A Work Project presented as part of the requirements for the Award of the Master’s Degree in Finance from the Nova School of Business and Economics.

EQUITY RESEARCH – LATAM AIRLINES

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22-05-2020
ABSTRACT

This report contains the description of a valuation performed on LATAM Airlines, the largest airline in South America. This study was conducted by analysing the factors that may affect the company’s value (both macroeconomic, industry, and company-specific factors), whilst also performing a series of scenario analyses, given the uncertain times which characterize the present. An estimated share price (the target value for the 31st of December of 2020) was then computed, which prompts us to recommend investors to sell their positions on LATAM Airlines.

**Keywords:** LATAM Airlines, Valuation, Share Price, COVID-19, LCCs
COVID-19 and aviation in Latin America

A change of scenario in South American aviation

- We recommend investor to **SELL** their position on LATAM Airlines Group, given our **2020** target price of **$2,35**.
- The COVID-19 crisis and the resulting travel restrictions are heavily impacting LATAM’s results in **2020**. The current uncertainty in the general market & aviation industry has increased the **systematic risk** and **probability of default**, which is reflected in our estimated bankruptcy probability of **20%**.
- However, after a revenue decrease of **55%** in **2020**, the company is expected to bounce back in the subsequent years, with a revenue growth of **53%** in **2021** and **35%** in **2022**. Domestic passenger levels are expected to be back at pre-pandemic levels in **2022**, with international passengers fully recovering in **2023**.
- Parallely, the mid- to long-term outlook is **mildly pessimistic** for the company in terms of its **market share**. Following the trend of the rise of Low-Cost Carriers in South America, we expect LATAM to lose, on average, **3%** market share in Brazil and **6%** in each of its remaining domestic markets until **2030**, compared to **2019**.
- We estimate our target share price based on an **APV** approach, with a terminal growth rate of **3,13%** and an unlevered cost of capital of **7,02%**. Furthermore, it takes into account a **20%** probability of default for LATAM within the next year, due to the COVID-19 pandemic.

Company description
LATAM Airlines Group S.A. is a Chilean airline conglomerate, which operates in passenger and cargo transportation. It operates in Chile, Peru, Argentina, Colombia, Ecuador and Brazil either directly or through subsidiaries. It can be classified as a classic carrier which operates regionally and on longer international routes. Its currently operating fleet amounts to 331 aircrafts.
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Company overview

Company description

Headquartered in Santiago, Chile, LATAM Airlines Group S.A. is the largest Latin American airline conglomerate. LATAM Airlines Group was formed after the merger of LAN (Chile) and TAM (Brazil) on the 22nd of June of 2012. As of today, both companies continue to work as separate companies, under the lead of LATAM Airlines Group, which also provides the executive management.

A fleet of 331 operating planes with more than 1300 daily flights and 74.2 million transported Passengers in 2019 (68.8 in 2018) makes the LATAM Group come close to being one of the 10 largest Airlines in the world. The company can be classified as a traditional carrier (opposed to Low-Cost Carrier (LCC)), as its focus is more directed towards a higher flight experience, intended to attract executive flying, especially on its international long-haul segment.

LATAM has developed a wide route network, flying to 145 destinations, divided through 26 countries, in all 6 permanently inhabited continents. The group also has subsidiaries directly present, Peru, Colombia, Ecuador and Argentina, serving these domestic markets.

As well as passenger operations, the company also operates cargo, which, in 2019, accounted for roughly 10% of its operating revenues.

LATAM currently employs almost 42 thousand workers, divided by the aforementioned countries.

The Group reported total revenues of $10.43 billion in 2019, with around 86% steaming from passenger transportation.
Breaking down the passenger revenues into segmentations, it is observable that in 2019, LATAM received 49.4% of its passenger revenues from domestic passengers (45% in 2018) and 50.6% from international passengers (55% in 2018). The increase in domestic revenue in 2019 is mostly due to the resurgence of the Brazilian economy. International passenger revenue includes both regional international travelling (within South America) and Long-haul flights between South America and other continents. LATAM is the largest carrier of international flights within South America with a 41% market share and also between South America and Asia-Pacific with a market share of 58%.

The EBIT in 2019 equalled 741.6 million, using the new IFRS16 accounting standard in which all operating leases are now activated in the Balance Sheet. This resulted in an EBIT margin of 7.1%. Net Income attributable to Shareholders reached 190.4 million and ROIC (including Goodwill) equalled 5.1% in 2019.

Delta’s acquisition of LATAM

On the 26th of September of 2019, Delta Airlines announced the purchase of a 20% stake of LATAM’s equity to form a strategic alliance between the two airlines, with the goal of strengthening both companies’ international route network by connecting North and South America. The acquisition was completed on the 1st January of 2020.

LATAM then swiftly announced their exit Oneworld Alliance on the 1st of May 2020, an alliance of which it had been a member since 2000 (through LAN Chile). Additionally, the deal previews a 350 million USD investment by Delta in LATAM’s CAPEX. Furthermore, Delta will also purchase 4 of the operating Airbus 350-900 in LATAM’s fleet and will assume the outstanding order of 10 additional Airbus 350s until 2025. In exchange Delta will get representation on LATAM’s board.

Besides the expected value creation due to the strengthening in the international route network, the Delta representation on LATAM’s board might have positive future effects for investors, as Delta is the most profitable full-service carrier in the US and with their knowledge, LATAM might be able to enhance its operational efficiency soon.

Nevertheless, there is still uncertainty regarding whether LATAM will join Delta’s Sky Alliance or just partner with Delta. Should the second be the case, leaving Oneworld Alliance can hamper LATAM’s business in Europe, where LATAM currently has 67 of its 155 code-sharing destinations. Europe accounts for roughly 7% of LATAM’s revenues and if these code-sharing agreements are not
held or properly renegotiated/replaced after the exit, LATAM could be facing an important loss in this market.

Shareholder structure

LATAM Airlines Group is listed on the Santiago Stock Exchange (SSE) under the Ticker LTM.SE and furthermore on the New York Stock Exchange (NYSE) under the ticker LTM.

The Ownership Structure as of 31st March 2020 is as follows: The highest participation amount of 21,5% is held by the Cueto Group (Chile), the Investment Group of the Cueto family (of which LATAM’s current CEO Enrique Cueto also is a member). As part of the aforementioned deal, Delta holds a 20% share. Qatar Airways has a share of 10%, the Chilean pension funds (AFPs) 16%, American depositary receipts (ADRs) 3,9%, the Amaro Group holds 2.0%, foreign investors account for 8,9% of outstanding shares and other investors for 17.7%. In total, there are 606,407,693 shares outstanding. Amongst other investors, Axxion should be highlighted, as even though it only holds, as of the date of this report, 3,0% of the company’s shares, it has connections to Chile’s president, Mr. Sebastian Piñeda. Mr. Piñeda formerly held 27% of LAN Chile’s shares and sold the vast majority of them to the Cueto Group after his election. In this time of uncertainty, there is the possibility (albeit thoroughly low) that LATAM gets nationalized by the Chilean government. This would likely force Axxion to sell its shares due to an impending conflict of interests. All shareholders have similar voting power, according to their ownership of the company.

Regarding dividends, LATAM paid, in 2019, a dividend of $0,09 per share, an increase from the previous two years, in which it had paid $0,03 and $0,08, respectively. In 2020, due to the COVID-19 pandemic, the company will not distribute dividends to any shareholder. Under Chilean law, companies are obliged to distribute 30% of their net profits to shareholders. This value can, however, be deferred to a later date if approved at the Annual Shareholders’ Meeting.

Additionally, LATAM is due to receive a loan of $341 million from the Brazilian Development Bank. 25% of this loan will be issued through convertible bonds, which bring an option to convert into newly issued LATAM shares in 5 years, causing existing shareholders to lose value. Estimates of the dilution this would represent to pre-existing shareholders were computed for different share prices and can be observed below, on Exhibit 9.
“LATAM AIRLINES GROUP”

COMPANY REPORT

<table>
<thead>
<tr>
<th>Share Price</th>
<th>2</th>
<th>2,25</th>
<th>2,5</th>
<th>2,88</th>
<th>3</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warrant Value ($ million)</td>
<td>85,25</td>
<td>85,25</td>
<td>85,25</td>
<td>85,25</td>
<td>85,25</td>
<td></td>
</tr>
<tr>
<td>Shares Issued (million)</td>
<td>43</td>
<td>36</td>
<td>34</td>
<td>30</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>Current Shareholder Dilution</td>
<td>6,57%</td>
<td>5,64%</td>
<td>5,32%</td>
<td>4,65%</td>
<td>4,48%</td>
<td>2,73%</td>
</tr>
</tbody>
</table>

Exhibit 9: Shareholder Dilution
Source: Own estimations

The Sector

Passenger Transportation

- Industry Characteristics & Recent Performance

Performing a Porter 5 forces analysis, we conclude that the airline industry characterizes itself as a highly competitive and capital-intensive industry. We observe a high degree of rivalry and a medium threat of new entrants. The high amount of capital required, along with strong regulatory requirements, are the only aspects hindering new entrants. Buyer power is also evaluated as strong, which is reflected in the high price sensitivity of customers and tendency to switch between airlines. Frequent flyer programs and recently increasing efforts in creating a brand (for example, Delta’s loyalty programs) are factors that lower the buyer power, but only succeed in the business travelling segment.

Supplier power is high due to the oligopoly of Airbus & Boeing and the limited amount of airports in larger cities, which are run by local governments or large enterprises. All in all, this leads to high competition in the sector, especially observable in the pricing of airfares.

Since the beginning of the 21st century we have seen the rise of the LCC’s in Europe and the US with Ryanair and JetBlue being the most famous examples. LCC’s have driven the growth in passenger volume and, as a result of their business model of cutting costs whilst charging for any extra services. Due to the increased competition in the industry, there is a decrease in average passenger fares by more than 50% observable within the last 20 years. This disruptive change in the industry led many traditional carriers to either create Low-Cost subsidiaries or start to operate with the Low-Cost business model on domestic short-haul flights. In recent years LATAM did the latter and started to change their business model on short-haul regional flights, while maintaining their previous business model in international flights. This resulted, in LATAM’s specific case, to less loss in market share in the domestic segment. On the other hand it caused a drop in flight prices and hence lower generated revenue per available seat kilometre from 8,4 in 2013 to 6,0 in 2019 (Exhibit 13).
In general, the passenger transportation can be divided into executive flights and leisure flights or tourism. Tourism is currently trending in South America and has showed strong growth over the last decade, with an average CAGR of 7.5% in international tourists.

This segment is highly intertwined with low-cost flights, as non-business customers tend to be very price sensitive (as seen on Exhibit 16). On the other hand, executives tend to prefer higher quality flight experiences, with loyalty programs being the closest to what can be considered a competitive advantage in the industry. Executives travelling can be considered a B2B service and businesspeople typically are registered in those programs.1

LATAM airlines currently has the fourth largest loyalty program in the world and later in this report this will be discussed in detail, evaluating if this can be considered a relevant competitive advantage and how big of a role it plays in the valuation. As a guideline, executive class seats of a 300 person aircraft account for 40% of revenues.2

South American Passengers increased in 2018 by 5.6% and in the period between 2014 and 2018 at an average CAGR of 3.3%, which is below the worldwide average of 6.2% in that time period. This is due to the recession which hit Brazil in 2015 and 2016, and decreased the Brazilian passenger volume by 7.7% in 2016. Therefore, the total South American passenger volume decreased by 1.7%. It is important to note that the Brazilian market is the biggest market in the South American aviation sector representing 53% of the continents passenger volume in 2018.

Cargo

- Industry Characteristics & Recent Performance

The Air Cargo Industry is deeply connected to world trade and industrial production and, consequently, global economic activity. In 2019, even though it represented less than 1% of world trade in volume, it accounted for 35% of its total value.

This industry has a similar fragmentation to that of the air passenger transport one, with the addition of cargo-only carriers, express carriers (which have a network of transportation methods that allows for faster delivery times, focusing mostly on small shipments), and ACMI – Aircraft, Crew, Maintenance, and Insurance providers. However, passenger carriers dominate this industry, as

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1 PMJ consulting
2 Information from an Interview with Magdalena Espinoza (El Diario Financiero)
3 IATA – “The Value of Air Cargo”
around 50% of air cargo⁴ is transported using the belly capacity in passenger planes, with most airlines additionally having their own fleet of freighters. The industry market shares by the end of 2018⁵ are present on Exhibit 18.

From 2014 to 2018, the cargo industry averaged a CAGR of 4.62%, reaching a value of $111.3 bn in 2018. RTKs (Revenue Tonne-Kilometres) averaged a CAGR of 4.59% during the same period, exceeding $260 bn in 2018.

However, 2019 was a down year, with a negative growth of 3.3%, measured by RTKs, and a contraction of cargo revenues of 8.09%.

The growth in the first period is explained by three main factors: increased global trade, the growth in e-commerce (especially in China and Asia-Pacific), and increased air-connectivity, both in terms of increased routes and increased traffic (not only in cargo, but also in passengers). It should be noted, however, that all these factors are affected by economic growth. Hence, it is also important to account for GDP growth when assessing the cargo industry, especially in how it mirrors the growth of RTKs, as seen on Exhibit 18.

During 2014-2018, world GDP grew by an average of 3.60% annually, with global trade increasing 0.60% annually. The intrinsic relationship between global trade and cargo revenues can be observed on Exhibit 20.

E-commerce is a key driver for the growth of global trade, as the digitalisation and globalisation of the world’s most developed economies have allowed customers to access virtual marketplaces nearly anywhere in the world. Exhibit 18 shows how e-commerce has been a growing share of global retail commerce, standing at 14.1% of global retail sales in 2019. Asian countries, particularly China and the developed East-Asian nations have been the main contributors to this growth, with China’s e-commerce market growing at an annual CAGR of 18.37% during 2014-2018, and a further 11.33% in 2019. Exhibits 22 and 23 show the growth of e-commerce in the Asia-Pacific region and China.

Air-connectivity, measured by the evolution of traffic (both passenger and cargo flights) has also being increasing steadily during the aforementioned period. Exhibit 21 shows the evolution of worldwide flights, which have increased 3.66% annually, on average, during 2014-2018 and a further 2.36% in 2019.

The main justifications for the negative outcome in 2019 were the trade tensions between the United States and China, and a slower economic growth of 2.90%. These two aspects led to a decrease of 2.98% in global trade. Exhibit 24 shows how the lower international trade led to lower cargo revenues and RTKs.

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⁴ IATA – “Air Cargo Vital in the fight against COVID-19”
⁵ Boeing – “Commercial Market Outlook 2019-2038”
### Competition

Although not as high as in the US and Europe, LATAM faces high competition in every country in which it operates. The competitiveness of these markets has increased over the past 10 years.

As follows is an individual description of the most important South American competitors (SKY and JetSmart are excluded as there is no publicly available information):

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<tr>
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</thead>
<tbody>
<tr>
<td>Market Cap</td>
<td>6,161</td>
<td>12,970</td>
<td>19,063</td>
<td>37,822</td>
<td></td>
</tr>
<tr>
<td>Net Debt</td>
<td>9,815</td>
<td>12,557</td>
<td>14,487</td>
<td>16,723</td>
<td></td>
</tr>
<tr>
<td>D/E-ratio</td>
<td>1,59</td>
<td>0,97</td>
<td>0,76</td>
<td>0,4</td>
<td>1,27</td>
</tr>
<tr>
<td>2y Sales CAGR</td>
<td>2,21%</td>
<td>14,70%</td>
<td>21,36%</td>
<td>6,90%</td>
<td>6,53%</td>
</tr>
<tr>
<td>ROIC</td>
<td>6,10%</td>
<td>23,36%</td>
<td>19,66%</td>
<td>20,66%</td>
<td>12,40%</td>
</tr>
<tr>
<td>EBIT margin</td>
<td>6,02%</td>
<td>15,38%</td>
<td>17,75%</td>
<td>14,08%</td>
<td>8,86%</td>
</tr>
<tr>
<td>EV/EBIT</td>
<td>25,73</td>
<td>11,97</td>
<td>16,52</td>
<td>8,24</td>
<td>19,60</td>
</tr>
<tr>
<td>P/E</td>
<td>32,35</td>
<td>72,06</td>
<td>23,14</td>
<td>7,93</td>
<td>14,90</td>
</tr>
</tbody>
</table>

**Gol (Brazil, LCC):** Gol is the largest airline in Brazil, measured by passengers transported per year. It has a fleet of 122 planes (all Boeing 737s) and a market share of around 40%, slightly above LATAM. Gol’s strategy is to maintain its low operating costs, whilst maintaining its leadership position in the Brazilian market, and further aims to expand its domestic and international routes, particularly to the United States. The company typically focusses on the busiest airports and will directly put pressure on LATAM. Even though it is actually considered an LCC, Gol has a high proportion of business travellers (38% of the total Brazilian market in 2018) and is also directly competing with LATAM in this segment.

In 2019, it reported operating revenues of 13,87 billion Brazilian Reais (3,5 billion). This represents a growth of 21,5% from the previous year, in which it had already grown 7,9%. According to its financial statements we estimated an EBIT margin of 15,4% in 2019 and a ROIC of 23%. At the end of 2019 they traded at an EV/EBIT multiple of 12 and, at the date of this report, 7,6.

**Azul (Brazil, LCC):** Founded in 2008 by David Neeleman (founder of JetBlue), Azul is an emerging Brazilian airline, which has been experiencing a strong increase in market share in Brazil over the past few years. The Brazilian passenger volume increased between 2008 and 2019 by 90%, and Azul alone captured 60% of that growth. Its strategy is based on growth and cost efficiency, and expansion of both their domestic and international networks. The company usually intends to maintain a viable competitive position and avoids crowded markets (Azul network overlaps 28% with LATAMs, whereas Gol and LATAMs...
network overlap 88%). By the end of 2019, it had an operating fleet of 142 aircrafts. Over the next years, they receive further A320neos to make their fleet one of the most efficient on the planet in terms of fuel efficiency. Their expansion will increase competition, although it is less likely to hamper LATAM as much as Gol, SKY and JetSmart are expected to.

Azul reported Revenues of 11,4 billion Reais (2,85 billion) in 2019. Revenue growth was 24,3% in 2019 and 18,4% in 2018. We estimate an EBIT margin of 17,7% in 2019 and a ROIC of 19,6%. At the end of 2019 it traded at a 16,5 EV/EBIT multiple and, at the date of this report, 9,5.

**SKY (Chile, LCC):** A privately held Chilean low-cost Airline, founded in 2001, and currently Chile’s second largest airline. It mostly operates in Chile and Peru, but also offer regional international flights to Brazil and Argentina. Its current fleet amounts to 24 airplanes, with 27 orders outstanding. SKY’s goal is becoming the low-cost leader in South America within the next 10 years and expand its hubs to 5 South American countries. Due to their expansion, they will increase the competition and further challenge LATAM in more countries other than Chile.

**JetSmart (Chile, LCC):** A private Chilean Ultra Low-Cost carrier, created by the US Private Equity fund Indigo Partners in 2017. It quickly established presence in Chile and, in 2019, expanded to Colombia, Peru and Brazil. It currently has an operating fleet of 17 planes. Their strategy is similar to that of SKY, with an expansion in the domestic presence in Peru and Colombia and international network, which is also reflected in their outstanding orders of 75 aircraft of the Airbus A320 family.

**Avianca (Colombia, Full-Service):** The second largest Latin American airline, after LATAM. At the end of 2019, it had an operating fleet of 171 aircrafts (including 58 operating leases). It is the most direct competitor of LATAM in terms of regional international flights, especially on executive travelling.

In 2019, Avianca reported revenues of $ 4,6 billion (a decrease from $ 4,9 billion in 2018). Its operations resulted in an EBIT of $ 45 million (a decrease from $ 232 million in 2018). We estimate a ROIC of 1% in 2019 and an average of 5,2% between 2015 and 2018.

It is also important to refer that Avianca has been under financial distress since 2019, with the company undergoing a turnaround process which included dropping more than 20 unprofitable routes. The company filed for Chapter 11 bankruptcy in May 2020 due to the COVID-19 impact.

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6 Aerotelegraph: Interview mit Holger Paulmann, Sky Airline

7 CNN: Avianca, one of Latin America’s largest airlines, files for bankruptcy
Future Outlook

Prior to the COVID-19 pandemic, it seemed the shift in the Latin American aviation industry towards LCC was not entirely completed. In Mexico and Brazil, however, LCC’s already have the highest market share, as it can be seen on Exhibits 31 and 32. Thus, the same evolutionary process that happened in the US and EU is expected to affect the rest of South American countries. Peru, for instance, is being targeted by SKY and JetSmart.

It is expected that LCCs will first establish themselves on a domestic basis and, once they establish a strong route network, they will expand internationally. Following the trend in Mexico and Brazil, it is estimated that in the mid-to-longterm future Low-Cost market share will represent 50% to 70% of the South American market.

This increasing competition will take market share from LATAM, either resulting in fewer passengers transported, or lower its fares (or eventually both), thus resulting in lower revenue per passenger. We estimate that this will ultimately hinder revenue growth by 1,6% per year\(^8\). This is expected to happen primarily on domestic and short-haul international flights.

Prior to the COVID-19 pandemic, the general outlook was favourable, with global passenger growth to be between around 5% per year with South America being the growth driver after Asia Pacific and the Middle East. This was justified by the increase in private consumption in emerging economies (Exhibit 33), GDP growth, population growth (around 1% per year in most South American countries) and the increased size of the Middle class worldwide (as seen on Exhibit 34).

However, and as predicted, this expected growth in the South American passenger demand will be captured mostly to Low Cost Carriers. The lower offered fares by LCCs attract the middle class and are ultimately driving the industry’s strong growth prospects. As LATAM is focusing more on executive travelling, a better indicator for LATAM’s growth is the respective GDP growth, which is included in Exhibit 35. Due to the increasing competitive situation, LATAM airlines is not expected to maintain its market share and current position. Hence the company will not grow as much as its LCC competitors (estimated at around 5% per year), but rather closer to the regional GDP and population growth forecasts.

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\(^8\) Own estimations, based on market share forecasts
A key obstacle of this industry is its dependence on fuel costs. Rising fuel costs, a key value driver of airlines, would decrease margins if not rolled over to customers and Cash Flows, which would ultimately result in less value creation. Furthermore, the threat of a trade war created uncertainty in the industry, which led to lower revenues. Financing costs were expected to increase due to perceived increasing interest rates. Oil prices hit a historical low of $37 per barrel on 20th of April and are trading currently at around $25 per barrel.

With respect to the COVID-19 pandemic, this becomes increasingly irrelevant, as most of the previous assumptions for the industry’s outlook are counteracted. Instead of rising passenger demand, an incomparable decrease in flight volume of 90% is observed due to the worldwide travel restrictions and quarantine measurements.

Given the COVID-19 pandemic is much likely changing the horizon of this industry, at least in the short-term, the future is thoroughly unpredictable. However, and even though some airlines might default due to this situation, which would theoretically result in less competition, we believe that the rise of the LCC’s in the long term in South America is inevitable.

Regarding the future of the cargo industry, the e-commerce growth trend is expected to continue in the future. Before lockdown measures were enforced on virtually every major city in the world, e-commerce was expected to continue to grow steadily for the period 2019-2023 (as depicted on Exhibit 38). Given the lockdown forces people to do most of their shopping from home, e-commerce can actually be expected to increase even further than expected. During the same period, global GDP and international trade are also expected to increase, especially on the rebound of the COVID-19 pandemic. It should also be noted that, even though we are surrounded by a through uncertainty regarding the present pandemic (making general forecasts for the short-term future almost obsolete, as these keep changing on a weekly-to-monthly basis), the long-term forecasts for the cargo industry remain unchanged for now, as a 2-to-3 year recovery period is widely assumed, with the indicators converging to pre-pandemic growth levels after recovery.

The formerly mentioned drivers, mainly in the Asia-Pacific and Middle East regions, are expected to generate a CAGR of around 4.2% over the next 20 years. East Asia-North America and East-Asia Europe are the trade relations expected to be the largest in 20 years, with both expected to grow 4.7% annually. Intra-China air cargo is expected to be the fastest growing segment

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9 Bank of Finland: The trade war has significantly weakened the global economy
10 WTO
over the next 20 years, at 6.3% per year. Regarding the segments in which
LATAM Airlines operates, Latin America is expected to have a real GDP growth
of 3% annually over the next 20 years. This economic growth is likely to foster
increases in the air cargo industry in the region. The North America – Latin
America connection is expected to grow 4.1% annually, as Chile and Colombia
are expected to increase their exports to North America (mainly comprised of
perishable goods). Europe – Latin America is expected to grow 4% annually, as
the European Union is Latin America’s second largest air trade partner (after the
United States).

Model – Forecast & Assumptions

In order to value LATAM Airlines Group, we chose an APV approach, as the
COVID-19 pandemic brought question marks regarding the Financial Debt of
LATAM and its impending need on financial aid which would de-stabilize a
possible constant Debt ratio. Hence, it is more appropriate to calculate the Debt
Tax Shield benefits separately from the discount rate. Our forecast period ends in
2030, but yet in 2027 we start to use terminal value assumptions in our
forecasting, which ultimately result in a growth rate of 3.12%. This growth is a
function of the revenue-weighted average real GDP growth of the relevant
countries in perpetuity and the US Dollar inflation\(^{11}\), which is our relevant and
LATAM’s functioning currency.

Revenue

LATAM’s has three streams of revenues: Passenger Revenue (87%), Cargo
(10%) and other revenue (3%).

Passenger revenue: The Passenger revenue streams were divided into
segments and further into regional components to isolate and assess the effects
of the individual competition. The Passenger revenue was therefore divided into
two categories: revenue from domestic flights and revenue from international
flights. Domestic revenue was further broken down into each country’s domestic
revenue. On the other side, international revenue was further broken down into
regional international revenue (within South America) and long-haul
international revenue (South America to US, EMEA & APAC). The key
underlying value drivers are the predicted market passenger volume, LATAM’s
market share in every segment, and the average charged fare per customer.\(^{12}\)

For the terminal value period, we assumed the weighted real GDP growth of

\(^{11}\) Estimated at 1.12% for the next 10 years; using the difference between the US 10-y T-Bill and the US 10-y TIPS
\(^{12}\) The concrete forecast formula in each segment was Revenue per segment = LATAM transported passengers * average
distance flown per passenger (assumed constant) * average fare per passenger per kilometer
2% in each segment. Furthermore, the market share is constant in perpetuity, as the market is assumed to be mature. Together with the respective U.S. Dollar inflation this results in revenue growth of 3.13%.

**Brazil:** Brazil is the most important country for LATAM, as it accounts for 39% of its overall revenue. Over the past 5 years, a 1% annual decrease in market share was observed (with exception of 2019, mainly due to their retreat of Avianca Brazil). Considering the competitive situation, LATAM’s competitors Gol and Azul are expected to be better structured and further steal market share from LATAM. Furthermore, in 2019 Brazilian president Jair Bolsonaro opened the air market and changed regulatory laws to allow for foreign ownership of Brazilian airlines. Consequently, SKY and JetSmart received operating approvals. This further supports the market share decrease, which amounts to 0.6% per year on average until 2027, after which it remains constant.

In general, the Brazilian market is expected to be more mature than other South American countries, considering that LCCs have already been present for 10 years and the LCC’s market share already accounts to more than 60%. For the overall market growth of passenger demand, we relied on third party forecasts. Passenger demand is expected to outperform GDP growth in the short to medium term and grow at 4.2% per year (after COVID-19). This is due to population growth of 0.8% per year, increasing middle class (40% growth from 2003 to 2017), and increasing tourism. Furthermore, the LCCs also contribute to a higher passenger demand by themselves, as their lower fares encourage more people to travel via air transport. The average fare per passenger, an equivalent to revenue per customer or price, is predicted to grow at the expected local inflation of 3.5% per year. This results in an average revenue growth of 2.61% per year from 2023 until 2027, and a revenue of $2.3 billion in 2027. Overall, LATAM is able to maintain its competitive advantage in the executive travelling segment, but as this segment is only expected to experience a long-term GDP growth of 2%, it will not result in stronger revenue growth.

**Chile:** In Chile, the expected drop in market share is even stronger than in Brazil, which is in line with recent historical losses between 2% and 7% per year in this country. The strong competition brought by SKY & JetSmart will result in an estimated annual decrease of Chilean market share of 4%, and 2% in the longer-term. Regarding the current LCC market share of 40%, this development is expected to continue until LCCs reach a market share of 59%13. The average fare per passenger is assumed to grow at the US Dollar inflation, 1.12%. The total demand is forecasted to grow at 4.2% until 2025 and 3% until 2027, the

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13 Own estimations
beginning of our terminal period. This results in revenues of $527 million in 2027 and an average CAGR of 0.1% in the period between 2023 and 2027. Terminal value assumptions consider a constant market share of 41%.

Peru: Although the market share of LATAM has increased in Peru in 2019 by 4%, Peru is estimated to be the next country in which LATAM’s market share cut will occur. Currently, Peru is being targeted by SKY (which has already created a subsidiary – SKY Peru – that fully operates in Peru) and JetSmart. Their expansion will lead to the same developments as in the Chilean market from 2015 onwards. LATAM’s market share is perceived to plummet by 4% each year until 2024 and then 2% until 2027, in which LATAM will have its constant market share of 45%. Once again, the average fare per passenger is expected to increase at 1.12% per year. Ultimately this sets to a revenue decrease of -1.3% per year from 2023 until 2027 and an increase of 3.14% from 2027 to 2030.

Colombia: Colombia is a minor domestic market for LATAM, which only amounted to a market share of 22% in 2019. Similarly to Chile, in recent years LCCs have been on the rise in Colombia, with Viva Air Colombia being the most prominent example. Furthermore, LATAM has a major competitor in the Full-Service segment with Avianca in Colombia. However, it is now unclear what the future of Avianca is, after filing for bankruptcy.

In the short-term future, LATAM is estimated to maintain its competitive position, but in the mid-term future the company is expected to lose 1% market share per year. The underlying economic performance looks positive for Colombia with an estimated GDP growth of 3% per year. Hence, passenger demand is expected to be strong with a CAGR of 4%. Average fares are expected to increase with inflation of 1.12%, which ultimately contributes to an expected 4% CAGR revenues on this market, from 2023 until 2027.

Regional International: The regional international segment is closely tied to domestic developments. Just like Ryanair in Europe, it is expected that in the medium term Low-Cost Carriers in South America will expand, offering short-haul regional international flights at a lower price than Classic Carriers, such as LATAM. This is supported by the quick expansion of SKY and JetSmart. In 2018 and 2019, the regional international market share of LATAM decreased by 1%. This is perceived to continue in the future, and LATAM will lose 1% per year in market share. The overall market is expected to grow at the same rate as the individual countries, 4% per year. Average fares are expected to grow at the expected inflation of 1.12%. This results in an average annual revenue growth of around 2% until 2027.

Exhibit 43: Peru – domestic - Forecast

<table>
<thead>
<tr>
<th>Peru - domestic</th>
<th>2016</th>
<th>2019</th>
<th>2022</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Passengers (mln)</td>
<td>10.9</td>
<td>12.8</td>
<td>14.4</td>
<td>15.9</td>
<td>17.9</td>
</tr>
<tr>
<td>Market Share</td>
<td>64.4%</td>
<td>62.2%</td>
<td>60.0%</td>
<td>49.0%</td>
<td>45.0%</td>
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<tr>
<td>LATAM Passengers (mln)</td>
<td>9.6</td>
<td>9.6</td>
<td>9.5</td>
<td>8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>Average Fare (US-cents)</td>
<td>8.6</td>
<td>8.1</td>
<td>8.2</td>
<td>6.4</td>
<td>6.9</td>
</tr>
<tr>
<td>Revenue in USD (bln)</td>
<td>0.52</td>
<td>0.57</td>
<td>0.57</td>
<td>0.54</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Exhibit 44: Colombia – domestic - Forecast

<table>
<thead>
<tr>
<th>Colombia - domestic</th>
<th>2016</th>
<th>2019</th>
<th>2022</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Passengers (mln)</td>
<td>26.5</td>
<td>29.5</td>
<td>30.7</td>
<td>34.0</td>
<td>38.1</td>
</tr>
<tr>
<td>Market Share</td>
<td>58.6%</td>
<td>59.3%</td>
<td>59.8%</td>
<td>60.9%</td>
<td>61.8%</td>
</tr>
<tr>
<td>LATAM Passengers (mln)</td>
<td>9.3</td>
<td>9.3</td>
<td>9.3</td>
<td>9.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Average Fare (US-cents)</td>
<td>8.6</td>
<td>8.2</td>
<td>8.2</td>
<td>8.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Revenue in USD (bln)</td>
<td>0.39</td>
<td>0.39</td>
<td>0.47</td>
<td>0.47</td>
<td>0.55</td>
</tr>
</tbody>
</table>

Exhibit 45: Regional International - Forecast

<table>
<thead>
<tr>
<th>Regional International</th>
<th>2016</th>
<th>2019</th>
<th>2022</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Share</td>
<td>42.0%</td>
<td>41.0%</td>
<td>40.0%</td>
<td>37.0%</td>
<td>35.0%</td>
</tr>
<tr>
<td>LATAM Passengers (mln)</td>
<td>9.5</td>
<td>9.2</td>
<td>9.1</td>
<td>9.3</td>
<td>10.0</td>
</tr>
<tr>
<td>Average Fare (US-cents)</td>
<td>9.0</td>
<td>8.5</td>
<td>8.7</td>
<td>8.9</td>
<td>9.5</td>
</tr>
<tr>
<td>Revenue in USD (bln)</td>
<td>2.47</td>
<td>2.34</td>
<td>2.35</td>
<td>2.50</td>
<td>2.84</td>
</tr>
</tbody>
</table>
Long-Haul International: This segment is substantially different than the previous. Most Low-Cost airlines only operate one short-haul narrow-body plane type (either Airbus A320s or Boeing 737s), meaning LCCs are typically unable to directly fly “point-to-point” long-haul distances between continents. Hence, only Classic Carriers with wide-body aircrafts have typically been able to serve such routes. However, some Low Cost Carriers are studying the possibility of using the most recent version of the Boeing 737 Max to perform long-haul flights. A direct example of this is Gol planning to launch flights to the U.S. from Brazil, using this type of aircraft. In general, LATAM is perceived to still be facing in this segment mostly foreign competition in the future. In this segment, LATAM is expected to maintain its position and market share. This is also supported by the strategic partnership between Delta and LATAM. Therefore, the company will effectively grow along the passenger demand, which is expected to grow at a CAGR of 4%. Given the average fare increase, assumed to be at inflation (1.12%), this is the only segment in which LATAM is expected to grow significantly. Revenues are estimated to grow nominally at 4.26% until 2027 and then at 3.14% in infinity.

One should take into account, though, that all those market share assumptions are starting in 2022, as we believe that LATAM’s competition is hindered in their expansion due to the COVID-19 pandemic. The concrete impacts of the COVID-19 crisis on the company’s figures in 2020 and 2021 are described in the dedicated chapter.

As LATAM sells its tickets in all of their operating regions, except for Brazil, as dollar denominated or directly linked to the US Dollar, we did not convert the revenues into the country’s underlying currency and furthermore used the US inflation estimate in the price assumptions. However, its Brazilian domestic segment inherits a foreign exchange risk, which is accounted for. In order to be aligned with the macroeconomic assumptions, the Brazilian revenue was forecasted in Reais with Brazilian inflation estimates and then converted back into USD dollar amounts, using estimated future exchange rates.

Cargo: Considering the current situation, it is uncertain how the short- to medium-term of this industry will be affected and thus, even though the trade relationships between Latin America and North America14 (as Chile and Colombia are expected to increase their exports to the U.S.A., with perishables good, such as salmon and flower) and Europe15 (the European Union is Latin America’s second largest air trade partner16) are expected to continue to

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14 Boeing estimates an annual growth of 4.1% of RTKs in cargo operations between North America and Latin America until 2038
15 Boeing estimates an annual growth of 4% of RTKs in cargo operations between Europe and Latin America until 2038
16 After the United States of America
improve. LATAM’s cargo-only flights are in these regions, along with two South American destinations. The main driver behind such improvements will be the economic development of the Latin American countries. Consequentially, we feel GDP is the strongest driver for LATAM’s results in this industry, also considering the previously depicted relationship between trade, real GDP growth, and RTK growth (Exhibits 19 and 20).

Hence, cargo **tons transported** and **RTKs** grow every year at the **average real GDP growth rate** of Brazil, Peru, Ecuador, Argentina, Colombia, and Chile, weighted according to each country’s contribution to the total. The average fare grows annually by 1.12%, which is the expected dollar inflation. Additionally, cargo accounts for around 10.3% of LATAM’s revenues in 2019, and this number is not expected to become more significant to the company, as in 2030 cargo revenues are expected to account for 11.6% of the company’s total revenues. Once again, all these assumptions only take place from 2022 until perpetuity, as 2020 and 2021 were calculated separately, in our COVID-19 scenario analysis.

**Other revenue**: Other revenue was computed as a percentage of passenger revenues, as it typically considers additional services, such as loyalty program fees or baggage fees. In 2019, this amounted to 2.67% of passenger revenue. The general target of airlines is to reach 10% in ancillary revenue. We believe that this amount will gradually increase up to 3.8% in 2027 due to the strategic partnership with Delta Airlines, which achieved around 9% in the last 3 years. From 2027 onwards, it is assumed to remain constant.

**Costs**

**Wages & Benefits**: Firstly, wages were divided into Brazilian wages and rest of the company. Then, expected wage costs were calculated using the **Employee per Plane** metric. LATAM has been decreasing the number of employees per plane over the last few years (it currently has 124 employees per plane, a number that has decreased, on average, 5.27% per year since 2014, but it is still higher than the average of its peers, which sits at 114). Historically, LATAM has not been as efficient on its employee expenses as its competitors and the overall industry. In 2015, wage expenses accounted to 20.8% of Revenues (competitors 16.0%)\(^\text{17}\) and employees per plane equalled 152 (competitors 101), whereas in 2019, wage expenses reflected 17.4% of revenues (competitors 16.2%).

Given its new partnership with Delta (currently at 102 employees per plane), and LATAM’s increasing efficiency and digitalisation of processes (such as the increased self-check-in offering at airports, which requires less employees), it is

\(^{17}\) Competitors include Azul, Gol and Avianca.
expected that LATAM will look to further decrease the number of employees per plane, and a reduction of 2 per year is assumed until 2026, after which the number (112 employees per plane, the peer average) is held constant.

Wage per employee equalled $43,010 in 2019 (with competitors sitting at $37,062) and the value is assumed to grow at the respective inflation (BRL and USD, depending on the region), with BRL-denominated wages converted to USD, using the respective end-of-year exchange rate. This cost is expected to grow as a decreasing percentage of revenues, and, in 2030, it is expected to be 16.4% of the total revenues.

**Fuel**: Comparing fuel costs to its industry peers, it is observable that LATAM pays almost identical fuel costs per ASK\(^\text{18}\) (in US-cents) to that of its peers. In 2019, LATAM paid 1.96 US-cents per ASK, whilst the industry average was 1.99. Fuel expenses were forecasted by multiplying fuel costs per RSK\(^\text{15}\), with total RSK being taken directly from our revenue forecast. Fuel costs per RSK were calculated using the *average oil price* (which is assumed as a substitute of jet fuel price) times *Gallon per RSK*. The amount of current oil price forecasts is limited. We based our assumption on a mixture between the Worldbank Oil price forecast (October 2019) and the EIA (U.S. Energy Information Administration) forecast (April 2020). Unfortunately, the EIA only predicts for the next 2 years and therefore we performed a linear interpolation after 2021, using the Worldbank estimates. Furthermore, we did not use the estimated oil price of 33 $/bbl by the EIA in 2020, as LATAM already had hedged 41% of their 2020 fuel consumption and is therefore now facing estimated hedging losses of $ 306 million. We incorporated those hedging losses directly in the fuel costs, as we estimated a higher average oil price for LATAM based on their hedging ratio, which amounts ultimately to $ 44/bbl. In the Gallon per RSK metric we applied a proportional reduction of 21% per every new A320neo family aircraft, as these are significantly more fuel efficient than its predecessors. This translates to a cumulative efficiency gain of 9% in 2030, which saves $ 242 million in that year. Ultimately, this leads to Fuel expenses of 2.15 US-cents per ASK in 2030.

For a further assessment of the impact of the variation of oil prices on the value of LATAM Airlines, a sensitivity analysis was performed, and will be addressed later on this report.

**Maintenance**: Maintenance costs are assumed to depend on three factors: *hours flown per plane*, the *average age* of the fleet, and *inflation\(^\text{20}\).* As LATAM

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\(^{18}\) Available Seat-Kilometres

\(^{19}\) Revenue Seat-Kilometres

\(^{20}\) IATA – “Maintenance Costs for Ageing Aircraft”
Airlines intends to have a relatively young fleet (currently at 9 years), and it has been able to keep it constant during several periods in the past, we assumed the average fleet of the planes to be constant at 10 years during the forecasted periods, since no planes will be acquired nor retired in 2020 due to the COVID-19 pandemic. Thus, the real costs per hour flown will initially be held constant and the only determinants of this cost are the hours flown per plane (as seen on Exhibit 55) and the US Dollar Inflation, assumed to be constant at 1.12%.

Nevertheless, starting in 2021, a proportional reduction of 9.4%21 was included for every new aircraft from the Airbus A320neo family that replaces one from the Airbus A320ceo family. Exhibit 54 presents the evolution of the Maintenance Costs until 2030. Furthermore, LATAM Airlines has just initiated (end of 2019) a new drone-based maintenance process Donecle UAV solution for automatic aircraft inspection of larger maintenance checks of the A320 fleet, which severely cuts the time needed to assess an aircraft (estimated to be translated into a 95% time saving22) and the amount of labour needed. However, it is still early to assess the true cost-cutting potential of this measure.

**Other expenses:** A comparison with other airlines in the other expenses section needs to be done with caution. Firstly, a cross-continent FSC23 comparison may be misleading, as the United States and the EU have higher pricing levels than South America. Values are therefore higher for foreign airlines (LATAM’S CASK24: 6.5 vs. US FSC’s CASK: 9.2; LATAM’s RASK: 6.0 vs. US FSC’s: 10.3). A comparison with the regional competitors also has its shortfalls, due to the different business model as a LCC’s key objective is to cut costs (South American LCC CASK: 6.2; RASK: 7.5). Avianca is the only carrier that operates in Latin America, and has a comparable size and business model to LATAM (Avianca CASK: 8.4; RASK: 7.2). However, Avianca is under financial distress and has been unprofitable for a long time. Hence, other expenses were forecasted based on historical developments and statements of the management. Over the past 4 years, other expenses were decreasing measured as a percentage of revenues and per ASK (other expenses in 2016 were 33.1% of revenues, and in 2019, 29.6%; other expenses per ASK were 2.26 in 2016: and 2.05 in 2019). Furthermore, the management states to continue to reduce costs. We believe this is realistic and there is potential left when comparing to Azul & Gol (Other expenses as a % of Revenue 2019: 22%, per ASK: 1.6).

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21 Flight Global – “A320 NEO to have $7-8 million price premium”; Pratt & Whitney – “The Pure Power PW1000G Engine”; the new A320 NEOs have a lower 20% engine maintenance cost; engine maintenance cost accounts for, on average, 47% of the total maintenance costs of an aircraft, per IATA – “Airline Maintenance Cost Executive Commentary, Edition 2019”
22 EBV – “Donecle revolutionizes aircraft inspection and it’s awesome”
23 Full Service Carrier
24 Cost per ASK
However, as LATAM still operates in its International segment a different business model than Azul & Gol, LATAM is unlikely to achieve their figures. Therefore we incorporated only a slight efficiency increase in other expenses, which account for 29% of revenues in perpetuity. We feel comfortable with using only a slight increase here as we are already including a stronger efficiency increase in the Wages & Benefits expenses.

NWC

Operating Cash was assumed to be 5.18% of revenues as this was the estimated minimum of our peer group in recent years. Regarding the Cash Conversion Cycle, and namely the DPO, DIO and DSO23 we assumed that LATAM will get closer to the values of its peer group. LATAM has higher DIO, but especially significantly higher DSO and DPO than the global aviation industry average, which can be explained by their location, as developing countries in South America tend to function less efficiently. Therefore, we strongly overweight the other Latin American airlines in our peer group. However, we assumed that LATAM will tend more to its competitors in DPO (currently 98; peer group 65), which goes down to 70 until 2027. DIO (LATAM: 15.7, peer group: 9.9) will decrease to 10 until 2027 and DSO (LATAM: 44, peer group: 29) will shrink to 35. These values will then be constant until perpetuity.

Invested Capital

CAPEX: PP&E was split into own airplanes, leased airplanes, buildings, land and equipment. Own aircrafts PP&E were forecasted by the outstanding orders and future commitments until 2025 by using market prices, which effectively vary to list prices. On average, Airbus and Boeing sell their planes to commercial airlines with a discount of roughly 50%. We used the individual average discounts per plane on the list prices, albeit with a 10% reduction, to highlight LATAM’s relatively low bargaining power, when compared to other major airlines. Furthermore, its orders are usually in less quantities than its major peers’, and usually the higher the order, the higher the discount. Market prices were assumed to grow each year from 2019 with inflation, 1.12%.

After 2025, we estimated their fleet additions to be the sum of necessary replacements per year, which amounts to 8, and the necessary increase regarding the additional RSK due to more passengers transported, which we estimate to be on average around 3 per year. The depreciation is manually calculated by the depreciation in 2019 plus the variation stemming from purchases and retirements of airplanes. PP&E is on average decreasing during

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23 Days Payables Outstanding; Days Inventory Outstanding; Days Sales Outstanding
the first 5 years, to equal a total amount of $11.7 billion. In the terminal value period, the amount of own aircrafts are increasing at the underlying real GDP rate of 2%, which also reflects the increase in transported passengers andASK. Simplifying other items in the PP&E, including leasing, were assumed to grow at a rate that the combination between depreciation and increase in Net PP&E, meaning the CAPEX increases 3% annually, which is the combination of capacity and inflation growth. This makes LATAM come closer to its peers with a Fixed Asset Turnover ratio of 1.02 in 2030 (0.8 in 2019) compared to 1.3 of its peers.

Intangibles & Goodwill: Intangible Assets were assumed to grow at 2%, the underlying long-term real GDP growth rate. Goodwill was assumed to remain constant, which is in line with the development in the last 5 years.

Unlevered Cost of Capital

With the APV method, LATAM’s unlevered cash flows and tax shields are evaluated separately. To properly reflect the risk in LATAM’s unlevered cash flows, an unlevered cost of capital was computed to discounted them, using as inputs: an unlevered beta, calculated through unlevering both the company’s and the peers’ raw betas; and a beta of debt, calculated through the cost of debt, and used on the previous calculation.

The raw beta was obtained by regressing LATAM’s excess returns on the US Dollar risk free rate against the MSCI World’s excess returns on the same rate. The chosen period comprised the weeks starting in 11/01/2019 until 28/02/2020. This specific data set was chosen based on two major rationales: on one hand, airline shares are usually very illiquid, meaning the majority of airlines’ shares are not traded actively, meaning its returns may not be as sensitive to the market26, as one would expect and thus get betas which underestimate the true systematic risk of this industry (furthermore, the same author suggests there is empirical evidence of a positive relation between β values and trading activity). On the other hand, this period is the one that better represents the forward-looking risk of the industry, which will be severely changed with the COVID-19 pandemic. By having a larger estimation period the beta would smooth the effect of this pandemic and underestimate the “new” real systematic risk affecting LATAM, but capturing further observations after the aforementioned period would overestimate such risk, after the drastic movements in the share prices of most of the companies within our peer group (including LATAM) in March, which was also not representative of the future of the industry. Having weekly observations allowed us to have enough observations (60) for a relevant regression, which

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resulted in a confidence interval of \([0.85; 2.53]\). Such width of the confidence interval led us to choose to rely on the industry peers for the beta. The betas were then unlevered according to each company’s market D/E ratio and beta of debt.

The beta of debt was obtained using each company’s cost of debt (we assumed the values from Bloomberg for each peer, and then transformed it into dollars) and the CAPM model, with a USD-denominated risk free rate (\(0.70\%\))27, as this is the functional currency of LATAM’s cash flows, and a Market Risk Premium of \(5.50\%\)28, using the MSCI World as our market index, denominated in USD.

LATAM’s cost of debt was computed using its most recent debt issuance (a 7 year bond with a 7,049% yield to maturity) and a discount representing LATAM’s relatively high credit risk (B1). Hence, a seven-year average cumulative probability of default of 17.89%29. Using a recovery rate of 53.9%30, we get a cost of debt of 5.952%.

The resulting industry unlevered beta was 1.15, leading us to an unlevered cost of capital of 7.02%, using the same CAPM model.

The tax shields were also discounted at the unlevered cost of capital, as the Debt level is not constant throughout the analysed period.

**COVID-19**

With the outbreak of the COVID-19 pandemic in late 2019, which started in Wuhan, China, uncertain times loom over the airline industry horizon. 2020 is poised to be a catastrophic year for the industry, with 2021 likely to be a recovery year. The question is, which airlines will be able to recover from this slump, and in which moulds.

The airline industry is expected to lose $314 bn in passenger revenue in 202031, with a 48% decrease in RPKs on a year-on-year basis. The Americas are expected to be the “least” affected regions in the world, with North America decreasing 36% y-o-y, implying a loss of $64 bn in passenger revenue and Latin America decreasing 49% y-o-y, losing $18 bn in passenger revenue.

Given South America and, consequently, LATAM Airlines were barely affected by this pandemic in the first two months of the year, only in March did the real effects start to be felt, as seen on Exhibits 63 through 65. This can be explained
by the fact that LATAM Airlines doesn't have any air connections to East Asia (the most affected region of the world during the first two months of the year). Due to the COVID-19 outbreak in Europe, North America, and South America, countries in these continents started to impose international and domestic travel restrictions, reducing it to the strictly necessary. This prompted LATAM to cancel 95% of its passenger operations in late March, a measure which is expected to be maintained, at the very least, until the end of May 2020.

In order to assess what the impact of such situation will be on LATAM’s revenues and cash flows, a scenario analysis was conducted, with 4 scenarios\(^ {32}\) considered: Scenario 1 assumes a U-shaped recovery which would see a gradual reduction of the lockdown and re-opening of the international borders over the next 6 to 9 months. Scenario 2 assumes a slower U-shaped recovery extending to 2021, in which the consumer confidence in traveling and the consequent demand would take longer to recover, meaning international leisure travel would be the hardest hit. Scenario 3 assumes an L-shaped recovery which would see a decrease in the future growth rate of the industry, comparing to the effects before the crisis, as there is no guarantee that demand will ever return to pre-COVID-19 levels; and Scenario 4 assumes a W-shaped recovery which would assume some recovery in 2020 before the outbreak resumes towards the end of the year and causes a 2nd wave of lockdown, extending to 2021.

Furthermore, in all scenarios it was assumed for every scenario that domestic markets would recover faster than international, due to the fact that consumer confidence in traveling to other countries or planning trips ahead will mean tourism will take longer to recover. Furthermore, and as previously mentioned, cross-country business travel is expected to decrease as working from distance is becoming the new reality. Moreover, and given the thoroughly likely economic recession that will follow the pandemic, it is likely that demand for leisure international travel will decrease, as consumers try to avoid unnecessary expenses.

Moreover, economic growth in the region is also expected to recover by 2022, with most of the recovery happening in 2021. In 2020, the revenue-weighted average real GDP growth is expected to decrease by 4.69%\(^ {33}\), and then increase 3.38%\(^ {34}\) in 2021, with a further 2.71% growth rate in 2022.

\[\text{GDP growth average, weighted according to revenues}\]


\(^{33}\) IMF – World Economic Outlook – April 2020

\(^{34}\) IMF – World Economic Outlook – April 2020
We believe Scenario 2 to be the most likely one, and thus attributed a 50% probability to it. This is because the lockdown measures are gradually starting to ease, meaning demand for domestic flights is expected to increase as countries re-start their activities. Furthermore, in LATAM’s biggest market, Brazil, the president, Jair Bolsonaro, firmly opposes the present lockdown measures, meaning the country could reopen its air space faster than expected. However, international travel is expected to take much longer to recover. This is because not only are people getting more used to work remotely, meaning there will be less need for international business travel after the pandemic is over, but also because customers will feel less safe in the first few months after the pandemic.

Scenario 1 was attributed a 20% probability of occurrence, as it is looking increasingly less likely, especially in comparison with Scenario 2. Scenarios 3 and 4 were both attributed a probability of 15%. Scenario 3 is attributed this probability based on the fact that air demand quickly recovered to pre-crisis growth in previous pandemics. However, the severity and scale of the COVID-19 pandemic appears to be much higher than any past event, especially given its global scale. Scenario 4 hinges on the possibility that the “return to normal” after lockdown is not done efficiently, especially in less developed and more populous countries, such as Brazil. Furthermore, the virus is still widely unknown, including its most basic characteristics, such as its origin and the environments in which it thrives. Hence, we cannot say that, even if the lockdown measures and the “return to normal” are properly enforced, the virus will not reappear.

Parallely, another Scenario Analysis for the Load Factors was built, due to the possibility of airlines having to implement social distancing measures inside their aircraft. 3 possibilities were considered here: no social distancing measures, with a probability of 45%, social distancing measures until the end of Q2 of 2021, with a probability of 40%, and social distancing measures until mid-2022 (this scenario assumes the same probability as Scenario 4 – 15% –, as we only think this would only be reasonable should the pandemic resurge towards the end of 2020 and/or beginning of 2021).

Applying a probability-weighted average to the Scenarios, it is expected that LATAM’s total revenues for 2020 will be 54,5% lower than in 2019. In 2021, we expect a 53,8% increase in overall revenues, fuelled by the recovery in most of the Scenarios in the domestic markets and the continued increased demand, especially in the domestic Brazilian market. Recovery from COVID-19 will continue in 2022, and it will be total in domestic markets as it is expected that, by

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35 Aljazeera – “Brazil’s president pushes for end to lockdown”
36 IATA – “What can we learn from past pandemic episodes?”
the end of 2022, domestic demand will be fully recovered. International demand is assumed to be fully recovered by 2023.

Regarding cargo, RTKs are also expected to decrease in 2020, as GDP growth will be negative across all relevant South American countries. However, these lower RTKs (4.69% decrease y-o-y) will likely be compensated by the higher cargo fares due to lack of capacity, tariffs and increased border controls, and the necessity for more safety equipment to ensure the feasibility of cargo transport in such times (we assumed a fare increase of 33% in 2020, and a gradual decrease until pre-crisis levels in 2022). Hence, cargo revenues are actually expected to increase in 2020, and then decrease until 2022.

In our COVID-19 Scenario Analysis, we also addressed employee costs, as LATAM announced a reduction of 50% in the wages of its 43,000 employees for at least 3 months, starting in mid-March.37, with the duration of the pay-cuts varying according to each Scenario. This means that LATAM is expected to only pay 85% of wages in 2020, with the values in 2021 and beyond back to “normal”.

FCF decreases by 79% in 2020, to $281 million. It should be noted, however, that this is due to Invested Capital being exceptionally low in 2020 (a decrease of 33% from 2019). This is because LATAM deferred around 90%38 of the investments it had planned for 2020, including the purchase of any new aircraft.

FCF in 2021 will increase, but only by 5% (to $295 million), as the increase in investing cash flow for the year somewhat offsets the increase in operating cash flow.

**Valuation**

In our last forecasted year 2030 our model identifies an EBITDA margin of 20.18%, an EBIT margin of 6.6%, and a NOPLAT margin of 4.6%. We observe a revenue growth of 3.14%.

Based on the APV approach and the mentioned figures, our model discloses an operational EV of $11.42 billion, including the Tax Shield benefits. Adding the Non-Core Invested Capital of $265.2 million and subtracting the Net Financial Assets of $9.94 billion, we arrive at an Equity Value of $1.75 billion, which translates into a share price of $2.88 (compared to the current share price of $2.58). This is our estimated the going-concern value. However, we believe that LATAM faces the risk of defaulting. LATAM officials stated the company has

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37 Reuters – “LATAM Airlines to cut pay by 50% to its 43,000 employees”
38 Reuters – “LATAM Airlines sees long, slow recovery from coronavirus, defers 90% of investments”
liquidity for 3-4 months. With respect to this, a scenario analysis was created with the scenario of a Liquidation and Chapter 11 restructuring. Overall, we assign a probability of 20% that LATAM has to declare bankruptcy within the next year. With the aid package of the Brazilian government it is increasingly likely that the Chilean government will follow. Considering this 20% probability results in an expected share price of $2.35. This reflects a potential annualized return of -14.2% on the stock. As LATAM announced that, due to the COVID-19 crisis, its dividend for 2020 has been cancelled, this reflects the Total Shareholder Return for the holding period.

Multiples

We performed a multiple analysis to understand the market perception of the industry and cross-check with the results obtained from intrinsic valuation. However, a relative valuation relies on using comparable peers and assumes a correct valuation of the industry by the market, which has, historically, not always been the case. We used P/E and EV/EBITDA multiples based on our peer group. Using numbers from December 2019 (pre-crisis), results in an average equity value of $3.5 billion and a share price of $5.8. Relying on current multiples of April leads to an Equity value of $601 million and a Share price of $1.0.

Key Risks

- Operating in South America

South America has been (and still is) synonym with high inflation countries. Argentina is currently experiencing a hyperinflation crisis and Brazil had inflation over 14% as recently as 2003. Even though LATAM Airlines sells most of its services in USD or USD equivalents, it still has a substantial part of its revenues (around 27% in 2019) coming from the Brazilian domestic passenger market and denominated in Brazilian Reais. As such, an economic crisis in Brazil could massively devalue more than a quarter of LATAM’s revenues and have a thoroughly negative impact on its revenues. A scenario analysis to reflect the risk of operating in these countries was built and incorporated directly into the DCF analysis, based on past Brazilian recessions, with the revenues presented being the statistically expected revenues. A probability of 13.04% was attributed to this scenario, extrapolated by analysing the number of quarters in

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39 Reuters: Latam Airlines will need government loans to recover after crisis
40 For instance, the “Dot Com Bubble”
41 Multiple Peer group: Gol, Azul, Copa, Air Canada, Air France-KLM, United, Delta, Finnair, American and Lufthansa
technical recession since the beginning of 1997, ignoring the Great Financial Crisis (as this was a global crisis, and not specific to Brazil).

- Fuel Price Volatility

The air passenger and cargo industry performance is very dependent on fuel, as there are still no feasible substitutes to this material. Given how volatile the price of fuel has been in the past few years, and even though LATAM Airlines has hedging contracts in place, these might not be sufficient to protect the company from massive price hikes, or might hamper the company in cases of massive price plummeting (such as the situation the world was experiencing at the time this report was written). A sensitivity analysis was performed on the possible effects of fuel price change, and how fares would have to change to ensure the company would remain financially healthy.

**Sensitivity Analysis**

Firstly, a sensitivity analysis of the target price relatively to the unlevered cost of capital and terminal value was performed. The long term growth rate is uncertain. Although the overall market is expected to grow above 3%, which is mostly due to tourism, LATAM Airlines might not grow as much because of their reliance on business travelling. COVID-19 might have a permanent negative effect on that segment, which reduces the growth rate. A growth rate of 2.4% would result in a lower going-concern share price of $1,27.

Moreover, another sensitivity analysis was performed, this time based on a permanent change in fuel costs and average fares (on top of inflation), ceteris paribus. In the long-term, rising fuel costs are rolled over to customers. On average, fares have to increase by around 50% of the fuel cost increase to maintain the same share price, which seems realistic. However, in the short term a price shock could be problematic as airfare pricing is typically based on demand and not costs.

**Recommendation**

Given all the aspects affecting the valuation of the company described above, our final target share price of $2,35, together with the fact that LATAM will not pay a dividend in 2020, our final recommendation to investors is that they **SELL** their positions on LATAM Airlines. The annualized return on the stock, considering the current price of $2,58, is **-14.2%**, with a holding period of 223 days, or 0.61 years.
Furthermore, we also decided to not take into consideration the multiplicity analysis, as in uncertain times like these, it is not entirely accurate with the true valuation of the companies in this industry.

Appendix
Appendix 2: Income Statement

<table>
<thead>
<tr>
<th>Year</th>
<th>Core</th>
<th>Non-Core</th>
<th>Total</th>
<th>Cash Available to Investors</th>
<th>Financing</th>
<th>Flows to Debt Holders</th>
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Report Recommendations

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<th>Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.</th>
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<td>Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.</td>
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<tr>
<td>Sell</td>
<td>Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.</td>
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</table>

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THE IMPACT OF COVID-19 AND SOCIAL DISTANCING MEASURES ON LATAM AIRLINES’ SHARE PRICE

Diogo Fernandes da Silva Amaral Firme

25903

Work project carried out under the supervision of:

Professor Francisco Martins

22-05-2020
ABSTRACT

Focusing on the COVID-19 pandemic and, specifically, on the impact social distancing measures could have on LATAM's share price, using 3 Scenarios, each with distinct probabilities of occurrence. Departing from the weighted average Scenario, the final recommendation (SELL) would only be changed in the Good Scenario, which would imply a HOLD recommendation, with a 22.12% higher share price. In the remaining Scenarios (Base and Bad), the share price would be 7.1% and 61.1% lower, respectively, which would maintain its SELL recommendation. This also allowed to analyse by how much would LATAM have to increase its fares to avoid losing value.

Keywords: Load Factor, Share Price, Average Fare, Social Distancing Measures, COVID-19.
Before I start writing about what I believe to be the most relevant topic in the aviation industry since 9/11, and one which will change the industry forever, I would like to acknowledge my partner Lukas Maasch and state the great experience that was working with him. This was a perfectly coordinated work, fairly divided, and with constant communication, even though we didn’t get to meet physically during this semester.

Daron Acemoglu and James Robinson defined\(^1\) as a critical juncture historical events which disturbed the economic and political equilibrium of a society and had a deep effect in changing the course of history. Examples of critical junctures throughout the History are the Black Death, in the mid-14\(^\text{th}\) century, or the Industrial Revolution, which started in England in the second half of the 18\(^\text{th}\) century. When specifically addressing the airline industry, the most recent events that fit this description are the 9/11 terrorist attacks, and the 2008 Great Financial Crisis.

Although it is still early to draw any conclusions about the real impact of this pandemic, it is becoming increasingly certain that the 2019-20 COVID-19 outbreak will also be part of such collection of historical events. It is an unprecedented situation to have such outbreak at a global scale, and it has brought virtually all the world into a lockdown in which most borders are closed, and people can only leave their homes to satisfy the most basic needs, whilst keep a minimum social distancing to ensure the safety of everyone.

Perceptibly, the above description outlines the obvious: almost all flights in the world are currently grounded, with the air space being reduced to cargo transportation and a small percentage of necessary passenger flights. At the time this report was written, LATAM Airlines only had 5\% of its scheduled flights operating, with just 3 international routes, and only around 40\% of its domestic routes, operating with minimum required levels.

To better assess LATAM’s future revenue outlook in the midst of the uncertainty, two parallel scenario analysis were constructed: one regarding the recovery of passenger demand, which assumed the 4 Scenarios described on the group report (a U-shape recovery, a prolonged U-shaped recovery, an L-shaped recovery which assumed a lower future industry growth, and a W-shaped recovery which assumed a resurgence of the pandemic after relaxing the lockdown measures in late 2020 and early 2021), and a scenario accounting for possible social distancing

\(^1\) Daron Acemoglu, James A. Robinson, “Why Nations Fail”, 2013
measures. This second scenario was included directly in the load factor for each year, meaning
the target share price reflects the weighted probability of each scenario. However, I will, on this
report, further assess what the impact of such measures would mean for LATAM Airlines should
they be enforced, and for how long. Hence, a sensitivity analysis for each individual load factor
scenario will be conducted, along with any required fare change that would have to be necessary
for LATAM to survive and avoid having a negative market value of its debt (which would mean its
assets would not be enough to pay for its debt obligations and the company would default on its
debt).

It is still uncertain whether such measures would be enforced. On one hand, it looks increasingly
likely, at least in the short-term, as countries are beginning to return to normal daily activities with
precaution. Thus, it is hard to imagine governments enforcing social distancing rules in social
gathering places such as restaurants, beaches, or even supermarkets and not do the same for
airplanes. On the other hand, it is also unclear whether the use of face masks could actually be
an effective substitute for social distancing. If so, social distancing measures would not be
necessary, as long as all passengers comply with health and sanitation instructions. Lufthansa,
for instance, turned to the second option earlier this month, after having very low load factors
due to scrapping the middle seat on every plane. It argues that the aircraft cabin design allows for an
air quality similar to that of an open space\textsuperscript{2}.

Obviously, every country is a specific case, and the evolution of the pandemic in Europe could be
completely different from that of South America, and as airlines have to follow their own
governments directories, this might not be the case for LATAM.

Thus, 3 distinct Scenarios were built:

(i) \textbf{A Base Scenario},

(ii) \textbf{A Good Scenario}, and

(iii) \textbf{A Bad Scenario}.

The \textbf{Base Scenario} is a rather pessimistic one, as it assumes social distancing rules until \textbf{mid-2021}. This not only accounts for the speed of return to normal activity, but also for the possibility
that airplanes might become a focus of contagion, given the proximity between passengers.

\textsuperscript{2} Simple Flying – “Lufthansa ends social distancing with mandatory face masks”
Hence, this is seen as the most realistic “base” option. The **Good Scenario** assumed there would be no social distancing measures and the mandatory use of face masks would be enough for the passengers to avoid the spread of the virus. The **Bad Scenario** assumes social distancing rules until **mid-2022**, as this scenario is directly tied to the resurgence recovery Scenario. If there is a new virus outbreak towards the end of the year, the new measures would likely be more rigid than the current ones to prevent a new wave of a pandemic that, at the time of this report, has already lasted for 6 months and is only now starting to show some signs it may be starting to slow down. In the valuation of the company, the probabilities of 45%, 40%, and 15% were respectively assigned to each Scenario.

To better understand the real impact of such measures on the valuation of LATAM, I will not only assess each individual scenario and compare them, both in terms of the revenue decrease, and also, **ceteris paribus**, in terms of the subsequent necessary average fare increase for LATAM to keep the same intrinsic value, should the resultant share price be lower. Note that it is assumed that this is a common problem to all the airlines in South America, meaning no market share is lost with the revenue increase. Moreover, it is assumed that, beginning in **2023**, as the load factors go back to “normal”, so do the average fares.

The first analysis to be done is understanding how sensitive the share price of LATAM is to a decrease in the load factors of the weighted scenario, and how much would the average fares have to increase on these 3 years (**2020** to **2022**) for LATAM’s value to be kept constant. It should be further noticed that all domestic and international regional flights are assumed to be performed by narrow-body aircraft (with a 3-3 configuration, meaning social distancing would mean a maximum load factor of 66%) and all international long-haul flights are assumed to be performed by wide-body aircraft (LATAM’s wide-body aircrafts have different configurations – 2-4-2, 3-4-3, 3-3-3, and 2-3-2 – and its maximum load factors were weighted accordingly).

The sensitivity analysis is presented below:

<table>
<thead>
<tr>
<th>Change in Average Fare</th>
<th>0.00%</th>
<th>2.00%</th>
<th>4.00%</th>
<th>6.00%</th>
<th>8.00%</th>
<th>10.00%</th>
<th>12.00%</th>
<th>15.00%</th>
<th>18.00%</th>
<th>20.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00%</td>
<td>2.26</td>
<td>2.50</td>
<td>2.73</td>
<td>2.87</td>
<td>3.21</td>
<td>3.45</td>
<td>3.68</td>
<td>4.04</td>
<td>4.40</td>
<td>4.63</td>
</tr>
<tr>
<td>2.00%</td>
<td>1.97</td>
<td>2.21</td>
<td>2.44</td>
<td>2.67</td>
<td>2.90</td>
<td>3.13</td>
<td>3.37</td>
<td>3.72</td>
<td>4.06</td>
<td>4.30</td>
</tr>
<tr>
<td>4.00%</td>
<td>1.69</td>
<td>1.91</td>
<td>2.14</td>
<td>2.37</td>
<td>2.60</td>
<td>2.82</td>
<td>3.05</td>
<td>3.39</td>
<td>3.73</td>
<td>3.96</td>
</tr>
<tr>
<td>6.00%</td>
<td>1.40</td>
<td>1.62</td>
<td>1.84</td>
<td>2.06</td>
<td>2.29</td>
<td>2.51</td>
<td>2.73</td>
<td>3.06</td>
<td>3.40</td>
<td>3.62</td>
</tr>
<tr>
<td>8.00%</td>
<td>1.11</td>
<td>1.33</td>
<td>1.54</td>
<td>1.76</td>
<td>1.98</td>
<td>2.19</td>
<td>2.41</td>
<td>2.73</td>
<td>3.06</td>
<td>3.28</td>
</tr>
<tr>
<td>10.00%</td>
<td>0.82</td>
<td>1.03</td>
<td>1.24</td>
<td>1.45</td>
<td>1.66</td>
<td>1.88</td>
<td>2.09</td>
<td>2.40</td>
<td>2.72</td>
<td>2.93</td>
</tr>
<tr>
<td>12.00%</td>
<td>0.53</td>
<td>0.73</td>
<td>0.94</td>
<td>1.14</td>
<td>1.35</td>
<td>1.56</td>
<td>1.76</td>
<td>2.07</td>
<td>2.38</td>
<td>2.59</td>
</tr>
<tr>
<td>15.00%</td>
<td>0.08</td>
<td>0.28</td>
<td>0.48</td>
<td>0.68</td>
<td>0.88</td>
<td>1.08</td>
<td>1.27</td>
<td>1.57</td>
<td>1.87</td>
<td>2.07</td>
</tr>
</tbody>
</table>
From these results, it can be understood that any given percentual point decrease in the load factor would always require LATAM Airlines to increase its average fares to maintain its value. This means that any abrupt change in the load factor could severely hamper the company’s value, as an even sharper increase in fares would be needed. Abruptly increasing the fares, especially during this crisis, could have catastrophic effects: an already low passenger demand due to uncertainty surrounding the virus would be even lower as potential customers, especially tourists and the remaining non-business travelers, who are cutting on superfluous expenses, would be even less eager to travel. Furthermore, people are getting more used to work remotely, meaning there is also less need for business travel, thus lowering the demand of this group of passengers, which usually is less averse to changes in price.

It is thus important to directly compare the **statistically expected Scenario** to three individual Scenarios, especially the **Base** and **Bad Scenarios**, to assess by how much would LATAM have to increase its fares to maintain its value should it occur; and if the **Bad Scenario** is actually putting the **future of the company at risk**, given the remaining assumptions of the valuation model. Given the difference between these Scenarios hinges solely on the duration of the social distancing measures, it is logical that the load factor is the same in **2020**. Below are the load factors assumed for each of these scenarios:

<table>
<thead>
<tr>
<th>BAD SCENARIO</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil Domestic Load Factor</td>
<td>71,01%</td>
<td>66,67%</td>
<td>74,58%</td>
</tr>
<tr>
<td>Rest Domestic Load Factor</td>
<td>71,10%</td>
<td>66,67%</td>
<td>73,74%</td>
</tr>
<tr>
<td>International Regional</td>
<td>71,74%</td>
<td>66,67%</td>
<td>75,79%</td>
</tr>
<tr>
<td>International Long Haul</td>
<td>69,39%</td>
<td>62,09%</td>
<td>73,53%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BASE SCENARIO</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil Domestic Load Factor</td>
<td>71,01%</td>
<td>73,33%</td>
<td>82,50%</td>
</tr>
<tr>
<td>Rest Domestic Load Factor</td>
<td>71,10%</td>
<td>71,12%</td>
<td>80,82%</td>
</tr>
<tr>
<td>International Regional</td>
<td>71,74%</td>
<td>73,47%</td>
<td>84,92%</td>
</tr>
<tr>
<td>International Long Haul</td>
<td>69,39%</td>
<td>71,39%</td>
<td>84,92%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GOOD SCENARIO</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil Domestic Load Factor</td>
<td>75,35%</td>
<td>79,98%</td>
<td>82,50%</td>
</tr>
<tr>
<td>Rest Domestic Load Factor</td>
<td>75,53%</td>
<td>75,57%</td>
<td>80,82%</td>
</tr>
<tr>
<td>International Regional</td>
<td>76,82%</td>
<td>80,28%</td>
<td>84,92%</td>
</tr>
<tr>
<td>International Long Haul</td>
<td>76,82%</td>
<td>80,28%</td>
<td>84,92%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPECTED SCENARIO</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil Domestic Load Factor</td>
<td>72,75%</td>
<td>74,99%</td>
<td>83,31%</td>
</tr>
<tr>
<td>Rest Domestic Load Factor</td>
<td>72,87%</td>
<td>72,23%</td>
<td>79,75%</td>
</tr>
<tr>
<td>International Regional</td>
<td>73,77%</td>
<td>75,18%</td>
<td>83,55%</td>
</tr>
<tr>
<td>International Long Haul</td>
<td>72,16%</td>
<td>73,46%</td>
<td>83,21%</td>
</tr>
</tbody>
</table>

By applying the same sensitivity analysis whilst considering these differences, and complementing it with the goal-seek tool from Excel, it results that, should the **Bad Scenario** occur, LATAM would have to increase its average fares by **7,94%** to obtain the **same result**. Comparing to the **Expected Scenario**, and considering only the load factor change, **ceteris paribus**, revenues are **2,91% lower in 2020, 11,37% lower in 2021, and 6,22% lower in 2022**. Given the load factors are back to normal in **2023**, there are no changes in the values starting from this year. **FCF is 11,9% lower in 2020, 88,1% lower in 2021, and 97,7% lower in 2022**. There
is also a spillover of effects in 2023, with FCF being 15.6% lower than in the Expected Scenario. From 2024 onwards, it is equal to the expected scenario. ROIC also decreases considerably every year. The share price decreases to $1.38, representing a 61.1% decrease. This would keep our recommendation at SELL.

If the Base Scenario occurs, the results are very similar to those of the expected scenario. Revenues would be, on average, 1.7% lower each year, with the FCF being, on average, 8% lower each year (even though the 2023 value would actually be 1.7% higher). ROIC would be slightly lower in 2020 and 2021, and slightly higher in 2023, as the load factor in 2023 is higher than the expected. The share price decreases to $2.10, representing a 7.1% decrease. This would also keep our recommendation at SELL. Moreover, in this scenario, fares would have to be increased by 1.34% for LATAM’s share price to be the same.

Conversely, if the Good Scenario is to happen (i.e., no social distancing measures), revenues would be higher in each year of the 3 years by an average of 4.53%. FCF would also be higher every year from 2020 to 2024, by an average of 28.8%. ROIC, as expected, would also be higher in each of the relevant years. The share price increases to $2.76, representing a 22.12% increase, and our recommendation would swiftly change from SELL to HOLD.

These results show how sensitive the value of LATAM is to small changes in the load factor, and how harmful social distancing measures can be for airlines if these do not receive any government compensation. Should the Bad Scenario happen, LATAM would have to considerably increase its fares to maintain its value. However, should governments follow IATA’s recommendation3 and allow airlines to fly without any restrictions, LATAM would actually increase its value and would even have room to eventually decrease its fares and steal market share from its LCC competitors, which tend to work on thinner operational margins.

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3 IATA – “Social distancing would make most airlines financially unviable”; Simple Flying – “IATA suggests scrapping social distancing for face masks”