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**CASE STUDY:**

**BANKRUPTCY AND RESTRUCTURING: TAP AIR PORTUGAL – DEALING  
WITH A PANDEMIC IN THE BRINK OF BANKRUPTCY**

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### **Initial Note**

It is the end of 2021, a year that jointly with 2020 posed the biggest threat ever to the air travel industry. Many airlines are struggling, with a few even going bankrupt. Nevertheless, there are still some on the verge of insolvency which are fighting incessantly with all their efforts and even with external or state aid.

This is the reality Christine Ourmières-Widener, appointed CEO of TAP Air Portugal in mid-2021 comes across. She inherits a chronically in deficit company which is consistently saved by the bell either by the Portuguese government or private initiative. Appointed when the airline become public once more, it is in her hands to present the European commission with a restructuring plan that can either be TAP's lifeline or its definite damnation.

### **The “Business of freedom”**

*“If Aviation Was A Country, It Would Be The World's 17th Largest By GDP” ATAG, September 2020*

The global aviation industry, in 2019, supported 87,7 million jobs around the world and was responsible for \$3,5 trillion (4,1%) of the world's gross domestic product (GDP).<sup>1</sup>

However, the benefits of this “global” industry that connects people, cultures, and businesses across continents spreads far beyond the direct impact on GDP. Besides their substantial contribution to the tourism sector, the value this sector provides to Economic development worldwide and global trade is also related to the gains they are spreading across the entire ecosystem, the supply chain linkages to the other sectors, and a fundamental contribution to direct job creation across the world.<sup>2</sup>

The doubling in connections between cities around the world, that exceed 22,000 in 2019, alongside with the halving of air transport costs over the past two decades (Exhibit 1), have boosted trade flows.<sup>3</sup> The latter is expressed as a direct consequence of the increased

competitiveness the mentioned market conditions provided to the industry, which generated an increased demand from consumers and thus heavily augmented tourism.

Air transport is crucial to world tourism and trade. Accordingly to World Travel & Tourism Council, in 2019, Travel & Tourism was one of the world's largest sectors, accounting for "10.4% of global GDP (\$ 9.2 trillion), 10.6% of all jobs (334 million), and was responsible for creating 1 in 4 of all new jobs across the world".<sup>4</sup>

In fact, in 2019, 59% of international inbound tourists travelled by air (Exhibit 2) and are estimated to have spent about \$ 900 billion. Even if air transport was redundant in what comes to world trade volume it accounted for a much larger share by value, at about 35%, slightly above \$ 6.7 trillion (Exhibit 3).<sup>5</sup>

Nevertheless, not everything was plain sailing for the airline industry as it suffered some setbacks along the way which represented some losses and downturns in travel.

Among the events which severely affected the airline industry there is one that stands out as it brought alongside losses and a large downturn in air travel, change.

The date of 11<sup>th</sup> of September not only heavily impacted people's lives (directly and indirectly) as it also strongly hit airlines revenues. The industry as people knew it back at the time was never the same. After the terrorist attacks performed on that dark morning people were no longer able to witness their loved ones say goodbye at the gate or boarding a plane without having an even thorough check on both body, clothes, and bags performed.<sup>6</sup>

But why were these changes even required? After a fall of 20M passengers in the US (most impacted area) accompanied with a fall on revenues derived from domestic flights in that country of roughly \$10 billion the industry required adaptation. People stopped taking flights because they simply lost confidence in the safety factors the airlines and airports provided,

which represented itself in form of a low decline/stagnation of a fast-growing industry worldwide. Nevertheless, soon in 2003, with confidence regained, air travel skyrocketed.<sup>7</sup>

With this in mind it is safe to assume the airline industry, as any other, has the power to adapt and reinvent itself after a moment of crisis changing fears people have into their most powerful asset, which nowadays is security. The primary concern of either IATA, ICAO, and airline operators are and always shall be security, consequently ensuring that no potential passenger finds alternatives or simply does not travel.<sup>8</sup>

This power of adaptation seems to have always been accounted for by the authorities such as Airbus, which back in 2019 predicted that nothing would slow down the stable and powerful airline traffic flow. The expressed expectations were that it would only tend to increase until reaching a level of 25 trillion in RPK (Revenue Per Kilometer) by 2038, thus representing a growth per annum equivalent to roughly 4.3% growth rate.<sup>9</sup>

Effectively, with all this evidence, Alexandre de Juniac, IATA's Director General and CEO says "*Aviation is an amazing industry. I call it the business of freedom*".<sup>10</sup> In fact, no one in their right mind could even begin to imagine that freedom could be unwillingly withdrawn from almost the whole world.

### **Aviation's Nosedive**

*"Aviation is in crisis. This is the most profound de-connecting of modern society since World War II"*, IATA, December 2020

It is December 31<sup>st</sup>, 2019, the last date where our normality would eventually change. China's government notified the World Health Organization of a "viral pneumonia" in the central of Wuhan. It only took about 23 days until China issued a lockdown in Wuhan and Hubei and on March 10<sup>th</sup> the whole of Italy entered in lockdown and soon after all over the world nations have been forced to close its borders in order to retain the global health crisis.

Governments are obligated to curtail their population's freedom of movement by forcing people to stay at home, refrain from going to work or school, and engage in the new process of social distancing. Never in history has our freedom been so restricted.<sup>11</sup>

It is not necessary to say that the Airline Industry was heavily impacted by this crisis. “Financially, 2020 will go down as the worst year in the history of aviation. On average, every day of this year will add \$ 230 million to industry losses. In total that’s a loss of \$ 84.3 billion.”, said Alexandre de Juniac, IATA’s Director General and CEO. With countries closing themselves from international flights, Travel & Tourism GDP declined substantially by 49.1% (Exhibit 4), and the airline sector found itself with a passenger’s demand globally falling to 54% which translates in a lot of airplanes with no passengers and in more than 7.5 million flights canceled in 7 months (from January 2020 to July 2020). In 2020, more than 64% of planes around the world were prevented from flying.<sup>12</sup>

Previously, the 9/11 terrorist attacks and the 2007-08 global financial crisis were really harsh times for the airline industry but neither had an impact comparable with the 66% decline in global revenue passenger kilometres (RPKs) in 2020 caused by COVID-19 (Exhibit 5).<sup>13</sup>

The airlines needed to be reinvented and think about what they could do while almost the entire world was in lockdown. Countries around the world needed more than ever aircraft speed. So, the airline industry faced a new reality that gained ground on crisis porting lifesaving medical equipment, PPE, and vaccines along with the delivery of e-commerce during lockdown periods: cargo markets. Cargo yields increased by about 30% and has proven to be a crucial aid for societies and for aviation during pandemic times.<sup>14</sup>

A study made by McKinsey expects that the airline industry will only return to 2019 levels in 2024<sup>15</sup>. Furthermore, they predict that Leisure trips are more likely to return faster to normal than business travel. This is due to the new work area that we are already facing, most jobs will

leave their staff to choose between full remote work, 100% office work or a mix of both. Deloitte has told its 200,000 UK employees that they can choose to work from home forever.<sup>16</sup>

Nevertheless, recent reports by Eurocontrol are suggesting that actual air traffic scenario is following the best expectations prediction, which puts another question mark on how long it will take to recover pre-pandemic levels (Exhibit 6).<sup>17</sup>

No one knows exactly what will come, but society - government, healthcare, the economy, our lifestyles and more - will change forever.<sup>18</sup>

### **T.A.P – The Dawn of Creation**

*“When, in 1944, the Americans summoned the Chicago conference, Salazar (Portuguese dictator head of state from 1932-1968) was desperate because we were the only colonial powerhouse without an aerial service that would connect us to our overseas territorial lands. Therefore, he decided to create the aeronautics secretariat a named me General-Director. (...) The government charged the Public Administration with “all the preparatory acts, including experimental flights for the establishment of airlines (...)”(Humberto Delgado, Memórias, Edições Delfos, 1974)*

All the efforts made by the Portuguese dictator led to the creation of Transportes Aéreos Portugueses (T.A.P) in 1945 established by General Humberto Delgado (whose name will be forever eternalized in Lisbon airport – Aeroporto Humberto Delgado). And throughout its entire lifespan of 76 years to date it has been not only frequently under fire by the Portuguese people, who in plenty occasions “*point their finger*” to the Portuguese carrier for “emptying” their pockets, as also constantly on the verge of privatization and nationalization, derived from the company high costs and cash needs and incessant Portuguese folk pressure.

Salazar was so blinded with keeping Portugal on the vanguard of colonial powerhouses at all costs, that he even disregarded any exorbitant and necessary amounts to fulfil his goal.

Therefore, he soon not only exempted the Portuguese carrier of any tributary expenses incurred as also he was compromised to supply the company with an annual subsidy in case it was not possible to maintain a stable economic exploitation.<sup>19</sup> Ironically, the situation above described may be identified as an omen for modern days TAP where consecutive state interventions are required.

All the latter was at the time sustainable as Portugal was set as the economy with the most amount of gold proportionally to the size of its economy. Ironically, it may be identified as an omen for modern days TAP where consecutive state interventions are required.

All in all, T.A.P was the result of an attempt to unify European Portugal and all its territories around the world by bringing colonies even “*closer*”, at a shorter “*distance*”, and more accessible to their “*mothership*”. Nevertheless, long-range routes were not as easy as “*said and done*”, these took time to plan, to be in accordance with ICAO (International Civil Aviation Organization) and IATA (International Air Transport Association) requirements, and of course necessary infrastructures (almost inexistent at the time in Portuguese colonial territory) and assets, namely capable aircrafts. With almost no delay – apart from its medium-range routes such as Casablanca, Madrid, Oporto, Paris, London, and Tanger – the Lusitanian company was able to start connecting Lisbon with Luanda and Lourenço Marques (Maputo) following straight after, thus kickstarting António de Oliveira Salazar’s vision. (Exhibit7)<sup>20</sup>

Even though unprofitable at first, *Transportes Aéreos Portugueses* showed an effective and constant growth throughout 1953 – 1974 (period in which the airliner was a product of private initiative with majority belonging to the state) both in number of passengers and Revenue Passengers per Kilometres (RPK) – Exhibit 8– and in Profit likewise – depicted in Exhibit 9.

As it was possible to witness from Exhibit 9, TAP results were getting better by the year. Free of tributary charges and supplied by a government pillow the Portuguese based carrier was experiencing a heavenly like environment for its growth and development, where it could risk

on their investments due to government backing if it went wrong and had no fiscal obligations towards the competent authority (Exhibit 9)... Until 25th of April 1974.

***End of the storm for Portugal, the start of it for TAP?***

After 1974, when the dictatorship fell most big companies were nationalized, T.A.P included, which would end up converting its name into *TAP Air Portugal* and becoming a flag carrier. now in charge of connecting Portugal with its communities and Portuguese speaking countries

The colonial war was over, the imperialistic vision Salazar once had for the national airline was also forced to be put to an end. Dead as Salazarism itself. What purpose did TAP had now? There was an urge to reinvent itself. From 1974 to 1993 it never found its way to stability, varying presidents all with different strategies and intentions with no consensus and definite course for TAP's future. Consequently, the managed immense negative results throughout the span of 22 years until it finally had operational profit (€ 11 Million ) in 1997. (Exhibit 10)

Europe in the early 1980's was in its generality characterized in the aviation sector by national monopolistic air carriers and public/private management airports. This fragmentation in national markets and the inexistence of true competition were diminishingly matching the increasing quality of life and its consequent demand for air transportation. Hence, a set of three packages (1987, 1990, 1992) were released and implemented to set up more flexible rules, tariffs, and other commercial restrictions that affected European airlines operating in the new European Union set in 1992. Therefore, from 1993 onwards, national carriers started operating as European carriers.<sup>21</sup>

Considering the three packages, the new agreement raised some red flags for TAP that was already in precarious situation in 1992 showing an awful net operating profit of € (245) and € (318) Million in 1992 and 1993 (Exhibit 10). The Portuguese company now had to face fair competition with equal standard inside its own market and with no sufficient capital to do so.

Apart from its consecutive negative results since 1975, TAP faced other problems since the nationalization. Firstly, the Portuguese domestic market was too small and peripheral, where the Lusitanian carrier faces competition not only from non-regular carriers functioning in charter basis and other regular carriers with competitive advantages such as lower operational costs, leading to lower margins. The latter did not seem to be a priority for TAP, that seemingly privileged the occupancy rate of flights instead of optimizing operational results. Secondly, and correlated with the last factor stated, there was an inefficient combination of aircrafts that furthermore characterized the carrier low productivity levels in diverse areas which in comparison, were much lower than that of their peers, creating a clear competitive disadvantage. Moreover, since the end of the colonial war, TAP Air Portugal lost the route monopoly to its colonies which were characterized by an intense traffic with both high occupancy rates and profitability.<sup>22</sup>

TAP Air Portugal got to a point where irreversibly action had to be taken. Beyond the negative results, the company had low margin to influence revenue being a “flag carrier of a peripheral country with low capacity to generate traffic”.<sup>23</sup> Therefore, following the results of 1992 and 1993 (Exhibit 10), there was no other alternative than to cut costs. Firstly, the company agreement was replaced by a substitute regime, which meant the suspension of some of the remuneration clauses present in the employee’s contract. Furthermore, there was an intensification of employees cut (Exhibit 11) lowering from a value of 11.076 in 1991 to 7.567 in 1996. Nevertheless, it was not enough, the airline needed capital to reinvent itself. When the Portuguese government notified the European commission of the intension of injecting € 900 Million (as of 1992 with the unification of the EU, if cash is to be injected, a plan of action shall be submitted for European commission approval) the first reaction was negative. Hence, in 1994 with the help of external consultants a plan with the span of 1994-1997 was devised called

PESEF<sup>i</sup>. This plan and the conceded financial help had as its ultimate goal turning TAP into not only self-sufficient company but also competitive inside European borders and more attractive for private investors.<sup>24</sup>

### ***The New Era of European Aviation***

*“A flag carrier airline is an airline which is subsidized or owned by the country in which they are registered (...) it can refer to any airline with a strong connection to its home country, regardless of it is government-owned. The airline often seeks preferential rights or privileges by the government for international operations”.*<sup>25</sup>

After the 1992 Single Market and with the 1993 liberalization, this concept becomes incompatible, but it's just one of the many times this reality was forgotten.<sup>26</sup>

For TAP to be competitive, and have capital to do so, the most optimistic scenario to achieve this competitiveness reinforcement was to open the company's capital to strategic partners who intended to further invest in the company. The first step to do so was belonging to an alliance, thus creating synergies to be competitive under the new type of market and to become more attractive to potential investors. Therefore, in 1998 TAP signs a protocol with SAirGroup (holders of SwissAir) stating they would at least participate with 10% in the company's privatization process, which will also lead to the association with “*Qualyfier Alliance*” (Swiss Air, Sabena, TAP, Turkish Airlines, Austrian Airlines, and AOM). This said alliance allowed TAP a more diversified service with better quality in a context of growing liberalization and restructuring of air transport industry. A little down the road, at the beginning of 2000 Swissair decides to acquire 34% of TAP's capital, making it partially privatized. By the end of the year, the executive commission hires Eng. Fernando Pinto as Delegated Administrator.<sup>27</sup>

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<sup>i</sup> PESEF-lano Estratégico e de Saneamento Económico e Financeiro -

Nevertheless, due to disastrous provisions for that year for the Swiss carrier and bearing in mind they end up having loss amounting to € 1.6 Billion the year past, they withdraw their position in the beginning of 2001, thus leaving TAP entirely in Portuguese government hands once more and missing out on € 154 Million in capital previously agreed.<sup>28</sup>

TAP thus enters the new millennium with the same structural problems it faced before, namely lack of equity. Therefore, the search for privatization regains a certain degree of urgency. The Government together with TAP propose another restructuring plan to the European Commission for the span period of 2001-2004 which predicted losses of € 53 Million and € 6 Million in 2001 and 2002, and a superavit in 2003. The practical effects of it were a loss of € 44 Million and € 6 Million respectively, and the expected superavit in both 2003/2004 that effectively reveals the impact and economic balance achieved by the restructuring.<sup>29</sup>

Fernando Pinto's TAP intervention benefited from "Lisbon turntable" ("Placa Giratória de Lisboa") which allowed for the utilization of better flight connections, more aircrafts, and appealing timetables. Allied to all this was a consequent growth in sales and reduction in unitary costs. The company also seemed to be closer to both media and workers, a fundamental part in Fernando Pinto's methodology. TAP's Revenue Passenger Kilometres (RPK) tri folded since to 2001 until 2015 under the engineer's administration (as per Exhibit 12).

TAP spent years struggling against their own limitations, barely just surviving along major diversities across the beginning of the new millennium, mainly 9/11/2001 and the financial crisis of 2008. The net profits derived from each year help identify the company crisis moments well. Between 2001 and 2013, the Portuguese airline only evidenced two clear negative moments. Any educated guess? Of course, 2001 and 2008 as depicted in Exhibit 13, with astonishingly terrible values of € (44) Million and € (209) Million respectively (With operation margin reaching a scandalous negative value of -7.2% in 2008 an industry where the average should be situated between 7% and 12%... POSITIVE!). (Exhibit 14)

The year of 2008, although also very impacting throughout all the airline industry sector, has come to expose many frailties TAP carried. Furthermore, according to Relatório da Parpública<sup>ii</sup> *“The negative results of TAP Group shows the measures taken were insufficient to restructure the company and create both sustainability and reaction to market conditions capability (...) With effect, the measures in force carried along the year aiming to reduce costs, were not enough to control and limit the crisis effects”*.

Parallely, the situation lived in 2008 can be perceived similar as of 2020. When a crisis struck, at both times the company has proven not to have stability, resources, and most importantly a backup plan to face adversity. TAP was only sustainable as long the market allowed.

From the moment Fernando Pinto integrated TAP air Portugal administration and later on presidency until 2015, his main goal was to create a sustainable company that could properly be sold to private investors. The moto until 2003 was simple “restructure first, privatize later”<sup>30</sup> but the urgency of capital required to compete with the rest of the European lead to the main priority to shift, and the goal was one, privatization.

Nevertheless, through the socialist government of José Sócrates between 2005 and 2009, that need was ignored or not given priority. However, with the change in government as the right-wing coalition PSD/CDS rose to power led by Pedro Passos Coelho, the process soon regains its significance. Immediately there were more than one player willing to invest its funds in privatizing TAP due to its importance as a geographic strategic position. The Lisbon hub is the gateway to Europe, mainly from flights incoming from the Americas. This strategic asset adds value to TAP, hence many companies studied the possibility to acquire the airliner. Big names as IAG<sup>iii</sup>, Lufthansa, Qatar Airways, Turkish Airways, and Delta were on that list. <sup>31</sup>

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<sup>ii</sup> PARPÚBLICA, Participações Públicas, SGPS, SA, it is a society of exclusively public capitals established at the end of 2000 with the purpose of building a state instrument regarding movable and immovable assets.

<sup>iii</sup> IAG, is an Anglo-Spanish multinational airline holding company formed in January 2011 after a merger agreement between British Airways and Iberia

At last, in 2012, it seemed that an agreement was settled with Synergy Aerospace, led by the millionaire Germán Efromovich. The deal failed to be struck since the Bolivian born businessman did not present the required banking collateral by the Portuguese government. However, in 2015, at Pedro Passos Coelho's last gasp Portuguese prime minister, the company saw 61% of its capital finally sold to Atlantic Gateway consortium reportedly by € 10 Million plus company recapitalization until €488 Million, guided by both David Neeleman and Humberto Pedrosa. The remaining 39% were distributed as 35% to the Portuguese state and 5% to company workers.<sup>32</sup>

The incessant drama about TAP's privatization that lasted since the early 2000's seemed to finally be over in 2015. "It's true, I was hired to make that transition for a privatization, I came here for that. It was supposed to have happened at the end of 2000 or at the beginning of 2001. (...) To me and to all the management team, it is an enormous satisfaction that we were able to see it through and we felt it was our responsibility to fulfil this mission." Said Fernando Pinto, who remained TAP's executive president, upon the carrier sale.<sup>33</sup>

Throughout that period, TAP almost doubled their fleet from 39 in 2000 to 60 aircrafts (21 A319, 18 A320, 3 A321, 14 A330, 4 A340) in 2015<sup>34</sup>(Exhibit 15). Also TAP SGPS<sup>iv</sup> through Fernando Pinto's hands made several acquisitions and creations (most of them ended being prejudicial but some had a positive outcome and reasonable motive) such as:<sup>35</sup>

- Creation of White in 2004 (with 75% participation) a company focused on "charter" flights, later sold to Omni group by €5.3 million whilst representing a loss of € 5.9 Million
- Acquisition of VEM (Varig Engenharia Manutenção) a maintenance and engineering company in Brazil in 2005, aimed to be a potential important partner for the company's

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<sup>iv</sup> Previous TAP SA, created by the government to facilitate the privatization process

growth in Latin America but ended up being a disaster with losses after losses even after years and years of stability and equilibrium predictions (Exhibit 16).

- The ingress in Star Alliance in 2005, which by nowadays globalized market is tremendously important to better attend travellers needs by being compromised in innovating and provide the customer with an excellence customer support service as well as improvements in travel experience. Nowadays the alliance has 26 member airlines and is characterized by being the biggest global alliance in the world<sup>36</sup>.
- Acquisition of PGA - Portugália in 2006, by the amount of € 140 million, company that performs short-range flights in the name of TAP air Portugal.
- The sale of 50,01% of Groundforce, a handling company to Grupo Urbanos

All in all, the legacy left for Atlantic Gateway was an airline which the core of operations was based on connecting Latin America and African old colonies with Europe and an aging fleet, factors that David Neeleman will rush to change.

### ***TAP after the privatization***

On June 24th, 2015, the such awaited privatization finally took place with the sale of 61% of TAP SGPS to the consortium Atlantic Gateway, made up by two companies, HPGB SGPS, S.A led by the Portuguese business-man Humberto Pedrosa, and DGN Corporation, whose owner is the Brazilian-American David Neeleman. However, for ideological matters, as soon as António Costa's government was elected he intended to revert the process. Henceforth, by August 2016 the state's participation in the company's equity went from 34% to 50% in exchange that the economic rights went the opposite way from 34% to 5%, whilst Atlantic gateway participation diminished from 61% to 45% but saw its economic rights go all the way up to 90% from the previous 61%. Nevertheless, according to David Neeleman this deal was only possible if "*Atlantic Gateway was able to manage TAP without political interference*" and

that the executive commission should be private: Beyond the latter, Neeleman also suggested that the strategic plan with which the consortium had won the privatization should still be the same and accepted by the new government. Finally, the last requirement was that they would increase their economic rights (as previously mentioned) and that the government should help in improving existing financial conditions at TAP.<sup>37</sup>

Throughout this time span where TAP was privatized, the airliner tried to change its course and presented an operational growth as revenue grew 10-20% until 2019. The goal was to reduce the cost structure which was characterized by being largely above market average and focusing on fleet renewal. TAP went from 60 aircraft in 2015 to 97 as of this year (2021), fact that may be largely explained by the arrival of many fuels efficient A330.<sup>38</sup>

Nevertheless, the arrival of this aircraft did not please everyone, as it is thought by some that David Neeleman negotiated the exchange of 12 previously bought aircrafts whilst the company was still in public hands (state of the art A350) for these newly arrived A330. However, the proceeds of this deal rendered €70 Million which were allegedly used by the American businessman to acquire TAP. Hence having bought TAP without investing according to Susana Peralta<sup>39</sup>. Furthermore, Neeleman was never able to bring the investment he promised given the solution he presented (HNA group) ended up failing miserably as the Chinese conglomerate bankrupt and had to backdown on their word, which David Neeleman was counting on as it was made clear by the interview he performed to Publituris in March 2017 when asked *“If it is not enough [capital injected by Atlantic Gateway in TAP] how are you going to get the required capital?”* to which he promptly answered *“We have a partner, which is HNA, we will discuss with them the best way to do this restructuring”*. What was supposed to be a group with *“an enormous capital capacity”* which brought *“tranquillity”* according to Fernando Pinto, ended up being a dead end, since HNA bankrupt, sold their position in TAP and consequently were unavailable to invest in the Portuguese airliner.<sup>40</sup>

Yet, the focus of the new strategy was also to start being the connection point between the Americas and Europe, therefore turning Lisbon into an international hub. With that in mind, TAP accentuated their presence in both South and North American grounds with more flight frequency and new routes such as Boston, New York (JFK airport), San Francisco, Washington, Cancún, among others. All said and done, TAP did in fact as it was previously mentioned increase both their traffic flow and revenues, despite this they were still unable to track their peers in efficiency and reducing costs.

### **The covid-19 disaster and restructuring plan**

Right after the covid crisis struck airliners a mixed process of recovery and reconversion began. The sector had a crash of roughly 75% on its revenue and TAP was not having it easy as well. The Portuguese carrier had losses amounting to over € 1.4 Billion during the year of 2020, representing an increase in losses of around 1248%. Bearing the latter in mind, it is safe to say TAP would not survive if capital was not injected into the company, cash that the consortium Atlantic Gateway's partner David N. did not have and was unwilling to inject into the airline.

Before March 2020 TAP was already considered below "investment grade" by Moody's, bearing a B2 classification. Following the covid crisis, Moody's changed the classification to B3 long term, with a recovery prospect of only 45% to the € 375 Million bond issue. Sometime later Moody's further downgraded TAP's probability of default and thus corporate ratings to Caa1 in March 2020 and later on to Caa2 in June of the same year. Also, the bond price on the €375 Million senior notes issued in 2019 on the secondary market with the downgrading in credit rating took a hit and crashed to a price of roughly 68,0. (Exhibit 17)

Nevertheless, and to slightly (really just residually) soften the pandemic impact and seemingly anticipating a probable crisis, by December 2019 TAP extended their operations into cargo sector. This change would come in as useful given the crash that commercial aviation suffered.

The little revenue TAP was able to generate during the quarantine period was due to TAP Logistics Solutions, S.A. established in December 2019 with the sole purpose of operating cargo and mail activities.<sup>41</sup>

By 2020 the Portuguese carrier was completely devastated and dependent on state aid to survive. Therefore, by June of that same year, TAP submits a state aid request. The Portuguese government argues that if TAP ceased to exist there would be catastrophic damage to the country. The latter is not only due to the high amount of people the airline employs directly and indirectly but also brings tourism to the country. TAP pays € 1.3 Billion to other national firms, and provides the Portuguese state with €300 Million in taxes and contributions.<sup>42</sup>

Therefore, as it was agreed in June 2020, the flag carrier received an amount totalling to € 1.2 Billion with the purpose of answering to urgent liquidity matters.<sup>43</sup> However, this aid came in under specific conditions which only presented the airline with two possible outcomes. Either TAP should return the conceded amount in less than six months (option out of reach for a company like TAP) or file a restructuring plan that would argue future sustainability for the Portuguese carrier. Consummating the European Commission's requirements, TAP would then file their first restructuring plan proposal by December of 2020.

In between both dates from the aid request and restructuring plan proposal, from the 2nd of October 2020 onwards, the state would increase its participation to 72,5% in TAP SGPS (50% through Parública and 22,5% through DGTF [Ministry of the Treasury]).<sup>44</sup> Later on, in March of the following year, the Portuguese government further requested authorization to provide TAP with financial support whilst the restructuring plan was still pending approval claiming COVID-19 compensations. Effectively, TAP received the covid damage compensation amounting to € 462 Million, amount regarded apart of the many other funds the Portuguese airline will require throughout its recovery process. Nevertheless, the amount received was

intended to enter TAP's accounts under the form of a capital increase subscribed under the state as a shareholder, thus further increasing its participation on the flag carrier to roughly 92%.<sup>45</sup>

By mid-June 2021, Portugal requisites a restructuring aid for TAP representing roughly € 3.2 Billion, amount on which the already attributed € 1.2 Billion rescue loan to be converted into equity in the same nominal value. The following month, the European Commission opens an investigation regarding the latter requested aid (€ 3.2 Billion) to confirm whether or not the already submitted restructuring plan fits EU rules about state aid attributed to the airline.<sup>46</sup>

Currently, there is still no approved restructuring aid by Brussels, which poses a considerable threat for TAP given that if not approved by the 31<sup>st</sup> of December of this year, that said date is assumed to be the deadline to repay the attributed € 1.2 Billion.<sup>47</sup>

The first delivered restructuring plan is intended to target from 2020 to 2025 and is expected to be based on many important points, as per Christine Ourmières-Widener<sup>v</sup>, such as labour cost savings guaranteed through productivity gains, deployment of staff salary reductions – which are currently indefinitely at 50% due to an agreement signed by the pilots themselves to prevent mass firing<sup>48</sup> – freeze of salary and promotions, and renegotiation of agreements with trade unions, lay-offs and negotiation of exits, pre-retirement, and early retirement. Beyond this, TAP will also aim for a fleet reduction to adapt it to the company's true demand. Also, the airliner is invested in reducing the routes, probably the ones that are not seen as profitable and that will hardly be so in the future, and the divestment in some non-core activities in order the focus on the main core business.<sup>49</sup>

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<sup>v</sup> TAP Air Portugal CEO (June 2021 – nowadays)

A Work Project presented as part of the requirements for the Award of a Master's degree  
in International Finance from the Nova School of Business and Economics.

## **Individual Work**

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Irem Demirci

17-12-2021

## Abstract

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TAP Air Portugal is a Portuguese flag carrier that was born in 1945. Since then, most of the time it has relied on either private investment or state aid. This case study will go into the depth of both the company's growth and condition over the years until today, where it faces the biggest challenge within their 76 years of existence, but also briefly exposes the panorama airlines face with the ongoing pandemic.

Also, it is intended to go into detail about some topics while making some inquiries regarding TAP's restructuring, the current financial distress, their competitors, future options for them, and the many challenges they can face during the restructuring process.

**Keywords:** Financial Distress, Bankruptcy, Restructuring, TAP, Airline, Pandemic, COVID-19, flag carrier

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## Analysis

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### *Question 5.*

A Z-score test according to Altman (1968) is used to measure the financial state of firms. To perform a Z-score test that fits our purpose - non-manufacturing companies – Altman further developed the model to allow for private firms, for firms outside the manufacturing sector, and for firms in emerging markets. As a result, the use Z'' was established to predict bankruptcy of all types of firms, in our case specifically used for a non-manufacturing firm (TAP), given that Z and Z' should be utilized for measuring that of manufacturing firms and private companies respectively. Therefore, by making use of the formula expressed on Exhibit 25 one can be able to better understand and predict in this case TAP's financial performance.

After the calculation of the Portuguese airline Z''-Score, and considering the obtained result for 2020 was -3.346, according to Moody's ratings, the test will indicate a company lying deep in a C rating. According to Altman "Z-Scores below 0 indicate a distressed condition".<sup>66</sup>

Nevertheless, to actually evaluate and interpret the true meaning of the test, the rating must be adjusted according to many different characteristics of the evaluated industry, such as adjustment for currency, type of industry, competitive position, debt issue features, among others. Therefore, one must also ponder, in this case, that industry average rating for an airline is Ba3, corresponding to a Z''-score of roughly 4.75 as per Altman (2005).<sup>67</sup>

Regarding the evolution of this parameter when looking back at the two previous years (before 2020), TAP's Z''score was of -1.174 in 2018 and 1.825 in 2019, which should be a horrifying indicator for the company. However, when applying the required corrections, Moody's evaluated the true adapted probability of default rating for TAP as B2 for 2019 and Caa2 for 2020 (Exhibit 26), which is still below industry average and does not reflect financial stability

and good on-going indicators, but it is a slightly better sign for the Portuguese carrier.<sup>68</sup>  
(Correction for rating of 2018 unknown).

Looking at the respective Income Statement (Exhibit 24 – Table 2), it is possible to relate a better value of Z'-Score in 2019 regarding the year before to an increase from € (43, 974) to € 58 640 in EBIT which consequently boosts  $x_3$ . This is an indicator that perhaps before the pandemic TAP could be on track for a financial recovery. Also, this positive change may be owed to the reduction of costs incurred in 2019 relating to 2018, thus lining up with the board strategy at the time of reducing costs, expressed in the case study, so it would be possible to compete against fierce European competition by practicing more accessible prices.

### **Suggestions for TAP board**

Whilst living during a time of pandemics and witnessing a consequent shift in times, costumes, and paradigm it is extremely important as per Reeves & Deimler (2011) to adapt to market shifts by having the “ability to read and act on signals”. Taking Formula 1 as an example, a few years back the best driver and car easily would win the race. Nowadays it is much more complex and depends on “making adaptive decisions as about mechanics and driving prowess”.<sup>69</sup>

Shifts or shocks at a global scale tend to bring a change of strategy within different companies to offset the direction of that said shift. By taking as an example one of the worst events for world aviation, 9/11, the fear was installed in every passenger’s mind. Flying did not seem as safe as it was previously perceived after all. Therefore, for the industry to reinvent itself and carry a message to their customers that flying was not dangerous (and mainly for the sake of the actual flight safety) airport security was never the same since then, mainly in the USA. Now passengers are required to go through a thorough check on both their bodies and luggage to ensure that history is never to repeat itself.<sup>70</sup>

The COVID-19 crisis is no different in a sense that people also have some degree of fear in the back of their minds. Therefore, airlines will need to adapt to calm these fears. The faster they move the more advantage they will have regarding their competitors, hence using of one of Michael Porter's (1980) 4 factors to achieve competitive advantage, in this case differentiation.<sup>71</sup>

For safety promotion and to appeal and attract clients, TAP could offer free PCR tests in their group clinic UCS that is located near Lisbon's airport, this way relieving passengers of one concern and charge. Henceforth, if a passenger desires so, he/she could just simply come by the airport earlier to perform the test, thus relatively saving costs for the customer regarding other companies where the test is not included. Furthermore, the passenger would not have the stress nor expend the time searching for an available slot to perform the test. Additionally, to provide the passenger with the idea the airline is concerned with public health, the Portuguese carrier could also supply each passenger with a personalized N99/FFP3 face mask when boarding the aircraft. This mask is substantially more effective than the simple disposable mask and ensures a larger safety margin regarding virus transmission. Also, some changes could be performed inside the aircrafts as well. Between seats a curtain that leaves the armrest up to the ceiling could be installed so passengers that were travelling besides someone they are not familiar with could set this separation as a prevention measure for virus spread. Moreover, hand sanitizers and wipers should also be installed in case the passenger does not feel confident or comfortable with the cleaning service and desires to clean the sit himself.

Another measure to contradict the effect of the pandemic could be the continuous investment on expanding freight operation. By the end of 2020 TAP had already converted two of their A330 into cargo aircrafts, thus taking advantage of two older aircrafts that are not as costumer friendly as the new ones.<sup>72</sup> Therefore, one can state that TAP followed the trend of the market during pandemic times. "Compared to the significant decline in passenger revenue, the 8%

growth of cargo revenue in airlines cements its status as a crucial source of revenue and as an irreplaceable service during a pandemic”.<sup>73</sup>

The latter presents itself as a measure “to stay” as the current panorama offers a high volatility market derived from the unpredictable pandemic situation. Whilst COVID-19 highly impacted passenger air travel (drop of 39.3% and 50.5% passengers in 2020 and 2021 compared to 2019)<sup>74</sup>, the situation seemed to not only not affect the air cargo sector as it even boosted it, thus contrasting passenger air transportation that heavily declined. The air cargo business that grew 8% in 2020, has a continuous expected growth in 2021 and 2022 of 9.5% and 5.6%.<sup>75</sup>

The business is here to stay, the incessant globalization levels require vast amounts of interchanged products all around the world, adding to it, the pandemic helped increase this traffic by boosting the number of medical supplies and vaccines interchanged. By betting on this sector, airlines are hedging against future outbreaks that may affect air travel. In the case of TAP, if the flag carrier intended to reconfigure more A330 aircrafts into cargo assets, they also carry the advantage of aircraft adaptability, since that airbus has capacity to be either configured as cargo or passenger aircraft. Therefore, the Portuguese carrier can adapt the aircraft configuration according to market needs.

Another change that would help TAP reduce its costs would be levelling pilot net wages with that of western Europe companies. At the moment and until 2024, TAP’s pilots (major source of personnel expenses) are under an emergency agreement which cuts their wages by 50% to assure company’s restructuring. That is already an effective measure itself.<sup>76</sup>

In 2019 and 2020, Employee costs represented around 21% and 23% of the TAP’s total costs respectively, (R&CTAP) which is a massive drag for the Portuguese carrier. If one observes a TAP’s pilot wage in comparison with its peer Iberia (previous to 2021), 1-5 years First Officers has a wage between € 84,000 – €122,000 vs € 40,000 – 45,000 of the Spanish airline. Further breaking it down to after tax wage, assuming 1<sup>st</sup> year earnings, the value is a little less

unbalanced due to Portuguese high personal income taxation and corresponds to a net income of € 41,833 (out of €84,000)<sup>77</sup> vs €32,824 (out of €45,000)<sup>78</sup> of first year pilots working for the Spanish peer. (Exhibit 27) The Portuguese taxation system does not help companies to cut costs, especially in these areas where there is foreign competition, since to remain competitive and retain talents, the expense is much bigger in Portugal comparing to Spain for instance.

Therefore, as a medium-term measure, after 2024 when the agreement about pilot cuts terminates, TAP should consider to slightly lowering their salaries and narrow the huge salary gap with seniority as it is quite visible from Exhibit 27. For instance, if TAP lowered its 1-5 year first officer wages to around € 55,000 - € 66,000, a 5<sup>th</sup> year pilot would earn as much as an Iberia 5<sup>th</sup> year first officer, thus remaining competitive and massively saving costs.

#### ***Question 6.***

To be able to efficiently reply to this question one should try to understand the differences in profits and efficiency between the two types of companies. According to Agency Theory, Eisenhardt (1989)<sup>79</sup>, in an SOE managers may tilt towards following a personal agenda and not work on behalf the company's interest. They tend to seek the higher compensation at the lower risk possible, thus sometimes harming the company for their own benefit. At the same time, in private-owned companies, managers may face the risk of replacement if they do not meet certain goals or expectations (Nguyen 2007)<sup>80</sup> because unlike in SOEs the CEOs are put under financial constraints and their reward is connected to the firm's performance. (Perkin 1994)<sup>81</sup>

According to Shleifer (1998)<sup>82</sup>, even if the SOE owners (state and population) want profit maximization, complete contracts are difficult to draft when it comes to link agent's incentives to the desired outcome because of diffuse ownership. Therefore, it is much harder to obtain profits in SOE than in private-owned companies, which have the rights to profits precisely set out and thus, the incentive for profits makes it more likely for owners to monitor managers and for managers to perform accordingly as per McCormick & Meiners (1998).<sup>83</sup>

Nevertheless, SOEs also pose advantages, such as receiving financial support from the government, access to favourable policies such as tax breaks on some products, and lower interest rates on loans from public banks.<sup>84</sup>

TAP perfectly illustrates the example of a State-Owned Enterprise that is now benefiting from government aid whilst enduring the COVID-19 crisis. Furthermore, back in 2019 – when the company was already majority state owned (50%) – even after not being profitable TAP distributed bonus to its board, thus showing that effectively, there is no rational incentive for the board to try and provide the airline with profitable results.<sup>85</sup>

However, in privately owned companies such as IKEA (INGKA Group), co-workers and board members are rewarded for achieving and exceeding business goals, which are directly linked with the company financial performance.<sup>86</sup> Throughout the last 10 years the Swedish based Privately Owned Company has been consistently registering Gross Profits above \$ 10 Billion.<sup>87</sup>

All in all, Privately Owned Companies seem to have an edge regarding efficiency and profitability whilst State Owned Companies seem more solid due to their government backing. However, this is not always the case. Being State Owned does not prevent one from being efficient and profitable, as we can see for the examples of other airlines such as Emirates and Qatar, that despite being held by their respective states, keep on operating efficiently and profitably, having each registered profits of \$ 288 Million<sup>88</sup> and \$ 42 Million<sup>89</sup> in the most recent financial year accounted before the pandemic.

### ***Question 7.***

The covid pandemic caused havoc all around the world across many industries and individuals. Nevertheless, there was one industry that was arguably the most affected of them all, air travel. As airlines saw this situation developing under their noses, most of them felt the urge to reinvent themselves and try to find solutions and opportunities to face the changes conveyed by the

highly contagious coronavirus. Others, however, could keep operating at similar prices than before hence had damage minimized and are the first ones to rise when restrictions ease, Low-Cost Carriers. When normality starts to pick-up these will be the airlines that are more comfortable to practice competitive prices without compromising profits. After all, they are just practicing their regular day to day pricing, whilst other network carriers will struggle to find a greater creativity to adapt to the changing demand environment to keep their profitability.<sup>90</sup>

TAP will be one of those companies that will struggle in anticipating to market needs and adding to the customer a different type of value (differentiation per Michael Porter (year)) value because there is no point in starting a war they cannot win against LCC. TAP will never be able to be profitable whilst practicing Ryanair's prices for example, the cost per seat will never be as competitive as the one from the Irish airline. Ryanair makes the price competition particularly strong for all the aviation industry (Soyk et al, 2017).<sup>91</sup>

Another plausible challenge that may arise from restructuring TAP has to do with workers motivation. Currently, pilots are dealing with a 50% cut in their wages as agreed between syndicate and board until 2024<sup>92</sup> whilst the company is heavily struggling with their revenues conditioned by the pandemic situation. However, if after 2024 – term of wages cut – some measures are taken to permanently decrease pilots' wages this may have serious implications regarding both talent retention and acquisition. The EU is a free market with an expected huge growth potential for air travel in the years to come. Previously to the pandemic crisis it was expected to grow 42% from 2017 to 2040 in the European Union in the most likely scenario.<sup>93</sup>

Consequently, it means that there will be a corresponding demand for pilots across the European continent. Therefore, it is extremely important to have enough good professionals on your ranks not only to meet the demand but also to ensure the best levels of safety possible in an industry where safety is the number one priority. According to Sorrio (2004) people want money for

more than fulfilling their primary needs regarding needs of Maslow Pyramid<sup>vi</sup> such as physiological and safety needs, but also to enhance their self-esteem and fulfilment (secondary needs). Furthermore, in a business where safety is number one as previously mentioned, the last thing a board desires are unmotivated pilots not pushed to do their best with full attention, detail, and professionalism. Beyond compromising safety, it also carries possible cumulative costs to the company that may even surpass the savings with wage cuts. “*A motivated employee is a valuable asset which delivers immense value to the organisation in maintaining and strengthening its business and revenue growth*” according to Rahjans (2009).<sup>94</sup>

If not felt rewarded for their efforts, motivation will go down and pilots will consequently tend to approach minimal performance. Therefore, they will avoid several cost saving procedures due to the higher workload they require. These are procedures that do not have time implications and would only bring benefits to the Portuguese flag carrier such as Single engine taxi in and out, Continuous Descent Approaches or Continuous Climb Operations, Route shortening, Optimum Level Negotiation, among many others.<sup>95</sup> Consequently, cutting wages could present itself as two snags for the TAP since it could likely escalate costs in the long term, in particular fuel costs and delay fees – since pilots will not feel pressured to be in schedule.

Finally, another likely challenge for the flag carrier to face is the uncertainty of times. After vaccination of a grand part of the world population against COVID-19 it was thought that after two troubled years, aviation was finally ready to skyrocket. However, the situation is seeming to deteriorate abroad with some countries now re-tightening measures such as Canada<sup>96</sup>, Germany<sup>97</sup> or Portugal<sup>98</sup>.

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<sup>vi</sup> Maslow's hierarchy of needs is a theory by Abraham Maslow, which puts forward that people are motivated by five basic categories of needs: physiological, safety, love, esteem, and self-actualization.

Hence, it is extremely unlikely to predict the upcoming panorama, will airlines be allowed to perform 100% of their flights? Are there going to be an enormous number of aircrafts grounded<sup>99</sup> and pilot surplus once again as in the previous years? Only time will tell.

### ***Question 8.***

Bearing in mind TAP's operational results throughout the time span of 1975-2000 (Exhibit 10), it is quite straightforward to assume the airline was almost always never profitable in the XX's century after its first nationalization. Therefore, considering historical data, it is reasonable to assume the company was always unsustainable as most of the time it was unprofitable when not aided with external help or investment, which does not carry a positive omen for times to come. After the current state aid provided to the Portuguese flag carrier, Sérgio Palma Brito<sup>vii</sup> considers, there cannot be another one for the next ten years. *"It is about assuring the taxpayer's money is not spent on successive supports conceded to an airline that is not viable in an open market"*.<sup>100</sup> Therefore, for TAP to continue its operations, the most likely scenario would be an external acquisition or investment. Besides that, the company could carry the operations under a newly registered airline that would have to undergo a rebranding despite remaining the same rights of the previous company. The advantage of doing so is being able to carry on an economic discontinuity basis. The latter was the case of previously state-owned airline Alitalia, nowadays renamed ITA. Unlike TAP, which reportedly has not received any state aid for at least 20 years (until COVID-19 struck), according to Pedro Nuno Santos<sup>101</sup>, Alitalia did so in 2017 when it was declared bankrupt. It so happens, that part of the state aid attributed to the Italian airline was given illegally. The European Commission decided that the € 900 Million that were given to Alitalia were illegal, and so, the Italian airline had to return that same amount to the government.<sup>102</sup> Weighing both solutions Alitalia had, the one that bared less costs was to establish a new company that according to EU legislation can acquire the assets of another

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<sup>vii</sup> Tourism and Aviation Senior Analyst, Author of "TAP que futuro? Como chegámos aqui!"

company without being liable for past aid received by the seller if there is “*economic discontinuity*” between both companies. Beyond many measures that were settled for the latter to happen – such as ITA’s fleet reduction to about half the size of Alitalia’s – the government is set to inject € 1.35 Billion, through three instalments at market conditions that do not correspond to state aid, into ITA.<sup>103</sup>

For TAP the same threat poses. As stated throughout the case study in the “The covid-19 disaster and restructuring plan” chapter, if a favourable decision is not granted by the end of the year by the European Commission regarding the restructuring aid, the amount already granted by the Portuguese government totalling €1.2 Billion will have to be refunded until the end of 2021. Meaning TAP might just follow Alitalia’s footsteps in ceasing its operations and incorporating them in a newly created airline, given that due to liquidity issues the money has already been used up and hence it cannot be returned.

Furthermore, if after the restructuring plan TAP falls once again into a precarious situation, the government will not impose on the citizens to pay once more for a seemingly doomed TAP, thus ITA’s scenario could possibly be one that fits the Portuguese flag carrier’s future.

### ***Question 9.***

With the uncertainty these current times carry it is impossible to forecast whether TAP will need or not cash injection in the future. Said possibility will only be confirmed or denied depending on the air travel sector evolution concerning the COVID-19 situation. Nevertheless, it is extremely unlikely that state aid will be kept on getting granted to the airline.

Henceforth, only two other solutions seem plausible, either the sale of TAP or its demise. However, there are almost no investors willing to invest in TAP due to its high financial instability and low credit rating, as stated in previous questions. No rational investor would

inject money in the Portuguese airline without majority of control and decision-making power that could effectively change TAP's course.

Nevertheless, not all hope is gone for the Portuguese flag carrier which bears a special competitive advantage regarding their European competitors. It is not a characteristic of the company itself but from its country geographic location. Portugal has the perfect location to settle routes incoming and to Africa and mainly the Americas, offering their passengers 21 different destinations to the American continent. The Lusitanian country strives for allowing TAP to perform the connection between that continent and Europe, and thus taking advantage of being able to offer American passengers the same destination although by a different route. This allows the Portuguese airline not only to collect passengers for long-haul flights, as also for short-haul flight as these incoming passengers from outside of Europe take part and fill aircrafts with short-haul destinations. Therefore, 1 person can represent '2 passengers' for TAP.

Given the data provided the solution that would best fit the interests of TAP, taxpayers, and even a third party, would be its acquisition of its majority (at least 50%) by a business powerhouse such as Lufthansa, given their high liquidity, size of operation and know-how.

To put it into perspective, so we can better understand the Germanic airline financial health, whilst the Portuguese carrier is expected by the end of its restructuring plan to have received state aid in an amount totalling €3.2 Billion, as per multiple sources and written in the case study, and it is still unclear when will the airliner have the capability to repay it. German peers Lufthansa Group had received a colossal €9 Billion state aid by their national government. Surprisingly enough, or not, the German powerhouse as repaid its loan in full already, using up 'only' €3.8 Billion, which they have repaid, and returned the unused amount. The latter was made possible, as per Lufthansa, by a combination of rising demand for air travel, rapid restructuring, and renewed confidence of capital markets in the airline. Also, the German flag carrier has a favourable historic of being profitable – net profit of € 2,163 and € 1,213 Million

in 2018 and 2019 respectively (Financial report 2019) – and healthy for many years, hence justifying its sustainability and efficiency in the way they operate.

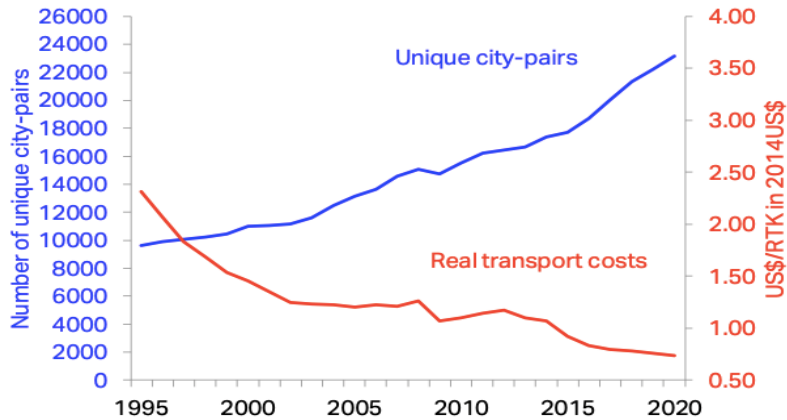
By performing as a subsidiary of Lufthansa group, a company that employs around 110 thousand people<sup>104</sup> and operates a fleet of over 700 aircrafts<sup>105</sup>, TAP would be able to strengthen their all-time weakness, which is liquidity, and further improve their positioning under monitoring and management of the German powerhouse airline.

Additionally, it is not new that Lufthansa acquires one airline to expand their operation and reach. TAP would join the likes of other airlines now operating under Lufthansa Group such as Swiss International Airlines, Austrian Airlines, Brussels Airlines, Air Dolomiti, and Eurowings.<sup>106</sup> By purchasing TAP, Lufthansa would be able to expand their operation, mainly concerning the entrance of North and South American market in Europe, thus competing with the only similar competitor in size within Europe, IAG, which already detains IBERIA for that purpose. By having cash injection and investment from a company which bears such liquidity, it would fit both TAP's and Lufthansa's requirements to further develop their strategies without the Portuguese airline needing to recur to state aid and consequently citizens.

The lower boundary of 50% for an acquisition should be set because it is doubtful that entities would ever be interested in owning a participation in TAP without having any sort of decision power and majority of economic rights derived from operations. For it to be a fruitful relationship the investor would need to profit from it, and thus a majority acquisition seems the most profitable solution for both. By having cash injection and investment from a company which bears such liquidity, it would fit both TAP's and Lufthansa's requirements to further develop their strategies without the Portuguese airline needing to recur to state aid and consequently Portuguese citizens.

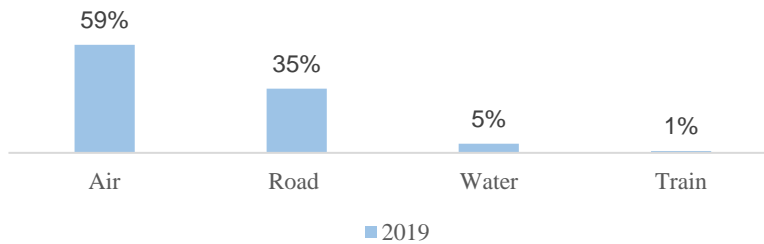
## Appendix

**Exhibit 1-** Unique city-pairs and real transport costs



Source: IATA, Schedule Reference Service (SRS) Analyzer

**Exhibit 2-** International inbound tourism by mode of transport in 2019



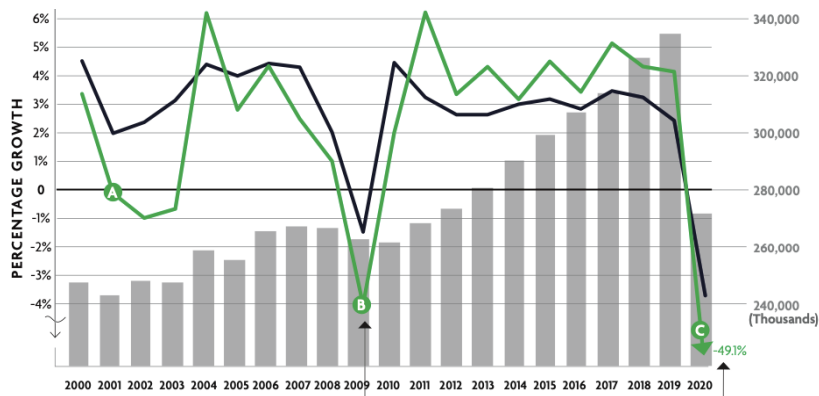
Source: Statista 2020

**Exhibit 3-** Air tourist spending and the value of trade by air



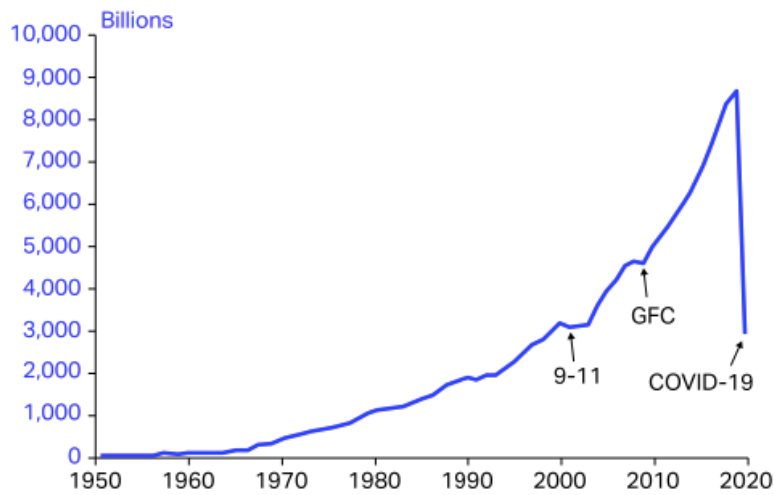
Source: IATA, Schedule Reference Service (SRS) Analyzer

**Exhibit 4 - Economic Impact Timeline, 2000-2020**



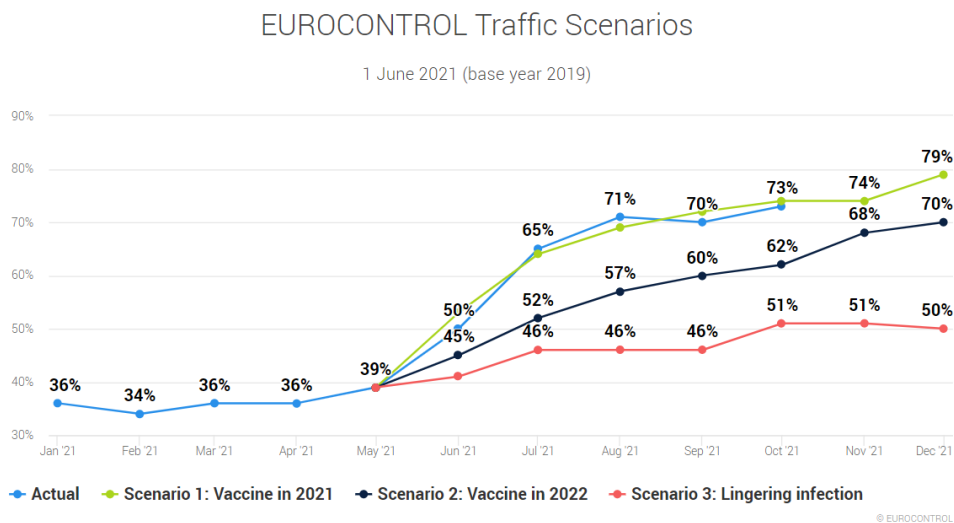
Source: World Travel and Tourism Council (WTTC)

**Exhibit 5- Worldwide revenue passenger kilometers (RPKs) flown annually**



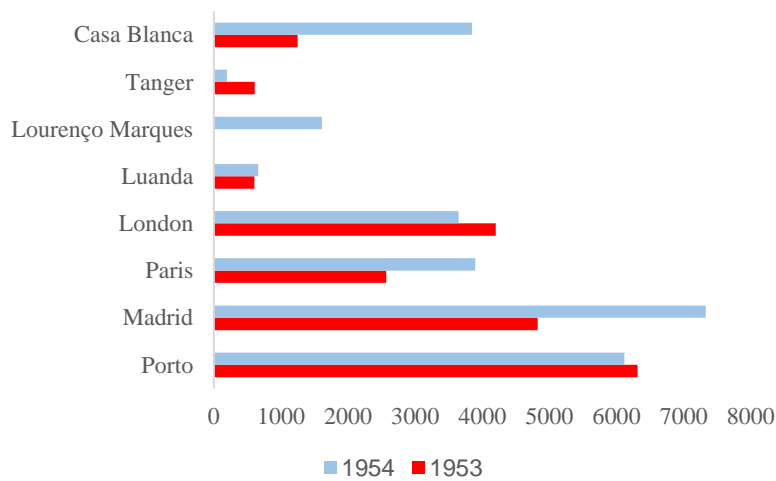
Source: IATA Economics, using data from IATA and ICAO

**Exhibit 6 - Eurocontrol Traffic Scenarios (base year 2019)**



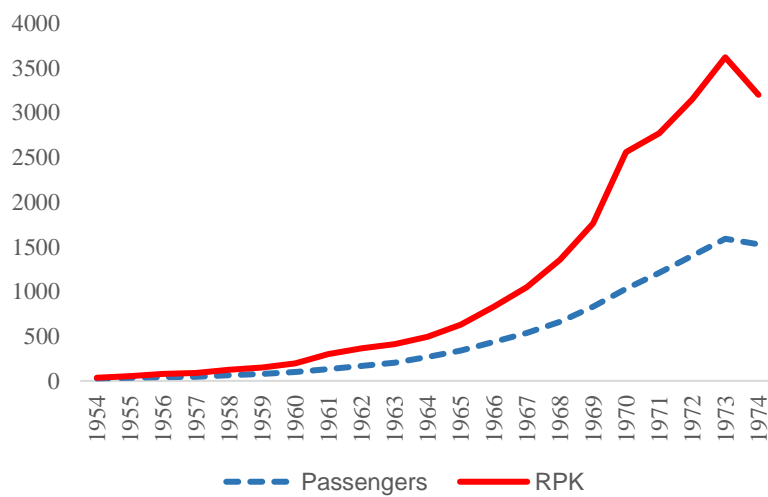
Source: Eurocontrol Traffic Scenarios for 2021

**Exhibit 7 - Passengers carried by TAP**



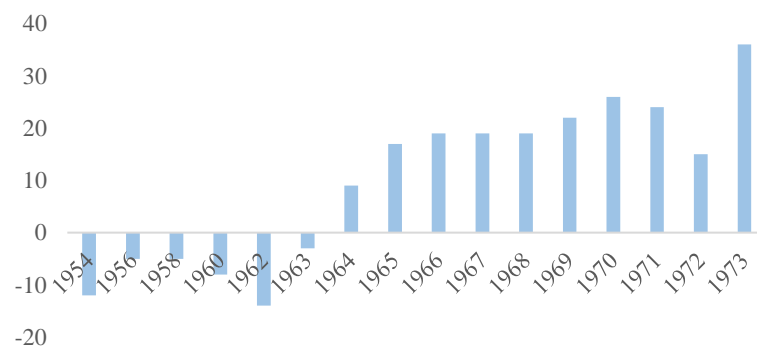
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 8 - Number of passengers (thousands) and RPK (millions)**



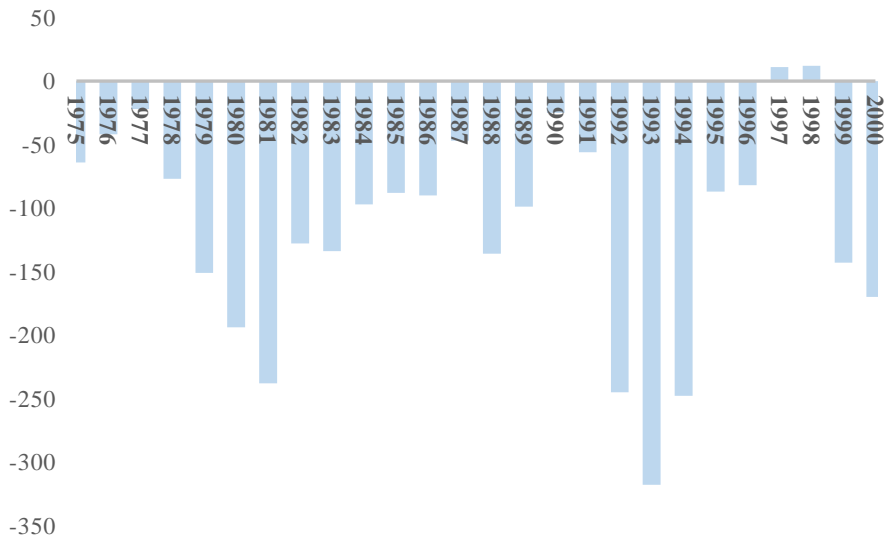
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 9- State participation and profit (Revenues - Expenses) in 2020 millions of Euros**



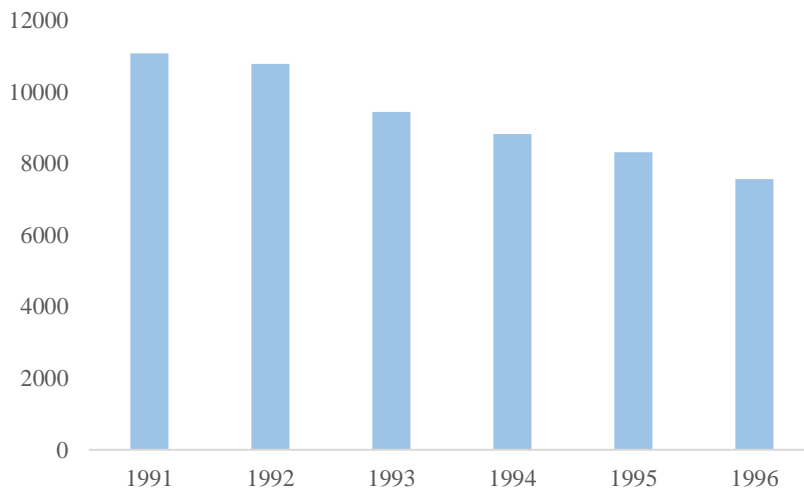
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 10 - Operating profit (In 2020 millions of euros)**



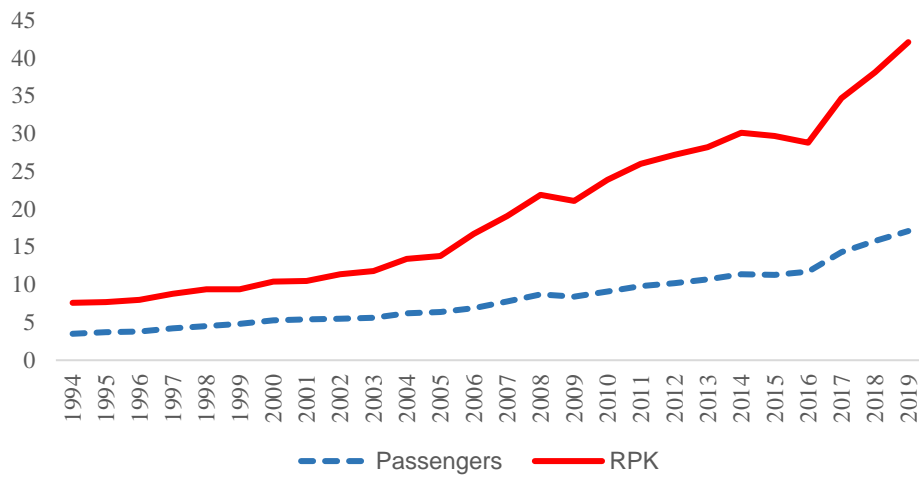
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 11 - Permanent workers on 31 December 1991-1996**



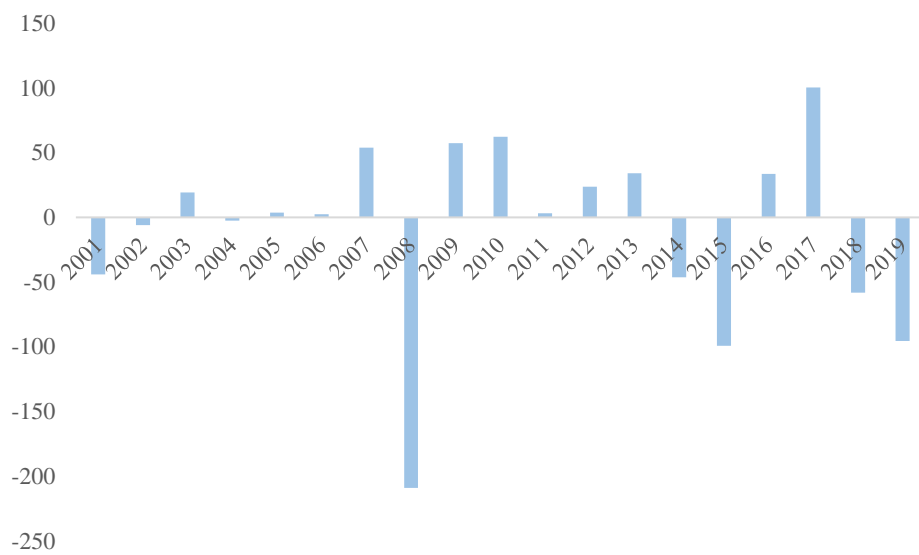
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 12 - TAP - Number of passengers (millions) and RPK (billions)**



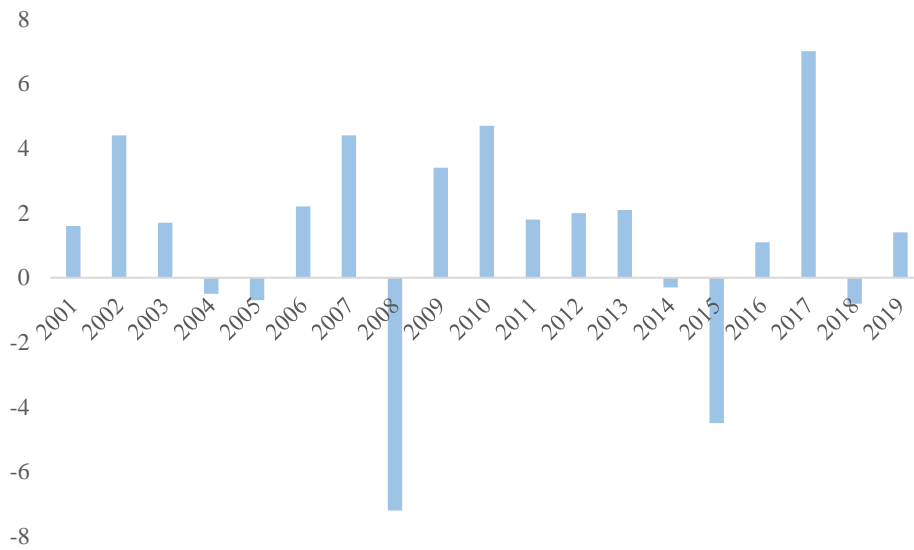
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 13 - TAP - Net profit (millions of euros)**



Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 14 - TAP - Operational Margin (millions of euros) (2001-2009)**



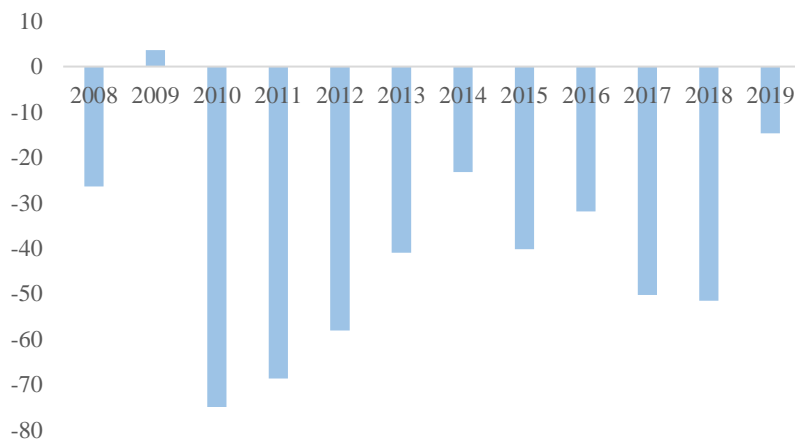
Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

**Exhibit 15 - TAP Air Portugal number of aircrafts (excluding subsidiaries)**

Aircraft Model	Year		
	2000	2015	2021
A319	16	21	7
A320	10	18	26
A321	1	3	23
A330	0	14	22
A340	4	4	0
A310	5	0	0
B-737	3	0	0
<b>Total</b>	<b>39</b>	<b>60</b>	<b>78</b>

Source: Self-Elaborated with base on endnote 34

**Exhibit 16 - TAP – Maintenance Brazil – Operating Profit (millions of euros) (2008-2019)**



Source: Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

## Exhibit 17– Bond Price Evolution 2019-2021



Source: EURONEXT Live markets

## Exhibit 18 – Going-concern Value- Sensitivity Analysis

Table 1- Base Case

		Terminal Growth				
€ 1,398,077.15		1.00%	2.00%	3.00%	3.50%	4.00%
WACC	10.00%	€ 861,010.80	€ 1,080,484.45	€ 1,362,664.86	€ 1,536,314.34	€ 1,738,905.41
	10.86%	€ 585,601.16	€ 754,190.55	€ 965,672.29	€ 1,092,960.54	€ 1,238,801.10
	11.00%	€ 546,309.05	€ 708,154.22	€ 910,460.68	€ 1,031,844.56	€ 1,170,568.99
	11.50%	€ 415,029.36	€ 555,266.27	€ 728,500.10	€ 831,357.69	€ 947,929.63
	12.00%	€ 297,876.61	€ 420,026.80	€ 569,321.48	€ 657,141.89	€ 755,939.84

Source: Self Elaborated Excel File

Table 2- Worst Case

(€ 1,052,938.63)		1.00%	2.00%	3.00%	3.50%	4.00%
	10.00%	(€ 1,156,690.75)	(€ 1,062,975.65)	(€ 942,484.80)	(€ 868,336.59)	(€ 781,830.34)
	10.86%	(€ 1,246,228.82)	(€ 1,174,241.26)	(€ 1,083,938.70)	(€ 1,029,586.70)	(€ 967,312.88)
	11.00%	(€ 1,258,571.33)	(€ 1,189,463.55)	(€ 1,103,078.83)	(€ 1,051,248.00)	(€ 992,012.76)
	11.50%	(€ 1,298,877.05)	(€ 1,238,995.98)	(€ 1,165,025.25)	(€ 1,121,105.13)	(€ 1,071,328.99)
	12.00%	(€ 1,333,470.37)	(€ 1,281,312.32)	(€ 1,217,563.59)	(€ 1,180,064.34)	(€ 1,137,877.68)

Source: Self Elaborated Excel File

Table 3- Best Case

€ 3,336,774.95		1.00%	2.00%	3.00%	3.50%	4.00%
	10.00%	€ 2,313,314.24	€ 2,730,701.16	€ 3,267,341.47	€ 3,597,581.67	€ 3,982,861.90
	10.86%	€ 1,763,302.26	€ 2,083,919.35	€ 2,486,107.53	€ 2,728,179.64	€ 3,005,533.85
	11.00%	€ 1,684,448.84	€ 1,992,240.02	€ 2,376,979.00	€ 2,607,822.39	€ 2,871,643.40
	11.50%	€ 1,420,166.15	€ 1,686,863.55	€ 2,016,313.28	€ 2,211,924.06	€ 2,433,616.27
	12.00%	€ 1,183,114.14	€ 1,415,414.89	€ 1,699,338.02	€ 1,866,351.63	€ 2,054,241.93

Source: Self Elaborated Excel File

**Exhibit 19 – Credit Ratings and Probability of default**

MKMV	S & P	PD [%]
Aaa	AAA	0.02
Aa	AA	0.03
A	A	0.07
Baa	BBB	0.18
Ba	BB	0.7
B	B	2.0
Caa	CCC	14.0
Ca	CC	17.0
C	C	20.0
D	D	> 20.0

Source: Moody's Investors and Standard & Poor's Agencies.

**Exhibit 20 – Assumptions Question 1**

- You can rely on past range of values for the variables
- Consider dividing the Sales growth in three periods, 2021-2023; 2024-2025; 2026-2030
- Cost of Sales: contain for all scenarios to be between 52%-77%
- SG&A between 9% and 69%
- Long-term g: Less than 4%
- Tax Rate: 21%
- Liquidation Value- recovery Rates
  - Accounts Receivables 70%-85%
  - Inventories 58%-72%
  - Other Current Assets 35%-50%
  - PP&E 48.2%-54.3%
  - Other Non-Current Assets 48.2%-54.3%
  - Assume Bank Debt to be Borrowing from both current and non-current liabilities.

## Exhibit 21 – Liquidation Proceeds depending on scenarios

<b>Low Scenario</b>	<b>€ 1,381,329</b>
<b>Average Scenario</b>	<b>€ 1,860,707</b>
<b>High Scenario</b>	<b>€ 2,340,084</b>
<b>Book Value of Borrowings</b>	<b>€ 2,323,643</b>

Source: Self Elaborated Excel File

## Exhibit 22 – Waterfall Analysis

Table 1- Waterfall Analysis Liquidation value

Scenario		Liquidation - Midpoint Estimate			Liquidation - Worst Case			Liquidation - Best Case		
Net Proceeds available for distribution		€ 1,860,706.61			€ 1,381,329.36			€ 2,340,083.86		
	<b>Claim (BV)</b>	Balance	Distributions	Recovery Rate	Balance	Distributions	Recovery Rate	Balance	Distributions	Recovery Rate
<i>Current Liabilities</i>		€ 1,860,706.61			€ 1,381,329.36			€ 2,340,083.86		
Borrowings	€ 1,556,077.00	€ 304,629.61	€ 1,556,077.00	100%	€ 0.00	€ 1,381,329.36	89%	€ 784,006.86	€ 1,556,077.00	100%
Lease liabilities with purchase option	€ 41,477.00	€ 263,152.61	€ 41,477.00	100%	€ 0.00	€ 0.00	0%	€ 742,529.86	€ 41,477.00	100%
Lease liabilities without purchase option	€ 363,036.00	€ 0.00	€ 263,152.61	72%	€ 0.00	€ 0.00	0%	€ 379,493.86	€ 363,036.00	100%
Other payables	€ 427,511.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 379,493.86	89%
Income tax payable	€ 17.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Liabilities from unused flight documents	€ 601,989.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Other current liabilities	€ 77,423.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
<i>Long term debt</i>										
Provisions	€ 134,090.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Restructuring provision	€ 93,197.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Borrowings	€ 767,566.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Lease liabilities with purchase option	€ 397,386.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Lease liabilities without purchase option	€ 1,565,938.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Post-employment benefits obligations	€ 122,307.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Deferred tax liabilities	€ 126,615.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Other payables	€ -	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
<i>Equity</i>										
Equity holder	N/A	€ 0.00	€ 0.00	N/A	€ 0.00	€ 0.00	N/A	€ 0.00	€ 0.00	N/A

Source: Self Elaborated Excel File

Table 2- Waterfall Analysis Going-concern value

Scenario		Going-Concern - Base Case			Going-Concern - Worst Case			Going-Concern - Management Case		
Net Proceeds available for distribution		€ 1,398,077.15			€ 1,052,938.63			€ 3,336,774.95		
	<b>Claim (BV)</b>	Balance	Distributions	Recovery Rate	Balance	Distributions	Recovery Rate	Balance	Distributions	Recovery Rate
<i>Current Liabilities</i>		€ 1,398,077.15						€ 3,336,774.95		
Borrowings	€ 1,556,077.00	€ 0.00	€ 1,398,077.15	90%	€ 0.00	€ 0.00	0%	€ 1,780,697.95	€ 1,556,077.00	100%
Lease liabilities with purchase option	€ 41,477.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 1,739,220.95	€ 41,477.00	100%
Lease liabilities without purchase option	€ 363,036.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 1,376,184.95	€ 363,036.00	100%
Other payables	€ 427,511.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 948,673.95	€ 427,511.00	100%
Income tax payable	€ 17.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 948,656.95	€ 17.00	100%
Liabilities from unused flight documents	€ 601,989.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 346,667.95	€ 601,989.00	100%
Other current liabilities	€ 77,423.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 269,244.95	€ 77,423.00	100%
<i>Long term debt</i>										
Provisions	€ 134,090.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 135,154.95	€ 134,090.00	100%
Restructuring provision	€ 93,197.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 41,957.95	€ 93,197.00	100%
Borrowings	€ 767,566.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 41,957.95	5%
Lease liabilities with purchase option	€ 397,386.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Lease liabilities without purchase option	€ 1,565,938.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Post-employment benefits obligations	€ 122,307.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Deferred tax liabilities	€ 126,615.00	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
Other payables	€ -	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%	€ 0.00	€ 0.00	0%
<i>Equity</i>										
Equity holder	N/A	€ 0.00	€ 0.00	N/A	€ 0.00	€ 0.00	N/A	€ 0.00	€ 0.00	N/A

Source: Self Elaborated Excel File

**Exhibit 23 – TAP’s Cashflow; Liquidity; Capital Structure**  
**Table 1- TAP’s Cashflow and Liquidity**

Cash Flow and Liquidity			
Cash Conversion Cycle			
	2018	2019	2020
Average Collection Period	27	34	74
Average Holding Period	11	17	25
Average Payable Period	88	81	127
<b>Cash Conversion Cycle</b>	<b>-50</b>	<b>-29</b>	<b>-28</b>
Liquidity Analysis			
	2018	2019	2020
<b>Current Ratio</b>	54.5%	63.2%	29.1%
<b>Quick Ratio</b>	47.7%	55.6%	26.3%
<b>Cash Ratio</b>	17.4%	25.7%	17.4%
Net Working Capital	-\$610,830	-\$621,491	-\$2,174,114

Source: Self Elaborated Excel File

**Table 2- TAP’s Capital Structure**

Capital Structure			
Capital Structure Ratios			
	2018	2019	2020
Gearing Ratio	10	1	2
Debt-to-Equity Ratio	-1	-5	-2
Debt-to-EBITDA Ratio	-16	54	-4
Accounting Ratios			
	2018	2019	2020
Solvency Ratio	-27%	-12%	-34%
Financial Autonomy	-38%	-13%	-51%
<b>ROIC</b>		69%	-9%

Source: Self Elaborated Excel File

## Exhibit 24 – TAP's Financial Statements (2018-2020)

### Table 1- Balance Sheet

Balance Sheet			
Amounts stated in thousand euros	2018	2019	2020
<b>Assets</b>			
<b>Non-current assets</b>			
Tangible fixed assets	542 551	2 886 475	2 886 884
Investment Properties	3 228	2 246	1 544
Goodwill	127 542	126 519	63 099
Intangible assets	11 323	25 537	25 199
Investments in subsidiaries and associates	3 322	1 973	0
Other financial assets	846	846	902
Deferred tax assets	100 325	132 058	130 627
Other non current assets	0	16 208	23 785
Other receivables	105 937	189 370	121 501
	<b>895 074</b>	<b>3 381 232</b>	<b>3 253 541</b>
<b>Current assets</b>			
Inventories	91 152	128 383	85 481
Other receivables	321 414	452 766	249 167
Income tax receivable	8 464	231	393
Other current assets	64 976	47 263	23 816
Other financial assets	13 225	4 880	0
Cash and cash equivalents	233 204	435 024	534 559
	<b>732 435</b>	<b>1 068 547</b>	<b>893 416</b>
<b>Total Assets</b>	<b>1 627 509</b>	<b>4 449 779</b>	<b>4 146 957</b>
<b>Equity and Liabilities</b>			
<b>Equity</b>			
Share Capital	15 000	15 000	15 000
Supplementary capital contributions	224 093	224 093	224 093
Other equity instruments	36 297	36 297	0
Legal reserves	3 000	3 000	3 000
Foreign currency translation reserves	-74 495	-76 359	-106 358
Hedge reserves	-29 132	16 417	-22 921
Equity holdings adjustment	-2 260	-2 260	-2 260
Retained earnings	-670 874	-689 323	-819 310
Group Net income/(loss) for the year	-118 039	-105 607	-1 416 744
<b>Total equity of the Group</b>	<b>-616 410</b>	<b>-578 742</b>	<b>-2 125 500</b>
Non-controlling interests	-1 449	-2 053	-2 172
<b>Total Equity</b>	<b>-617 859</b>	<b>-580 795</b>	<b>-2 127 672</b>
<b>Non-current liabilities</b>			
Provisions	22 381	94 545	134 090
Restructuring provision	0	0	93 197
Borrowings	605 205	1 077 549	767 566
Lease liabilities with purchase option	102 010	239 271	397 386
Lease liabilities without purchase option	0	1 743 388	1 565 938
Post-employment benefits obligations	103 523	109 951	122 307
Deferred tax liabilities	19 024	75 125	126 615
Other payables	49 960	707	0
	<b>902 103</b>	<b>3 340 536</b>	<b>3 207 099</b>
<b>Current liabilities</b>			
Borrowings	150 762	126 735	1 556 077
Lease liabilities with purchase option	30 474	36 012	41 477
Lease liabilities without purchase option	0	352 333	363 036
Other payables	665 619	592 773	427 511
Income tax payable	19	17	17
Liabilities from unused flight documents	393 466	480 762	601 989
Other current liabilities	102 925	101 406	77 423
	<b>1 343 265</b>	<b>1 690 038</b>	<b>3 067 530</b>
<b>Total Liabilities</b>	<b>2 245 368</b>	<b>5 030 574</b>	<b>6 274 629</b>
<b>Total equity and liabilities</b>	<b>1 627 509</b>	<b>4 449 779</b>	<b>4 146 957</b>
			TRUE
<b>Net income/(loss) before income tax</b>			
	<b>(145 270)</b>	<b>(139 305)</b>	<b>(1 347 322)</b>
<b>Nominal tax rate</b>			
	21%	21%	21%
	<b>(30 506,70)</b>	<b>(29 254,05)</b>	<b>(282 937,62)</b>
<b>Permanent differences</b>			
	2 119	(4 601)	99 065
<b>Insufficient/(surplus) estimate of taxes for the previous year</b>			
	(2 588)	(390)	(151)
<b>Use of tax losses carried forward of previous years without DTA</b>			
	-	-	-
<b>Tax losses carried forward for the year without DTA</b>			
	2 498	-	254 676
<b>Autonomous taxation and other forms of taxation</b>			
	434	122	182
<b>Income tax</b>			
	<b>(28 043,70)</b>	<b>(34 123,05)</b>	<b>70 834,38</b>
<b>Effective tax rate</b>			
	19%	24%	-5%

Source: TAP Annual Statements

Table 2- Income Statement

Income Statement			
Amounts stated in thousand euros	2018	2019	2020
<b>Operating Income</b>			
Revenue			
Passenger	2 782 292	2 913 870	849 279
Maintenance	280 694	234 269	82 166
Cargo and mail	134 684	137 393	125 769
Gains and losses in associates	3 737	1 686	(12 868)
Other operating income	49 419	57 895	27 752
	<b>3 250 826</b>	<b>3 345 113</b>	<b>1 072 098</b>
Operating costs			
Aircraft fuel	(798 624)	(789 677)	(260 727)
Traffic operating costs	(777 831)	(743 221)	(333 021)
Employee costs	(702 795)	(751 927)	(478 211)
Aircraft rents	(177 896)	-	-
Aircraft maintenance costs	(111 746)	(60 818)	(34 883)
Cost of materials consumed	(207 354)	(185 166)	(51 202)
Commercial, communication and marketing costs	(186 622)	(153 118)	(69 204)
Impairment losses in inventories and receivables	(4 221)	(60)	(70 698)
Provisions	(5 357)	2 571	(12 192)
Other operating expenses	(170 110)	(179 704)	(144 644)
Restructuring	(54 450)	(5 979)	(96 587)
Other non recurrent items	(20 281)	(680)	(10 445)
Depreciation, amortisation and impairment losses	(77 513)	(418 694)	(598 436)
<b>Operating income/(loss)</b>	<b>(43 974)</b>	<b>58 640</b>	<b>(1 088 152)</b>
Interests and similar income	6 007	3 237	1 830
Interests and similar expenses	(57 876)	(178 258)	(250 727)
Overhedge costs	-	-	(165 281)
Net currency exchange	(49 427)	(22 924)	155 008
<b>Net income/(loss) before income tax</b>	<b>(145 270)</b>	<b>(139 305)</b>	<b>(1 347 322)</b>
Income tax for the year	28 044	34 123	(70 834)
<b>Net income/(loss) for the year</b>	<b>(117 226)</b>	<b>(105 182)</b>	<b>(1 418 156)</b>
Net income/(loss) attributable to owners of TAP SGPS	(118 039)	(105 607)	(1 416 744)
Net income/(loss) attributable to non-controlling interests	813	425	(1 412)
Basic results per share (euros)			
	(79)	(70)	(944,5)
Diluted results per share (euros)			
	(72)	(65)	(868,9)

Consolidated Statement of Comprehensive Income			
	2018	2019	2020
<b>Net income/(loss) for the year</b>	<b>(117 226)</b>	<b>(105 182)</b>	<b>(1 418 156)</b>
Items that may be reclassified to income statement:			
Gains and losses on translation of foreign operations	(15 357)	(1 789)	(28 514)
Gains and losses in derivative financial instruments - cash flow hedge	(41 322)	65 289	(52 981)
Deferred tax on derivative financial instruments - cash flow hedge	12 190	(19 740)	13 643
Items that will not be reclassified to income statement:			
Remeasurements of defined benefit plans	(20 739)	(17 431)	(30 797)
Deferred tax on remeasurements	5 012	6 458	6 225
<b>Other comprehensive income/(loss) net of tax</b>	<b>(60 216)</b>	<b>32 787</b>	<b>(92 424)</b>
<b>Comprehensive income/(loss)</b>	<b>(177 442)</b>	<b>(72 395)</b>	<b>(1 510 580)</b>
Attributable to:			
Owners of TAPSGPS	(178 656)	(72 888)	(1 510 461)
Non-controlling interests	1 214	493	(119)
	<b>(177 442)</b>	<b>(72 395)</b>	<b>(1 510 580)</b>
<b>Comprehensive income/(loss) attributable to the owners of TAP SGPS arises from</b>			
Continuing operations	(178 656)	(72 888)	
Discontinued operations	-	-	
	<b>(178 656)</b>	<b>(72 888)</b>	

Source: TAP Annual Statements

Table 3- Cash Flow Statement

Cash flow statement			
Amounts stated in thousand euros	2018	2019	2020
<b>Operating activities:</b>			
Receipts from customers	3 439 838	3 520 515	1 243 577
Payments to suppliers	(2 724 053)	(2 515 235)	(1 090 311)
Payments to employees	(677 600)	(700 059)	(494 810)
Short-term low-value lease payments	-	(7 408)	(6 923)
Income tax payment/receipt	(15 704)	5 104	(370)
Other receipts/payments relating to operating activities	(12 751)	(38 485)	34 628
<b>Cash flow from operating activities</b>	<b>9 730</b>	<b>264 433</b>	<b>(314 209)</b>
<b>Investment activities</b>			
Receipts from:			
Tangible fixed assets	46 929	50 025	1 063
Financial investments	66 543	230 184	16 615
Investments in subsidiaries and associated	3 740	-	1 130
Interests and similar income	3 517	3 229	1 819
Dividends	5 398	2 997	-
Payments relating to:			
Tangible fixed assets	(127 537)	(134 627)	(54 697)
Intangible assets	(6 251)	(3 487)	(7 875)
Other financial assets	(7 498)	(287 094)	(113 453)
<b>Cash flow from investment activities</b>	<b>(15 159)</b>	<b>(138 773)</b>	<b>(155 398)</b>
<b>Financing activities</b>			
Receipts from:			
Borrowings	70 000	702 046	1 226 511
Lease liabilities with purchase option	96 397	77 014	16 312
Payments relating to:			
Borrowings	(7 500)	(250 411)	(180 974)
Lease liabilities with purchase option	(53 995)	(38 919)	(35 727)
Lease liabilities without purchase option	-	(235 032)	(213 597)
Interests and similar costs	(30 547)	(58 739)	(62 522)
Dividends (non-controlling interest)	(816)	(967)	-
Overhedge fuel	-	-	(145 018)
Interest elements of lease liabilities without purchase option	-	(103 849)	(32 390)
<b>Cash flow from financing activities</b>	<b>73 539</b>	<b>91 143</b>	<b>572 595</b>
Net increase (decrease) in cash and cash equivalents	68 110	216 802	102 988
Effects of exchange rate changes	(13 083)	(5 484)	(5 484)
<b>Cash and cash equivalents at the beginning of the year</b>	<b>167 817</b>	<b>222 844</b>	<b>434 162</b>
<b>Cash and cash equivalents at the end of the year</b>	<b>222 844</b>	<b>434 162</b>	<b>534 559</b>

Source: TAP Annual Statements

**Exhibit 25 – Z'' Score Function**

$$Z'' = 3.25 + 6.56x_1 + 3.26x_2 + 6.72x_3 + 1.05x_4$$

The presented variables firstly identified with the letter x are explained by:

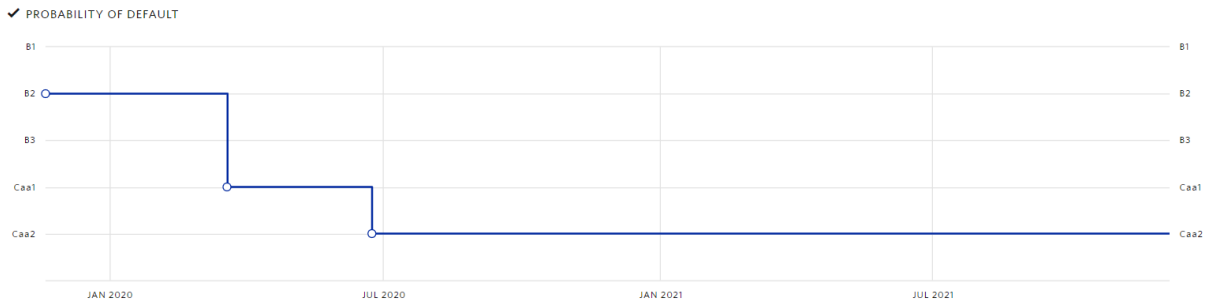
$$x_1 = \frac{\text{Current Assets} - \text{Current Liabilities}}{\text{Total Assets}}$$

$$x_2 = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

$$x_3 = \frac{\text{EBIT}}{\text{Total Assets}}$$

$$x_4 = \frac{\text{Book Value of Equity}}{\text{Total Liabilities}}$$

**Exhibit 26- Moody's Assessment & Ratings, Probability of Default TAP**



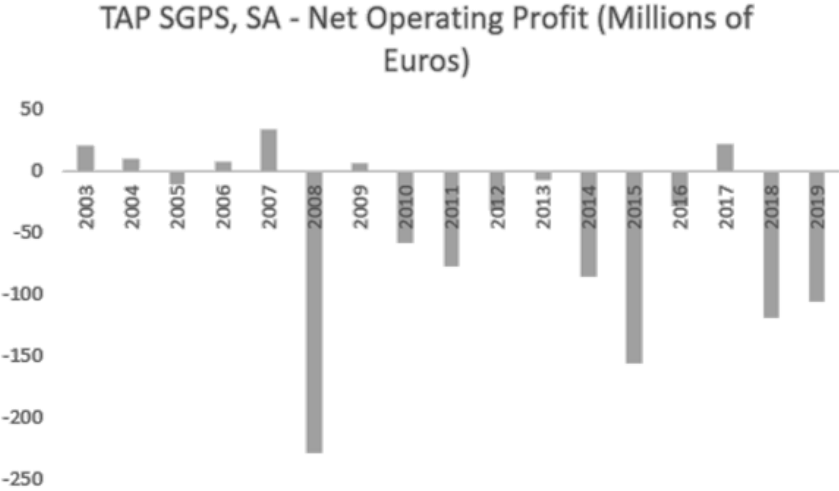
Source: Moody's website

**Exhibit 27 – Pilot Salary - TAP vs Iberia vs Air Europa (2020)**

TEMPO NA FUNÇÃO	Oficial Piloto A320		OP A330	Comandante A320		Comandante A320		
	1 ano	5 anos	10 anos	10 anos	15 anos	20 anos	25 anos	30+ anos
TAP SA (anual) Ibéria	84,000 €	122,000 €	150,000 €	185,000 €	207,000 €	219,000 €	241,000 €	261,000 €
Iberia	40,000-45,000€		85,000-110,000€	100,000-115,000€		160,000-200,000€		
Air Europa	40,000-45,000€		90,000-125,000€	115,000-155,000€		175,000-245,000€		

Source: Sapo.eco website

**Exhibit 28 – TAP Operating Profit (in millions of Euros)**



Source : Self-elaborated based on "TAP que futuro? Como chegámos aqui!"

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