CFA Institute

CFA Institute Research Challenge

Hosted in

Central America

Barna Business School

Copa Holdings, S.A.

Valuation Date: January 4th 2017
Current Price: $91.55
Ticker: CPA

Recommendation: BUY
Target Price: $115.41
Upside: 26.06%

Stock Exchange: (NYSE)
Sector: Industrials
Industry: Airlines

SUMMARY: CPA is a commercial aviation provider of passenger and cargo flights to countries in South, Central and North America and the Caribbean.

Figure 1

Profile	Class A Shares
CLOSING PRICE (JAN 4TH, 2017)	91.55
OUTSTANDING SHARES	42.01 MM
36 MONTH DAILY PX BETA	1.18
ENTERPRISE VALUE	3.8 BN

Sources: Bloomberg, Beta Source: Team Analysis

Figure 2

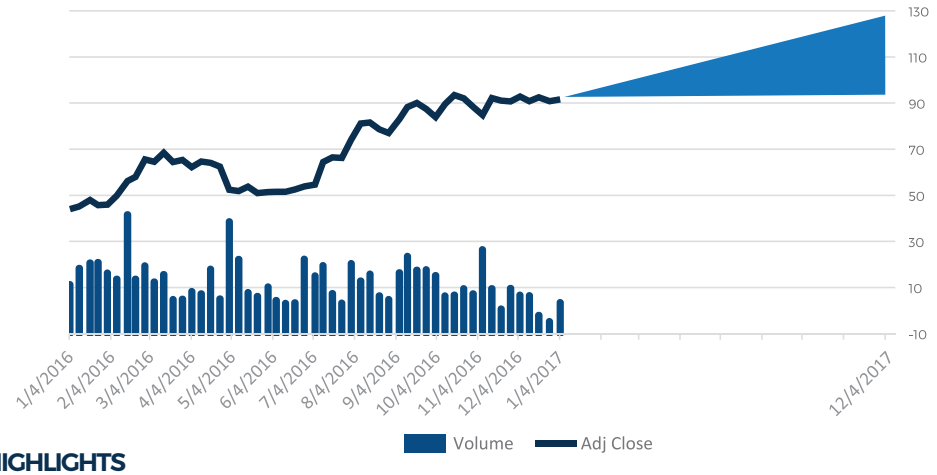
FINANCIAL LEVERAGE & VALUE SNAPSHOT	
DEBT+ OP LEASES/CAPITAL	62.9%
EV/ EBITDAR	6.98x

Source: Team Analysis

Figure 3

Valuation Date	Jan 4th 2017	
METHODOLOGY	WEIGHT	PRICE
FCFE	30%	109.66
PEERS: EV/EBITDAR	70%	117.87
12 MONTH TARGET PRICE		115.41
TARGET PRICE UPSIDE RETURN%		26.06%
2017 DIVIDENDS		2.89
TOTAL 12 MONTH RETURN %		29.22%

Source: Team Analysis



HIGHLIGHTS

We issue a BUY recommendation with a 1-year target price of $115.41 per class A share; representing 26.06% upside from its January 4th, 2017 closing price of $91.55. Our valuation is based on a 70/30 mix of EV/EBITDAR multiple analysis and the Free Cash Flow to Equity Model. Our recommendations lays on the following key catalysts:

CPA CAPITALIZES ON LATIN AMERICAN ECONOMIC RECOVERY

Recent implementation of initiatives from CPA:efficient allocation of Capacity, reduction of Cost per Available Seat Miles (CASM), the launch of a Low-Cost Carrier (Wingo) and ConnectMile in-house loyalty program, will boost profitability under a more favorable Latin America market. Economic activity pickup in key Latin American countries that were affected by negative shock during the last two years are now recovering, translating into an stronger air travel demand restoration and the cease of pressure on yields.CPA has been very effective moving capacity to more profitable markets in Latin America, as well as opening new destinations in North America, which are growing at a higher pace. The top line was 4%, higher during 3Q16 thanin previous year same quarter. During 2017 and forward , the combination of better passenger demand outlook and stabilizing yields will lock the path to sustained growth that the company has exhibited in the last 4Qs.

EFFICIENT COST MANAGEMENT WITH HIGH PREMIUM SERVICE

Ex-fuel Cost per Available Seat Miles (CASM) is following a downtrend in conjunction with maintaining a Premium Service. CPA has one of the lowest CASM among its peers (6.53 cents per ASM 5-years average for CPA vs 7.63 5-years average for peers) and continues to allocate investments in lower cost maintenance assets, such as modernization of their fleet. An average fleet age of 7 years, contributes to lower fuel costs and more Available Seat Miles per block hours. Altogether, CPA will compete in a robust position as it continues to increase cash for shareholders due to lower CASM and higher assets turnover.

STRONGER LOAD FACTOR:

CPA has been able to adapt to a low yield environment faster than other carriers in the region and has managed to tailor its operations to this context being able to increase the load factor to a historical high of 84% in 3Q16. A more disciplined capacity growth plan and commercial strategies are also in motion. We expect CPA to keep capitalizing from those measures in the near future.

In addition, CPA stock significantly outperformed the S&P 500 over the past year: 88.21% of CPA vs. 9.54% of the Index. Furthermore, an improvement in dividends per share is expected this year due to last period positive net income estimates (US$2.89 per share). For the following five years, an increase in dividend per share is foreseen.

Figure 4

INDUSTRY METRICS
RPM: Revenue Passenger by mile
ASM: Available seats per mile
CASM: Cost per available seat mile
Passenger Yield: Average fare per mile per passenger
RASM: Revenue per available seat mile
Block Hours: time between an aircraft leaving a gate and arriving to another

Source: Company Annual Report

Key Financials	2017 F	2018 F	2019 F	2020 F	2021 F
EBITDAR Margin	27.7%	25.7%	25.0%	24.7%	24.4%
ROA	7.8%	6.9%	6.8%	7.0%	7.0%
Revenue Growth	8.2%	5.8%	7.0%	7.4%	7.3%
Ex-Fuel Cost to Revenue	60.2%	59.3%	58.5%	57.5%	56.6%
Dividend per share	2.89	3.02	2.85	2.98	3.27
Dividend yield	2.6%	2.7%	2.5%	2.6%	2.9%
Debt/Capital	31.2%	29.9%	28.7%	27.5%	26.4%

Source: Team Estimates For further details and explanations please see appendix 24.

Figure 5

AIRCRAFT TYPE	CAPACITY	2014	2015	2016
EMB-190	94 PAX	26	23	21
737-700	124 PAX	18	14	14
737-800	154/160 PAX	54	63	64
MAX-9	173 PAX	0	0	0
		98	**100**	**99**

Source: Company Data

Figure 6 Revenue by Geography

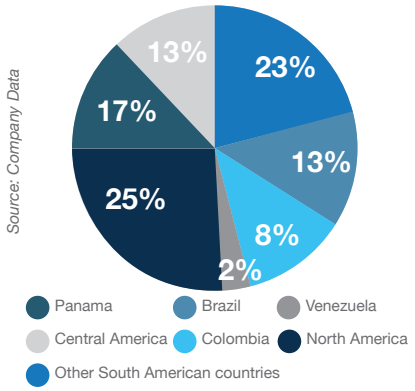
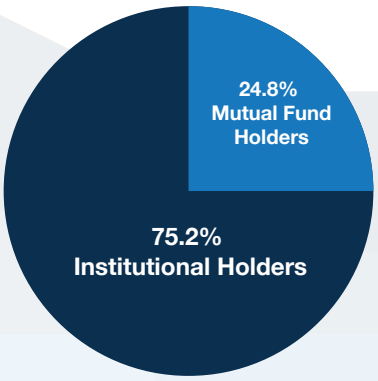


Figure 7

Source: Company Data

Figure 8 Class A Shares, Ownership Structure



Source: The Wall Street Journal

Figure 9

SHAREHOLDERS	SHARES	%
CLASS A	20,924	73.7
CLASS B	7,466	26.3
TOTAL	28,390	100

Source: Company Data

BUSINESS DESCRIPTION

Copa Holdings S.A. (NYSE: CPA) is a foreign private issuer with headquarters in Panama City, Panama. CPA is the parent company of Copa Airlines, and Copa Airlines Colombia (1), which operate under the Hub & Spoke network model1. During 4Q16, the company launched WINGO, a low-cost carrier, which is autonomous but operates under Copa Airlines Colombia. Through each airline, the company acts as a commercial aviation provider of passenger and cargo scheduled flights to countries in the Caribbean, South, Central and North America. Founded in 1947, it operated as a privately owned company until its IPO in 2005. CPA is considered a leading commercial aviation provider of the region and is recognized as the most-on-time carrier in Latin America by FlightStats, providing 360 daily scheduled flights, on 74 destinations in 31 countries.

FLEET AND SERVICE DESCRIPTION Copa Holdings operated a fleet of 99 aircrafts by the end of 2015, 14 of them Boeing 737-700, 64 Boeing's 737-800 and 21 Embraer's 190. (Figure 5) As of 2016, aircraft leases represented one-third of the fleet with an average maturity of 4.3 years. They usually return leased fleet upon fulfillment. The modern fleet, such as Boeing Max-9, contributes to the achievement of a strong and elevated completion factor (scheduled flights not canceled), and allows them to optimize their CASM, bringing more efficiency and profitability (Appendix 22). At the moment, CPA provide access to more than 200 destinations through its alliances. Strategic destinations are placed with convenient schedule, on-time performance and competitive fares, which increases passenger loyalty along with the frequent flyer program, ConnectMiles.

GEOGRAPHIC LOCATION Panama is one of the fastest growing economies in Latin America due to high public and private investment, an increase of multinational companies headquarters instauration and substantial touristic dynamism. The country has the second largest containers port in the region. Furthermore, Tocumen International Airport (PTY) in Panama City, enables connections to major markets, consolidating traffic to serve destinations that do not generate enough demand for a point-to-point service(2). Moreover, Copa's hub in Panama allows the benefit of a free-trade zone and stable, dollar-based economy. The company's hub helps their strategy of providing its service to regional destinations in Central America and the Caribbean by enhancing the overall connectivity and profitability of their network. Copa considers their intra-latin American network is the most convenient option for them to expand as 65% of their passengers derive from 45% of the underserved markets in which they are present. According to Copa's investors presentation of September 2016, there still are more than 25 underserved new destinations in America that could be included in its network.

COMPANY STRATEGIES

EXPAND NETWORK CPA is seeking to integrate route networks to enhance profitability with both, Copa Airlines and Wingo. They are focusing on increasing frequencies of more profitable routes, as well as adding new destinations to meet growing demand on markets that need a hub. A concrete action to reach new markets and improve network presence was the launch of Wingo; through which they added domestic and international destinations not completely covered by existing low-cost carrier competitors in Colombia. Their strategy rests on their proven choice of using Panama's Tocumen International Airport as Hub, and complementing it with their new low cost business line in Colombia.

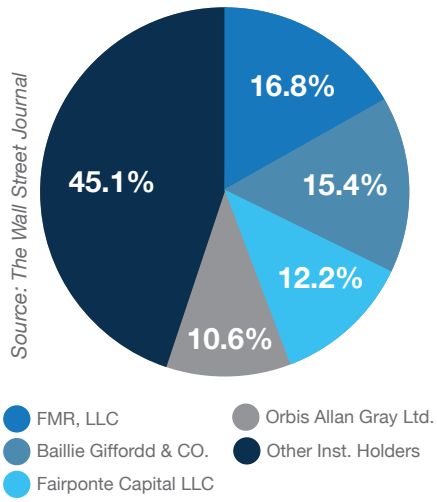
INCREASE COST EFFICIENCY: MODERN FLEET & REDUCE DISTRIBUTION COSTS The company has aircraft orders and lease agreements with Boeing and Embraer for the next eight years. The size of the fleet is expected to slightly increase starting 2017. Firm ordered aircrafts are expected to be delivered between 2017 and 2025, aiming to to replace 31 leased aircrafts maturing along the same time frame, and to cover expected demand increment. The new aircrafts promise to cost less than 8.17 cents per nautical mile, considerably below than 14.12 cents and 9.52 cents of current planes. (Appendix 22) In addition, CPA is aiming to decrease its distribution costs through direct sales. To reduce transactions fees paid to travel agents is a priority. In order to do so, new technology and automated process are planned to be implemented.

FOCUS ON QUALITY SERVICE AND LOYALTY The company places great emphasis on making its brand associated with quality through their operational differentiation from other airlines, mainly by on-time performance and offering convenient and attractive schedules and destinations. Also, adding more services for their customer such as the new program ConnectMiles, were members are eligible to earn and redeem miles to any of the destinations within the Star Alliance, adding more value for their clients.

CORPORATE GOVERNANCE

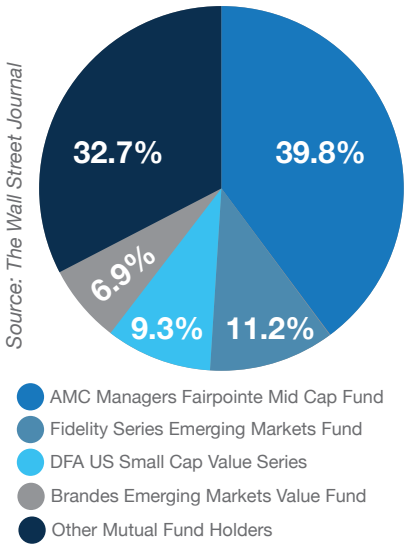
SHAREHOLDER STRUCTURE CPA's authorized capital stock consists of Class A, Class B, and Class C shares, 80 million shares of common stock without par value. Class A shares represent 73.7% of economic interest of CPA and is the only Class listed on NYSE (Figures 8 & 9). Class A and Class B shares posses the same economic rights and privileges, including dividends. CIASA (Corporación de Inversiones Aéreas, S.A.), a group of Panamanian investors, currently owns 100% of Class B shares, which grants them voting power within the company. Class A shares are entitled to vote only on specific matters like changes affecting their rights and privileges, a transformation, merger, acquisition, spin-off or change in the corporate purpose of the company. Class A shares have limited voting power under certain particular circumstances, for instance, a proxy representation and tag-along rights. As of March

Figure 10 Top Institutional Holders



Source: The Wall Street Journal

Figure 11 Mutual Fund Holders



Source: The Wall Street Journal

Figure 12

List of Board of Directors	
Pedro Heilbron	Carlos A. Motta
Stanley Motta	John Gebo
Alvaro Heilbron	José Castañeda Velez
Jaime Arias	Roberto Artavia Loria
Ricardo A. Arias	Josh Connor
Alberto C. Motta Jr.	Andrew C. Levy

Source: Company Data

Figure 13

List of Executive Officers	
Pedro Heilbron	CEO
José Montero	CFO
Daniel Gunn	Senior VP of Operations
Dennis Cary	Senior VP of Commercial
Vidalia de Casado	VP of Human Resources
Julio Toro	VP of Technology
Ahmad Zamany	VPof Maintenance
Rulon J. Starley	VP of Flight Operations
Michael New	VPof Safety
Michael Hinckley	VP of Frequent Flyer Program
Edwin García	VP of Airport Services
Eduardo Lombana	CEO of Copa Colombia

Source: Company Data

31, 2016, there were 249 holders of Class A shares. According to CPA Holdings profile on The Wall Street Journal, Institutions have 75% of ownership and Mutual Funds 25%. (3)

CORPORATE MANAGEMENT The team of directors is diverse regarding experience. Stanley Motta, Chairman and Director, has been with the company since 1998 and Pedro Heilbron, the CEO, has been through every transition of the business since 1988 and was elected at the end of 2016 as Chairman of the Star Alliance. On the other hand 83.33% of executives have relevant experience in the airline industry, not only with CPA but with other important airlines in the continent such as American Airlines, United Airlines, and Northwest Airlines. For the recent launch of Wingo, the company chose Catalina M. Breton as General Manager. She has occupied leadership positions for Avianca and Jet Blue for 12 years, focusing specially in Latin America and the Caribbean. While in Avianca, she implemented new routes and major network changes which resulted in market share gains and EBITDA improvement. Also, with several implementations of communication mechanisms, Catalina led Avianca's employees towards a common goal. Executive Officers have demonstrated to make the necessary changes to keep up with customer's needs and industry changes, creating with this a competitive advantage.

CORPORATE GOVERNANCE CPA has a Board of Directors of twelve members, with four different committees: Audit, Compensation, Nominating Corporate Governance and Independent. Incidentally, corporate governance differences take place between NYSE Standards and companies registered in Panama. CPA Board of Directors has four independent members (33.33%), not considering specifications under the NYSE Standards. However, they do have a Nominating and Corporate Governance Committee, even though it is not mandatory in Panama(4). Moreover, the company does not hold executive sessions nor equity compensation plans and related individuals conform the structure of the Board of Directors, (Appendix 8) which we believe allows the company to focus on long-term growth opportunities. Historically, this can be one of the main reasons of how rapidly the company has implemented changes, innovations, and improvements to adapt to market changes. Consequently, according to Chong and Lopez-de-Silanes, very high levels of ownership, voting rights concentrations and solid governance structures are common in Latin American companies.

SOCIAL RESPONSIBILITY CPA's efforts towards their pillars of youth education and the environment led them to understand it is everyone's task to acknowledge and transmit sustainable development. One of the company's programs is intended to improve the communities in which they operate with social and educational initiatives, thus benefiting more than 25,000 children. On the other hand, the company has implemented the 3 R's (Reduce, Recycle and Reuse) program to reduce the impact of CO2 emissions. The company believes that, for them to be successful, they depend on helping the nearby communities. This is the reason they encourage the Corporate Volunteerism, led by employees to help nearby communities on topics such as education, childhood, and environment. According to CPA, they helped to train 150 public school professors, benefited more than 100 children from the Jr. Achievement Program and more than 250 thousand dollars were invested in scholarships for employees and their children.

INDUSTRY OVERVIEW & COMPETITIVE POSITIONING

The Airline Industry is characterized for its aggressive competition, thin margins and high sensitivity to economic changes of the regions in which it operates, volatility of oil prices, and variation in consumer trends. In 2015, the industry mobilized more than 3.5B passengers and 51MM metric tons of cargo worldwide, with a workforce of 10MM employees in an average of 100,000 flights a day in over 51,000 routes (5). During the same year, for the first time, the airline industry as a whole managed to generate a return on invested capital that surpassed the cost of capital, with US$33.5B in net profits (6). Even though 2015 proved to be a challenging year for carriers in Latin America, mainly due to a economics shocks in Brazil, Colombia and Venezuela, the company was efficient in analyzing the region's environment and making strategic decisions to improve its results in 2016 by managing its capacity and growth plans. Overall operational efficiency seems to be at the top of the agenda for airlines around the world, including CPA who managed to achieve their highest load factor yet (84.2%) in the 3Q of 2016.

MACROECONOMICS

One of air travel demand's key drivers is raising per capita income, as rising purchasing power translates into more travel experiences. Industry's growth has historically been about twice the annual GDP growth of a country or region (7). IATA expects 0.9% of world's GDP to be spent on air transport on 2017, or the equivalent of approximately US$769 billion. Economic factors have given the air transportation industry a significant boost, such as increasing connections between cities and more available prices for passengers and cargo services. At the same time, high fuel cost has provoked airlines to replace less efficient aircraft to increase aircraft's fuel efficiency.

LATIN AMERICA'S ECONOMY EXPECTED RECOVERY ON 2017 AND FORWARD According to the latest IMF's projections for 2016, aggregated real growth of the Latin America region is projected to decline by 0.7%, a downturn drove mainly by the recession of Brazil and Argentina as their size represent a significant share of the LAC region aggregate (8). Also, currencies in commodities export

countries like Brazil and Colombia have depreciated 21% and 27% respectively with FX rates affecting consumer capacity via the pass-through effect, and ultimately yield of the industry. Nevertheless most countries in the region are projected to grow at positive rates.

Some of the region's largest economies that recently experienced slowdown have turned the corner. (Figure 16). In 2017, a recovery of the regional outlook is expected as a result of a slightly recovery of commodity prices and a political environment with less uncertainty. Thus, a better fiscal position to implement reforms and public spending necessary to medium term and long term growth (9). As a result aggregated GDP is expected to grow by 1.6% in 2017 and 2.6% for 2019. Brazil, which makes up 34% of the region's GDP and 18% of CPA's revenue at 2015, is expected to grow 0.5% for 2017. Similarly, Colombia's output is expected to recover as international commodities prices start to slightly recover and easy up the pressure on the currency during 2017.

Given the expected recovery in the South American economies, we anticipate CPA will capitalize on revenue and CASM implementations that took place this year to counter effect the soft demand economy from late-2014 to mid-2016. In the midst of softer demand environment in the first three quarters of 2016, CPA was able to obtain levels of profitability similar to previous years, through a disciplined management of capacity and reduction of CASM.

PANAMA'S ECONOMY According to the World Bank, Panama, a dollar-based economy, has been one of the fastest growing economies worldwide, the economy grew 5.8% and 6.0% during 2015 and 2016 respectively (10). By 2013, the aeronautical industry, which contributed 4.2 % of GDP in Panama, sustained more than forty thousand jobs and had paid more than US$170MM in taxes (11). Furthermore, Panama is in an excellent geographic point for one of the most complete connecting hubs of the Americas, and the more positive outlook of the Latin America region as whole increases passenger traffic to and from Panama.

NORTH AMERICA'S ECONOMY The USA is growing slowly, but healthier than in previous years and close to full employment. Traffic between North America and Latin America continues to grow despite economic difficulties in the region (Figure 15). According to the Federal Aviation Administration of the United States, Latin America is still the largest international destination from the USA, and it will continue to be the market with higher grow for USA travel (12). Another important driver for traffic between the regions is the growing Latino Community currently living in the USA, which reached 56MM in 2015. Considering the circumstances, CPA has added more North American destinations throughout the years and, consequently, the revenue generated by this region has consistently increased, representing 25% of CPA's revenue for 2015. As a result of a more stable economy, the Federal Reserve of the United States, decided to raise the "target range for the federal funds rate from 0.5% to 0.75%" (13). This decision has the potential to trigger down into the debt market and affect the cost of borrowing for CPA.

DRIVERS

WORLD TRAVEL GROWTH: As a region's economy becomes stronger, air traffic demand is proven to grow. Even though Latin America's GDP growth forecast is modest for 2017, according to Airbus Global Market Forecast, traffic growth to/from/within Latin America and the Caribbean is expected to expand at an annual 4.7% rate, above the 4.6% world annual rate. Global air travel has grown 5% on average per year on the last 30 years, with important variation between each year due to "changing economic conditions and differences in economic growth in different regions of the world" (14). On that line, even if Copa Holdings RPM growth has not presented a linear growth, it has consistently increased YoY.

TRADE BETWEEN COUNTRIES IN THE REGION: Is the primary driver for cargo revenue. During 2016, world trade leveled off and, in consequence, global trade forecasts for 2016-2017 have been downgraded. This is consistent with evidence of a deterioration in the relationship between world trade and activity. In consequence, Freight Tonne Kilometers (FTKs) are expected to decrease in forthcoming years. (Figure 17)

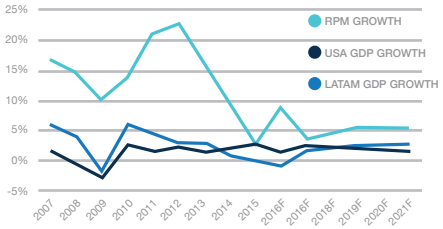
ANCILLARY REVENUE: Airlines generate additional revenue for extra services such as on-board sales, ticket change fees, excess baggage or seats with extra leg room. With the incorporation of Wingo, we expect CPA's ancillary revenue to increase in the next years due to the Low Cost business model.

BUSINESS CONFIDENCE: Consumer Confidence is a leading indicator of spending power and overall confidence of consumers. It is particularly pertinent in the airline industry because consumers are more willing to spend on leisure services when the index is strong (Figure 18). According to Nielsen's Global Consumer Confidence Report, sentiment in Latin America is moving in a positive direction despite the economic difficulties of the region, notably in Perú, Colombia, Mexico and Brazil. The last three countries mentioned before are important markets for CPA.

JET FUEL

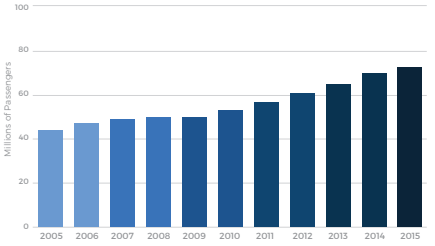
Aircraft fuel is the most critical operating expenses for airlines. Jet fuel, the most common fuel, is highly correlated to oil prices. In the last five years, the industry has been affected by a high volatility due to many different global factors, such as geopolitical, environmental and economic. During 2016, oil prices averaged $43.29 dollars per barrel (Oklahoma WTI Spot Price) which is the lowest yearly average since 2004. Under these circumstance, the Organization of the Petroleum Exporting Countries (OPEC), on November 2016, agreed to a daily production target of 32.5 million barrel per day or a 3% decreased to

Figure 14 Rpm Growth Vs Gdp Growth



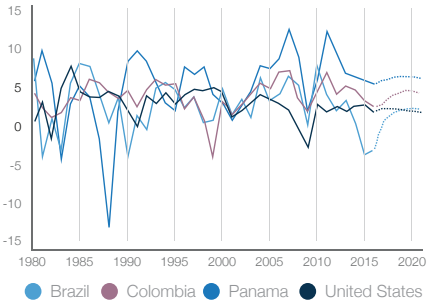
Source: Company Data, IMF, Team Estimates

Figure 15
Number of Latin American Air Traffic Passengers traveling to or from the USA



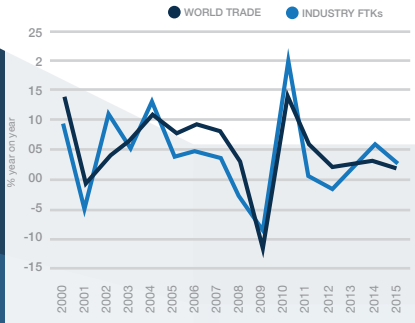
Sources: US Department of Transportation, Federal Aviation Administration

Figure 16 GDP Growth Latin American Countries



Source: IMF Data and Projections

Figure 17 Air freight vs. Global Trade Growth



Sources: IATA, BIS, IMF

Figure 18 Global air travel and business confidence index

Source: IATA

Figure 19 Jet Fuel and Crude Oil Price ($/barrel)

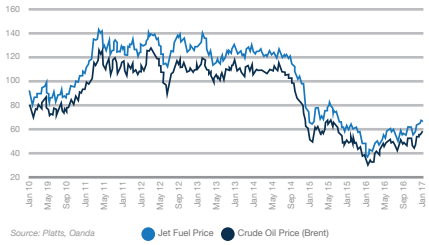
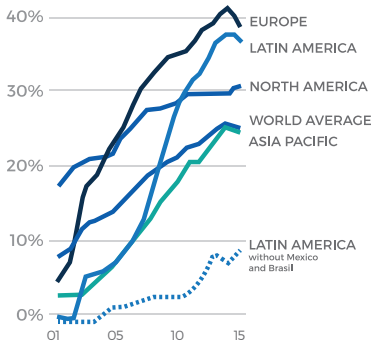
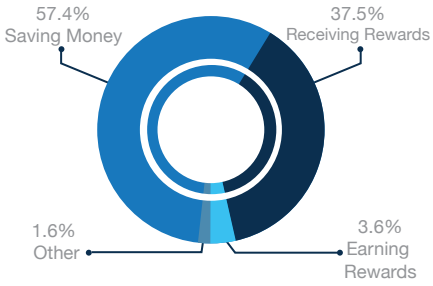


Figure 20 Low Cost Carriers Market Share (%)



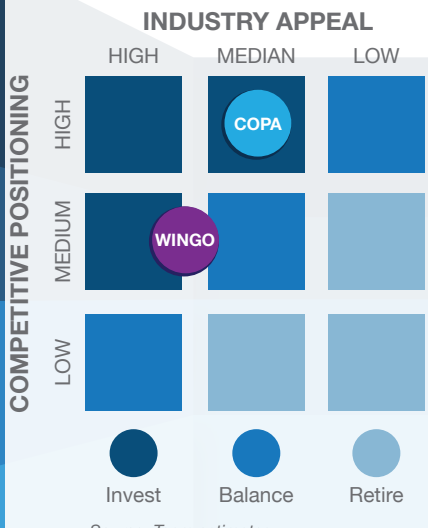
Source: Transportation Infrastructure and Logistics (ALG), and CAPA, OAG, ELFAA data

Figure 21 Why costumers participate in Reward Programs



Source: Technology Advice

Figure 22 Mc. Kenzie Matrix



Source: Team estimates

increase oil prices on the international market15. Also, Non-OPEC countries (notably the United Sates) reduced supply in 2016 due to cutbacks in investment in 2015 and 2014 (16).

In contrast, recent developments in the productivity of shale companies in the United States can boost production and mitigate the effect of supply cuts. In effect fuel oil production in the United States increase in the second part of 2016 similar to the grow from 2012 to 2014 when fuel production of oil increase an average of 15% YoY (17). Furthermore, a weaker than expected demand, especially from the Asian countries can downside the risk of higher oil prices. CPA, as other companies in the industry, mitigates the risk of the price of oil by fuel hedging. Companies are also focusing its efforts on improving fuel efficiency by replacing existing fleet with modern aircraft and better operations.

REGULATIONS

Within the industry, established regulations vary by markets where a carrier operates, representing a key aspect of defining the performance of an airline in a particular market. Regulations have a profound impact on international routes to which an airline serves, creating agreements in regards of flight frequency and fairs. Agreements based on negotiations between countries are usually based on reciprocity. Equally, the access to different airports in a connected network, such as CPA's network, portrays a crucial factor to ensure an efficient operation. Consequently, other regulatory restrictions comprise ownership limitations of the aeronautical companies. Notably, the "Panamanian Aviation Act" establishes ownership and effective control of the company must remain within Panamanian nationals to continue operating under the benefits of agreements between Panama and other countries. Furthermore, CPA acts under other markets regulations with international entities such as the US Federal Aviation Administration, by which CPA covers requirements related to security measures, safety standards, environmental issues and maintenance procedures.

TRENDS

LOW-COST CARRIERS have grown at impressive rates well over 10% per year. (Figure 20) LCC's strategy is to offer point to point routes that are much more cost efficient compared to the Hub & Spoke model used by Copa. LCC share growth in South America boosted connections to new underserved destinations and additional frequencies. As a result, at the end of 2016, CPA launched Wingo, a low-cost option that operates administratively and functionally under Copa Airlines Colombia unit, with completely free structures for its commercialization, distribution systems, and customer service.

MERGES, INVESTING AND ALLIANCES Many airlines in the industry use strategies of partial ownership, alliances or acquisition to improve their share and service in a particular region or market. Latin America is no exception to this rule, in 2015-2016 many strong European and North American carriers invested in regional carriers. According to Bloomberg, Air France and Delta Airlines (16%) invested in GOL Linhas Aéreas Inteligentes S.A, United (5%) and HNA group (24%) in Azul, Delta partially owns Aeromexico and Avianca is rumored to be in a spot for a near future merge or acquisition. As stated by CPA's CEO, Pedro Heilbron, the company does not have plans in the near future to incur in any of merger and acquisition strategies. However, CPA belongs to the Star Alliance, which conveys a connection with many top international aviation companies and regional airlines such as Lufthansa, Turkish Airlines, United Airlines, Avianca and Air Canada. The alliance is an advantage because of the joint marketing, code-sharing arrangements and cost-related benefits as they have more purchasing power in negotiations with aircraft vendors and insurers. CPA has alliances with Air France, KLM Royal Dutch Airlines, United Airlines, Gol, Cubana de Aviación and recently Emirates which will allows the company to take advantage of new markets. In fact, CPA just renewed alliance agreement with United Airlines (UAL) for another five years.

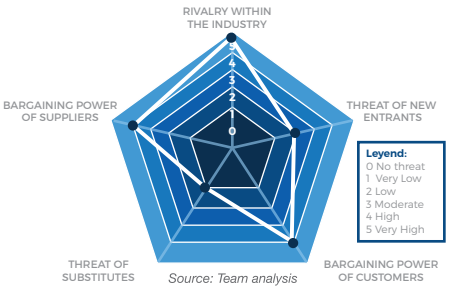
LOYALTY PROGRAMS are an important factor in the decision-making process of consumers in the industry. In 2015, CPA cease to co-branding with MileagePlus and launched its frequent flyer program ConnectMiles. Through their new program, members are eligible to earn and redeem miles to any of the destinations within the Star Alliance, adding more value for their clients. The program has had an excellent response from consumers who demonstrate their affinity and acceptance of the brand. According to Heilbron, the program is strengthening the relationship and value propositions with customers. Frequent flyer programs are a solution to the entire industry situation of customer churn, to satisfy their needs and show they know their clients, as churn occurs mainly because of inadequate services or high prices.

COMPETITIVE POSITIONING

The airline industry is characterized for strong rivalry among competitors and a significant suppliers and customers power. (Appendix 9) CPA sustains an unyielding competitive position in Latin America. Copa Airlines, the biggest company in the holding, is recognized as one of largest airline carriers in the region, conferring CPA a strong bargaining power with industry suppliers and an advantage regarding customer airline selection.(Appendix 8) On the other hand, their recent addition to the holding, Wingo, allows them to be a part of the low-cost playfield which has shown incredible growth in the region and will expectantly help them boost their market share in Colombia.

COPA AIRLINES COMPETITIVE POSITIONING Copa Airlines maintains a leadership position in Latin America focusing on underserved thin markets that cannot sustain point to point service. Hence, Copa's network is in many cases the most favorable option. These markets make up for 65% of Copa's

Figure 23 Porter 5 Forces

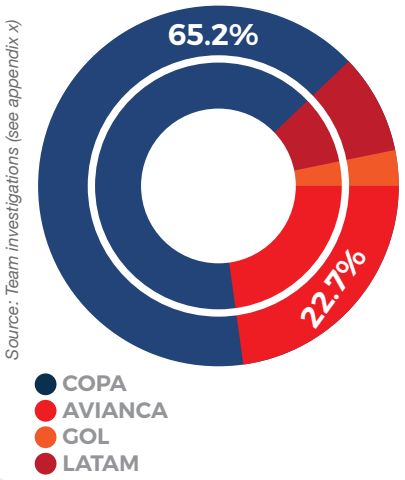


Source: Team analysis

Figure 24 Positioning Matrix

Source: Team analysis

Figure 25 Positioning Among Consumers In The Region



Source: Team investigations (see appendix x)

Figure 26

Relative Valuation (M)	
EV/EBITDAR (with Premium)	7.85
Projected EBITDAR 2017	665
Enterprise Value	4,956
Total Debt	1,274
Cash & Cash Equivalents	1,008
Market Cap	4,956
Outstanding Shares	42.05
Price Relative Valuation	**117.87**
Weight of Relative Valuation	70.0%

Free Cash Flow to Equity Valuation (M)	
PV FCFE	1,159
Terminal Value	3,452
Equity Value	4,611
Outstanding Shares	42.05
Price FCFE Valuation	**109.66**
Weight of FCFE Valuation	30.0%
TARGET PRICE	**115.41**

Source: Team analysis

passengers. CPA's value proposition focuses on offering a world-class product (world's 2nd best on-time carrier by FlightStats), supported by a robust infrastructure through an extensive network of routes which allows them to become one of the most trustable and known carriers in the region. This is a favorable trait to have in a highly competitive industry. (Appendix 8)

Our analysis has identified the following main competitors: LATAM Airlines Group S.A., Avianca Taca Holdings S.A., United Airlines, American Airlines and Delta Air Lines, due to the similarities inf markets, routes, and destinations where they operate. We based our analysis on a competitor's assessment taking into consideration key success factors and weighted each one by importance. The purpose of the assessment is to measure the overall competitive strength for each rival. Our presented key factors are customer service, reputation, price/value, employee satisfaction, time efficiency and others (Appendix 12). According to our analysis CPA enjoys a competitive advantage based on the overall strength rating.

WINGO COMPETITIVE POSITIONING Wingo, the newest venture of CPA, is a low-cost carrier focused in a younger segment, offering cheaper traveling without compromising quality. Wingo's point to point operation is centralized in Colombia servicing 16 cities in 10 countries throughout Latin America and the Caribbean. Its launch is a strategic response to Colombia's dynamic market opportunities. Wingo's main competitor is Viva Colombia, a Colombian low-cost carrier partly owned by Ryanair (Europe's biggest LLC). They compete directly on four domestic and two international routes.

INVESTMENT SUMMARY

INVESTMENT THESIS

We issue a **BUY** recommendation on Copa Holdings (CPA) with a target price of $115.41 per Class A shares, representing an 26.06% upside from closing price of US$91.55 per share of January 4th, 2017. Our target price is based on a mix of the Discounted Cash Flow to Equity Model and EV/EBITDAR multiples, attributing 30% and 70% weighting respectively to each methodology.. The key drivers for our recommendation are:

KEY POTENTIAL DRIVERS

STEPPING UP REVENUES: GDP GROWTH RECOVERY Activity pickup in some Latin American countries that have been affected by negative shocks on their economies could boost air travel demand and ease off the pressure on Yield. CPA has been very effective moving capacity to more profitable markets in Latin America, as well as opening new destinations in North America, which are growing at a higher pace. CPA operates in some markets, such as Panama, South America (except Brazil) and others, which are projected to grow at higher rates than world average. IMF projections estimate an average GDP growth of 2.60% over the next five years for the region and 2.20% for the United States. Based on this outlook, during 2017 we expect Copa's RPM to grow 4.74% due to the correlation between GDP growth and RPM growth; for the following years an average of 6.49% RPM increase is forecasted. The soft demand environment and high depreciation of some currencies in the region have deteriorated the passenger yield during the last few years. Nevertheless, a yield recovery is expected in the short term.

STRONG LOAD FACTOR Copa have been able to adapt faster than other carriers in the region to this scenario. As yields have suffered during the last few years due to a higher competitive environment, CPA has been able to efficiently accommodate to these conditions and was capable of increasing the load factor to a historical high of 84% in 3Q 2016. The company has taken important actions reveals its fast operational adaptability to changes produced by external shocks on key streams as yield; evidenced by a more disciplined capacity growth plan and the successful commercial plans in place. We expect Copa to grow an average of 6.9% YoY in ASM, balancing the estimated RPM growth and higher load factor.

EFFICIENT COST MANAGEMENT Ex fuel Cost per Available Seat Miles (CASM) is in a decreasing trend. (Appendix X) Even if the company's value proposition contemplates to provide quality service, they still have the lowest CASM among peers and competitors. Their investments has been allocated in lower cost maintenance assets, such as modern fleet, contributing to lower fuel costs and more ASM per block hours. In addition, sustained improvement in daily aircraft utilization is foreseeable.

VALUATION

Our valuation arrives at a $115.41 target price, driven by 30% of our DFCF to Equity model price of $109.66 and 70% of EV/EBITDAR multiple analysis price of $117.87. The 70% assigned to relative valuation was based on the fact that FCFE model has a significant weight on terminal value. We considered it to be more accurate to provide more weight on multiples due to a suitable amount of comparable companies to CPA, allowing us to build a sound analysis. In addition, the comparable method allowed us to workaround the volatility of business cycles.

INTRINSIC VALUATION: FREE CASH FLOW TO EQUITY FCFE model was selected because CPA has a stable Free Cash Flow to Equity expected to increase over time which reflects the fundamentals of the company. This method consists of a two-stage growth model. The first phase is based on a specific year to year forecast up to 2021 and the second phase of a constant growth of 2.44%. Based on our FCFE analysis, the estimated price is $109.41. (Appendix 23)

COST OF EQUITY was calculated through the Capital Asset Pricing Model adjusted to country risk

premium. The 10-years US Government bond rate was used as risk-free rate,, estimated at 2.44%. We determined CPA's beta by using four years weekly prices vs S&P 500 index in a regression analysis, resulting in a 1.48 beta; above the airline industry average 1.12. The expected market risk premium was defined to be 5.69.% (Damodaran), which lead us to a 10.86% preliminar cost of equity. On the other hand, as CPA has considerable risk exposure to economies in Latin, Central and South America, we considered appropriate to include an additional country risk premium of 2.81%. This country risk premium is a weighted average premium of countries where CPA has business exposure (Figure 27). We obtained a Cost of equity of 13.68%.

TERMINAL GROWTH VALUE The projected Latin America and US GDP growth rates for 2030 are 2.86% and 2.67% respectively. By weighting them into CPA current geographically revenue composition, we obtained a GDP growth of 2.72%. However, we considered the 10-year US Government Bond yield to be a more assertive proxy for CPA Terminal Growth Rate as its implicitly reflects the nominal growth of the economy. At Valuation date, the 10-y US Gov Bond rate was 2.44%. (Appendix 16)

RELATIVE VALUATION: PEER ANALYSIS We identified Enterprise Value (EV) to Earnings before Interest, Taxes, Depreciation, Amortization and Rent (EBITDAR) as the most appropriate multiple to compare CPA to its peers. We used EV/EBITDAR mainly because the airline industry is a capital intensive business comprised by companies with complex financial leverage, substantial depreciation, amortization and rent or leasing expenses. As Rent is equivalent to operating leases, subtracting Rent from EBITDA is healthy for industries where operating leases are heavily used as financing alternative.

Figure 27

Cost of Equity	
RISK FREE RATE	2.44%
BETA	1.48
MARKET RISK PREMIUM	5.69%
CAPM	**10.86%**
COUNTRY RISK PREMIUM	2.81%
ADJUSTED CAPM	**13.68%**

Sources: Team Analysis

TICKER	PEER NAME	PRICE (JAN 4TH)	ROI (5Y)	GROWTH (5Y)	MKT CAP ($US BN)
AVH	Avianca Holdings SA	10.05	5.47%	12.83%	1.16
ADR	Gol Linhas Aereas Inteligents	16.40	-9.44%	8.57%	0.59
HA	Hawaiian Holdings Inc	57.85	13.36%	12.16%	3.10
JBLUE	JetBlue Airways Corp	22.65	6.19%	11.84%	6.73
LFL	Latam Airlines Group SA	8.42	3.63%	22.17%	5.60
SKYW	SkyWest Inc	37.45	2.72%	3.20%	1.87
WJA	WestJet Airlines Ltd	23.73	9.43%	10.08%	2.70

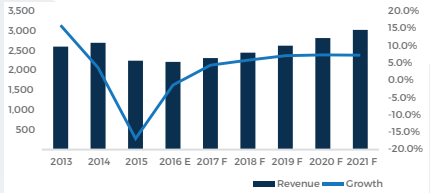
Source: Bloomberg

This adjustment enables a fair relation of the company's value with actual earnings exclusive of non-cash expenses. The peer group is comprised of major and regional airlines companies with a comparable size (Small & Mid Market Cap. only). Our peer analysis lead us to a 1 year horizon target price of $117.87, which weighs 70% of the total valuation analysis. (Appendix 18)

We did not consider exclusively airlines within the same market as a comparison factor for the peer valuation as we understand airlines with similar behavior and composition in other markets can also be considered. Likewise, airlines such as United Continental Holdings Inc, American Airlines, Southwest Airlines nor Delta Air Lines Inc have been contemplated because of their size regarding the factors we considered: revenue growth and market cap.

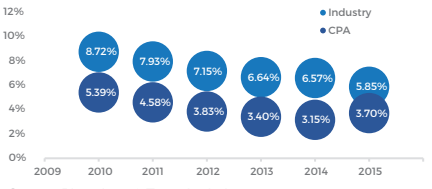
CPA's EV/EBITDAR has had a premium over its peers for 8 out of the last 10 years; fact we took into consideration in our analysis. This premium has been a reflection of higher ROI than the rest and lower risk profile (beta).

Figure 27 Revenue



Source: Company Data & Team Estimates

Figure 28 Cargo Weight on Total Revenues



Source: Bloomberg & Team Analysis

FINANCIAL ANALYSIS

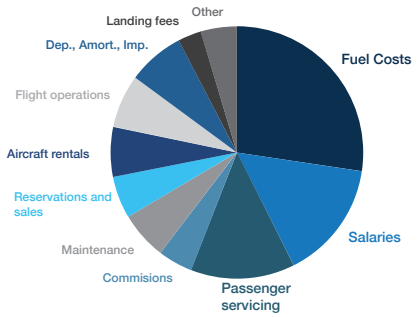
REVENUE GROWTH: RPM & YIELD: CPA has historically shown consistent growth rates, with only two exceptions: 2009 and 2015, due to unusual economics shocks produced in specific countries. In spite of this, through 2016 quarterly results, growth rates have improved. Clear signs of recovery are perceived with a 12.7% passenger traffic (RPM) increase, leading to 4% YoY revenue growth during 3Q16. Revenue, conformed by multiplying the RPM and yield metrics, is directly impacted by GDP growth. We foresee a 4.75% RPM increment for Copa Holdings on 2017, as the result of CPA's GDP/RPM growth relation and the predicted GDP of each country where the company operates. (Appendix 19).

For 2017, yields are expected to preserve (stay flat) and break the previous downtrend they were experiencing given a healthier travel demand and the expected economic recovery in Latin America (18). Our forecast contemplates the last four quarters yield weighted average by the RPMs per quarter, resulting in a weighted average annual yield of 0.1202 cents. We are not contemplating any further increase in yield for the following years. Considering this, if the weighted average annual yield falls below 0.1161 cents our recommendation would be HOLD, if it plunges below 0.1140 levels, our recommendation would be a SELL.

Cargo revenue stream has followed a decreasing trend from 6.14% in 2006 to 3.70% in 2015. In line with commercial airline industry tendency of contracting from 8.72.% weight in 2010 to 5.85%. For the future, we expect cargo to maintain a similar proportion of total revenues.

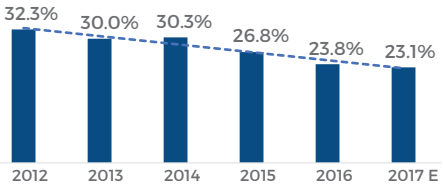
FUEL COSTS: CHANGES IN JET FUEL: Fuel Costs as proportion of revenue has been decreasing during

Figure 29 Operating Expenses 2016E



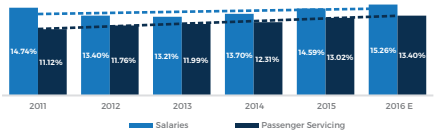
Source: Company Data, Team Estimates

Figure 30 Total Fuel Costs as % of revenue



Source: 20F and Team Estimates

Figure 31 Salaries & Passenger Servicing as % Of Op. Expenses



Source: Bloomberg and Team Analysis

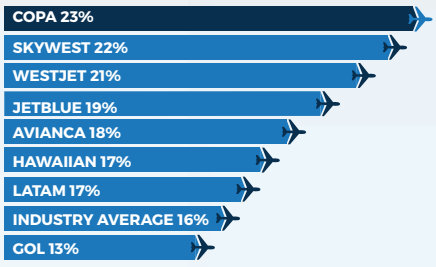
Figure 32 CapEx Ratio

Source: 20F and Team Estimates

Figure 33 Current Ratio

Current Ratio	2016 3Q	2015	2014	2013
Avianca	0.63	0.66	0.70	0.78
Copa	1.10	0.92	1.03	1.35
Gol	0.42	0.44	0.71	1.03
Latam	0.49	0.50	0.62	0.77
Hawaiian	1.03	0.96	0.83	0.92
JetBlue	0.80	0.60	0.62	0.56
SkyWest	1.48	1.35	1.89	2.36
WestJet	1.31	0.97	1.29	1.09

Figure 34 5yrs. Average EBITDAR Margin



Source: Bloomberg

the last 5 years from 32.3% in 2012 to 23.8% in 2016. Jet fuel prices are estimated based on oil, given a 92% correlation between jet fuel and oil prices. For 2017, changes in oil prices were determined using futures commodity prices, since the current price of futures reflects the pricing expectation at the maturity of each contract. For the following years, we used an average per year of oil prices forecast of three strong references: World Bank, International Monetary Fund, and Economist Intelligence Unit.

PASSENGER SERVICING AND SALARIES: Salaries represented 14.59% of total operating expenses in 2015, placing them in an important position. Even if several situations have raised over the past two years with employees, from which 58% are unionized, there are no major issues on the horizon that could impact or provoke unusual wages increase. They have historically increased at the rate of inflation and number of employees.CPA has a significant lower labor cost per ASM than Peers average. (0.83 vs. 2.05 cents), and below the industry media of 1.80 cents.

Passenger servicing represents the third most important expense, right after fuel costs and salaries with 13.02% of total revenues in 2015. They comprise the costs related to dependent of airport and aircraft services such as baggage handling, insurance, catering, entertainment and others. The costs are usually related to the passengers they transport or the flights they serve and directly associated to the level of service provided. It is expected to continue its moderate uptrend.

MARGIN: Copa Holdings last five years average EBITDAR Margin has been the higher between its peers (Figure 34). Considerably higher than the global industry average, 22.5% CPA vs 15.9% Industry. (Appendix 20) The main reason being the remarkable balance between RASM and CASM. We understand their business model is consistent and profitable. Excluding 2015 as an unusual year (Appendix 24), during the previous ten years the EBITDAR Margin averaged 26.2%, similar levels to what we expect for the following years.

CASH GENERATION: The company's business model allows them to be a sound cash generator. The average collection period prowl below 17 days while the average payable days usually surpasses 100 days. This gap allows CPA to have available cash to make considerable short-term investments along the year and generate interest income. During the last few years, Copa Airlines has been able to meet their working capital requirements through cash for operations. Consequently, in the last ten years, net cash provided by operating activities was never under 14% over sales. For upcoming years, a similar behavior is expected. Also, CPA shows a healthy current ratio, allowing them to meet their short term commitments with current assets as cash and short term investments. Compared to peers, they are in a very competitive position.

CAPITAL EXPENDITURE: CapEx is primarily focused on aircraft purchases, flight, and related ground support equipment. As they are set in advance, they are predictable. During the last five years, the company generated more from its main activity than spending on maintaining or expand them. The CapEx Ratio has been above 1.5 over the same period (Figure 32). For our forecast, we took in consideration the shift tendency to a more efficient and modern fleet; contributing to optimize their Revenue per Available Seat Mile (RASM) hence maintaining a high load factor. In addition, we considered the use of operating leases for further expansion.

OPERATING & FINANCIAL LEASES: At the end of 2015, 40.17% of total adjusted CPA's debt corresponded to operating and financial leases, from which 59.2% were operating leases. This financing method allows for reductions in their CapEx requirements, to have more flexibility over their fleet plan and to mitigate the aircraft residual value risk. During the last few years, they mainly finance these leases with JOLCO. CPA had 28 of their 33 operating leased aircraft at fixed rate, which is positive in the current rates uptrend context. As operating leases impact financial statements, they should be contemplated for valuation purposes. In our relative valuation, we used EV/EBITDAR multiple, considering operating leases (Rent) to have a more objective comparison with peers. On the other hand, according to Damodaran, there is no effect on free cash flow to equity on reclassifying operating lease expense as financing expense.

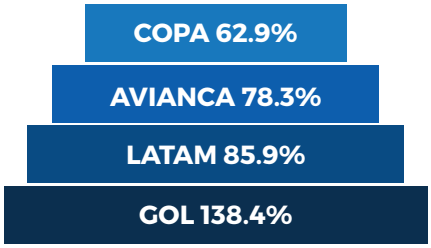
CAPITAL STRUCTURE: Debt+Op.Leases/Capital ratio for the closing previous fiscal year amounted 62.9%, considerably below the same market peers Avianca, LATAM, and Gol, with 78.3%, 85.9% and 138.4% respectively (Figure 35)This reflects that, if growth opportunities arise, there is enough room for leverage. Up to 3Q16, all debt is related to aircraft financing. Our forecast proposes an increase in the ratio as they have an active profile and contemplates an increase in financial expenses due to FED rate hikes expectations up to 2021. Additionally, we understand CPA can confront this level of debt considering an average five-year Altman Z-score of almost 3, which is positive, as it is the Z-score considered by investors when purchasing a stock. (Appendix 7)

REPORTED EARNINGS: Annual audits have been conducted by EY, expressing that consolidated financials objectively present CPA's financial position. We performed the 8 variable Beneish M-score analysis for the last five year-end financial statements to evaluate CPA's earnings quality. Based on the variables, the company has a low likelihood of manipulating earnings. We notice an average of an M-score of -3.74 during the last five years, which is below the -2.22 indicator. The lower the indicator, the less likely is the firm to manipulate earnings results. (Appendix 6)

RISKS TO TARGET PRICE

MONTE CARLO SIMULATION AND SENSITIVITY ANALYSIS: Alterations in our assumptions variables

Figure 35 Debt + Op. Leases/capital

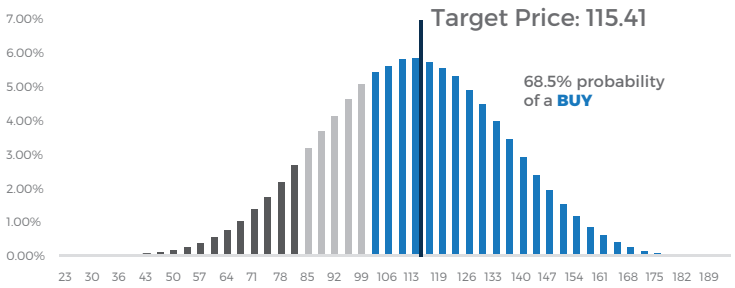


Source: Companies Data, Team Estimates

could distress our target price and may halter our BUY recommendation. We developed two independent approaches to evaluate the impact these potential variables and how different results might change our recommendation.

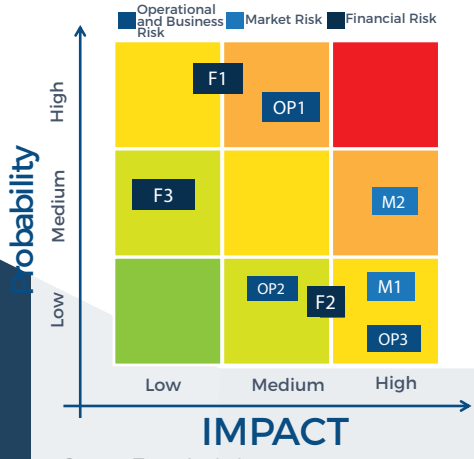
MONTE CARLO SIMULATION: We executed a Monte Carlo Simulation to understand the sensitivity of our model to variations in our adopted assumptions. For this, we tested the variables related to income, such as yield and growth in Latin America and the United States economies. Second, regarding operating expenses, we stressed oil prices, increase in wage prices and the services to passengers/revenues ratio. Finally, within the operative variables, we measured load factor, average aircraft utilization growth and the percentage of decreased in block hour vs ASM due to the changing composition of the company's fleet. After running the simulation, we observed a 68.5% potential of obtaining a target price above 10% upside or $100 per share. Lastly, a 8.38% probability of the stock downgraded to a SELL.

From the simulation's result, we concluded that the most sensitive variables in our model are oil prices, yield and load factor. Hence the importance of continuing mitigating the risk of oil through hedges and reducing the fuel cost through new airplanes. This last one also allows CPA to have more ASM with the same block hours and sustain the advantage of CASM which allows more space to maneuver on yield. In addition,keeping the improvement on the capacity allocation achieved on 2016 is crucial.



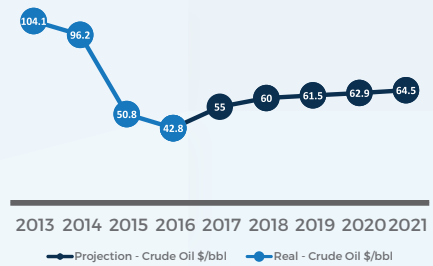
SENSITIVITY ANALYSIS: Based on our insights, we also performed a sensitivity analysis on the primary variables of the model emphasizing on testing values for oil prices and passenger yield. Oil prices have to increase US$10 dollars per barrel yearly over the next five year to change our recommendation to a SELL. Given the volatility in recent years on oil prices and the impact on our operating expenses, this is one of the main risks of our model. Similarly, reductions of 7% in yield can deteriorate the company's revenue and change our recommendation. Given that, yield is operating at its lowest level in more than a decade and there is no foreseeable pressure on the demand side, we do not expect a deterioration of this metric to continue, we understand it ismore likely to recover.

Figure 36 Risk Matrix



Source: Team Analysis

Figure 37 Crude Oil Prices Current Prices



Source: World Bank Commodities Projections

INVESTMENT RISKS

MARKET RISK:

MK 1: SYSTEMIC DETERIORATION OF LATIN AMERICAN ECONOMIES (IMPACT: HIGH \ PROBABILITY: LOW) The primary market of CPA comes from passengers from Latin America. If we measure it by revenue, 75% comes from Latin American economies. A deterioration of Latin American economies has a direct impact on the number of passengers and puts pressure on yield, which is already low. We consider a systemic decline in most of these markets an unlikely event. Mitigant: CPA has been able to rapidly move its available capacity from markets with low profitability to other potential markets. For example, according to Copa Holdings CEO, Pedro Heilbron, in 2015 the company moved around 30% of its available capacity in Brazil to others markets. Second, CPA's revenue is diversified across the different countries of Latin America and North America.

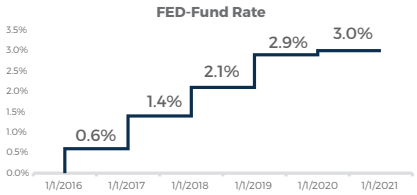
MK 2 : INCREASE COST IN JET FUEL PRICES (IMPACT: HIGH \ PROBABILITY: MEDIUM) Oil price on international market has a direct effect on income through higher operating expenses. Operational results may be affected by the volatility of fuel prices considering it accounted for 27% and 24% of operating expenses on 2015 and 2016 respectively. Recent announcement by members of the Organization of the Petroleum Exporting Countries (OPEC) to cut output from 33.0 to 32 barrels per day can put pressure on the oil price. Non-OPEC countries (notably the United Sates), reduced supply in 2016 due to cutbacks in investments in the past couple of years. Recently, developments in the productivity of shale companies in the United States and slightly higher prices can boost the production and mitigate the effect of supply cuts. Furthermore, a weaker than expected demand, especially from Asian countries can downside the risk for CPA of higher oil prices16. Mitigant: Hedging decisions are the point on which future pricing will have to balance budget decisions, subsequently affecting forecasted profits. Notwithstanding, a sudden and steady lower fuel price can increase price competition, resulting in a decrease in revenues for all carriers affected. For an attempt at reduction of exposure to changes in fuel prices, CPA periodically enters into derivatives instrument contracts.

MK 3: PROTECTIONISM AND MITIGATION POLICIES IN THE UNITED STATES AND EUROPE (IMPACT: MEDIUM \ PROBABILITY: MEDIUM) The recent change in the United States government and uncertainty about Europe's political landscape can affect free trade policies these countries have pursued over the years. This turnaround can impact Latin American economies recoveries, such as Mexico and Colombia, where 80% and 28% of total exports are directed to the USA (data taken from

WTI World Bank). Negotiation of trade agreements can add uncertainty and, eventually, reduce investments in the short term. Mexico and Central American countries, where CPA does not have a strong presence, have a higher exposure to this risk.

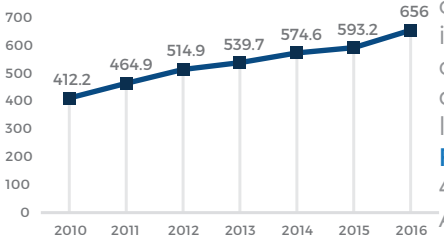
The second cause of concern is a change in the US immigration policies as it adds uncertainty to latin immigrants which can cause lower spending. Related to CPA's revenue, North America's segment is consistently increasing its share and changes in this market can have a modest future impact future revenue growth. Mitigant: CPA has been able to rapidly move its available capacity from markets with low profitability to other potential markets.

Figure 38 Federal Fund Rate



Source: Board of Governor of the Federal Reserve System

Figure 39 Panama Average Salary- Median



Source: Economic Report from the Panamanian Ministry of Economics and Finance

FINANCIAL RISK

FI 1: INTEREST RATE- FINANCIAL RISK (IMPACT: LOW\ PROBABILITY: HIGH) Most of the company's long-term debts are international syndicated loans related to aircraft acquisitions. Recent announcements from the Federal Reserve of the United States, to increase the Federal Funds to 1.1% in 2017 and subsequently increments can impact the availability of CPA to incur in debt at a low-interest rate13. Mitigant: CPA has kept a significant portion of its debt in fixed-rate instruments. At 3Q of 2016, 60% of its debt was in fixed income instrument. Also, CPA is recurring to mitigating the risk by Interest Rates Swap contracts to hedge against market rate fluctuations.

FI 2: AVAILABILITY OF CREDIT/LIQUIDITY- FINANCIAL RISK (IMPACT: HIGH \PROBABILITY: LOW) Lack of capability of the company to fulfill its contracted obligations, originating financial losses for CPA. Also, it maintains sufficient cash on hand and in banks or equivalents of easy realization into cash. The company also has lines of credit in financial institutions that allow them to withstand potential cash deficit to fulfill financial commitments. Conducting business with strong financial institutions with liquidity indicators above the market average is a possible mitigant for the risk in reference.

FI 3: CURRENCY FLUCTUATION- MARKET RISK (IMPACT: LOW\PROBABILITY\MEDIUM) As of 2016, 45.7% of revenues and 67.9% of expenses are in U.S. dollars. However, Colombian peso, Brazilian real, Argentine peso and Mexican peso represented 13.4%, 11.6%, 5.6% and 3.5%, respectively in 2015. The period of exposure to most foreign currencies is limited to two weeks between the sale and the conversion to U.S. dollar. (Excluding Venezuela). As a result of inflation and devaluation, focusing on the US dollar could lead to a decrease in revenue from foreign countries. According to IATA, FX changes impact the airlines by the composition of passenger demand and its sensitivity that varies from market to market. Approximately 60% of CPA's passengers are driven by leasure factors, being this segment the most sensitive. Mitigant: the company is increasing sales in US dollar and opting for factoring agreements on credit card sales and receivables outstanding.

BUSINESS AND OPERATIONAL RISK:

OP1: LABOUR RELATIONS AND COST OF LABOUR -OPERATIONAL RISK (IMPACT: MEDIUM \PROBABILITY: HIGH) The industry is labor intensive, demanding a large number of pilots, flight attendants, mechanics and other personnel. Under Panamanian law there is a limit to the maximum number of non-Panamanians a company can employ. Panama median salaries have increased on average 8.1% YoY from from 2011 to 2016. Additional increments can put pressure on CASM consequently in the EBITDAR margin of CPA. Likewise, approximately 60% of CPA workforce is unionized; strikes or labor disagreements may harmfully disturb the ability to operate normally. On the other hand, the company is dependent on the experience and industry knowledge of its officers and pilots and other key employees to implement the business plans. Mitigant: CPA has been active in bargaining with the 9 different unions that covered their employees. Also, CPA sponsors "Escuela Latinoamericana de Aviacion Superior" and aviation school to attract and stimulate future pilots for the company.

OP2: NEW COMPETITORS IN THE MARKET \LOW COST CARRIER (IMPACT: MEDIUM \PROBABILITY: LOW) The threat of new entrants in the airline industry is low due to a large amount of capital needed to operate. New entrants are a consequence of more Joint Ventures, Mergers, and Acquisition to target international growth. In addition, expansion of the LCC's business model heightens aggressive competition. CPA reacted recently to this risk by launching Wingo. Mitigant: Copa is becoming a connected airline through alliances with airlines from the same region and worldwide.

OP3: OTHER UNFORESEEABLE RISK-OTHER RISKS (IMPACT: HIGH \PROBABILITY: LOW) Events outside the company's control such as natural disasters and terrorist attacks can hinder the business. As an example, terrorist attacks on September 11, US passenger traffic dropped 25%. After every major air disaster, the airline industry usually experiences a decrease in air traffic, leading to a crisis. Latin American countries are not especially in danger of a terrorist attack, but attacks on other nations as the United States where CPA has substantial revenues, can meaningfully reduce the demand for air travel. If a CPA aircraft is involved in a crash, the company acknowledges it as a significant liability. If insurance is not adequate, they will be forced to bear substantial losses from the accident. Furthermore, any accident concerning an alliance aircraft, public perception unreliability or unsafely could be created, harming the company's brand image and reputation as a result of air travelers being unwilling to fly on CPA's fleet. The company holds a liability insurance as a contingency for this kind of events. (Appendix 26)

Appendix 1: Glossary

Industry Metrics:

- Aircraft utilization: represents the average number of block hours operated per day per aircraft for the total Fleet. The metric is calculated by dividing block hours by the number of aircraft days.
- ASM: Available Seats per Mile metric captures the total flight passenger capacity of an airline in miles. It is acquired by multiplying the total number of seats available for scheduled passengers and the total number of kilometers in which those seats were flown. ASK are Available Seat per Kilometer
- Block Hours: number of hours of an aircraft from the moment it pushes back from the departure gate until it arrives at the gate following its landing. Represents the industry standard measure of aircraft utilization.
- CASM: Cost per Available Seat Mile reflects the costs incurred by an airline to fly a single seat one mile. Unit of measurement used to compare the efficiency of various airlines. Normally, the lower this metric, the more profitable and efficient the airline.
- Load Factor: industry metric that measures how much of an airline's passenger carrying capacity is used (utilization). Airlines always try to maximize their Load Factor and take decisions about pricing, capacity, and frequency of flights based on this key performance indicator. It is basically the ratio of RPM to ASM.
- Passenger Yield: Represents average fare paid per mile, per passenger. It is calculated dividing passenger revenue by RPM. The measure is expressed in cents per mile and is useful in evaluating changes in fares over time.
- RASM: A unit of measurement used to compare the efficiency of various airlines. Obtained by dividing operating income by ASM. Mostly, the higher the RASM, the more profitable the airline.
- RPM: Revenue Passenger by Mile is a transportation industry metric that shows the number of miles traveled by paying passengers, calculated by multiplying the number of paying passengers by the distance traveled. RPK are Revenue Passengers Kilometers.

Organizations and Programs:

- JOLCO (Japanese Operation Lease with Call Option): tax/financing structure, funded by a Japanese investor or an equity sourced from Japan with the purpose of providing airlines with 10 - 12 years of low-cost aircraft funding. There is a solution for foreign carriers in the form of JOL and JOL with a call option (JOLCO). The Japanese investor, with tax liability, puts up a minority portion of equity funding with the upside of tax benefits associated with the aircraft. The JOLCO allows a purchase option in which the aircraft is sold to the airline at a fixed price (21).
- Jr. Achievement Program: is the world's largest organization devoted to educating students about entrepreneurship, work readiness, and financial knowledge through experiential, practical programs.
- International Air Transportation Association (IATA): is the trade association for the airlines of the world. They represent 265 airlines (83% of total air traffic) supporting many areas of aviation activity and assisting in formulating industry policy on critical aviation issues. IATA is led by Alexandre de Juniac, Director General & CEO since September 2016.
- Oxford Economics: one of the world's leading independent global advisory firms, providing reports, forecasts, and analytical tools to 200 countries, 100 industrial sectors and over 3,000 cities. It is a key adviser to corporate, financial and government decision-makers and thought leaders.
- Panamanian Aviation Act: Law with the purpose of regulating the Panamanian civil aviation regarding activities directly related to air transport services of passengers, cargo, and mail. Also, activities concerning other aircraft with scientific, industrial, touristic, sanitary and other resolutions.
- Skytrax: is a United Kingdom-based consultancy which runs an airline and airport ranking and review site. It conducts research for commercial airlines and conveys surveys from international travelers on many different factors. The site hosts flight reviews, flight checks, and satisfaction surveys and the company holds annual World Airline Awards and World Airport Awards.

Source: Investopedia & Organizations webpage

Appendix 2: Balance Sheet

IN MILLIONS US$	2012	2013	2014	2015	2016E	2017F	2018F	2019F	2020F	2021F
ASSETS										
Cash and cash equivalents	76	139	221	205	200	361	502	656	836	1,030
Short-term Investments	575	993	545	480	589	648	706	765	823	881
Other Current Assets	266	269	245	223	212	232	249	266	284	306
Property, plant and equipment	2,285	2,349	2,505	2,651	2,630	2,692	2,731	2,802	2,880	2,960
Other non - current assets	277	203	563	157	154	148	142	135	129	123
Total assets	**3,480**	**3,953**	**4,080**	**3,715**	**3,786**	**4,080**	**4,329**	**4,624**	**4,951**	**5,301**
Liabilities										
Current maturities of long-term debt	136	156	188	246	198	203	205	211	217	223
Other Current Liabilities	270	307	386	388	311	331	350	373	397	422
Air traffic liability	383	578	408	352	361	391	413	442	475	509
Long-term debt	1,070	914	929	1,055	1,047	1,071	1,087	1,115	1,146	1,178
Other long- term liability	84	95	94	87	114	125	137	146	154	164
Total liabilities	**1,943**	**2,051**	**2,005**	**2,128**	**2,030**	**2,121**	**2,192**	**2,287**	**2,389**	**2,497**
Equity'										
Common Stock	30	30	28	28	28	28	28	28	28	28
Additional paid in capital	41	47	53	57	66	72	79	85	91	98
Treasury. Stock			(18)	(136)	(136)	(136)	(136)	(136)	(136)	(136)
Retained earnings	1,458	1,821	2,011	1,639	1,798	1,994	2,166	2,360	2,579	2,814
Accumulated other comprehensive income	8	4	0	(1)	-	-	-	-	-	-
Total Equity	**1,537**	**1,902**	**2,075**	**1,587**	**1,756**	**1,959**	**2,137**	**2,337**	**2,562**	**2,804**
Total liabilities and equity	**3,480**	**3,953**	**4,080**	**3,715**	**3,786**	**4,080**	**4,329**	**4,624**	**4,951**	**5,301**

ASSETS	2012	2013	2014	2015	2016E	2017F	2018F	2019F	2020F	2021F
Cash and cash equivalents	2%	4%	5%	6%	5%	9%	12%	14%	17%	19%
Short-term Investments	17%	25%	13%	13%	16%	16%	16%	17%	17%	17%
Other Current Assets	8%	7%	6%	6%	6%	6%	6%	6%	6%	6%
Property, plant and equipment	66%	59%	61%	71%	69%	66%	63%	61%	58%	56%
Other non - current assets	8%	5%	14%	4%	4%	4%	3%	3%	3%	2%
Total assets	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Liabilities										
Current maturities of long-term debt	7%	8%	9%	12%	10%	10%	9%	9%	9%	9%
Other Current Liabilities	14%	15%	19%	18%	15%	16%	16%	16%	17%	17%
Air traffic liability	20%	28%	20%	17%	18%	18%	19%	19%	20%	20%
Long-term debt	55%	45%	46%	50%	52%	51%	50%	49%	48%	47%
Other long- term liability	4%	5%	5%	4%	6%	6%	6%	6%	6%	7%
Total liabilities	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Equity'										
Common Stock	2.0%	1.6%	1.4%	1.8%	1.6%	1.4%	1.3%	1.2%	1.1%	1.0%
Additional paid in capital	2.6%	2.5%	2.6%	3.6%	3.8%	3.7%	3.7%	3.6%	3.6%	3.5%
Treasury. Stock	0.0%	0.0%	-0.9%	-8.6%	-7.8%	-7.0%	-6.4%	-5.8%	-5.3%	-4.9%
Retained earnings	94.9%	95.7%	96.9%	103.2%	102.4%	101.8%	101.4%	101.0%	100.7%	100.4%
Accumulated other comprehensive income	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Equity	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Appendix 3: Income Statement

In US$ Millions	2012	2013	2014	2015	2016E	2017F	2018F	2019F	2020F	2021F
Revenue										
Passenger	2,163	2,520	2,620	2,167	2,131	2,314	2,450	2,622	2,813	3,019
Cargo	86	89	85	83	89	89	92	99	109	116
Revenue	**2,249**	**2,608**	**2,705**	**2,250**	**2,220**	**2,403**	**2,542**	**2,721**	**2,921**	**3,135**
Total Fuel Costs	726	783	821	603	529	555	648	721	798	884
Salaries and Benefit	247	276	299	290	296	307	319	332	345	358
Passenger servicing	217	251	269	258	260	280	296	318	341	366
Commissions	89	104	99	89	86	89	93	99	105	111
Maintenance, material and repairs	92	93	101	111	121	108	110	121	126	132
Reservations and sales	85	100	94	88	101	94	99	106	114	123
Aircraft rentals	72	90	112	122	126	129	131	134	138	142
Flight operations	105	122	132	131	131	151	160	171	184	197
Depreciation, amort. and impairment	89	137	115	135	143	133	137	138	142	146
Landing fees and other rentals	46	50	54	57	56	58	61	65	70	75
Other	77	85	88	101	90	96	101	108	116	125
Total Operating Expenses	**(1,847)**	**(2,091)**	**(2,184)**	**(1,984)**	**(1,938.47)**	**(2,000.40)**	**(2,156)**	**(2,314)**	**(2,479)**	**(2,658.85)**
Operating profit	**403**	**518**	**521**	**266**	**281**	**403**	**386**	**407**	**443**	**476**
Finance cost	33	30	30	33	38	49	59	70	73	75
Finance income	(12)	(13)	(18)	(26)	(13)	(19)	(26)	(34)	(37)	(40)
Other Expenses (Income)	15	11	111	451	(88)	16	17	19	20	21
Total Other Expenses	**36**	**29**	**123**	**458**	**(63)**	**46**	**50**	**55**	**56**	**57**
(Loss) profit before taxes	**366**	**489**	**398**	**(192)**	**344**	**357**	**336**	**352**	**387**	**419**
Income tax expense	40	61	37	33	40	39	37	39	43	46
Net (Loss) profit	**326**	**427**	**362**	**(225)**	**304**	**317**	**299**	**313**	**344**	**373**

In %	2012	2013	2014	2015	2016E	2017F	2018F	2019F	2020F	2021F
Revenue										
Passenger										
Cargo										
Revenue										
Total Fuel Costs	32.3%	30.0%	30.3%	26.8%	23.8%	23.1%	25.5%	26.5%	27.3%	28.2%
Salaries and Benefit	11.0%	10.6%	11.1%	12.9%	13.3%	12.8%	12.6%	12.2%	11.8%	11.4%
Passenger servicing	9.7%	9.6%	9.9%	11.5%	11.7%	11.6%	11.7%	11.7%	11.7%	11.7%
Commissions	4.0%	4.0%	3.7%	3.9%	3.9%	3.7%	3.7%	3.6%	3.6%	3.5%
Maintenance, material and repairs	4.1%	3.6%	3.7%	4.9%	5.4%	4.5%	4.3%	4.4%	4.3%	4.2%
Reservations and sales	3.8%	3.8%	3.5%	3.9%	4.6%	3.9%	3.9%	3.9%	3.9%	3.9%
Aircraft rentals	3.2%	3.5%	4.1%	5.4%	5.7%	5.4%	5.1%	4.9%	4.7%	4.5%
Flight operations	4.7%	4.7%	4.9%	5.8%	5.9%	6.3%	6.3%	6.3%	6.3%	6.3%
Depreciation, amort and impairment	4.0%	5.3%	4.3%	6.0%	6.5%	5.6%	5.4%	5.1%	4.9%	4.7%
Landing fees and other rentals	2.1%	1.9%	2.0%	2.5%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%
Other	3.4%	3.2%	3.2%	4.5%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%
Total Operating Expenses	**-82.1%**	**-80.2%**	**-80.7%**	**-88.2%**	**-87.3%**	**-83.2%**	**-84.8%**	**-85.0%**	**-84.8%**	**-84.8%**
Operating profit	**17.9%**	**19.8%**	**19.3%**	**11.8%**	**12.7%**	**16.8%**	**15.2%**	**15.0%**	**15.2%**	**15.2%**
Finance cost	1.5%	1.2%	1.1%	1.5%	1.7%	2.0%	2.3%	2.6%	2.5%	2.4%
Finance income	-0.5%	-0.5%	-0.7%	-1.2%	-0.6%	-0.8%	-1.0%	-1.2%	-1.3%	-1.3%
Other Expenses (Income)	0.7%	0.4%	4.1%	20.0%	-3.9%	0.7%	0.7%	0.7%	0.7%	0.7%
Total Other Expenses	1.6%	1.1%	4.5%	20.4%	-2.8%	1.9%	2.0%	2.0%	1.9%	1.8%
(Loss) profit before taxes	**16.3%**	**18.7%**	**14.7%**	**-8.5%**	**15.5%**	**14.8%**	**13.2%**	**12.9%**	**13.2%**	**13.4%**
Income tax expense	1.8%	2.3%	1.4%	1.5%	1.8%	1.6%	1.5%	1.4%	1.5%	1.5%
Net (Loss) profit	**14.5%**	**16.4%**	**13.4%**	**-10.0%**	**13.7%**	**13.2%**	**11.8%**	**11.5%**	**11.8%**	**11.9%**

Appendix 4

In US$ Millions	2012	2013	2014	2015	2016E	2017F	2018F	2019F	2020F	2021F
Net Income	326.48	427.47	361.67	(224.97)	304.32	317.40	299.17	313.37	344.17	372.93
Adjustment	171.76	242.68	296.63	631.68	78.59	185.91	189.08	195.02	200.90	206.37
Current Assets and Current Liabilities	39.80	160.12	(273.41)	(89.84)	15.04	(11.04)	(17.66)	(11.72)	(9.11)	(12.25)
Operating Cash Flow	**538.03**	**830.27**	**384.89**	**316.86**	**397.94**	**492.27**	**470.59**	**496.67**	**535.96**	**567.05**
Investment										
Net Cash Investment	(282.17)	(386.57)	140.63	52.11	(108.16)	(58.43)	(58.43)	(58.43)	(58.43)	(58.43)
Acquisition of PPE	(372.44)	(179.15)	(119.49)	(19.72)	(116.79)	(195.01)	(175.42)	(209.75)	(220.34)	(226.41)
Net Cash Flow From Investing	**(654.61)**	**(565.72)**	**21.15**	**32.38**	**(224.95)**	**(253.44)**	**(233.84)**	**(268.18)**	**(278.77)**	**(284.84)**
Financing Activities										
Net Proceeds from Borrowing	138.14	(137.02)	(127.23)	(91.91)	(55.86)	29.17	18.41	33.73	37.03	38.03
Dividends declared and paid	(192.44)	(64.25)	(170.77)	(147.59)	(121.66)	(107.47)	(113.59)	(108.13)	(115.10)	(125.34)
Repurchase of Treasyrt Shares			(18.43)	(117.96)						
Net cash flows provided in financing activities	**(54.30)**	**(201.27)**	**(316.42)**	**(357.47)**	**(177.52)**	**(78.31)**	**(95.18)**	**(74.40)**	**(78.07)**	**(87.32)**
Cash at Beginning of the Period	243.80	76.09	139.11	221.44	204.72	200.19	360.71	502.28	656.38	835.50
Cash Flow	(170.88)	63.28	89.62	(8.22)	(4.53)	160.53	141.57	154.09	179.12	194.90
Effect of FX		0.26	7.29	(8.51)						
Cash at the end of the Period	**72.92**	**139.63**	**236.02**	**204.72**	**200.19**	**360.71**	**502.28**	**656.38**	**835.50**	**1,030.4**

Appendix 5 Valuation Assumptions

Assumptions	2012	2013	2014	2015	2016	2017 E	2018 E	2019 E	2020 E	2021 E
RPM	12,499,000	14,533,000	15,913,000	16,310,000	17,759,000	18,600,549	19,701,549	21,107,295	22,653,563	24,312,447
ASM	16,567,000	18,950,000	20,757,000	21,675,000	21,973,000	23,479,612	24,869,413	26,643,897	28,595,763	30,689,784
Block Hour	313,321	348,882	376,903	388,355	428,547	446,482	461,088	481,637	503,998	527,382
Block Hour / RPM	2.51%	2.40%	2.37%	2.38%	2.41%	2.26%	2.25%	2.23%	2.19%	2.17%
Block Hour / ASM	1.89%	1.84%	1.82%	1.79%	1.95%	1.90%	1.85%	1.81%	1.76%	1.72%
Load Factor	75.45%	76.69%	76.66%	75.25%	80.82%	79.22%	79.22%	79.22%	79.22%	79.22%
Fleet	79	86	93	98	100	102	103	106	109	112
Yield	0.1731	0.1734	0.1646	0.133	0.12	0.1202	0.1202	0.1202	0.1202	0.1202
RASM	0.1358	0.1376	0.1303	0.1038	0.1010	0.1023	0.1022	0.1021	0.1022	0.1021
CASM	0.1115	0.1103	0.1052	0.0915	0.0882	0.0852	0.0867	0.0868	0.0867	0.0866
CASM Ex-fuel	0.0677	0.0690	0.0657	0.0637	0.0641	0.0616	0.0606	0.0598	0.0588	0.0578
Passenger Servicing as %ASM	1.31%	1.32%	1.29%	1.19%	1.26%	1.19%	1.19%	1.19%	1.19%	1.19%
Commision as % Revenue	3.97%	3.98%	3.66%	3.94%	3.77%	3.72%	3.67%	3.63%	3.58%	3.53%
Operating Expenses as % of revenue	2012	2013	2014	2015	2016	2017 E	2018 E	2019 E	2020 E	2021 E
Total Fuel Costs	32.26%	30.02%	30.34%	26.79%	23.83%	23.09%	25.50%	26.51%	27.32%	28.20%
Salaries and Benefit	11.00%	10.59%	11.06%	12.87%	13.33%	12.79%	12.56%	12.19%	11.80%	11.42%
Passenger servicing	9.65%	9.61%	9.94%	11.48%	11.70%	11.64%	11.66%	11.67%	11.67%	11.67%
Commissions	3.97%	3.98%	3.66%	3.94%	3.86%	3.72%	3.67%	3.63%	3.58%	3.53%
Maintenance, material and repairs	4.10%	3.57%	3.75%	4.94%	5.43%	4.51%	4.32%	4.44%	4.31%	4.23%
Reservations and sales	3.78%	3.83%	3.47%	3.91%	4.56%	3.91%	3.91%	3.91%	3.91%	3.91%
Aircraft rentals	3.22%	3.46%	4.14%	5.43%	5.67%	5.36%	5.14%	4.93%	4.72%	4.52%
Flight operations	4.67%	4.67%	4.89%	5.82%	5.88%	6.28%	6.29%	6.30%	6.29%	6.29%
Depreciation, amortization and impairment	3.97%	5.27%	4.26%	5.99%	6.46%	5.55%	5.37%	5.09%	4.86%	4.66%
Landing fees and other rentals	2.06%	1.93%	1.99%	2.52%	2.54%	2.40%	2.40%	2.40%	2.40%	2.40%
Others	3.43%	3.24%	3.25%	4.48%	4.06%	3.99%	3.99%	3.99%	3.99%	3.99%
Total Operating Expenses	82.10%	80.16%	80.74%	88.17%	87.32%	83.25%	84.80%	85.04%	84.85%	84.82%
Total Ex Fuel Operating Expenses	49.84%	50.13%	50.40%	61.38%	63.49%	60.15%	59.30%	58.54%	57.53%	56.62%

1. Load Factor was calculated applying 2.33 standard deviations of the previous last 6 years to 2016 estimated load factor.

2. 2016Q4 RPM, ASM and Financial Statements were estimated through a calculated historic seasonality index and the result of the first three quarters of 2016.

3. Fleet for upcoming years was projected with a relationship between RPM growth and ASM with the assumption that CPA will maximize RASM and Load Factor. Also taking into account the trend in higher aircraft utilization hour and Bloc Hour per ASM. Both are operating measures that allow CPA to have a better ASM without necessarily adding the same fleet than in previous years.

Appendix 6: M Score Analysis

The Beneish's M- score analysis, created in 1999 by Dr Messod Beneish, was used by our team to verify CPA's earnings quality in their financial results, in regards of earnings manipulation detection. The method contemplates different variables which identify any earnings manipulation or financial distortions incurred by the firm. For interpretation needs, with an M-score lower than -2.22,the firm is not likely to be a manipulator of earnings. However, an M-score greater than -2.22 indicates it is likely that the firm is.

The formula for the 8 variable model is:
Mscore= -4.84 + (0.92*DSRI) + (0.528*GMI) + (0.404*AQI) + (0.892*SGI) + (0.115*DEPI) - (0.172*SGAI) - (0.327*LVGI) + (4.679 *Accrual to TA)

INPUT VARIABLES	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Net Sales	1,831	2,249	2,608	2,705	2,250	2,220
Costs of Goods Sold (COGS)	1,232	1,580	1,794	1,890	1,696	1,631
Net Receivables	143	136	135	122	106	104
Current Assets (CA)	754	917	1,401	1,011	908	1,022
Property Plant and Equiptment	2,000	2,285	2,349	2,505	2,651	2,630
Depreciation	75	89	137	115	135	143
Total Assets (TA)	3,066	3,480	3,953	4,080	3,715	3,806
SGA Expenses	356	422	480	492	466	483
Net Income	**310**	**326**	**427**	**362**	**(225)**	**304**
Cash Flow from Operations (CFO)	498	538	830	385	317	418
Current Liabilities	659	789	1,042	981	986	889
Long-term Debt	981	1,114	965	987	1,110	1,115
Working Capital - Cash - Depreciation	(224)	(37)	83	(307)	(418)	(231)
Variables to Calculate M Score		**2012**	**2013**	**2014**	**2015**	**2016**
DSRI= Day's Sales Receivables Index		0.78	0.85	0.87	1.04	1.00
GMI= Gross Margin Index		0.98	1.01	0.99	0.97	1.01
AQI= Asset Quality Index		0.78	0.64	2.69	0.31	0.96
SGI= Sales Growth Index		1.23	1.16	1.04	0.83	0.99
DEPI= Depreciation Index		0.97	0.68	1.26	0.91	0.94
SGAI= SGA expenses Index		0.96	0.98	0.99	1.14	1.05
LVGI=Leverage Index		1.02	0.93	0.95	1.17	0.93
Total Accruals/ Total Assets		**-0.17**	**-0.19**	**-0.17**	**-0.20**	**-0.17**
M-Score - 8 variable model		**-3.36**	**-3.51**	**-2.63**	**-3.90**	**-3.30**

Results: CPA is not likely to be manipulating its earnings results, based on the M-Score Analysis assessed.

Source: Company Data & Team Analysis

Appendix 7: Altman Z-Score Analysis

The Altman Z-Score Analysis indicates a company's financial health and, consequently, the probability of filing for bankruptcy. With the specified formula, the indicator shows a score, in which below of 1.80 indicates a firm has a high probability of bankruptcy and a score of aproximately 3.00, indicates a firm is far from a high bankruptcy probability. The formula is $(1.2*X_1) + (1.4*X_2) + (3.3*X_3) + (0.6*X_4) + (1.0*X_5)$.

RESULT: Considering the financial information for the period 2012-2016, CPA has LOW probabilities of filing for bankruptcy

IMPUT VARIABLES	2012	2013	2014	2015	2016
Current Assets	917	401	1,011	908	1,022
Current Liabilities	789	1,042	981	986	889
Total Liabilities	1,943	2,051	2,005	2,218	2,050
Total Assets	3,480	3,953	4,080	3,715	3,806
Retained Earnings	1,458	1,821	2,011	1,639	1,798
Revenues	2,249	2,608	2,705	2,250	2,220
Operating Income	403	518	521	266	281
Market Capitalization	4,826	6,987	4,523	2,025	3,850
Working Capital	129	359	30	(78)	133

DERIVED VARIABLES	2012	2013	2014	2015	2016
X_1. Working Capital / Total Assets	0.04	0.11	0.01	-0.03	0.04
X_2. Retained Earnings/ Total Assets	0.59	0.64	0.69	0.62	0.66
X_3. EBIT/ Total Assets	0.38	0.43	0.42	0.24	0.24
X_4. Market Capitalization/ Total Liabilities	1.49	2.04	1.35	0.57	1.13
X_5. Revenue/ Total Assets	0.65	0.66	0.66	0.61	0.58

OUTPUT

ALTMAN Z-SCORE	3.15	3.89	3.14	2.01	2.66

Source: Company Data & Team Analysis

Appendix 8: Governance Assessment

The Institutional Shareholder Services (ISS) Rating methodology was the selected scoring tool applied to identify and assess the risks involved in CPA's Corporate Governance structure.

CORP. GOVERNANCE ASSESSMENT	SCORE	WEIGHT	CALCULATION
1. AUDIT AND RISK OVERSIGHT	10/10	25%	25%
a. Non audit fees represent what percentage of total fees			
b. No adverse opinion by the auditor in the past year			
c. No regulatory initiated enforcement action against the company			
d. No changes in audit firm due to invalid or questionable reasons			
e. 12 directors serve on the board			
2. BOARD STRUCTURE	5.49/10	35%	19%
a. No women on the Board			
b. 33.33% are independent director composition of the Board			
c. 58.33% of the board consists of immediate family members			
d. Maintains a formal Nominating, Compensation and Audit Committee			
e. The executives serve on an excessive number of outside boards			
f. The CEO does not serve on outside board but the Chairmen do.			
3. SHAREHOLDER RIGHTS AND TAKEOVER DEFENSES	6.25/10	25%	16%
a. Has classes of stock with different voting rights, absolute voting right			
ceiling and ownership ceilings for specific parties			
b. CIASA have priority rights			
c. Ownership factors affect takeover defenses			
d. Directors are not elected annually			
e. Has controlling shareholders and no tag-along rights for minority			
shareholders.			
f. There are RPTs of significant Board Members			
4. COMPENSATION AND RENUMERATION	3.5/10	15%	5%
1. Has an equity-based compensation plan			
2. What are the pricing conditions for stock options granted to executives?			
3. Non-executive directors participate to performance related remuneration			
4. Does not disclose details on executives' remuneration			
5. The company does not disclose a performance measure for stock options			
plans, restricted share/stock award plans or other long term plans for execs			
TOTAL CORPORATE GOVERNANCE SCORE	**6.3/10**	**100%**	**60.3%**

10 Insignificant threat to Shareholders
8 Low threat to Shareholders
6 Moderate threat to Shareholders
4 Significant threat to Shareholders
2 High Threat to Shareholders

BOARD HIGHLIGHTS		
BOARD INDEPENDENCE	The independent directors of the Board represent 33.33% and the totally of the other 66.67% directors are family related with another Board member. The Chairman serves on other 6 outside boards.	✓
RELATED PARTY TRANSACTIONS	They all sit either on the Compensation Committee or the Corporate Governance Committee. CPA's strongest bank relation is with Banco General SA, in which Ricardo Arias is a member of the Board and of their subsidiaries. The insurance company used is the ASSA Compañía de Seguros, in which late Alberto C Motta Jr, Stanley Motta, Jaime Arias and Ricardo Arias are members of the board. Petróleos Delta SA provides the fuel needs, Jaime Arias and late Alberto C Motta Jr are members of the Board. The floors for headquarters are leased to Desarrollo Inmobiliario del Este, SA, which is controlled by the same group of investors controlling the CIASA. Galindo Arias & Lopez are their lawyers, in which Jaime and Ricardo Arias are members of the board. The suppliers of drinks and food are Motta Internacional SA and its affiliate Global Brands. Stanley Motta and late Alberto C Motta Jr sit on the board.	✗
EXCESSIVE NUMBER OUTSIDE BOARDS	6/10 non-executives serve on other boards. (7 board- Jaime Arias, Carlos A Motta. 2 boards- Ricardo Arias, 9 boards- Alberto Motta Jr. (passed away), 6 boards- Stanley Motta, 4 boards- Robert Artavia. 0 boards- Alvaro Heilbron, Andrew Levy, Jose Castañeda, John Connor.)	✗
COMMITTEES	Even if not required by the Panamanian Act, they have four formal committees: Nominating, Audit, Compensation and Independent Committees	✓
SHAREHOLDER RIGHTS	Class A shares are limited voting shares entitled only to vote in certain specified circumstances. Voting power of capital stock, are owned by CIASA, every Class B share, 26.1%. The Board members of Copa and some family members own 78% of CIASA shares	✗

Source: Team Analysis

Appendix 9: SWOT Analysis

A SWOT Analysis was prepared in furtherance of the evaluation of internal and external factors that influence CPA's current situation. Positive characteristics that differentiate CPA from competitors are described; factors that increase competitive disadvantage; issues beyond the company's controls that could make them succeed or set the business at risk.

S

- One of the most recognized brands in Latin America's airline industry
- Strong sales and distribution channels
- Specialized and skilled workforce
- Skilled and experienced management and workforce
- Centralized Location: Hub in Panama.
- Focus on lowering operating costs
- Recent introduction to low cost carriers market with Wingo
- Lowest CASM among it peers
- Modern Fleet

W

- Overly dependent on jet fuel prices
- Still weak presence in North America
- Hub and spoke system. Makes it less attractive if direct flights are an option

O

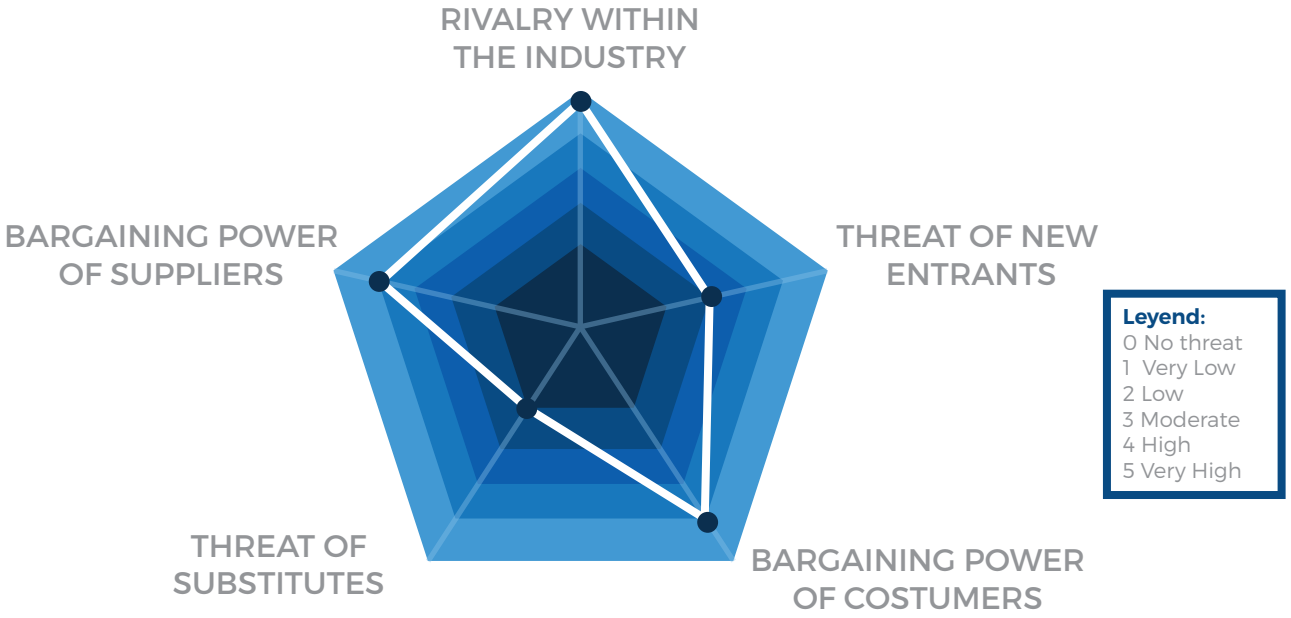
- New underserved markets to operate
- Growth of direct distribution sales
- Latin America's economic growth
- Technology advances can result in cost savings and increased revenue
- Industry consolidation: alliances or mergers.
- Global expansion to other regions

T

- New industry entrants that may affect competitiveness.
- New regulations or taxes.
- Operating expenses rises, mainly fuel and labor.
- Increase in interest rates.
- A global downturn can result in a decrease on leisure and business travel.
- Upward spike in jet fuel price can destabilize the business model.
- Terrorism or health epidemics
- Difficult situations between Heilbron, Motta and Arias families.

Source: Team Analysis

Appendix 10: Porter's Analysis



THREAT OF NEW ENTRANTS- LOW

The threat of new entrants in the airline industry is low due to the large amount of capital needed to operate. The industry also leverages the efficiencies and the synergies from the economies of scale and hence, the entry barriers are high. A firm has to go through a year process to become licensed and then they have to be constantly regulated by multiple organizations (19), mainly for international routes where special licensing is mandatory and countries have bilateral agreements regarding the capacity for providers in specific routes in order to protect national players and air space (20).

Retaliation is another key factor in the industry's entry barriers, with established airlines willing to incur in losses or by lowering fares so they maintain competitiveness.

According to an interview to managers of airlines across Europe, access to slots at airports is considered as one of the main barriers of entry for new players in this market, since it limits the frequency and timetable in which an airline can serve that route and are mainly allocated according to the history of ownership, limiting the availability of spaces for new players.

BARGAINING POWER OF CUSTOMERS- HIGH

There are two different groups of buyers, the individual flyers and the travel agencies and third party booking websites (OTA's). The later, work with several airlines to give customers the best mix of options to choose from to meet their needs. Each customer requires important information about flight details such as time, schedule, service provided and cost to make a decision.

As previously mentioned, switching costs in the industry are very low. which gives buyers a strong power over the industry which is now even more affected due to the increasing popularity of third party booking websites and apps, in which buyers can just compare fares and choose the most inexpensive and convenient ones.

THREAT OF SUBSTITUTES -VERY LOW

Threat of substitutes is very low. The only possible substitute would be the magnetic levitation train (Maglev). However, currently there isn't any technology or mean of transportation that is as fast and reliable as an airplane in the region. Regarding business traveling, webcast services and other technologies are considered an indirect substitute because they have minimized to some extent the necessity of managers to fly regularly. Nevertheless the level of convenience and efficiency of the airline service cannot be provided by any other service of transportation. The airline industry beats any other means of transportation by decreasing the customer's cost of time, convenience and service. However, the customer will evaluate other means for short distances because of the fact that it is often less expensive.

BARGAINING POWER OF SUPPLIERS- HIGH

The main suppliers for the industry are the airplane manufacturers (Boeing and Embraer in the case of CPA). Due to the limited number of manufacturers and high switching costs, the bargaining power of suppliers in considered high. By switching suppliers or defaulting on covenants CPA could loose the benefits derived by long term agreements and the transition costs in training and adapting facilities will be extremely high. Most of the inputs are standardized as most airplanes are fairly similar, however, amenities differentiate each airline.

RIVALRY AMONG EXISTING COMPETITORS-VERY HIGH

Rivalry is very intense because of numerous factors such as a staggered industry, which seems to have arrived to its mature stage. This has happened with almost the same quantity of competitors in the long run, a lack of proof of undercapaticy or overcapacity and high fixed costs.

Pricing strategies and wars are very common in the industry and are in part guilty of the poor yield environment for which the airline industry is charachterized,

Source: Team Analysis

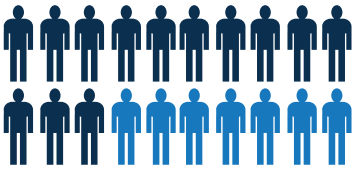
Appendix 11: Latin American Airlines Consumer Survey

As part of our competitve analysis we developed this survey to obtain first hand insights from consumers in the region, their perception about carriers, and CPA in particular, to better understand their positioning among consumers and the drivers behind their decisions. Here are the most important insights extracted of the survey:

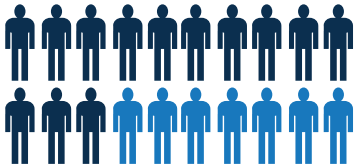
The most important factors consumers take into consideration when purchasing a ticket are:

- PRICE
- CONVENIENT ITINERARY
- QUALITY OF SERVICE
- CARRIER PUNTUALITY
- NO LAYOVERS
- LOYALTY PROG.

65.2% of consumers think that COPA is the best airline in the region



66.7% of consumers will choose COPA to travel within the region



36.4% would travel in COPA for business trips

63.6% would travel on COPA for leisure trips

According to consumers COPAs most important benefits are:

- PRICE
- PUNTUALITY
- CONVENIENT ITINERARY
- QUALITY OF SERVICE
- HUB IN PANAMA
- LOYALTY PROG.

83.3% of respondents have traveled in COPA before

Sample of survey: 385 respondents
Age range: 20-60
Average income: +70K a year
Geographic Location: Central America and the Caribbean (59%), United States (18%), Venezuela (10.6%), Panama (7.6%), Colombia (2%), Other (3%)

Appendix 12: Competitors Assessment

To strengthen our competitive analysis we identified our main competitors in the region and measured their overall competitiveness taking into account important criteria in the industry such as customer service, brand awareness, pricing, cost strategies, efficiencies and environmental initiatives. Is important to clarify that even though a numerous amount of small carriers in the region exist, our analysis only took into consideration those that have an important share in the markets where we compete and that were comparable in overall structure.

Company	Business Model	Main Markets	Alliances	Skytrax Score	AWARDS 2016
COPA	Network Carrier	Colombia Panama, USA, Brasil, México	Star Alliance	6/10	2nd 2016's On-Time Airline & Airport Rankings OAG Punctuality League. 1st in Latin America
AVIANCA	Network Carrier	Colombia, USA, El Salvador, Peru	Star Alliance	6/10	Acknowledgement in the "Electronic Commerce and Internet Business Hall of Fame" as winners of the eCommerce Award more than three times.
LATAM	Legacy Airlines	Chile, Perú, Argentina, Brasil	One World	5/10	World Travel Awards "South American Leading Airline"
UNITED	Network Carrier	USA, Mexico	Star Alliance	4/10	N/A
AMERICAN	Network Carrier	USA, Mexico	One World	3/10	Dream Employer of the Year in the Asia Best Employer Brand Awards 2016
AEROMEXICO	Network Carrier	Mexico, USA	Sky Team	5/10	World Travel Awards "Mexico and Central America Leading Airline"2016
DELTA	Network Carrier	USA, Mexico	Sky Team	5/10	Ranked 2nd J.D. Power North American Airline Satisfaction Study among traditional carriers
WINGO	Low Cost Carrier	Colombia	N/A	N/A	N/A
VIVA COLOMBIA	Low Cost Carrier	Colombia	N/A	N/A	N/A
GOL	Low Cost Carrier	Brasil	N/A	N/A	N/A

Source: Team Analysis, Skytrax and Competitors Company Data

		Copa		LATAM		Avianca		American		Delta		United		Aeromexico	
Key Success Factors	Weight	Strenght Rating	Weighted Score	Strenght Rating	Weighted Score	Strenght Rating	Weighted Score	Strenght Rating	Weighted Score	Strenght Rating	Weighted Score	Strenght Rating	Weighted Score	Strenght Rating	Weighted Score
Customer Service	0.25	6.00	0.60	5.00	0.50	6.00	0.60	3.00	0.30	5.00	0.50	4.00	0.40	5.00	0.50
Brand / Reputation	0.10	6.00	0.60	5.00	0.50	6.00	0.60	3.00	0.30	5.00	0.50	4.00	0.40	5.00	0.50
Price / Value	0.10	6.00	0.60	6.00	0.60	6.00	0.60	4.00	0.40	6.00	0.60	4.00	0.40	6.00	0.60
Employee Satisfaction	0.20	10.00	2.00	8.00	1.60	8.00	1.60	8.00	1.60	8.00	1.60	8.00	1.60	8.00	1.60
Cos Reduction Strategies	0.05	8.00	0.40	7.00	0.35	7.00	0.35	7.00	0.35	8.00	0.40	8.00	0.40	8.00	0.40
Aircraft maintenance Safety	0.15	7.14	1.07	9.29	1.39	10.00	1.50	10.00	1.50	7.00	1.05	10.00	1.50	7.00	1.05
Time Eficciency	0.10	9.16	0.92	6.90	0.69	6.20	0.62	7.81	0.78	8.54	0.85	7.84	0.78	8.91	0.89
Environmental initiatives	0.05	6.00	0.30	7.80	0.39	6.00	0.30	6.80	0.34	6.40	0.32	6.70	0.34	6.47	0.32
Sum of weights	1.00		**6.49**		**6.02**		**6.17**		**5.57**		**5.82**		**5.82**		**5.86**

Overall weighted competitive strenght rating

Source: SKYTRAX, indeed.com, airlineratings.com, transtats.bts.gov., atmostfair.de, oag.com & Team Analysis.

Appendix 13:

Hawaiian Airlines: (NASDAQ:HA) is the largest commercial airline in Hawaii and the 8th largest in USA. Frequently awarded top on-time carrier in USA, fewest cancellations and oversales of baggage handling situation. It serves 28 destinations within several Asia-Pacific countries with 52 passenger aircrafts and 3 cargo. HA's yield is 8.84, load factor of 82.93, a Market Cap of 3.10B and a $57.55 stock price.

WestJet Airlines Ltd: (TSE:WJA) LCC that became second largest air carrier in Canada. Operates 425 flights with 45,000 passengers per day, providing 100 destinations with 119 aircrafts in 20 countries. WJA's yield is 10.72, load factor 80.92, a Market cap of 2.70B and a CAD$23.23 stock price (USD$17.72)

JetBlue Airways Corp.: (NASDAQ:JBLU) is an American low-cost airline and the 6th largest airline in United States, headquartered in Long Island City, New York with its main base at the JFK Airport. JBLU's yield is 8.39, the lad factor is 83.33, Market Cap of 6.73B and the stock price is $21.76

SkyWest Airlines (NASDAQ: SKYW): is an american airlines headquartered in Utah. It is considered a major airline; however, it operates on a regional level, serving as a feeder airline operating under contacts with other major airlines. The airline manages 360 aircraft flying to 203 destinations in North America. SKYW operates a load factor of 83.4, a market cap of 1.88B and a $36.30 stock price.

Avianca Holdings S.A: (NYSE:AVH) is a holding, created from the merger of Avianca and TACA in 2010, headquartered in Colombia. This company is a subsidiary of Synergy Group. Avianca Holdings, has 10 subsidiaries of its own in different countries in South and Central America. They operate with a fleet of 157 aircrafts, providing over 100 destinations in America and Europe. Company's industry yield is 11.57, load factor 79.38, a Market Cap of 0.42B and a $9.83 stock price.

Gol Linhas Aereas Inteligentes S.A (NYSE:GOL) is the largest LCC in South America and is headquartered in Brazil. Gol purchased Varig Linhas Aereas and Webjet Linhas Aereas. The fleet size is 145 aircrafts flying to 75 different destinations. Gol meets a 10.22 yield, 71.72 load factor, a Market Cap of 0.36B and $17.60 stock price.

LATAM Airlines Group S.A (NYSE:LFL) is a holding, born from the merger of LAN Airlines and TAM Airlines, headquartered in Santiago, Chile and also located in Brazil, Argentina, Colombia, Ecuador Paraguay and Peru. LATAM operates a fleet of 350 aircrafts and provides 133 destinations in 23 countries for passenger service and 15 aircrafts to 149 destinations in 28 countries for cargo services. LATAM holds a 9.65 yield, 80.65 load factor, Market Cap of 5.60B and stock price of $9.22.

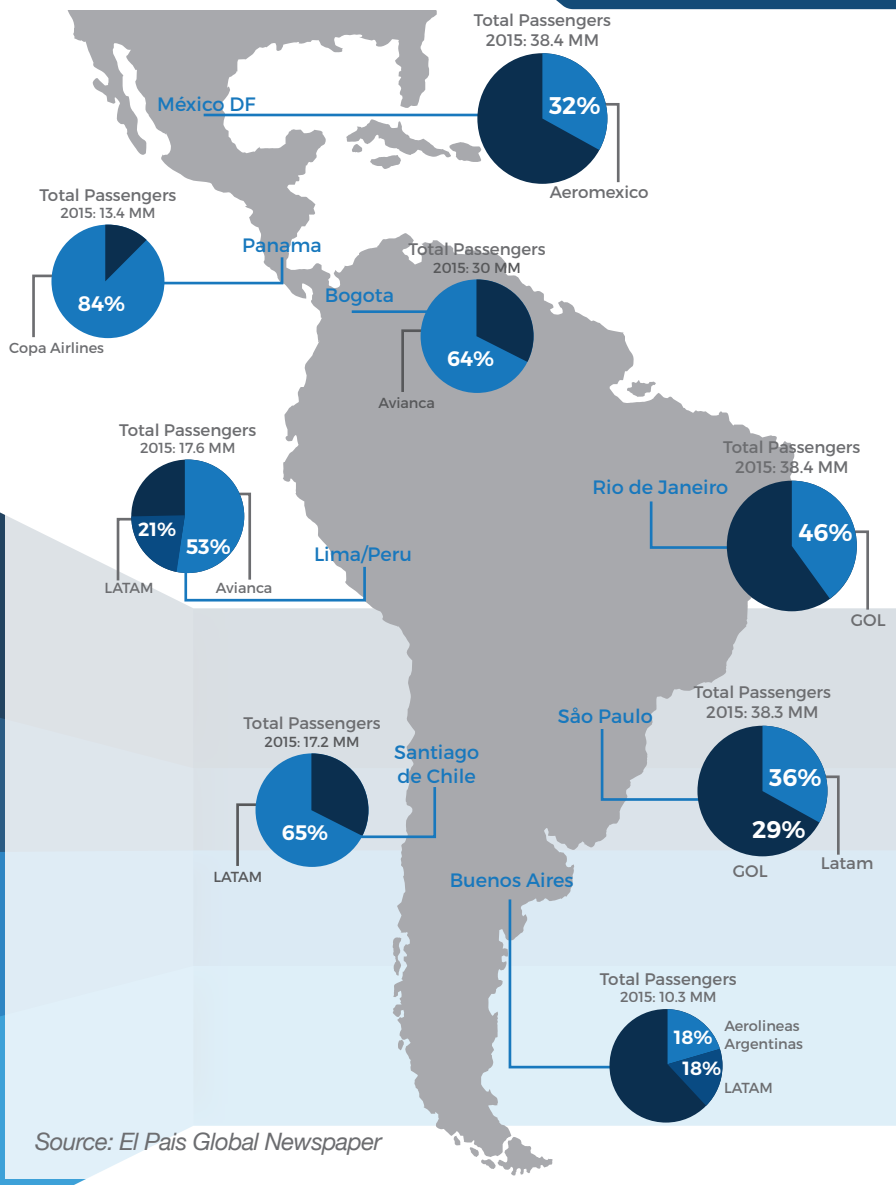
Source: Yahoo Finance, Bloomberg and Team Analysis

Appendix 14

PEERS	Type of Airline	Fleet	Destinations	Frequent Flyer Program	Market Cap. (B)	RASM-CASM	Load Factor	Yield	USD Stock Price
Gol Linhas Aereas	Brazi;	145	75	Smiles	0.36	(0.81)	71.72	10.22	17.6
Avianca Taca Holding S.A.	Colombia	157	100	LifeMiles	0.42	(1.02)	79.38	11.57	9.83
Westlet Airlines	Canada	119	100	Westlet Rewards	2.70	0.92	80.92	10.72	17.72
Hawaiian Holdings Inc.	USA	52	28	Hawaiian Miles	3.10	(0.21)	82.93	8.84	57.55
Copa Holdings S.A.	Panama	99	74	ConnectMiles	3.97	1.17	76.22	10.09	94.44
LATAM Airlines Group S.A.	Chile	350	133	LATAM Pass	5.60	0.51	80.65	9.65	9.22
JetBlue Airways	USA	227	97	TrueBlue	6.73	0.09	83.33	8.39	21.76

Source: Bloomberg and Team Analysis

Appendix 15 Main Airports in Latin America



Copa Holdings occupies 84% of Tocumen International Airport, Panama, which presents a higher percentage of presence than any other competitor in the region in their respective principal airports. This strong presence gives them power in their relationship with airports' management and gives them leverage to be consulted and to recommend or reject strategic changes. An example is the expansion of a terminal that will be completely occupied by Copa.

Source: El Pais Global Newspaper

Appendix 16: Weighted Average Country Risk Premium

In order to get a weighted average country risk premium for our adjusted cost of equity, we used the 2015 CPA geographic revenue composition to weight each country. The risk premium for Panama, Brazil and Colombia were obtained from NYU Damodaran. For the latin america risk premium, the spread of the LATAM Emerging Market Bond Index (EMBI) published by JP Morgan was used.

Country	Revenue Comp. Weight	Country Risk Premium	Weighted Risk Premium
Panama	17%	1.92%	0.32%
USA	25%	0.00%	0.00%
Brazil	13%	3.95%	0.51%
Colombia	8%	2.51%	0.19%
Other Latam	38%	4.73%	1.79%
Weighted Ave. Country Risk Premium			**2.81%**

Sources: Damodaran, EMBI and Team Analysis

Appendix 17: Terminal Growth

Sources: IADB, USDA ERS and Team Analysis

	GDP Growth	W of Revenue	GDP x W
USA	2.86%	25%	0.72%
Latam	2.67%	75%	2.00%
			2.72%

Jan 4th 10y US bond	**2.44%**

The GDP Growth rate was taken as the expected next 15 years growth by the Inter-American Development Bank for Latin America (IADB) and by the Economic Research Service of United States Department of Agriculture (USDA ERS), weighted by the proportion of revenue of each of them.

We obtained a 2.72% rate. Nevertheless, we prefered to use the 10-year US bond as a more assertive proxy because as the risk free rate is the sum of the expected inflation and the expected real interest rate, and the real interest rate is what borrowers agree to compensate to lenders in real goods/services (Damodaran), then we can conclude that when we use the risk free rate we are implicitly assuming the nominal growth in the economy.

Appendix 18: EV/EBITDA Peers Multiple Analysis

EV / EBITDAR Peers	2011	2012	2013	2014	2015
Avianca Holdings SA	3.60	4.98	4.13	5.07	4.61
Gol Linhas Aereas Inteligentes	8.29	27.22	3.68	4.12	5.40
Hawaiian Holdings Inc	2.20	1.87	2.72	4.33	3.24
JetBlue Airways Corp	4.79	4.82	5.21	6.68	4.91
Latam Airlines Group SA	10.86	16.58	8.22	7.27	6.13
SkyWest Inc	2.84	2.12	2.17	3.18	3.14
WestJet Airlines Ltd	1.98	2.67	4.00	4.40	2.29
Medium	3.60	4.82	4.00	4.40	4.61
Copa Holdings SA	6.13	8.75	9.40	6.56	5.05
(Discount) or Premium	70.22%	81.45%	135.%	49.26%	9.38%

Premium Medium	70.22%
EV/EBITDAR CPA Multiple	7.85

Sources: Companies 20-F and 10-K's Annual reports and team analysis

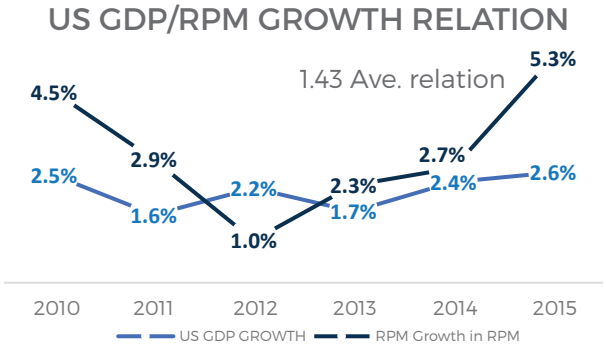
Appendix 19: RPM Growth Assumptions

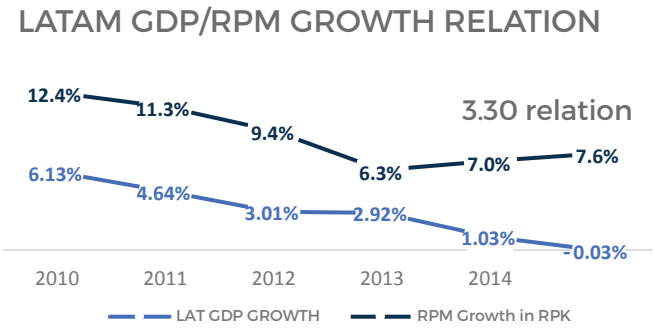
	A	B	C	D	E	F	(A.B.C) + (D.E.F)
Year	Latam GDP Growth	Latam % of REV	5y LatAm GDP/ PPM Growth Ave. Relation	US GDP Growth	US % of Rev.	5y US GDP/ PPM Growth Ave. Relation	Weighted Ave. CPARPM Growth
2017 F	1.6%			2.2%			4.74%
2018 F	2.1%			2.1%			5.92%
2019 F	2.6%	75.0%	3.30	1.9%	25.0%	1.43	7.14%
2020 F	2.7%			1.7%			7.33%
2021 F	2.7%			1.6%			7.32%

Sources: Team Analysis

Latin America and US GDP Growth projections were provided by the IMF World Economic Outlook (Oct. 2016).

·CPA 2015 20F Composition of Revenue of Latam and USA were used.
· BSS Team calculated the historical correlation over the past 5 years of GDP vs RPM Growth resulting in 3.30 for
· Latin America and 1.43 for the United States. In total, under a 75%LATAM/25%US composition, the RPM growths
· 2.82 times what GDP increases. Please see details below:





Appendix 20: CPA EBITDAR Margin Vs. Peers

EBITDAR Margin	5y Ave	2010	2011	2012	2013	2014	2015
Copa	**23%**	**28.9**	**27.8**	**24.7**	**27.9**	**23.1**	**3.1**
SkyWest	22%	27.4	17.2	21.3	21.9	15.8	25.8
WestJet	21%	19.4	19.4	21.4	21.1	21.0	25.0
JetBlue	19%	17.7	15.5	15.9	16.0	20.7	26.4
Avianca	18%	21.0	19.3	17.3	17.7	16.8	17.6
Hawaiian	17%	20.8	7.8	15.9	15.5	17.4	27.5
Latam	17%	23.6	18.3	11.8	14.8	15.6	18.0
Industry Ave	**16%**	**19.9**	**14.2**	**8.3**	**14.4**	**15.9**	**22.5**
Gol	13%	22.1	9.5	(0.1)	18.1	17.1	9.4

Source: Bloomberg

Appendix 21: Jet Fuel Assumptions

Assumptions about CPA and Jet Fuel Consumptions:
1. Gallons consumed were correlated with the projection of ASM.
2. Gallon per ASM were projected with a downward trend due to the last tendency and a modern fleet.
3. Continue to Hedge Fuel at around 30% of total Fuel Consumption.
4. Direct relationship between Oil and relationship of Jet Fuel.
5. Oil Prices for the following years projection taken from World Bank Commodity Markets Outlook

Projected Oil Consumption

Year	2014	2015	2016	2017	2018	2019	2020	2021
Gallons consumed	268,500	277,100	283,451.7	300,539.04	315,841.6	335,713.1	357,447	380,553.3
Gallons / ASM	0.0129	0.0128	0.0129	0.0128	0.0127	0.0126	0.0125	0.0124
Hedged Fuel	26%	28%	29%	29%	29%	29%	29%	29%
Hedged Price per gallon	3.0829	3.0570	1.8300	1.4656	1.9734	2.0378	2.0892	2.1504
Unhedged Price per gallon	3.0500	1.8300	1.4656	1.9734	2.0378	2.0892	2.1504	2.2107
Hedged Fuel needs	69,810	77,588	81,729	86,655	91,068	96,797	103,064	109,726
Unhedged Fuel needs	198,690	199,512	201,723	213,884	224,774	238,916	254,383	270,827
Ave Oil bbl	93.17	48.66	39	56.00	58.00	60.00	62.00	64.00
Ave Jet Fuel bbl	113.30	64.02	48.47	69.59	72.08	74.56	77.05	79.53
Ave Jet Fuel gallon	2.70	1.52	1.15	1.66	1.72	1.78	1.83	1.89
Fuel Hedge total cost	(2,300)	(95,200)	(29,779)	44,004	5,859	4,981	6,307	6,610
Core fuel cost	818,925	507,093	415,435	593,093	643,611	701,379	768,659	841,271
Change in Jet Fuel Costo			-12%	3.80%	16.15%	9.20%	9.47%	9.48%

Source: Team Analysis

Appendix 22: Fuel Efficiency by Aircraft

AIRCRAFT TYPE	CAPACITY	CPA FLEET	QTY DIFFERENCE 2016-2018E	MAX RANGE NAUTICAL MILE	FUEL COST/ NAUTICAL MILE	FUEL COST (PER SEAT PER NM)
EMB-190	94 pax	Decreasing	20-19	1850 NM	$13.84	14.12¢
737-700	124 pax	Maintaining	14	3440 NM	$11.99	9.52¢
737-800	154/160 pax	Increasing	64-68	3115 NM	$13.24	8.17¢
737 MAX-9	173 pax*	Increasing (orders)	0-5	3630 NM*	11.33*	6.29¢*

Pax=Passengers
*Boeing estimates
Source: Boeing, AxleGeeks: The Research Engine For Things That Go

Appendix 23

FREE CASH FLOW TO EQUITY

	2017	2018	2019	2020	2021
Operating Cash Flow	492,273	470,590	496,668	535,960	567,051
CAPEX Cash Flow	(195,014)	(175,416)	(209,752)	(220,340)	(226,412)
Net Borrowing	29,167	18,412	33,730	37,031	38,027
Free Cash Flow to Equity	**326,427**	**313,586**	**320,646**	**352,651**	**378,665**
Cost of Equity	13.68%				
Sustainable Earning Growth Rate	2.44%				

	PV - FCFE	Terminal Value	MARKET CAP	Cantidad Acciones	Price
Free Cash Flow to Equity	1,158,809	3,452,270	4,611,079	42,049	109.6585

Source: Team Analysis

Appendix 24 Key Financial Ratios

The decrease in EBITDAR Margin is mainly driven by the forecasted increase of fuel cost. Nevertheless, even if it is following a downtrend that smooths after the third year, the EBITDAR Margin continues to be very attractive and above peers. Due to oil increasing projections, ROE is expected to be below 15% after 2019.

Key Financials	2011	2012	2013	2014	2015	2016E	2017F	2018F	2019F	2020F	2021F
ROE	22.3%	21.2%	22.5%	17.4%	-14.2%	17.3%	16.2%	14.0%	13.4%	13.4%	13.3%

Despite this fact that, in comparison with peers and industry, CPA future ROE remains attractive. For the next two years ROE is above current Cost of Equity.

2015 was affected by a realized losses of Venezuela currency that they move from short and long term investment to net losses from Exchange rate difference. CPA is negotiating with the Venezuela government and has been able to recover part of this loss in 2016. Second, non-cash related losses of mark-to-market of hedge fuel contracts.

Source: Team Analysis & Company Data

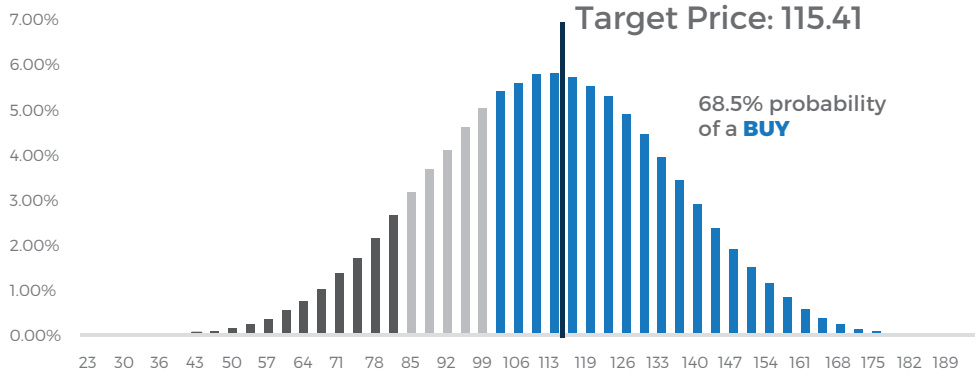
Appendix 25: Montecarlo Simulation

We performed a Monte Carlo Simulation to understand the sensitivity of our model to variations in our adopted assumptions. We tested two variables related to income (1) yield and (2) growth in Latin America and United States economies. Regarding operating expenses, we stressed (3) oil prices, (4) increase in wage prices and (5) services to passengers/revenues ratio. Finally, within the operative variables, we measured (6) load factor, (7) average aircraft utilization growth and (8) percentage of decreased in block hour vs ASM due to the composition of its fleet. For (1) Yield, (3) oil prices and (4) load factor and (5) increase in wage prices, we tested the variables looking into historic data and our own insight. For the other variables we used the Base Case plus two standard deviations.

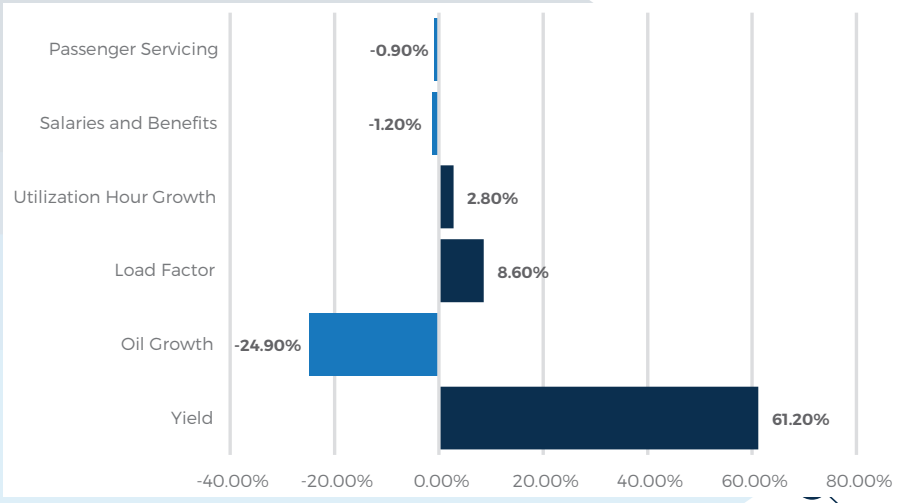
Variable	Minimum	Base Case	Maximum
Growth in Utilization Hour	-1.40%	1.80%	5.00%
Interest Rate	-1.40%	0.00%	1.40%
LAT - GDP Growth	-0.10%	0.00%	0.10%
Load Factor	75.20%	79.20%	83.30%
Oil Change YoY	-5.40%	4.70%	14.70%
Passenger Servicing/Revenue	1.10%	1.20%	1.30%
Salaries increased YoY	3.00%	3.90%	10.00%
USA - GDP Growth	0.00%	0.00%	0.00%
Yield	-1.00%	0.00%	1.00%

After executing 1 million simulation we observed a 68.5% potential of obtaining a target price above 10% upside or US$100.7 per share. Finally, a 8.38% probability of the stock downgraded to a sell.

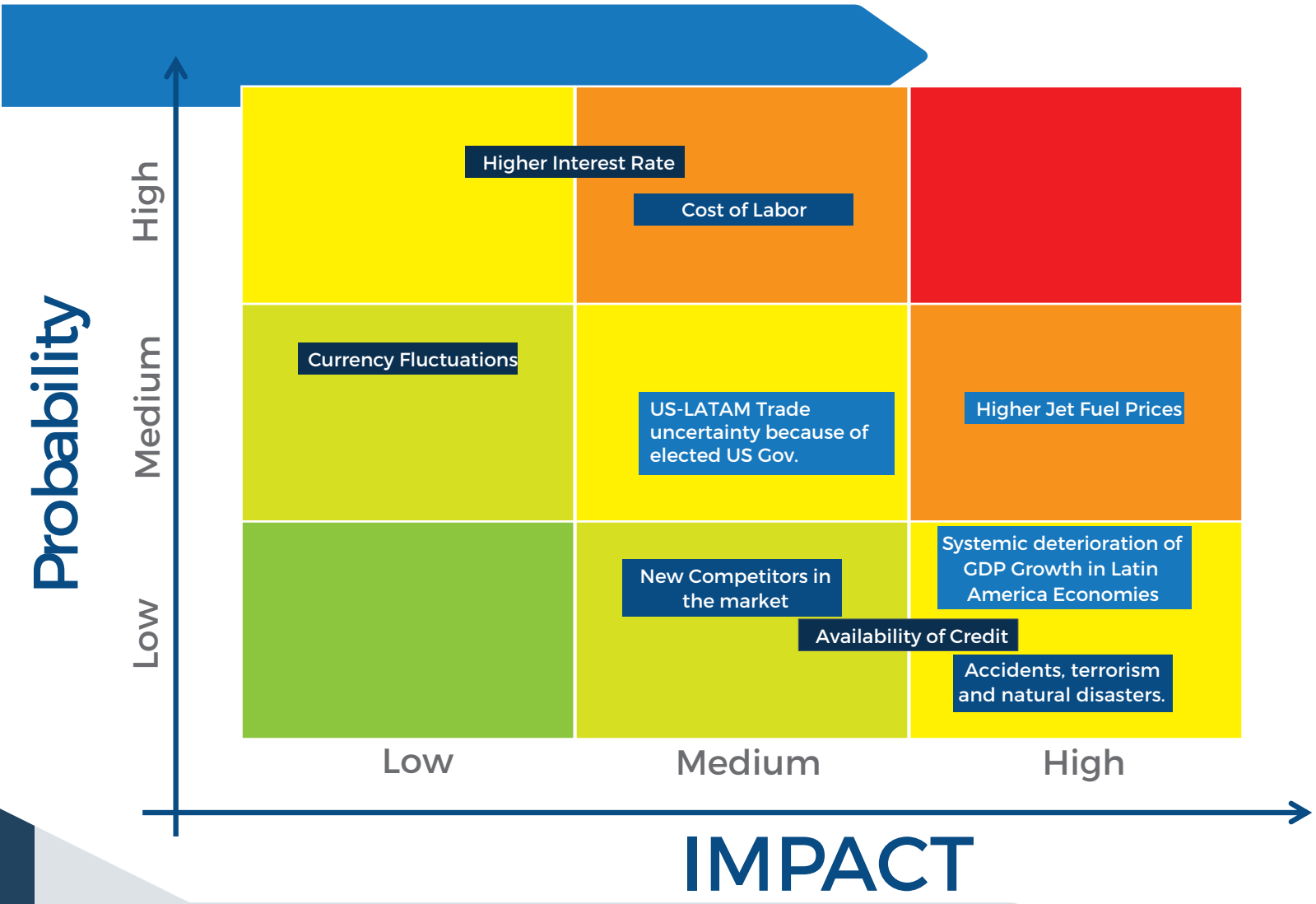
Simulation Statistic	
Trials	1,000,000
Base Case	115.41
Mean	111.45
Median	111.62
Standard Deviation	22.87
Variance	523.21
Skewness	-0.0459
Kurtosis	2.75
Coeff. of Variation	0.1988
Minimum	20.94
25% Percentile	95.48
75% Percentile	127.62
Maximum	193.77



From the simulation's result, we concluded that the most sensitive variables in our model are oil prices, yield and load factor. Hence the importance of continuing mitigating the risk of oil through hedges and CPA advantage over it peers in CASM which allow more space to maneuver on Yield. Finally, the importance of maintaining the improvement on the capacity allocation that they achieve on 2016.



Appendix 26: RISK ASSESMENT



Market Risk

Operational and Business risk

Financial Risk

Source: Team Analysis

Appendix 27: Endnotes

(1) Copa Holdings S.A. (2016, 10 20). Investor Relations. Retrieved 11 9, 2016, from http://investor.shareholder.com/copa/releasedetail.cfm?ReleaseID=994553.
(2) Oxford Economics. (2015, 12). Economic Benefits from Air Transport in Panama. International Air Transport Association (IATA)
(3) WSJ. (2017, 1 11). The Wall Street Journal. Retrieved from quotes.wsj.com: http://quotes.wsj.com/CPA/company-people
(4) Copa Holdings, S.A. (2016, 11 11). Investor Relations. Retrieved from Corporate Governance: http://investor.shareholder.com/copa/governance.cfm
(5) International Air Transport Association (IATA). (2016). Economic Performance of the Airline Industry.
(6) International Air Transport Association (IATA). (2016). Annual Review 2016. Dublin.
(7) Belobaba, P., Odoni, A., & Barnhart, C. (2016). The Global Airline Industry. John Wiley & Sons, Ltd
(8) International Monetary Fund (IMF). (2016). World Economic Outlook October 2016.
(9) World Bank. (2016). Global Prospect Report June
(10) The World Bank. (2016, 09 29). Panama. Retrieved from http://www.worldbank.org/en/country/panama/overview
(11) Oxford Economics. (2015, 12). Economic Benefits from Air Transport in Panama. International Air Transport Association (IATA)
(12) Federal Aviation Administration. (2016). FAA Aerospace Forecast: Fiscal Year 2016-2036. Retrieved from https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2016-36_FAA_Aerospace_Forecast.pdf
(13) Federal Reserve. (2016, 12,14). Press Release Meeting. Retreived from https://www.federalreserve.gov/newsevents/press/monetary/20161214a.htm
(14) International Civil Aviation Organization (ICAO), North and Central American and Caribbean (NACC), South American Regional Officers (SAM). (2015). The Americas: Leveraging a uniquely cooperative spirit in the quest for a safer and more efficient Regional airspace. Canada
(15) Organization of the Petroleum Exporting Countries(OPEC). (2016). Press Release from the 171st meeting. Vienna.
(16) World Bank. (2016). Projection of Commodity Markets Outlook Report
(17) Data from the U.S. Energy Information Administration.
(18) International Air Transport Association (IATA). (2017) Outlook: Another Strong Years for Airline Profits in 2017 http://www.iata.org/pressroom/pr/Pages/2016-12-08-01.aspx
(19) Federal Aviation Administration. (12 de 11 de 2016). Airline Certificate Information. Retrieved from https://www.faa.gov/licenses_certificates/airline_certification/
(20) Gonzalez, A. (2015). Study on Air Passenger Transport Market in Latin America. Santiago de Chile: Economics Department.
(21) Mills, G. (2017). The Airline Revolution: Economic analysis of airline performance and public policy. New York: Routledge
(22) Copa Holdings S,A. (2016). Copa Holdings Reports Financial Results for the Third Quarter of 2016. Panama City.
(23) Ernst & Young. (2016). Copa Holdings, S.A. Form 20-F
(24) Public Economist Intelligence Unit report: Global Outlook Summary. January 2016. Forecast closing date: December 8th, 2016. Page 6. http://gfs.eiu.com/ ; World Bank Commodity Forecast Price Data, October 2016 ; IMF Commodity Price Forecasts, 2017-2022.
(25) International Air Transportation Association (IATA). (2015). Exchange rates and aviation: examining the links.

Disclosures:

Ownership and material conflicts of interest:
The author(s), or a member of their household, of this report does not hold a financial interest in the securities of this company. The author(s), or a member of their household, of this report does not know of the existence of any conflicts of interest that might bias the content or publication of this report.

Receipt of compensation:
Compensation of the author(s) of this report is not based on investment banking revenue.

Position as a officer or director:
The author(s), or a member of their household, does not serve as an officer, director or advisory board member of the subject company.

Market making:
The author(s) does not act as a market maker in the subject company's securities.

Disclaimer:
The information set forth herein has been obtained or derived from sources generally available to the public and believed by the author(s) to be reliable, but the author(s) does not make any representation or warranty, express or implied, as to its accuracy or completeness. The information is not intended to be used as the basis of any investment decisions by any person or entity. This information does not constitute investment advice, nor is it an offer or a solicitation of an offer to buy or sell any security. This report should not be considered to be a recommendation by any individual affiliated with CFA Institute or the CFA Institute Research Challenge with regard to this company's stock.

CFA Institute Research Challenge