



Colegio de Estudios
Superiores de Administración

VALORACIÓN GRUPO ARGOS
Investment Banking Práctica Empresarial
Monografía de Investigación

Nicolás Bautista Useche

Colegio de Estudios Superiores de Administración –CESA
Administración de Empresas
Bogotá, Diciembre 2015

VALORACIÓN GRUPO ARGOS
Investment Banking Práctica Empresarial
Monografía de Investigación

Nicolás Bautista Useche

Director Trabajo de Grado:
Lucas Martins de Araujo
VP Banca Inversión Citibank

Colegio de Estudios Superiores de Administración –CESA
Administración de Empresas
Bogotá, Diciembre 2015

Content

Contenido

1. Strategic Evaluation.....	5
1.1 Key Facts:.....	5
1.2 Grupo Argos Investments:.....	6
1.3 Cementos Argos	7
1.4 Celsia Energy	8
1.5 Grupo Odinsa	9
1.6 Concreto	10
1.7 Compass	11
1.8 Portfolio (Non-controlling Investments)	12
2 Competitive Positioning:	13
2.2 SWOT	14
2.3 PEST	15
3. Category & Geographical Opportunities.....	16
4. Operations (Assumptions for Valuation).....	17
5. Valuation Methods.....	17
5.1 Comparable (EV / Multiple):	18
5.2 Comparable (P/E Multiple):.....	18
5.3 Discounted Cash Flow:	19
5.4 Sum of the Parts (Market Capitalization).....	23
6. Conclusions and recommendations	24
Bibliography	25
Appendix	26

Introduction

Working on investment banking has been a strong but incredible experience, since I have learned a lot of things (PowerPoint, Excel, and basically how to work). Investment Banking is not a sector for everyone, that's true; but if you are one of the lucky ones who can handle it, it is with no shadow of doubt the best experience you can have. I feel really grateful of working on IB (Investment Banking) because it completed me, I evaluated lots of industries and I learned about lots of companies, and of course increased my English writing and understanding skills a 100%. On the other hand, since I worked on a multinational company, I also learned about how is the approving process on every transaction, how actually linked is the Colombia subsidiary with the other LatAm and though I did not work in the other areas, my team and I worked with them and this position helped me to understand what areas I liked and not, and how all of them complement each other to make a huge Multinational Bank.

The last of all, but the most important was the people that I met, Citi recruitment is great because I don't know how they do but they find really smart and more than this really complete (funny, outgoing, integrating and more). The team makes Citi a great place to work, the work environment is amazing.

And of course my team, on the first place Pedro, the Head of IB, he is my role model and that it's a problem because I will have to work a lot, and a lot more, to be like him, he is the Harvey Specter (Suits) of Investment Banking, that means that sometimes when you feel tired (really late at night) and you want to give up, you think "If I keep working I will be like him, so continue". Elizabeth or "Eli" she is the best and the smartest person of Citi, I'm sure about it, she is not a just the boss, she is a teacher (really strict), an adviser and the most important support; she is the best boss you can have or expect, I'm sure that I will always compare my next bosses with her. And Lucas, my direct boss, the one who have to breathe every time that I did a silly mistake and have patience when I had problems with my technological devices, but he did the most important role, he toughs me all that I know about finance and IB, and prioritize, and working hard, and Bloomberg, and I must say everything that I learned in IB was because of him, sometimes he got or went? Mad, but now I understand him, is not easy to deal with all the things that he has to do at the same time. So Lucas thanks a lot for having patience and teaching me all that I learned about Investment Banking. And thanks to all my team, because I'm sure that the next job that I will have is going to be because my experience in Investment Banking at Citibank.

In my thesis I decided that the most complete way to make a summary of my last nine months is by doing a Company Valuation, because I will have to evaluate all the areas of Investment Banking (except meet clients and traveling), and I will also help our team, because Grupo Argos is one of our key clients, and having a valuation of Grupo Argos and its subsidiaries will be useful to my team.

Objectives

General

- Apply the things that I learned in my last year, on Investment Banking, in Grupo Argos or “the company” by doing financial models, company profiles, industry analysis and other research to Value Grupo Argos.

Specific

- Develop financial models with several variables
- Select accurate comparable companies to have an accurate price of the company
- Analyze the most important assets of Argos to preponderate their value for the company
- Compare the different options to value a company and explain how each of them works
- Understand how to take assumptions for each company of the Holding, depending on their needs

Hypothesis

The DCF is the most accurate valuation method for valuing a holding like Grupo Argos

1. Strategic Evaluation

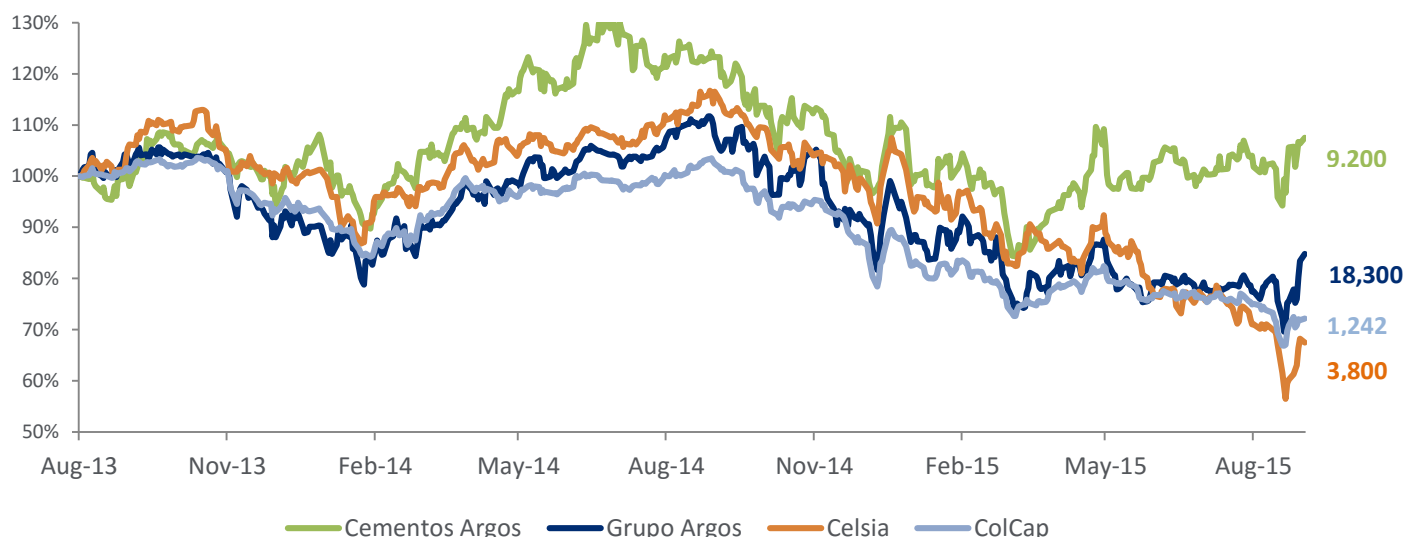
1.1 Key Facts:

Grupo Argos is a holding company with sustainable investments in strategic sectors of infrastructure: cement, energy, ports, coal and real estate. Its legal nature corresponds to a corporation, listed in the Colombia Stock Exchange, which is also the case of Argos (cement) and Celsia (energy), its two most important subsidiaries. Recently the company acquired the 49,8% of Odinsa an important infrastructure player in Colombia, Grupo Argos is seeking to do a takeover to control Odinsa.

The creation of value for the more than 10,000 shareholders is based on the diversification of its investments, by offering a solid portfolio in different sectors. Grupo Argos has a 9.12% weight in the Colombian COLCAP Index, and including its investment portfolio, the company represents 43.8% of the index. The listed liquid assets make up 78% of Grupo Argos' asset value and it is not very complex to replicate them.

Stock Data	
Current Price	COP\$ 18,300
High Price	• \$ 23,780
Low Price	• \$ 15,020
Shares Outstanding	651,112
Market Cap	COP\$ 11,915,349 mm
3-mth avg. daily vol.	• Fitch Ratings:

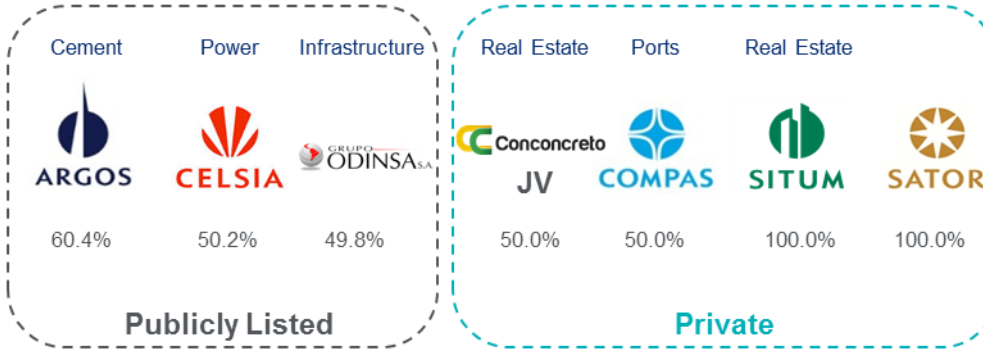
Stock Performance (Aug. 2013- Sep. 2015)



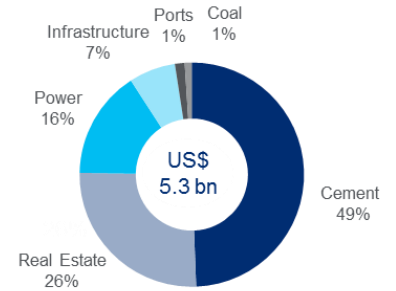
1.2 Grupo Argos Investments:

Grupo Argos is part of GEA, the strongest partner investors can aspire to join in Colombia, and has a diversified portfolio of leading Colombian Champions.

Core Investments (Controlling)



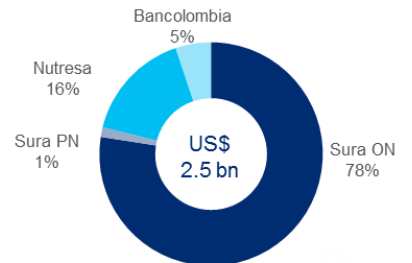
Core Investments



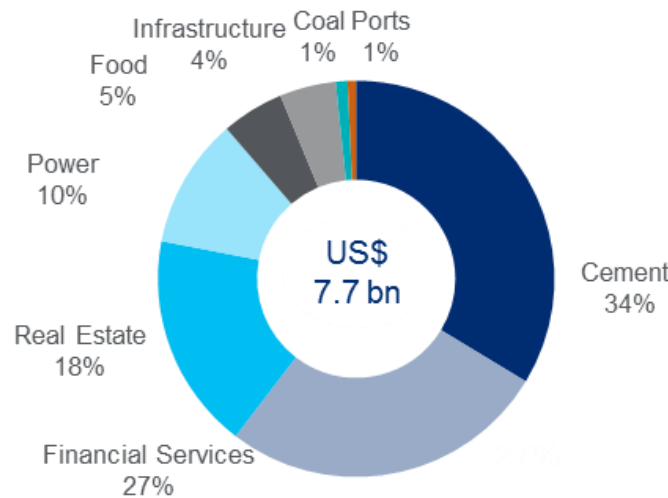
Portfolio Investments (Non-Controlling)



Portfolio Investments



Total Portfolio



1.3 Cementos Argos

Established in 1934 by Claudino Arango Jaramillo, Cementos Argos is one of the most important cement player in Colombia

- Product portfolio include Cement and Concrete (RMX) products
- Cementos Argos exports to more than 27 countries

Cementos Argos is the largest Colombian Cement player

- Largest player in Colombia and fifth in Latam
- Second largest cement producer in the Southeast of USA and second largest RMX producer in USA

Cementos Argos operations are vertically integrated

Cementos Argos was awarded in 9 projects of the first wave of 4G infrastructure plan and in 8 projects of the second wave

Argos owns four ports in the U.S. and four in Colombia as well as two in Venezuela, one in Panama, one in the Dominican Republic and one in Haiti

Cementos Argos S.A. has a presence in Venezuela through its subsidiary Corporación de Cemento Andino C.A., which is currently a party to a legal proceeding regarding the expropriation by the Venezuelan government

Argos owns 13 cement plants, 390 RMX plants and 9 Grinding stations

- In 2011, Argos purchased the Lafarge operations in the southeastern U.S. adding two cement plants, one clinker grinding, 79 concrete plants and five terminals to the Argos U.S. operation for US\$ 760 mm

Cementos Argos more than 2,800 mixer trucks

Argos expanded the installed capacity at 3 cement plants in Colombia (Rioclaro, Nare and Cairo)

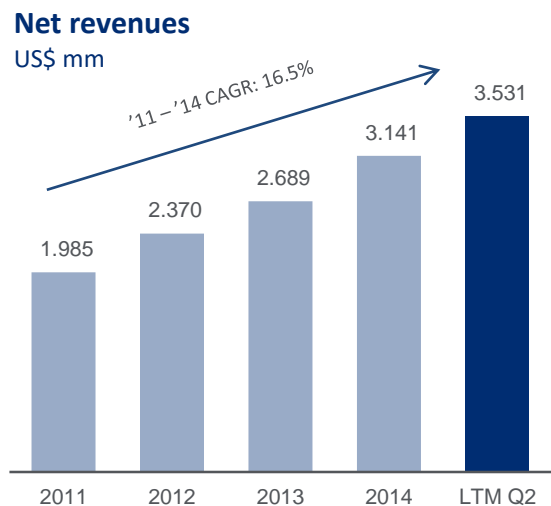
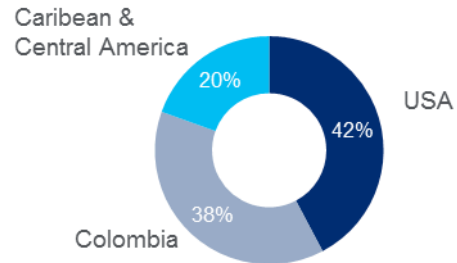
- + 900,000 MTPA of installed capacity with an investment value of US\$ 96mm

Argos plans to increase the cement installed capacity at Sogamoso plant located in Boyaca-Colombia

- + 900,000 MTPA of installed capacity with an investment value of US\$ 96mm

Cementos Argos 2014 and 2Q 2015 results were severally affected by FX devaluation in Colombia

Revenues Breakdown By Geography



1.4 Celsia Energy

Established in 2001, Celsia is a leading company in the power generation, transmission and distribution market in Colombia, Costa Rica and Panama

Celsia is the second largest Power generation company in Panama and the fifth largest company in Colombia and Costa Rica

- Celsia holds an installed capacity of 1,777 MW in Colombia, and a capacity of 535 MW in Panama and Costa Rica
- Celsia generated 6,437 GW in Colombia in 2014

The company has been listed in the Colombia stock exchange (BVC) since 2005 US\$ 1.5 Bn Market Cap.

Celsia has increased its power generation portfolio in recent years by pursuing strategic acquisitions:

- 2007: Termoflores power generator - US\$ 320 mm
- 2008: Meriléctrica power generator - US\$ 12 mm; Generar power generator in Jerico, Antioquia; Hidromontañas power generation in Donmatias, Antioquia
- 2009: EPSA - Estimated US\$ 800mm
- 2014: GDF Suez Power Generation in Costa Rica (Eolic farm) and Panama (Hydropower and thermal) - US\$ 840 mm

+1,400 employees

- Ricardo Sierra Fernández, CEO since 2015

Celsia LTM revenues grew 2.5% in local currency to US\$ 1.3 Bn

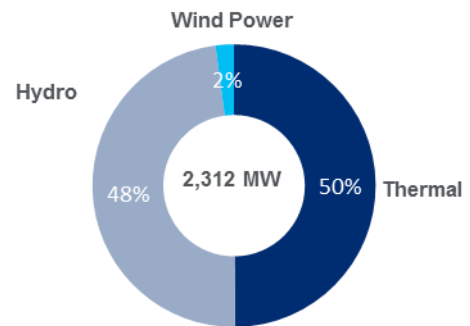
- The growth was mainly due to an increase in power generation in Colombia, primarily through EPSA

EBITDA of US\$ 447mm with a 35% margin, slightly down from 36% in 2013

In 2014, Celsia acquired GDF Suez operations in Panama and Costa Rica, valued in US\$ 840mm

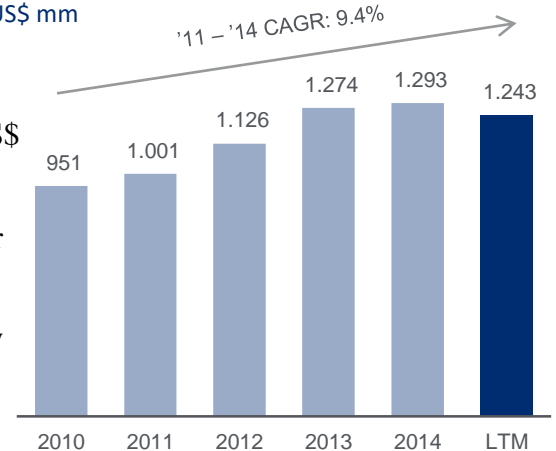
- The acquisitions in nearby countries make part of the power integration strategy of Celsia

Generation Breakdown



Net revenues

US\$ mm



1.5 Grupo Odinsa

Established in 1992 by the Colombian Association of Construction Engineers (ACIC), Odinsa was incorporated as an engineering and civil works construction company, today is a leading infrastructure player in Colombia

- Company's business line includes road concessions, airports, power generation, mass transportation, ports, construction and toll collection

Odinsa has been listed on the Colombian Stock Exchange since 2005 with a COP 1.7 Tn Market Cap. ⁽³⁾

- In 2015, the Colombian conglomerate Grupo Argos acquired a 49.8% stake in Odinsa
- The group acquired a 24.8% stake through several transactions in the stock exchange at an average price of COP\$ 9,495 per share for a total value of COP\$ 461,635mm
- Subsequently, Grupo Argos acquired an additional 25.0% stake through a public tender offer at a price of COP\$ 9,500 per share for a total value of COP 465,611mm

Odinsa has been awarded with 4G concession projects and is working to participate in the third round of the ANI auctions

- Awarded the Autopista conexión Pacífica (98 kms) highway in 2014 (4G - Round I)
- Awarded the Malla Vial (117 kms) project in 2015 (4G Round II)
- Also participating in the tender of a Chilean airport valued in US\$ 630mm

Mr. Victor Cruz Vega, CEO since 2011

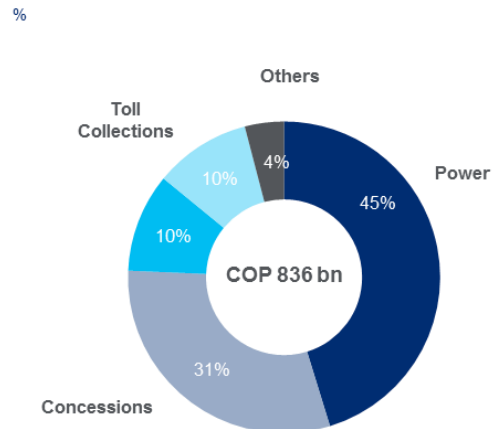
+1,400 employees

Odinsa holds 10 road concessions (1,673 km) in Colombia, Aruba and Dominican Republic

Recently awarded, "Pacífico 2" and "Malla Vial" concessions, under 4G Colombian program

The company holds stakes in concessions of airports in Colombia (35% in OPAIN - El Dorado (1)), Panama (Tocumen International Airport Expansion) and Ecuador (50% in Mariscal)

2014 Revenues Breakdown



1.6 Conconcreto

In the last quarter of 2014, Conconcreto and Grupo Argos reached an agreement to create a Real Estate Company

- Each group has 50% of the Real Estate vehicle
- Property Rental: Industrial properties and distribution centers, office and corporate buildings, data centers, retail, regional malls and shopping centers
- Expected EBITDA Margin: 16% / Investor IRR: 15%-25%

Conconcreto contributed 405,000m² and an inventory of projects worth over US\$ 418mm. Grupo Argos contributed 32,000m² of operating assets as well as ongoing construction projects. The company also committed to invest US\$ 183mm in cash over the next 4 years

The current portfolio is over 437,000m² and worth over US\$600mm. Companies expect to reach nearly 700,000m² and a US\$ 1.2 bn portfolio within the next 4 years, becoming one of the largest Real Estate holdings in Colombia

The new enterprise is currently in the due diligence phase and the merger is expected to be concluded during the second half of 2015

Capital Structure

Equity Injection (USD\$ MM)

Assets	409	140
Land	-	56
Cash	-	183
Others	10	40
Total	419	419

Situm

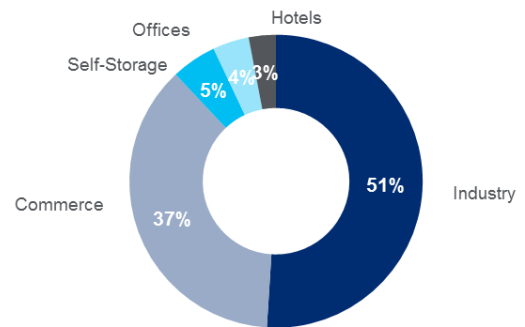
Established in 1990's in Barranquilla, Situm is engaged in the real estate and project development of Grupo Argos.

- Situm developed projects in the Caribbean coast of Colombia, and in Valle del Cauca

US\$ 1.4 bn Land Bank, 6 projects under development for over USD \$200 mm CapEx

Positive perspectives: Housing deficit & Population growth US\$ 44 mm Annual Revenues in 2014

RE Portfolio Breakdown as March 2015
Property Type (GLA)



1.7 Compass

Established in 2012 by Grupo Argos and Grupo Ership, Compass is one of the important port network in Colombia

- Compass owns two ports in Cartagena, one in Buenaventura, Barranquilla, Tolu, Panama and Houston
- Compass holds strategic alliances with Argos

Compass is the only port group that holds operations in Colombia in the both oceans

- Compass mobilized in 2014 over 2,4 mm tons and attended over 517 ships
- As the 90% of the revenues of Compass are in USD, the company has been strongly benefited by the FX devaluation

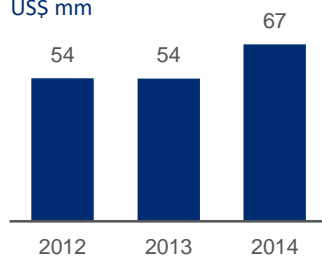
Alberto Jimenez CEO, since 2012

+325 employees

Financial Results

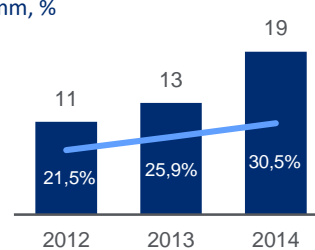
Net revenues

US\$ mm



EBITDA & EBITDA Margin

US\$ mm, %



Sator

Is the coal division of Grupo Argos, holds operations in Bijao mine in Cordoba, and other six mines in Colombia

The revenues of 2014 increased a 9% raising US\$ 40 mm

Ebitda in the same period was of US\$ 1 mm

Eduardo Bettin CEO of Sator since 2013

1.8 Portfolio (Non-controlling Investments)



Founded in 1945 in Medellín, Bancolombia is the largest commercial bank in Colombia and one of the largest in Latin America

Bancolombia holds a regional footprint in Colombia, Panama, Peru, Costa Rica, El Salvador, Guatemala, Puerto Rico, Cayman

Bancolombia's Revenues amounted US\$ 6.5 bn in 2014

Market Cap: US\$ 7 bn

CEO Carlos Raul Yepes



Founded in 1920 in Medellín, is one of the strongest players in the food market in Colombia. Nutresa produce and distributes cold cuts, biscuits, chocolates, coffee, ice cream and pasta. The company exports to more than 70 countries

Grupo Nutresas Revenues amounted US\$ 1.5 bn in 2014

Market Cap: US\$ 3 bn

CEO Carlos Enrique Piedrahita



Founded in 1944, Grupo Sura is one of the strongest insurance players in Colombia, holds investments in 9 countries in LatAm.




Grupo Sura revenues amounted US\$ 345 mm in 2014

CEO David Bojanini




EPSA

Founded in 1960, is the largest power generation company in Valle del Cauca, the company is publicly traded, since 2008.




2 Competitive Positioning: 2.1 Porter's Forces

			
Threat of New entrants	High capital investment and economies of scale mark high barriers for entry	High capital investment and economies of scale mark high barriers for entry, also high regulated market	High threat due to the mobility of players between the infrastructure market, although it required high capital investments
Threat of Substitutes	Cement has not substitutes practically in all areas where it is used	The power industry has not substitutes, although the natural green energy substitutes, but Celsia is investing in Green Energies	The infrastructure market is a highly competed market, new technologies could help the entrance of new competitors
Rivalry Among Competitors	Oligopolistic Nature power with few major players	Monopoly or oligopoly of few major players, the energy prices are highly regulated	The infrastructure is a high competed market, and the client (government) decide mainly to the price of the transaction
Bargaining Power of Suppliers	Fuel and Freight are important ingredients which make industry local be very nature	The fuel is important for the thermal production, and the hydrologic conditions could affect the hydro operations	High, the infrastructure depend of the concrete, although its partnership with Argos can decrease the risk
Bargaining Power of Buyers	High concentration on local market drive away consumer buying power	The consumer power in the power market is low. In the unregulated market the clients could have more power, as they buy larger amounts of energy	High, they have a mayor client (country estate) and it holds strong negotiation power

2.2 SWOT

			
Strengths	<p>Brand Image, loyalty</p> <p>Dominant position in local market</p> <p>Income diversification (multiple geographies and products)</p> <p>Economies of scale</p>	<p>International assets</p> <p>Mix Hydro-Thermal</p> <p>More than 15 years of experience</p>	<p>Grupo Argos as supplier of concrete</p> <p>High experienced team</p> <p>Diversified presence in LatAm</p>
Weaknesses	<p>Poor international brand name</p> <p>Poor international partnerships</p>	<p>Poor brand name</p> <p>High levels of debt</p> <p>High dependence on EPSA operations</p>	<p>Not a strong player in the Colombian 4G plan</p> <p>Portfolio is focused in too much sectors (infrastructure, power, airports, construction, among others)</p>
Opportunities	<p>Globalization, increase its share in developed and undeveloped markets</p> <p>Increase customer base</p> <p>Choose international partnerships</p>	<p>High margins due to the required know how and capital requirements</p> <p>High entry barriers (few players)</p>	<p>International expansion</p> <p>Increase negotiation power to award more years per concession</p> <p>Long term deals, secure the cash flow</p>
Threats	<p>High sensitive to the economic growth</p> <p>Low revenue margins</p> <p>International players (CEMEX, Lafarge, Holcim & Others), with interest in entering to Colombia market</p>	<p>Regulation changes by government</p> <p>Dependence of hydrologic conditions</p> <p>New entrants of stronger players</p> <p>Green energies</p>	<p>High sensitive to the economic growth</p> <p>High regulated market, with dependence on the government</p>

2.3 PEST








			
Political	<p>Taxation policies</p> <p>Anti-trust government regulations</p> <p>Government stability</p>	<p>Taxation policies</p> <p>Government stability</p> <p>Energy regulation changes</p>	<p>Taxation policies</p> <p>Government stability</p> <p>Strong due their client it's the government, and they can change the conditions</p>
Economical	<p>Strong dependence on the economic cycle and construction in Colombia and U.S.</p>	<p>Low dependence on the economic cycle, the power sector is a constant market</p>	<p>Strong dependence on the economic cycle, and government investments on infrastructure</p>
Social	<p>The cement is not affected by the kind of consumer (age, gender, or others)</p> <p>The Colombian culture is focused in own your home, they prefer new constructions</p>	<p>Energy consumption trend, tendency to consume less energy</p> <p>Average energy consumption due to the power divisions are in non-seasoned areas</p>	<p>High dependency in the car consumption in Colombia, the Colombian society is Car focused</p> <p>No trends of new transportation in Colombia (river or trains)</p>
Technological	<p>Strong investments in new kind of technologies, greener, more productive and less pollution</p>	<p>Strong investment in green technologies in Costa Rica</p>	<p>The infrastructure is constantly renovating and sometimes the new projects are due the tech changes</p>

3. Category & Geographical Opportunities

Regional Positioning

Grupo Argos subsidiaries are available in 14 countries and export to more than 30 countries.



Division	Regional Presence
	 
	
	

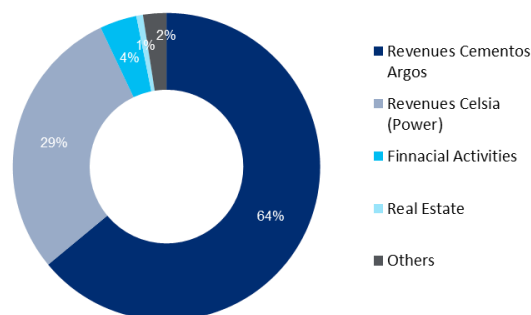
4. Operations (Assumptions for Valuation)

Grupo Argos holds locations of its companies in more than 14 countries in LatAm, although this situation I have decided to consider the Colombian operations as the most important in the revenues and EBITDA of the Holding. Therefore, all the country assumptions (country risk, Tax rate, inflation, and others) are related with Colombian situation.

On the other hand, the results are presented in USD; hence the LTM results are decreasing because of the COP devaluation. Although this, the excel models are in both currencies to reflect the situation of the company in local currency.

	Consideration	Description
Financial	<i>Statements</i>	Grupo Argos Annual Reports (Web Page Argos)
LTM Results	<i>2Q 2015</i>	The 3Q results were already announced
USD/COP	<i>Average Year End of Period Projections</i>	For P&L For Balance Sheet and Discounted Cash Flow Assumptions of Citivelocity 2015
Comparable Transactions	<i>LatAm Comps Stock Price Forecasts</i>	Most relevant Cement Players in Latam Price of Bloomberg as of November 28 / 2015 Factset Forecast Assumptions

The divisions of the company were considered by their preponderance in the Revenues and EBITDA, the non-operating assets as are not controlling investments, do not consolidate the EBITDA, and they just consider the dividends.



5. Valuation Methods

During my last year on Investment Banking I have applied some valuation methods to value some companies, some are just to compare two numbers, and others required to build a complete excel model.

On the other hand, by doing this valuation of Grupo Argos I can cover all the valuation methods, due to is condition of Holding, that consolidate a group of companies.

In the first place I decided to use the simplest way to have an estimate of the value of the company:

5.1 Comparable (EV / Multiple):

(US\$ in millions, except per share data)	Stock Price ⁽¹⁾	% of 52 Wk. High	Market Value	Firm Value ⁽²⁾	FV / Revenue ⁽³⁾			FV / EBITDA ⁽³⁾		
					2015E	2016E	2017E	2015E	2016E	2017E
Latin America Cement										
Cemex	\$5.94	48.0%	\$7,976	\$22,498	1.5x	1.4x	1.4x	8.1x	7.3x	6.6x
Cementos Argos ⁽⁴⁾	3.29	92.7	4,434	5,898	2.4	2.2	2.0	12.8	10.9	9.7
Cemex LatAm	3.09	50.5	1,720	2,784	1.8	1.8	1.7	5.7	5.5	5.2
Union Andina De Cementos	0.56	61.7	918	2,477	NA	NA	NA	NA	NA	NA
Grupo Cementos De Chihuahua	2.77	96.5	922	1,256	NA	NA	NA	NA	NA	NA
Cementos Pacasmayo	1.33	81.5	737	943	2.5	2.4	2.2	8.1	7.3	6.7
Latin America Cement Mean					2.2x	2.1x	1.9x	9.3x	8.1x	7.3x
Latin America Cement Median					2.4	2.2	2.0	8.7	7.6	6.9

The simplest valuation methods, are the Enterprise Value (Market Cap. + Debt – Interest – Cash), the Market Cap is the stock price * shares outstanding, times EBITDA or Revenues. This methodology considers the Debt of the company, but doesn't consider the Capex for the transaction.

In this case Grupo Argos has the biggest multiple, in both Revenue and EBITDA due to its investment in other strategic assets, not only cements

5.2 Comparable (P/E Multiple):

(US\$ in millions, except per share data)	Price / Earnings ⁽³⁾				Net Debt / 2015E EBITDA	FV / Capacity	'14A - 17E CAGR	
	2014A	2015E	2016E	2017E			Revenue	EBITDA
Latin America Cement								
Cemex	NM	NM	44.3x	19.6x	5.5x	240.1/t	8.9%	14.8%
Cementos Argos ⁽⁴⁾	44.3	32.9	26.9	21.1	4.0	296.4	17.1	22.6
Cemex LatAm	11.0	9.4	8.3	7.5	2.2	1,483.2	11.7	11.5
Union Andina De Cementos	11.4	NA	NA	NA	NA	325.9	NA	NA
Grupo Cementos De Chihuahua	24.4	NA	NA	NA	NA	273.0	NA	NA
Cementos Pacasmayo	11.2	12.0	10.9	9.7	1.5	325.2	4.2	8.3
Latin America Cement Mean	20.5x	18.1x	22.6x	14.5x	3.3x	568.8/t	10.5%	14.3%
Latin America Cement Median	11.4	10.7	18.9	14.7	3.1	306.9	10.3	13.2

The other useful comparable is the Price to Earnings Ratio, which compare the stock price with the earnings per share of the company, this ratio doesn't consider either the debt, so a company with more leverage will tend to be less profitable, but in long run will be more productive. On the other hand, as the price depends on the market cap, the price can vary from small changes in the stock market.

In this case the ratio of Grupo Argos, is bigger than its pairs, due to its investments in other companies, and as the Holding is not an operating company, just receive the dividends, and cash flows of its subsidiaries, that reflects a larger multiple.

If the multiple is larger is better for the company, because the company has more added value, on the other hand if you are an investor, is better to have a lower multiple due to the high possibilities for the company to increase value.

5.3 Discounted Cash Flow:

The DCF Model is the most used in Investment Banking, due to its wide range of variables and the precision level that can be implied on it. All future cash flows are estimated and discounted by using cost of capital to give their present values (PVs). The sum of all future cash flows, both incoming and outgoing, is the net present value (NPV), which is taken as the value or price of the cash flows in question (WallStreet Oasis, 2015)

- Discount Rate (WACC)

The Weighted Average Cost of Capital or Cost of Capital, is the rate that reflects the risk of the Cash Flows, the rate that the company is expected to pay to its security holders.

WACC

$$\text{WACC} = \frac{E}{D + E} (r_e) + \frac{D}{D + E} (r_d)(1 - t)$$

E/(E+D) [Equity structure]

Cost of Equity (CAPM)

Rf Risk Free Rate [Time value of money] in most of the cases the “30-Year Treasury of US” is used as Risk free rate.

+ **Beta** [Volatility or risk] if the B is below 1, the company holds lower volatility than the market. The Beta must be unlevered to reduce the tax effects due to the debt. In this case the Cement players are less volatile than the market (0.46)

***(Rm/Rf)** [Market Premium] Expected return - Rf rate, depends on the expectations of investors, in this case (from 5% / 7.5%).

D/(E+D) [Debt structure]

Cost of Debt (Interest rate pay to Banks or debt holders) in this case Grupo Argos debt is value at 5.5% (long term yield)

***(1-t)** [Tax Effect]

WACC → 6.5% - 8.0% If the WACC is higher, the returns are lower. The more leverage is the company, the WACC is lower, although the debt must be responsible used and controlled by the stakeholders.

WACC Calculation Inputs		
Target Capital Structure (Debt / Total Capital):	25.0 –	35.0 %
Median Capital Structure of Selected Companies:		32.1 %
After-Tax Cost of Debt:		3.6 %
Expected Long-Term Yield:		5.5 %
– Statutory Marginal Tax Rate:		34.0 %
Cost of Equity: 5.0% Equity Market Risk Premium	7.5 –	8.8 %
7.5% Equity Market Risk Premium	8.9 –	10.4 %
Risk Free Rate (30-Year Treasury Bond):		3.1 %
Assumed Equity Market Risk Premium - low:		5.0 %
Assumed Equity Market Risk Premium - high:		7.5 %
Relevered Equity Beta:	0.57 –	0.63
– Industry Median Unlevered Asset Beta: ⁽³⁾		0.46
– Implied Debt / Equity Ratio:	33.3 –	53.8 %
Political Risk Premium:	1.5 –	2.5 %
High Yield Issuer? (Y / N)		N
Weighted Average Cost of Capital:	6.5 –	8.0 %
5.0% Equity Market Risk Premium	6.5 –	7.0 %
7.5% Equity Market Risk Premium	7.6 –	8.0 %

The low end of the WACC is based upon the low end of the equity market risk premium (5.0%) and the high end of the debt / total capital ratio. The high end is based on the high end of the equity market risk premium (7.0%) and the low end of the capital structure.

- Cash Flows (Forecast)

Unlevered Free Cash Flow Calculation						
	2015	2016	2017	2018	2019	2020
	Projected Fiscal Year Ending December 31,					
() in millions	2015	2016	2017	2018	2019	2020
EBITDA	3,467,204	3,858,500	4,206,659	4,078,547	4,041,686	4,239,940
Depreciation & Amortization	2,933,000	2,786,350	2,730,623	2,676,011	2,622,490	2,570,041
Provisions	0	0	0	0	0	0
Financial Transaction Tax	(420,713)	(399,677)	(379,693)	(360,709)	(378,744)	(397,681)
EBIT	5,979,491	6,245,173	6,557,589	6,393,849	6,285,432	6,412,299
Effective Tax Rate	34.0%	35.0%	36.0%	37.0%	38.0%	39.0%
Taxes	(2,033,027)	(2,185,810)	(2,360,732)	(2,365,724)	(2,388,464)	(2,500,796)
Net Operating Profit After Tax	3,946,464	4,059,362	4,196,857	4,028,125	3,896,968	3,911,502
Depreciation & Amortization	(2,933,000)	(2,786,350)	(2,730,623)	(2,676,011)	(2,622,490)	(2,570,041)
Provisions	0	0	0	0	0	0
NOL Tax Shield	(136,996)	(134,256)	(131,571)	(128,939)	(126,361)	(123,833)
Financial Transaction Tax	0	1	2	3	4	5
Equity Tax	104,876	94,388	84,950	76,455	68,809	61,928
Change in Net Working Capital	0	1	2	3	4	5
Capital Expenditures	500,000	500,000	500,000	500,000	500,000	500,000
Unlevered Free Cash Flow	1,481,344	1,733,147	1,919,616	1,799,636	1,716,934	1,779,567
Mandatory Investments	0	0	0	0	0	0
Unlevered Free Cash Flow After Mandatory Inv.	1,481,344	1,733,147	1,919,616	1,799,636	1,716,934	1,779,567
Average FX rate	2,800	3,000	3,200	3,000	2,800	3,000
Adjusted Unlevered Free Cash Flow (US\$ in m)	\$529	\$578	\$600	\$600	\$613	\$593
						3,000.00
						\$0

- **Discounted Cash Flows**

The Discounted Cash Flow Model, analysis uses future free cash flow projections and discounts them to arrive at a present value estimate, which is used to evaluate the potential for investment. If the value arrived at through DCF analysis is higher than the current cost of the investment, the opportunity may be a good one. (Investopedia, 2015)

The projections of the Unlevered Free Cash Flow, P&L and Balance Sheet were taking from some macro assumptions, company assumptions and analyst assumptions.

- EBITDA & Revenues, the CAGR (Compound Average Growth Rate) from 2011-2014 was 16% due to the increase in investments, as the controlling stake of Odinsa, the JV with Concreto, and other operation improvements of its existing subsidiaries. Although this high margin, the growth margin for the forecasted five years was considerably lower, as the company mainly depends from its cement operations and is expected the real estate and construction will decrease in Colombia and the other subsidiaries can be affected again by Nino Effect.
- The D&A for the forecasted years kept constant as no Capex expenditure or sale is expected, and the nature of this account of been stable.
- The Financial Transaction Tax, decreased due to the natural deleverage of any company in the forecasted years. On the other side, any increase in debt is expected for the next years.
- The Tax rate changed on the forecasted years, due to the government politics for the next five years, to increase the government income. In 2020 is going to raise to 39%, although the impact on the company will be strong, the tax shield will be benefit as well.
- The Net Working Capital is expected to have an increase due to the JV with Concreto, but is not going to affect the results strongly. On the other hand, there are not projected Capital Expenditures in the next years according to the financial plans of the third quarter report of Grupo Argos.
- The FX rate will keep over the 3000 COP/USD, it's possible that in the farthest years, the FX decrease something. Although this situation most of the operations of Cementos Argos are not affected by the currency changes.

The Increase in EBITDA and decrease in debt, will affect positively the result, on the other hand, the change in the FX decreased the value of the company.

After taking this assumptions, the Cash Flow for 2020 is expected to raise US\$ 590 mm or \$1,780 bn in local currency.

- **Sensitivity Analysis**

On the other hand, the Discounted Cash Flow sensibility analysis, orange box in page 20, change something depending on the WACC, growth and Exit Multiples.

- The **Perpetuity Growth Approach** average WACC was 8.0%, and with an assumption that the flows are stable, and don't grow: The DCF in present value is **US\$ 9,9 bn**. The Equity Value (discounting the debt and adding the cash and investments in subsidiaries) results for the same assumptions was **US\$ 8,0 bn**

Perpetuity Growth Approach					
WACC	Perpetuity Growth Rate				
	(1.0%)	(0.5%)	0.0%	0.5%	1.0%
	Firm Value as of 12/31/15 (US\$ in mm)				
7.0%	\$10,288	\$10,800	\$11,386	\$12,061	\$12,850
7.5%	\$9,664	\$10,106	\$10,606	\$11,178	\$11,838
8.0%	\$9,113	\$9,496	\$9,928	\$10,417	\$10,976
8.5%	\$8,623	\$8,958	\$9,333	\$9,755	\$10,233
9.0%	\$8,185	\$8,480	\$8,808	\$9,174	\$9,586

2020 Free Cash Flow					
	\$854	\$858	\$862	\$867	\$871
WACC	Equity Value as of 12/31/15 (US\$ in mm)				
	7%	\$8,975	\$9,487	\$10,072	\$10,748
8%	\$8,351	\$8,792	\$9,293	\$9,865	\$10,525
8%	\$7,799	\$8,183	\$8,614	\$9,103	\$9,662
9%	\$7,309	\$7,645	\$8,020	\$8,441	\$8,919
9%	\$6,871	\$7,166	\$7,494	\$7,860	\$8,272

- The **Exit Multiple Approach** with the same WACC of 8.0%, and an assumption of an Exit multiple of 8.0x; resulted in a DCF in NPV of **US\$ 10,0 bn**. The equity value, with same assumptions resulted in a **US\$ 8.5 bn**.

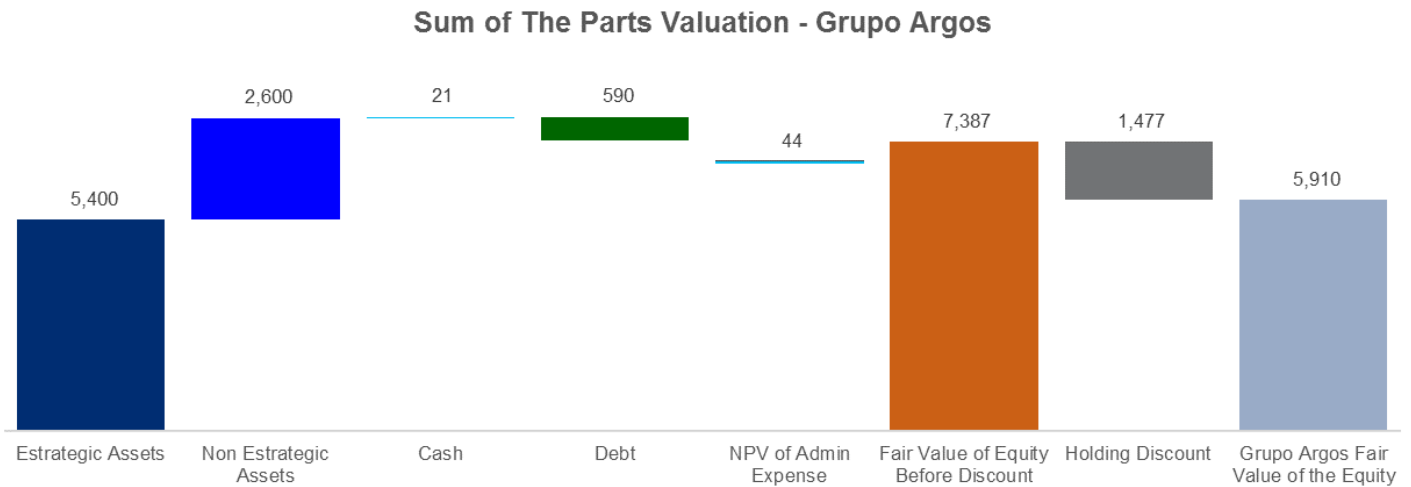
Exit Multiple Approach					
WACC	Terminal EBITDA Multiple Range				
	7.0x	7.5x	8.0x	8.5x	9.0x
	Firm Value as of 12/31/15 (US\$ in mm)				
7.0%	\$9,770	\$10,241	\$10,712	\$11,182	\$11,653
7.5%	9,567	10,025	10,483	10,940	11,398
8.0%	9,370	9,815	10,260	10,706	11,151
8.5%	9,179	9,612	10,045	10,478	10,911
9.0%	8,994	9,415	9,836	10,258	10,679

Terminal Value					
	\$9,893	\$10,600	\$11,307	\$12,013	\$12,720
WACC	Equity Value as of 12/31/15 (US\$ in mm)				
	7.0%	\$8,456	\$8,927	\$9,398	\$9,869
7.5%	8,253	8,711	9,169	9,627	10,085
8.0%	8,056	8,502	8,947	9,392	9,838
8.5%	7,865	8,299	8,732	9,165	9,598
9.0%	7,680	8,102	8,523	8,944	9,366

This results turned in a Equity Value of Grupo Argos of US\$ 8.3 bn on average.

5.4 Sum of the Parts (Market Capitalization)

In the Sum of the parts valuation, all the core and non-core investments of the company are considered, and the cash is summed and the Debt and Administrative Expenses are subtracted, this is the Fair value of the company.



Although this Valuation, all the Holding Companies have a discount due to the lack of control of its subsidiaries (not all the holding hold the 100% of its subsidiaries), the liquidation discount (represents the expenses that the subsidiaries pass to the Holding in capital gains or when plan to pass its assets to the holding, it must pay taxes).

The Holding Discount for Grupo Argos was of 20% of its Fair Value before discount, after this, **Grupo Argos Value rose the US\$ 6 bn. In this case**, the Market value decreased due to the market negativity, and the FX rate fair in the Colombian Stock Market.

6. Conclusions and recommendations

After the analysis of the core business of Grupo Argos, I have concluded that the most accurate Valuation method is the Sum of the parts, due its easy to collect information and require expending less time than an DCF, in contrast an DCF is a precisely valuation method for a HoldCo. After doing the research or Due Diligence of Grupo Argos, the main possibilities of the company to change are:


1. Cementos Argos should be careful with the prices, as the demand is going to increase due to the 4G and infrastructure investments, and others players could entry to their market
2. Celsia as a power company is protected, so it's going to be a stable investment (constant cash flow) for Grupo Argos
3. Odinsa, as new investment, should be carefully managed., with all the current infrastructure requirements of Colombia and Southamerica, the company should look for more investment opportunities The strategy of Grupo Argos in the latest years is focused in increase its investment in new industries (Odinsa and JV with Concreto), although this expansion strategy, my recommendation is to focus on its core investments in the next years, to optimize process.

On the other hand, Grupo Argos has a 9,2% weight in the Colombian COLCAP Index, iys listed subsidiaries are more attractive for investors, due to avoiding administrative expenses and undesired diversification, the non-listed assets are on investment phase due this the investors prefer to invest directly on its listed subsidiaries.


Bibliography


- Bloomberg. (2015). Betas and Comparable. Bloomberg Research
- Bernal, C. A. (2006). Metodología de la investigación. Pearson Publications Company.
- Castro, J. (2015). Itau June 15, 2015 Initiation of Coverage Grupo Argos. Itau Research Reports
- Correa, J.S.- Murillo O. J.H. (2014). Escritura e Investigación Académica. Una guía para la elaboración del trabajo de grado. Editorial CESA.
- Damodaran, A. (2006). Damodaran on Valuation. Los Angeles: Wiley Finance.
- Grupo Argos. (2014) Annual Reports. Medellin. Grupo Argos
- Grupo Argos. (2012) Annual Reports. Medellin. Grupo Argos
- Hernandez Sampieri, R. (2006). Metodología de la investigación. McGraw-Hill.
- Investopedia. (2015). Definition Cost of Equity.
<http://www.investopedia.com/terms/c/costofdebt.asp>
- Investopedia. (2015). Discounted Cash Flow (DCF) Definition | Investopedia
<http://www.investopedia.com/terms/d/dcf.asp#ixzz3tpXO5YH1>
- Khalife, D. (2012). The Best Book on Investment Banking Careers. Hyperink
- Koller, T. Goedhart, M. (2010). Valuation: Measuring and Managing the Value of Companies, 5th Edition. Chicago. Mckinsey & Company
- Koller, T. Dobbs, R. (2010). The four cornerstones of Corporate Finance: Value. Chicago. Mckinsey & Company.
- Pignataro, P. (2014). Leveraged Buyouts. New York. Wiley Finance
- Pignataro, P. (2013). Financial Modeling and Valuation: A Practical Guide to Investment Banking and Private Equity. New York. Wiley Finance
- Pignataro, P. (2008). Mergers, Acquisitions, Divestitures, and Other Restructurings. New York. Wiley Finance
- Pearl, J. (2012). Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions. New York. Wiley Finance
- Lott, T. Phillips-Sandy, M. (2013). Vault Career Guide to Investment Banking. New York. Vault.inc
- Nesvold. P. (2012). Art of M&A Valuation and Modeling: A Guide to Corporate Valuation (The Art of M&A Series). NA, McGraw-Hill

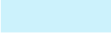
Appendix


GRUPO ARGOS - Financial model

STRICTLY CONFIDENTIAL

 **Input**

 **Formula**

 **Factset**

Grupo Argos

Total EV	8,550
Net Debt	(3,639)
Total Equity Value	12,190
EV / Revenues 2015	1.7x
EV / EBITDA 2015	6.9x
EV / Revenues 2016	1.7x
EV / EBITDA 2016	6.6x

Stake

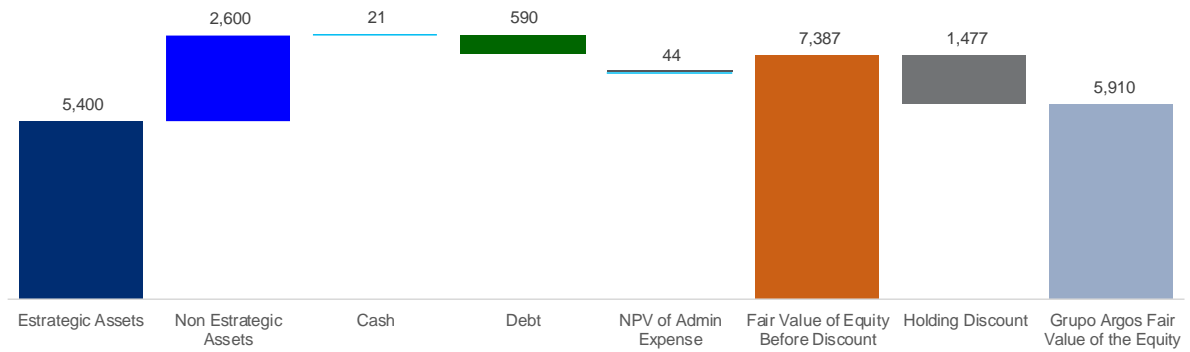
Total Argos Value

Market Value

As of September 2015 - Bloomberg

Estrategic Assets	Non Estrategic Cash	Debt	NPV of Admi	Fair Value of Eq	Holding Discou	Grupo Argos Fair Value of the Equi
-	5,400	8,000	7,431	6,841	-	5,910
5,400	2,600	21	590	44	7,387	1,477
5,400	2,600	21	590	44	7,387	1,477

Sum of The Parts Valuation - Grupo Argos



WACC Template

WACC

WACC Calculation Inputs

Target Capital Structure (Debt / Total Capital):	25.0 – 35.0 %
Median Capital Structure of Selected Companies:	32.1 %
After-Tax Cost of Debt:	3.6 %
Expected Long-Term Yield:	5.5 %
– Statutory Marginal Tax Rate:	34.0 %
Cost of Equity: 5.0% Equity Market Risk Premium	7.5 – 8.8 %
7.5% Equity Market Risk Premium	8.9 – 10.4 %
Risk Free Rate (30-Year Treasury Bond):	3.1 %
Assumed Equity Market Risk Premium - low :	5.0 %
Assumed Equity Market Risk Premium - high:	7.5 %
Relevered Equity Beta:	0.57 – 0.63
– Industry Median Unlevered Asset Beta: ⁽³⁾	0.46
– Implied Debt / Equity Ratio:	33.3 – 53.8 %
Political Risk Premium:	1.5 – 2.5 %
High Yield Issuer? (Y / N)	N
Weighted Average Cost of Capital:	6.5 – 8.0 %
5.0% Equity Market Risk Premium	6.5 – 7.0 %
7.5% Equity Market Risk Premium	7.6 – 8.0 %

The low end of the WACC is based upon the low end of the equity market risk premium (5.0%) and the high end of the debt / total capital ratio. The high end is based on the high end of the equity market risk premium (7.0%) and the low end of the capital structure.

Grupo Argos 2011-'15LTM Detailed Financials

Grupo Argos - Summary Financials												
Close USD/COP	\$	1,938	\$	1,923	\$	1,767	\$	1,930	\$	2,606		
Average USD/COP	\$	1,898	\$	1,848	\$	1,797	\$	1,869	\$	2,263		
Income Statement	Units	2011	2012	2013	2014	LTM 2Q	2015E	2016E	2017E	2018E	2019E	2020E
Total Operating Revenue	USD	\$3,048	\$3,616	\$4,245	\$4,772	\$7,359	\$4,953	\$4,947	\$4,869	\$4,855	\$4,977	\$5,234
Revenues Cementos Argos	USD	1,932	2,423	2,763	3,054	4,699						
Revenues Celsia (Power)	USD	972	1,095	1,323	1,382	2,118						
Financial Activities	USD	144	98	80	186	313						
Real Estate	USD	-	-	29	34	48						
Others	USD	-	-	50	117	180						
COGS	USD	\$2,156	\$2,156	\$2,156	\$2,156	\$2,156	\$2,220	\$2,209	\$2,209	\$2,198	\$2,186	\$2,175
SG&A	USD	\$280	\$375	\$415	\$491	\$491	\$490	\$490	\$482	\$481	\$493	\$518
Administrative Expenses		209	280	302	375	375	366	366	360	359	368	387
Sale Expenses		71	95	113	116	116	124	124	122	122	125	132
Total Operating Income	USD	\$3,328	\$3,990	\$4,660	\$5,263	\$2,350	\$2,291	\$295	\$4,641	(\$1,996)	\$6,637	(\$6,342)
EBITDA (Incl. Colombia Dividend)	%	\$853	\$868	\$1,061	\$1,098	\$1,014	\$1,238.29	\$1,286.17	\$1,314.58	\$1,359.52	\$1,443.46	\$1,570.35
Adj. EBITDA (Excl. Colombia Dividend)	USD	\$854	\$868	\$1,062	\$1,098		\$25%	\$26%	\$27%	\$28%	\$29%	\$30%
Adj. EBITDA Margin	%	28.0%	24.0%	25.0%	23.0%	14%						
Net Income	USD	\$124	\$891	\$1,308	\$1,733	\$2,042	\$1,878	(\$2,021)	\$3,899	(\$3,899)	\$7,799	(\$9,820)
(-) Adj. For One Time Gain on Sale		(42)	(23)	(20)	(20)							
Adj. Net Income	USD	\$82	\$868	\$1,288	\$1,713	\$2,021	\$1,878	(\$2,021)	\$3,899	(\$3,899)	\$7,799	(\$9,820)
(-) Minority Interest		(43)	(209)	(219)	(216)							
Adj. Net Income Attributable to Argos	USD	\$39	\$660	\$1,069	\$1,497	\$1,806	\$1,662	(\$1,806)	\$3,468	(\$3,468)	\$6,937	(\$8,743)
Balance Sheet		2011	2012	2013	2014	LTM 2Q	2015E	2016E	2017E	2018E	2019E	2020E
Total Assets	USD	\$13,104	\$13,934	\$15,515	\$18,005	\$13,524	\$14,201	\$14,911	\$15,656	\$16,439	\$17,261	\$18,124
Cash		259	440	338	519	225	346	363	382	401	421	442
Financial Assets		248	323	527	177	0	360	378	397	417	438	460
Debtors		618	601	726	919	884	649	681	715	751	789	828
Valuations		7,606	7,459	11,445	13,070	10,621	267	280	294	309	324	340
Other Assets		4,372	5,112	2,480	3,320	1,794	1,621	1,703	1,788	1,877	1,971	2,069
Total Liabilities	USD	\$4,688	\$4,757	\$4,659	\$7,296	\$5,631	\$6,123	\$6,429	\$6,751	\$7,088	\$7,442	\$7,815
Financial Obligations		2,334	1,609	1,010	2,340	2,172	7,145	7,502	7,877	8,271	8,684	9,119
Bonds		950	1,361	1,892	2,577	1,932	6,246	6,558	6,886	7,230	7,592	7,971
Debits to Pay		499	857	887	1,015	562	6,747	7,084	7,439	7,810	8,201	8,611
Other Liabilities		905	930	870	1,363	1,165	6,913	7,258	7,621	8,002	8,402	8,822
Total Shareholder's Equity	USD	\$8,416	\$9,178	\$10,856	\$10,710	\$7,693	\$8,078	\$8,481	\$8,906	\$9,351	\$9,818	\$10,309
Financial Debt	USD	3,284	2,970	2,902	4,917	4,104	13,390	14,060	14,763	15,501	16,276	17,090
Net Financial Debt		3,025	2,530	2,565	4,398	3,880	13,044	13,696	14,381	15,100	15,855	16,648
Total Financial Debt	X times	3.8x	3.4x	2.7x	4.5x	4.0x	10.8x	10.9x	11.2x	11.4x	11.3x	10.9x

Unlevered Free Cash Flow Calculation

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
(US\$ in millions)											
EBITDA	3,467,204	3,858,500	4,206,659	4,078,547	4,041,686	4,239,940					
Depreciation & Amortization	2,933,000	2,786,350	2,730,623	2,676,011	2,622,490	2,570,041					
Provisions	0	0	0	0	0	0					
Financial Transaction Tax	(420,713)	(389,677)	(379,693)	(360,709)	(378,744)	(397,661)					
EBIT	5,979,491	6,245,173	6,557,589	6,393,849	6,285,432	6,412,289	0	0	0	0	0
Effective Tax Rate	34.0%	35.0%	36.0%	37.0%	38.0%	39.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Taxes	(2,033,027)	(2,185,810)	(2,360,732)	(2,385,724)	(2,388,464)	(2,500,796)	0	0	0	0	0
Net Operating Profit After Tax	3,946,464	4,059,362	4,196,857	4,028,125	3,896,968	3,911,502	0	0	0	0	0
Depreciation & Amortization	(2,933,000)	(2,786,350)	(2,730,623)	(2,676,011)	(2,622,490)	(2,570,041)	0	0	0	0	0
Provisions	0	0	0	0	0	0	0	0	0	0	0
NOL Tax Shield	(136,996)	(134,256)	(131,571)	(128,939)	(126,361)	(123,833)					
Financial Transaction Tax	0	1	2	3	4	5					
Equity Tax	104,876	94,388	84,950	76,455	68,809	61,928					
Change in Net Working Capital	0	(200,000)	2	3	4	5					
Capital Expenditures	500,000	500,000	500,000	500,000	500,000	500,000					
Unlevered Free Cash Flow	1,481,344	1,533,146	1,919,616	1,799,636	1,716,934	1,779,567	0	0	0	0	0
Mandatory Investments	0	0	0	0	0	0					
Unlevered Free Cash Flow After Mandatory Inv.	1,481,344	1,533,146	1,919,616	1,799,636	1,716,934	1,779,567	0	0	0	0	0
Average FX rate	2.800	3.000	3.200	3.000	2.800	3.000	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Adjusted Unlevered Free Cash Flow (US\$ in mm)	\$529	\$511	\$600	\$600	\$613	\$583	\$0	\$0	\$0	\$0	\$0
Terminal LTM EBITDA (US\$ in mm)	0	0	0	0	0	1,413	0	0	0	0	0
Adjusted Terminal LTM LFCF (US\$ in mm)	0	0	0	0	0	862	0	0	0	0	0

Perpetuity Growth Approach

	(1.0%)	(0.5%)	0.0%	0.5%	1.0%
2020 Free Cash Flow					
WACC	7.0%	7.5%	8.0%	8.5%	9.0%
Firm Value as of 12/31/15 (US\$ in mm)	\$10,224	\$10,736	\$11,321	\$11,997	\$12,785
7.5%	\$9,600	\$10,041	\$10,542	\$11,114	\$11,774
8.0%	\$9,049	\$9,432	\$9,864	\$10,353	\$10,912
8.5%	\$8,559	\$8,894	\$9,269	\$9,691	\$10,169
9.0%	\$8,121	\$8,416	\$8,744	\$9,110	\$9,522
WACC	7%	8%	9%	10%	11%
Terminal Value (US\$ in mm)	\$12,318	\$13,332	\$14,515	\$15,880	\$17,451
8%	\$10,043	\$10,725	\$11,497	\$12,380	\$13,389
9%	\$9,485	\$10,094	\$10,779	\$11,555	\$12,442
10%	\$8,996	\$9,533	\$10,145	\$10,833	\$11,612
11%	\$8,537	\$9,031	\$9,591	\$10,195	\$10,886

	(1.0%)	(0.5%)	0.0%	0.5%	1.0%
2020 Free Cash Flow					
WACC	7.0%	7.5%	8.0%	8.5%	9.0%
Firm Value as of 12/31/15 (US\$ in mm)	\$9,422	\$10,008	\$10,684	\$11,472	\$12,360
7.5%	\$8,728	\$9,228	\$9,800	\$10,460	\$11,200
8.0%	\$8,119	\$8,550	\$9,039	\$9,598	\$10,240
8.5%	\$7,591	\$7,956	\$8,377	\$8,855	\$9,390
9.0%	\$7,102	\$7,430	\$7,797	\$8,209	\$8,720
WACC	7%	8%	9%	10%	11%
Terminal Value / Present Value (%)	76.0%	77.6%	79.2%	80.9%	82.7%
7%	74.4%	76.0%	77.6%	79.2%	80.9%
8%	72.9%	74.4%	76.0%	77.6%	79.3%
9%	71.3%	72.8%	74.4%	76.0%	77.6%
10%	69.8%	71.3%	72.8%	74.3%	75.9%
11%	68.3%	69.7%	71.2%	72.7%	74.3%

	(1.0%)	(0.5%)	0.0%	0.5%	1.0%
2020 Free Cash Flow					
WACC	7.0%	7.5%	8.0%	8.5%	9.0%
Firm Value / 2016 EBITDA (x)	8.3x	7.8x	7.3x	6.8x	6.3x
7.5%	8.1x	7.6x	7.1x	6.6x	6.1x
8.0%	7.9x	7.4x	6.9x	6.4x	5.9x
8.5%	7.7x	7.2x	6.7x	6.2x	5.7x
9.0%	7.5x	7.0x	6.5x	6.0x	5.5x
WACC	7.0%	7.5%	8.0%	8.5%	9.0%
Implied Terminal EBITDA Multiple (x)	8.1x	7.6x	7.1x	6.6x	6.1x
7.5%	7.9x	7.4x	6.9x	6.4x	5.9x
8.0%	7.7x	7.2x	6.7x	6.2x	5.7x
8.5%	7.5x	7.0x	6.5x	6.0x	5.5x
9.0%	7.3x	6.8x	6.3x	5.8x	5.3x

	(1.0%)	(0.5%)	0.0%	0.5%	1.0%
2020 Free Cash Flow					
WACC	7.0%	7.5%	8.0%	8.5%	9.0%
Terminal Value / Present Value (%)	76.0%	77.6%	79.2%	80.9%	82.7%
7%	74.4%	76.0%	77.6%	79.2%	80.9%
8%	72.9%	74.4%	76.0%	77.6%	79.3%
9%	71.3%	72.8%	74.4%	76.0%	77.6%
10%	69.8%	71.3%	72.8%	74.3%	75.9%
11%	68.3%	69.7%	71.2%	72.7%	74.3%

Grupo Argos 2011-'15LTM Detailed Financials

Grupo Argos - Full Financials As Reported (COP '000)						
Income Statement		1898.3	1847.78	1797.21	1869.17	2200
	Units	2011	2012	2013	2014	2015 LTM
Revenues Cementos Argos	LCU	3,668,168	4,477,319	4,965,803	5,708,004	5,708,004
Revenues Celsia (Power)		1,844,512	2,023,471	2,377,927	2,583,133	2,583,133
Finnacial Activities		273,603	180,365	143,454	347,100	347,100
Real Estate		-	-	51,865	62,718	62,718
Others		-	-	90,310	218,603	218,603
Total Revenue	LCU	5,786,283	6,681,155	7,629,359	8,919,558	8,919,558
COGS	LCU	4,092,051	3,983,148	3,874,137	4,029,257	4,029,257
Administrative Expenses		396,638	517,076	541,892	701,355	701,355
Sale Expenses		134,722	175,121	203,405	217,201	217,201
SG&A	LCU	531,360	692,197	745,297	918,556	918,556
EBITDA	LCU	1,620,159	1,603,477	1,907,340	2,051,498	2,051,498
Operating Income	LCU	1,162,872	2,005,810	3,009,925	3,971,745	3,971,745
Net financial income (Expense)		(356,677)	(422,401)	(347,348)	(411,786)	(411,786)
Other Income (Expenses)		(453,596)	166,088	64,665	28,653	28,653
Exchange Differences		(33,875)	18,056	12,156	33,645	33,645
Dividends		79,706	42,673	36,439	37,641	37,641
Income Before Taxes		(764,442)	(195,584)	(234,088)	(311,847)	(311,847)
Taxes		(163,084)	(163,606)	(425,404)	(420,713)	(420,713)
Net Income		235,346	1,646,620	2,350,433	3,239,185	3,239,185
Minority Interest		(81,508)	(385,319)	(393,075)	(402,929)	(402,929)
Net Income to SAM	LCU	153,838	1,261,301	1,957,358	2,836,256	2,836,256
Balance Sheet						
Cash		501,485	846,894	596,520	1,002,013	585,852
Financial Assets		481,086	621,161	930,428	341,125	1,184
Debtors		1,197,464	1,155,051	1,283,333	1,772,506	2,304,182
Other Assets		439,562	523,286	533,913	863,838	1,115,009
Total Current Assets	LCU	2,619,597	3,146,392	3,344,194	3,979,482	4,006,227
Valuations		7,370,482	7,172,640	12,656,081	13,675,336	14,851,466
Asset Valuation		7,370,482	7,172,640	7,566,366	11,543,684	12,825,893
Other Assets		8,033,553	9,308,162	3,848,694	5,542,885	3,560,722
Total Non Current Assets	LCU	22,774,517	23,653,442	24,071,141	30,761,905	31,238,081
TOTAL ASSETS	LCU	25,394,114	26,799,834	27,415,335	34,741,387	35,244,308
Financial Obligations		2,352,804	1,409,261	720,914	1,702,692	2,021,761
Bonds		234,640	87,091	204,182	234,525	404,127
Debts to Pay		966,555	853,216	873,371	1,420,169	1,463,741
Other Current Liabilities		1,079,467	1,274,464	1,060,224	672,582	874,818
Total Current Liabilities		4,633,466	3,624,032	2,858,691	4,029,968	4,764,447
Financial Obligations		2,170,285	1,685,905	1,063,692	2,813,105	3,639,057
Bonds		1,606,146	2,530,588	3,139,655	4,737,416	4,630,961
Convertibles (Hybrid)		0	794,248	694,448	539,087	0
Other Non Current Liabilities		674,338	513,603	476,544	1,957,593	2,162,051
Total Non Current Liabilities		4,450,769	5,524,344	5,374,339	10,047,201	10,432,069
TOTAL LIABILITIES	LCU	9,084,235	9,148,376	8,233,030	14,077,169	15,196,516
TOTAL EQUITY	LCU	16,309,879	17,651,458	19,182,305	20,664,218	20,047,792
Dividend per Share (COP)		200	212	230	248	248

43%

Key Sensitives

	Units	Actuals				Forecasts						CAGR 11-14
		2011	2012	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E	Growth
Revenues Cementos Argos	%	63%	67%	65%	64%	16%	10%	10%	12%	15%	18%	16%
Revenues Celsia (Power)		32%	30%	31%	29%	10%	10%	5%	5%	8%	10%	12%
Financial Activities		5%	3%	2%	4%	8%	5%	5%	5%	5%	8%	8%
Real Estate		0%	0%	1%	1%	10%	2%	2%	5%	5%	10%	10%
Others		0%	0%	1%	2%	16%	15%	15%	15%	15%	15%	56%
Total Revenues	%	100%	100%	100%	100%	4%	0%	-2%	0%	3%	5%	16%
COGS	%	71%	60%	51%	45%	3%	-1%	0%	-1%	-1%	-1%	-1%
Administrative Expenses		7%	8%	7%	8%	7%	7%	7%	7%	7%	7%	
Sale Expenses		2%	3%	3%	2%	3%	3%	3%	3%	3%	3%	
EBITDA Margin	%	28%	24%	25%	23%	7%	9%	9%	10%	9%	10%	8%
Operating Income	%	20%	30%	39%	45%	40%	20%	30%	35%	40%	45%	51%
Net financial income (Expense)		-6%	-6%	-5%	-5%							
Other Income (Expenses)		-8%	2%	1%	0%							
Exchange Differences		-1%	0%	0%	0%							
Dividends		1%	1%	0%	0%							
Income Before Taxes	%	-13%	-3%	-3%	-3%							
Taxes		-3%	-2%	-6%	-5%							
Net Income		4%	25%	31%	36%	24%	23%	22%	21%	20%	19%	40%
Minority Interest		-1%	-6%	-5%	-5%							
Net Income to SAM												
Balance Sheet						Average	Increase					
Cash			2%	3%	2%	2%						
Financial Assets			2%	2%	3%	3%						
Debtors			5%	4%	5%	5%						
Other Assets			2%	2%	2%	2%						
Total Current Assets	%		10%	12%	12%	11%						
Valuations			29%	27%	46%	34%						
Asset Valuation			29%	27%	28%	28%						
Other Assets			32%	35%	14%	27%						
Total Non Current Assets	%		90%	88%	88%	89%						
TOTAL ASSETS	%		100%	100%	100%	100%	5%					
Financial Obligations			26%	15%	9%	17%						
Bonds			3%	1%	2%	2%						
Debts to Pay			11%	9%	11%	10%						
Other Current Liabilities			12%	14%	13%	13%						
Total Current Liabilities			51%	40%	35%	42%						
Financial Obligations			24%	18%	13%	18%						
Bonds			18%	28%	38%	28%						
Convertibles (Hybrid)			0%	9%	8%	6%						
Other Non Current Liabilities			7%	6%	6%	6%						
Total Non Current Liabilities			49%	60%	65%	58%	5%					
TOTAL LIABILITIES	%		1	1	1							
WACC			7.6%									