collection and distribution of water. As a result, the Mexican water and wastewater treatment industry's turnover grew by 8.9% according to Euromonitor. There has also been an increasing demand for water from industrial users, mostly automotive, food processing and energy production. This has positively affected the demand for water treatment chemicals such as chlorine and caustic soda.

- The pulp and paper industry has shown a high growth driven by increasing purchases from the packaging industry, for example, packaged food sales in Mexico are growing by 6%.

Energy segment

The recently implemented structural reforms are expected to move the Mexican economy into the 4.4 – 4.9% growth range by 2019. Meanwhile, U.S. Energy Information Administration estimates that the Energy Reform could yield a potential increase of 75% in Mexico's long-term oil and gas production.

Broadly speaking, the energy market is divided into two main sectors: electricity and oil & gas. After their recent corporate restructure, CYDSA became involved in both energy sectors. Their two Cogeneration Plants were built to become electrically self-sufficient. However we expect the company to sell excess production to other companies or even take advantage of this experience and their high demand for steam to become a small scale electricity supplier.

Regarding oil & gas, the country is transitioning from a monopoly to a competitive and dynamic market driven industry. We expect CYDSA to ride this wave either through their current project for underground storage or also by partnering with a foreign company to participate in other segments of this industry.

Historically, Mexico´s gas supply security has been compromised. The country has a low degree of natural gas infrastructure reliability, missing a diversification of supply routes and with an almost nonexistent storage capacity. CYDSA will focus on this niche market storing gas for both state own and private companies. Their current underground storage sites have a prime and strategic location very close to *Pajaritos* which is a maritime terminal and petrochemical complex in Veracruz. The profit potential of this business is high, since Mexico has the sixth-largest reserve of technically recoverable shale gas in the world according to the EIA. While this will be the first underground storage project in Mexico and Latin America, in the US there are 419 natural gas underground storage facilities with a total working gas capacity of 38% of annual consumption. This type of storage is one of the cheapest and safest while also allowing rapid injection and withdrawal to respond to market conditions and other short-term events.

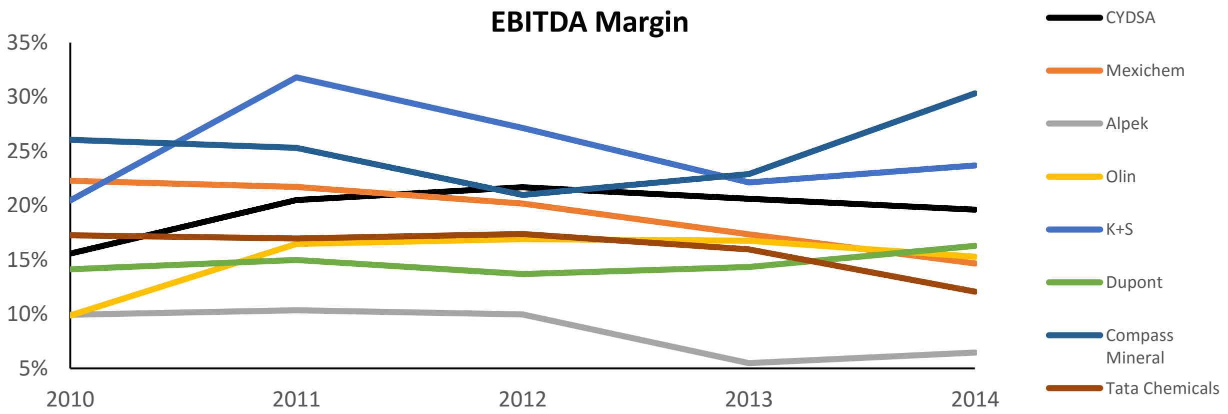
Real Estate

The contribution of this segment is considered relatively limited since it will end once the company sells all of its properties (66.5 hectares). However, the Mexican Real Estate Market has shown and interesting growth and an increase in valuation of land and properties. According to market reports this segment is expected to grow annually in the 6 – 8% range.

Similar projects have been previously done by other companies in Mexico with a high level of success. In the early 2000´s LAMOSA, a ceramic tile and adhesives company also headquartered in Monterrey, created a Real Estate Development business unit which transformed some of its properties into two shopping malls. The original investment in 2000 – 2003 were reported around $100 million dollar while the properties were then sold in 2007 to Prudential Real Estate for $160 million.

High margins relative to competition

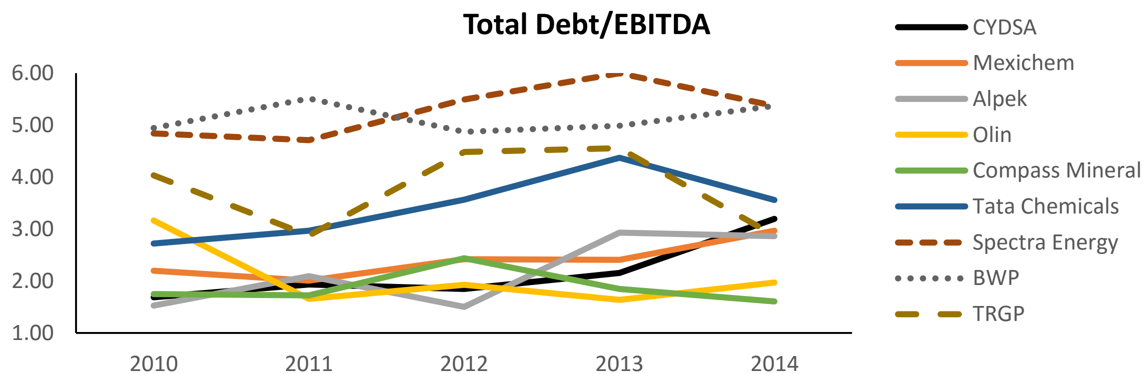
CYDSA has had stable margins for the last five years. They rank the highest in the Mexican Chemical Industry, above international peers such as Dupont, Tata chemicals or Olin and just below other international giants such as K+S in Germany or Compass Minerals. Still, the expectation is for CYDSA to increase these margins once their new projects become operational in 2016.



Historic Margins					
	2010	**2011**	**2012**	**2013**	**2014**
Gross Margin	34.2%	37.9%	38.5%	37.0%	36.0%
Operating Margin	11.7%	16.7%	18.2%	16.6%	13.7%
EBITDA Margin	15.6%	20.5%	21.7%	20.6%	19.6%
Profit Margin	26.8%	9.2%	10.4%	9.7%	10.5%

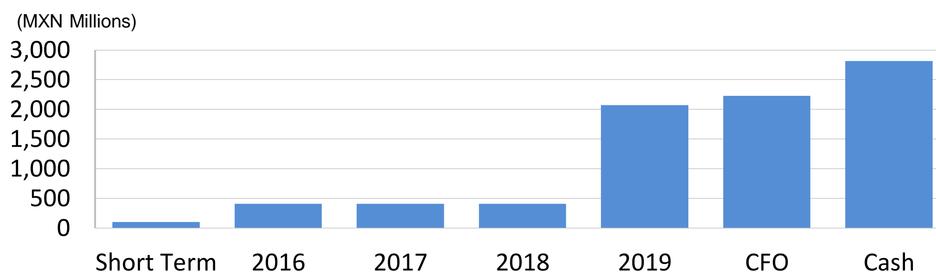
Debt ratio at normal industry levels

CYDSA faced financial difficulties in the 90´s and early 2000´s. However, management came through to bring the company out of debt and for the last five years has had debt at normal industry levels. The recent increase in Total/EBITDA was required by the investment in CAPEX especially for their underground storage projects. The graph below shows in dashed lines peers in the underground storage business which typically have a higher Total debt/EBITDA ratio than companies in the chemical and salt industries.



In November 2014 they successfully refinanced their debt, improving its debt profile and taking advantage of current low interest rates to reduce their financing cost. The payment of the principle in 2019 should be covered by the cash flow increase from the projects that will become operational in 2016.

Debt profile



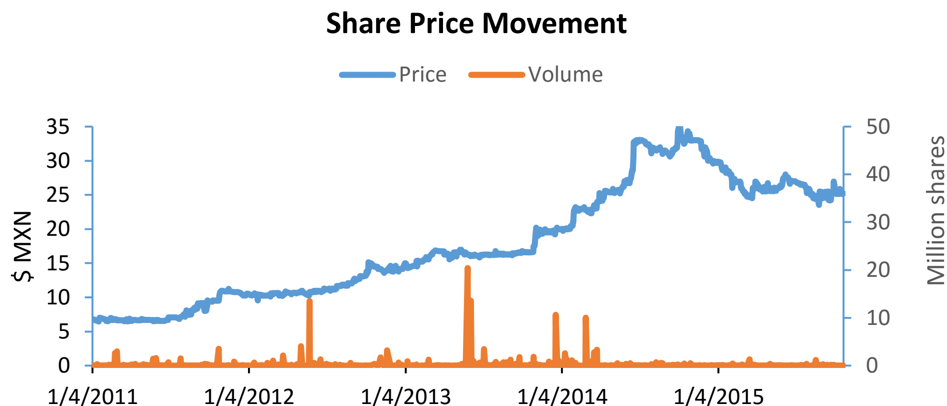
Source: Company reports at 31/12/204

Management & Governance

CYDSA´s executive management team has been a key driving force behind the Company's refocus into segments with higher potential. Insider ownership is high ca. 51% but the board of directors includes six independent members (31%). Current management team is well respected and has recently added two directors with great trajectory. One of them is Roberto Rubio, in charge of Real Estate Development while the other is Antonio Zamora Gallant who was the CFO of Mexico´s largest milk producer (Grupo Lala) and a key participant in taking the company public being the first IPO of a dairy company in the country.

The biggest drawback of current management has been a low effort on promoting the liquidity of the stock which still falls on the medium - low bracket of the Mexican Exchange. However, the company has publicly acknowledged the issue and began taking steps to improve. This has resulted in an increase on analysts´ coverage last year.

Historical Price Analysis



Price	
High	34.9
Low	6.47
Average	19.2

Daily Volume (million shares)	
High	20.4
Low	0.0
Median	0.03

Days traded at or above	
$30	122
$25	311
$19.15	437

Valuation

Two valuation methodologies were applied to derive a target price for CYDSA including a 5 year DCF (weighted at 70%) and a Relative Multiples Valuation (weighted at 30%). For the Relative Multiple valuation six peers were selected for each of the company´s core segments. Then, the valuation for each segment was adjusted by its percentage contribution to total revenue. Estimated value of the company´s core segments was $17.6 MXN.

Multiple	Salt	Chlor-Alkali	Refrigerants
P/E	23.1	24.7	26.2
P/BV	23.2	23.2	35.2
P/Sales	9.6	7.1	10.5
P/EBITDA	14.7	13.0	16.9
EV/Sales	11.1	7.9	12.5
EV/EBITDA	19.0	18.0	20.9

Segment	% Sales 2014	Valuation
Salt	30%	5.2
Chlor-Alkali	43%	7.0
Refrigerants	23%	4.7
Total	96%	17.6

*Textile segment accounts for 4% of revenues but we expect it to be divested in the short term

In the DCF valuation, CYDSA was penalized for size and liquidity. Its Beta was estimated from industry peers since the reported Beta on services such as Bloomberg is abnormal due to its low trading volume. Using the reported data would distort the CAPM calculation.

CAPM	
Ibbotson Mid-Cap Premium	1.14%
Risk free rate (Mexican 10yr bond)	4.16%
Market Premium	7.76%
Estimated Beta	0.86
Cost of equity	**11.98%**

Cost of capital	
W_d	18.00%
W_e	82.00%
K_d	4.30%
K_e	11.98%
WACC	**10.40%**

Target Price calculation	
Methodology	Price ($ MXN / share)
DCF	23
Relative Valuation	17.6
Underground storage	6
Real Estate properties	3
Target price	**30.4**

Sensitivity Analysis		Perpetual growth				
	30.36	2.5%	3.0%	3.8%	4.2%	4.5%
WACC	9.50%	29.9	31.0	33.0	34.2	35.2
	10.00%	28.9	29.7	31.4	32.4	33.3
	10.40%	28.1	28.9	**30.4**	31.2	32.0
	11.00%	27.1	27.8	29.0	29.7	30.3
	11.50%	26.4	26.9	28.0	28.6	29.2

The valuation analysis led to an intrinsic value of $30.4 which is a 19.3% premium to the current trading price. We conclude the market has only priced in the cash flows from the company´s traditional core segments which in our DCF model account for a share price of $23.This might be related not only to the low liquidity of the stock but also to the low amount of company information available to individual investors since analyst coverage is just 10% from other Mexican peers like Mexichem. However, once the new projects become fully operational we expect a dramatic increase of analyst coverage during 2016.

The new Real Estate venture is unknown to most investors since it has only been mentioned by one research analyst. However, we estimate it could account for a $3 increase in share price based on current market prices for developed properties in Monterrey and Aguascalientes.

The other $6 MXN come from the valuation of the hydrocarbon underground storage business. It was estimated based on comparable company analysis from energy service providers in the United States such as Spectra Energy, Boardwalk Pipeline Partners, Kinder Morgan and Targa Resources. All of this companies have a business unit dedicated to hydrocarbon underground storage.

Investment Risks

One key downside risk would be an economic slowdown of the United States which could directly affect the activity of Mexican companies especially in the PVC chain and automotive sectors which drive demand for basic and specialty chemicals. Also, an increase in Chinese imports could severely reduce our anticipated sales. In the Real Estate segment, an unexpected decrease in property prices or a surge in remediation costs could negatively impact project´s profitability. Finally, lower-than-anticipated project returns due to higher capex, longer execution periods or strict regulatory framework in the energy sector which may limit the potential of the underground storage business unit.