The Impact of Fuel Increase and Currency Exchange Depreciation on Indonesia Aviation Industry Sustainability

Juliater Simarmata
STMT Trisakti
stmt@indosat.net.id

Charles A.N
STMT Trisakti
stmt@indosat.net.id

Wynd Rizaldy
STMT Trisakti
stmt@indosat.net.id

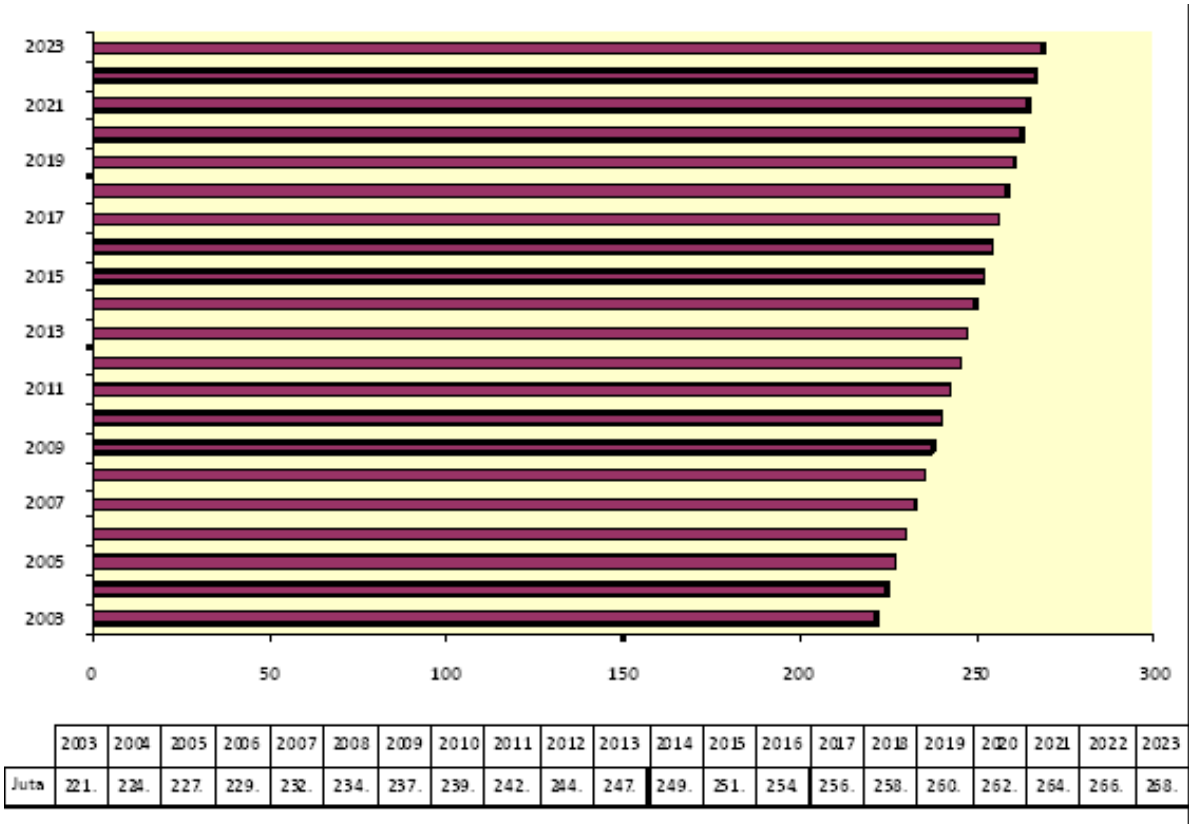
Abstract

Population growth after the crisis of 1998, was accompanied by a very encouraging economic growthreaching 6.3% during 2012. Accordingly, the development of the aviation industry continues to increase rapidly, this is evidenced by the emerging new airlines such as AW Air, Jatayu Air, Lion Air, Star Air which was followed by Batavia Air, Sriwijaya Air, Adam Air, Water Aerfata Papua, which makes the competition between one another takes place very tighty. Through the methods of qualitative and quantitative research design and analysis of rate of expansion which is explorative description, then it is clearly visible that only airlines with appropriate strategies that can survive in the midst of the world economic shocks, especially aviation fuel price increases that occurred every two weeks and the weakening of the rupiah against the dollar . The strategy implemented is related with fuel conservation policy; such as applying Cost Index, Tankering Fuel, Optimum Level Flight elections, focusing on flight technic and maintenance in order to improve efficiency in the use of fuel or aviation fuel, or even change the type of aircrafts.

Keywords: fuel increase, currency exchange depreciation

Introduction

As we know, the growth of the world population continues to increase, and Indonesia occupies position number 4 (four) of the world, after China, India and the United States. As recorded in the United States Census Bureau from 2003-2023, the Indonesian population is approximately between 221.8 to 268.3 million people.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Juta	221.	224.	227.	229.	232.	234.	237.	239.	242.	244.	247.	249.	251.	254	256.	258.	260.	262.	264.	266.	268.

Figure 1 Indonesian Population Trends 2003-2023

Onwards, since the post-1998 economic crisis, Indonesia's population growth is followed by economic growth, in which during 2012 has reached the figure of 6.3%.

The awakening of the Indonesian economy after the 1998 crisis, is seen with the emergence of new airlines such as Air AW, Jatayu Air, Lion Air, Star Air, followed by Batavia Air, Sriwijaya Air, Adam Air, Water and Papua Aerfata and others. The development of the airlines in Indonesia was very prevalent, so the impact could be seen on a very tight competition. In a sense, each of the airlines compete for larger market share by selling cheaper tickets than its competitors by implementing a variety of strategies, such as the "Hub and Spoke, Low Cost Carrier, New Fleet" to achieve competitive advantages.

However, during this decade, there have been many airlines closed and ceased operations because they can not compete. This is caused by an error in selecting and using the type of aircraft, as well as the increase in fuel prices of aviation fuel.

An airline's fleet plan will determine the amount of revenue, or lost profits and sustainability, because of the amount of the total operating costs is highly dependent on the type of aircraft used. As an example, the dominant costs are aircraft lease, the cost of the flight crew, maintenance costs, aircraft insurance, fuel cost, and so forth.

If refering back to 2003, there had

been a rise in the price of aviation fuel significantly, from Rp. 2,700 per liter to Rp. 4,500 per liter, whereas, at that time, almost all the airlines were still using fuel-inefficient Turbo Jets, which finally led to the government' impose on a fuel surcharge to cover the cost of fuel in order to stay operational. Later, the airlines change the type of aircraft that is economical with the use Turbo Fan and younger aircrafts, while those who could not afford such aircrafts kept on maintaining fleet types that are fuel inefficient and finally experiencing bankruptcy and cease operations.

As we know, in early 2011 there was in increase in the price of aviation fuel significantly because of the political shift in the world's largest oil-producing countries; the countries of North Africa and the Middle East.

In fact, since March 2013 there has been a decline in the value of the rupiah against the US dollar, and this incident would affect the business climate Indonesian aviation industry, since all aircraft operating costs greatly influenced by two components; the fuel prices and the exchange rate against the US-dollar.

The phenomenon of the increase in aviation fuel and reduction in the exchange rate will surely affect the business aviation industry, worse, lead to bankruptcy not careful in determining the strategy both internally and externally. As released in m.news.viva.co.id | Wednesday, December 18, 2013, 6:43 pm; Later that year the exchange rate was of 12,000 per dollar. Based on data from reference exchange rate of Bank Indonesia (BI) in Jakarta Interbank Dollar Spot Rate (Jisdor), it was recorded that since Thursday, December 5, 2013, the rupiah capped at 12,018 per dollar, down 58 points compared to the level of 11,960 per dollar on Wednesday , December 4, 2013, but on the first weekend of December, Friday, December 6, 2013, the rupiah strengthened its position and capped at 11,960 per dollar. Trading in the spot market was still holding the exchange rate remained below the level of 12,000 per dollar until Tuesday-- in the second week of December. On Wednesday, December 11, 2013, the exchange rate fell to 12,005 per dollar level. Until the third week of December, the rupiah has not recovered from its downfall in the level of 12,000 per dollar. Data released by the central bank Jisdor showed up, Tuesday, December 17, 2013, rupiahs were capped at 12,104 per dollar.

With the weakening of the rupiah against the British Pound, the condition made the airline industry very upset. This is in accrdance with the CEO of Garuda, Satar, Monday, December 16, 2013 in m.news.viva.co.id Wednesday, December 18, 2013, 6:43 which states; entire airline industry was devastated by the continuing depreciation of the rupiah since mid this year. Nearly 60 percent of the cost airline uses the US dollar as a means of transaction and also almost 60% of airlines costs are in US dollars. The weakening of the rupiah, he continued, clearly impacting load carrier. These conditions result in losses. At this time, airlines that do not have overseas route will feel very heavy burden because the airline's financing in the form of dollars, while earnings in the form of rupiahs. In accordance with the depreciation of the rupiah the fact that rupiah depreciation is between 20 to 30 percent.

Some questions also arise, such as; how is the development of the exchange rate with the dollar in the range of 2009-2013, then, how is the development of the price of aviation fuel in 2009-2013, then how is the cost sructure of the types of aircraft used in global, finally, how is the strategy of the company to continue to grow.

The study uses quantitative and qualitative research design while based on the expansion rate this study is descriptive explorative.

Results And Discussion

An airline's fleet plan will determine the amount of revenue, or lost profits and sustainability, because, the magnitude of the total operating costs is highly dependent on the type of aircraft used. As an example of a very simple and clearly visible is the rental aircraft the cost of the flight crew, maintenance costs, aircraft insurance, aviation fuel cost, and so forth.

Furthermore, planning fleet is one of the most important activities of an airline. Many airlines out of business or go bankrupt because they do not have planning fleet are good, so are not able to compete.

According Radnoti (2002), there are three types of methods of calculating total cost of operation of the aircraft; the Direct Operating Costs (DOC), Indirect Operating Costs (IOC) and Total Operating Cost (TOC). Here, direct operating costs are those costs that directly affect the operation of the aircraft, then, indirect operating costs are those costs that do not directly impact on the operation of the aircraft, while the total operating cost is the total of all costs both direct and indirect costs, from the operation of aircraft on a route. Or the amount of direct operating cost plus the indirect operating cost.

As we know, the total operating cost (TOC) for each aircraft type varies as it is influenced by several things, such as: aircraft price, maintenance cost, crew cost, fuel cost, aircraft insurance, route navigation chrages, handling cost and others.

Thus, in the planning fleet, hence, the company must take into account several important aspects, including: types of aircraft, number of fleet, age of aircraft and financial targets as expected revenue, cost and profit.

Furthermore, to determine the type of aircraft to be used, then, airlines need to take into account some consideration; total operating cost, payload, flight route and the the size of market or demand.

If observed closely, in fact, the market conditions that exist in Indonesia is very potential for the aviation industry. Of course, an airline should be able to choose the market well adapted to the conditions of the company or of its aircraft, both in terms of the ability of the aircraft as well as operating costs of the aircraft.

Based on data, including Bappenas, the World Bank and Bank Indonesia, it turns out, the economy growth ranged from 5.8% - 6.2%, whereas, during 2014, the economic growth target set by the government is lower than the previous year, 2013. It will of course be one of the obstacles for businesses in Indonesia, particularly in the aviation industry.

From the perspective of the aviation industry in 2014, it seems very hard to survive let alone earn a profit if airlines do not have a strategy that is really specific (fit strategy).

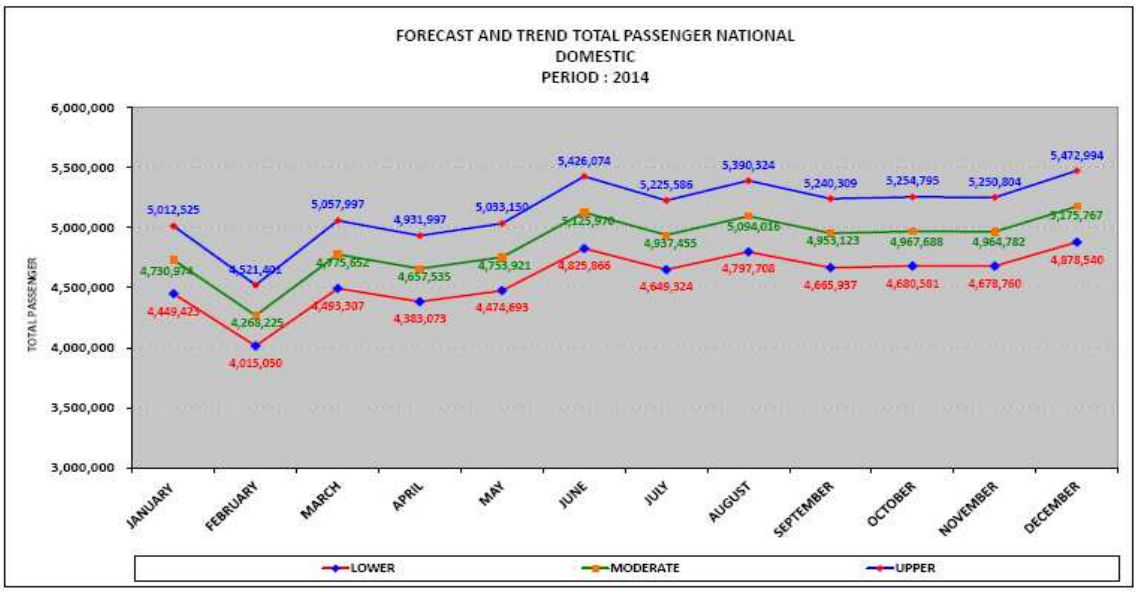
The market of domestic passengers in 2013 only grew in the range 2,1%, while international passenger growth was about 9,47%. From the results of forecasting domestic passengers in 2014, it turns out, the passenger growth reached only between 5.6% -11.9%, while, international passengers grew between 8.5% - 15.9%.

Accordingly, there is the growth of cargo which is additional revenue an airline. Domestic cargo growth in 2014 is preditected to grow between 5% -7%, while for international cargo will be between 1.5% -2%. With cargo growth conditions as aforementioned, it would not be of much help in covering the airlines suffering losses due to rising jet fuel prices and the purchase power of today's society.

Table 1 Total Domestic Passenger

MONTH	2011	2012	2013
January	4155500	4387100	4603600
February	3812200	4001000	4055700
March	4155700	4426400	4612600
April	4098900	4331900	4472900
Mei	4221700	4536500	4563900
June	4676600	4624700	4919400
July	4901300	4716800	4132800
August	3680800	4440600	4971400
September	4546000	4768500	4672500
October	4348300	4727900	4761100
November	4429500	4715800	4541200
December	4490800	4876700	5377700
TOTAL	**51517300**	**54543900**	**55684800**
Average	**4293108**	**4545325**	**4640400**

Source: BPS 2014



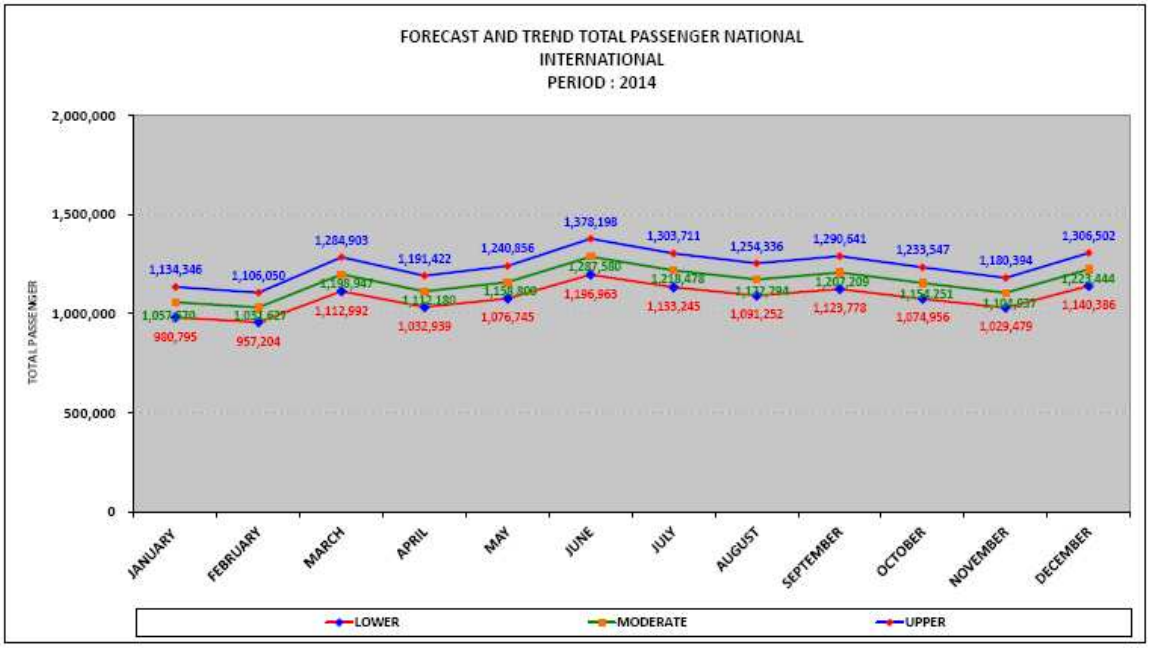
Source : Data diolah oleh penulis-2014

Figure 2 Forecast and Trend Total Passenger National - Domestic

Table 2 Total International Passenger

MONTH	2011	2012	2013
January	806900	930700	973600
February	773400	892400	950300
March	890900	1016800	1105100
April	858800	955700	1013900
Mei	896500	972200	1080400
June	1036300	1065300	1188900
July	1006600	1013000	1035700
August	974800	1040900	1207000
September	887500	983200	1111400
October	867500	1005700	1068200
November	854700	944300	1026200
December	974100	1040300	1223400
TOTAL	**10828800**	**11860500**	**12984100**
Average	**902333**	**988375**	**1082008**

Source: BPS 2014



Source : Primary data 2014

Figure 3 Forecast and Trend Total Passenger National - International

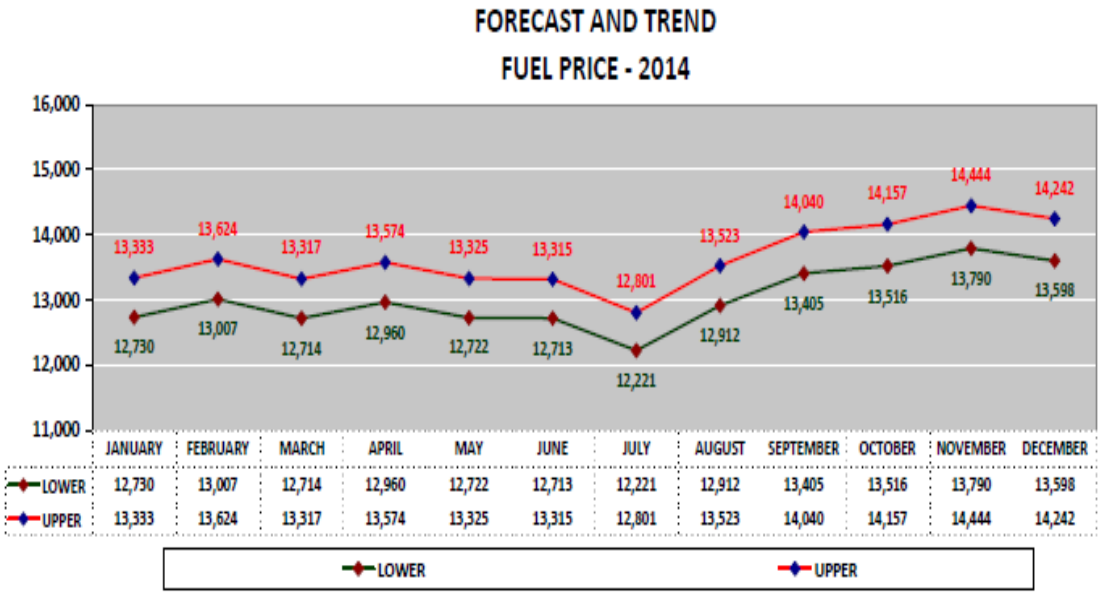
In such circumstances, the airline fleet planning would determine the viability of a business flight to remain their existence and sustainabiltiy. Fleet is closely related to cost and price, especially with the condition of the current jet fuel prices that have an enormous impact on the continuity of operations of a company.

Worse, in addition to fuel prices, the exchange rate against the Dollar was also a very dominant effect on the cost and price.

Table 3 National Fuel Price 2009 -2013

Month	2009	2010	2011	2012	2013
January	6755	7363	8727	9913	10713
February	6668	7287	918-	10202	10997
March	6336	7258	9777	10632	10997
April	6731	7428	10157	10734	10359
Mei	6434	7737	10332	10581	9856
June	6685	7452	9519	9976	9949
July	7346	7338	9489	9557	10218
August	7091	7503	9668	10113	10786
September	7346	7474	9403	10996	11589
October	6851	7713	9506	10935	12115
November	7241	7983	9838	10854	11991
December	7350	8299	10116	10719	12542
Average	**6903**	**7570**	**9643**	**10432**	**11005**

Source : Pertamina



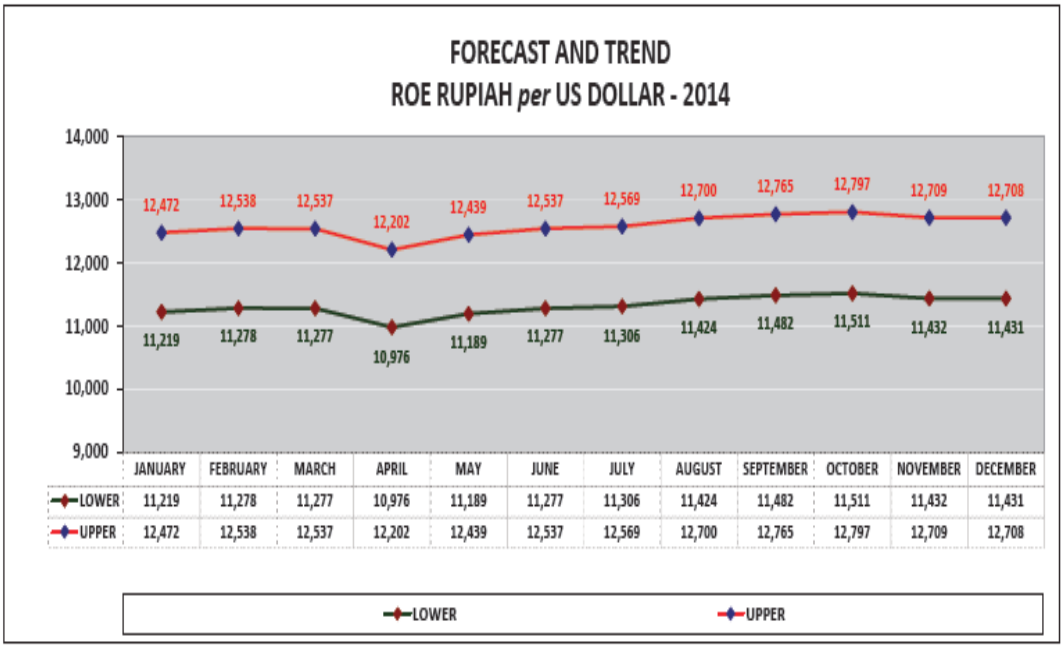
Source : Primary data 2014

Figure 4 Forecast and Trend Fuel Price 2014

Table 4 US Dollars ROE Rate Against Rupiah

Month	2009	2010	2011	2012	2013
January	11000	9350	9100	9100	9750
February	11500	9400	9050	9150	9800
March	11500	9400	8950	9200	9800
April	11500	9150	9000	9200	9800
Mei	11000	9150	8750	9400	9850
June	11000	9200	8625	9475	9925
July	10500	9100	8600	9500	10250
August	10000	9100	8725	9600	11125
September	10000	9100	8950	9650	11500
October	9750	9050	8925	9675	11625
November	9500	9000	9025	9700	11725
December	9500	9000	9100	9750	12100
Average	**10563**	**9167**	**8900**	**9450**	**10640**

Source : Market Monitoring



Source : Primary data 2014

Figure 5 Forecast and Trend ROE Rupiah per US Dollar 2014

With the condition of the exchange rate with the dollar and the price of aviation fuel in 2014, in fact, the situation will inevitably impact on the airline industry, especially e on ticket prices and purchasing power.

Table 5 COST STRUCTURES COMPARISON AIRBUS 320 FAMILY & BOEING 737 PER HOUR

Expressed in USD, 2013

FUEL = Rp 11,000

1 USD = Rp 10,600

DESCRIPTIONS	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$
A. DIRECT OPERATING COST :	B - 732	B - 733	B - 734	B - 735	B - 377 W	B - 738 W	B - 739 W	A - 319	A - 320	A - 321
AIRCRAFT	200.00	825.00	825.00	445.00	1,750.00	1,250.00	2,250.00	1,075.00	1,100.00	1,200.00
CREW	202.16	202.16	202.16	202.16	260.19	260.19	260.19	280.23	280.23	280.23
MAINTENANCE	695.00	1,100.00	1,250.00	1,255.00	843.00	920.00	964.00	1,001.00	1,070.00	1,100.00
AIRCRAFT INSURANCE	133.33	300.00	400.00	233.33	317.03	416.67	416.67	364.58	375.00	395.83
FUEL	4,318.94	3,509.14	3,779.08	3,374.17	2,944.98	3,285.10	3,564.48	3,025.96	3,229.76	3,433.56
ROUTE NAV.FEE	134.58	155.29	155.29	139.76	146.26	167.93	173.35	173.35	178.76	200.43
LANDING FEE	14.40	23.19	29.28	22.18	22.18	32.32	35.36	36.37	40.43	50.57
PARKING FEE	25.20	27.90	30.60	27.45	27.45	31.95	33.30	33.75	35.55	40.05
GROUND HANDLING	67.50	81.00	99.00	67.50	112.50	112.50	112.50	131.25	131.25	131.25
CREW TRAINING	6.64	9.08	9.08	9.08	13.27	13.27	13.27	16.59	16.59	16.59
CATERING	112.50	111.00	126.00	99.00	111.75	141.75	144.00	108.75	130.50	150.00
SUB TOTAL	5,910.26	6,343.76	6,905.48	5,874.63	6,548.61	6,631.67	7,967.11	6,246.83	6,588.07	6,998.52
B. INDIRECT OPERATING COST : *D O C x 10%*	591.03	634.38	690.55	587.46	654.86	663.17	796.71	624.68	658.81	699.85
TOTAL OPERATING COST	6,501.28	6,978.13	7,596.02	6,462.10	7,203.47	7,294.84	8,763.82	6,871.52	7,246.88	7,698.37
T O C / SEAT HOUR	*32.01*	*49.14*	*45.21*	*49.71*	*48.35*	*38.60*	*45.64*	*47.39*	*41.65*	*38.49*
MARGIN 10%	650.13	697.81	759.60	646.21	720.35	729.48	876.38	687.15	724.69	769.84
Selling Price per Hour	*7,151.41*	*7,675.95*	*8,355.63*	*7,108.30*	*7,923.82*	*8,024.32*	*9,640.21*	*7,558.67*	*7,971.57*	*8,468.20*
Selling Price per Seat Hour	*57.21*	*54.83*	*49.74*	*54.68*	*58.18*	*42.46*	*51.01*	*52.13*	*45.81*	*42.34*
PERCENTAGES OF FUEL COST	*66.43%*	*50.29%*	*49.75%*	*52.21%*	*40.88%*	*45.03%*	*40.67%*	*44.04%*	*44.57%*	*44.60%*

Table 6 COST STRUCTURES COMPARISON AIRBUS 320 FAMILY & BOEING 737 PER HOUR

Expressed in USD, 15 JANUARY 2014

FUEL = Rp 13,085

1 USD = Rp 12,000

DESCRIPTIONS	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$	200 HOURS COST / HOUR US.$
A. DIRECT OPERATING COST :	B - 732	B - 733	B - 734	B - 735	B - 377 W	B - 738 W	B - 739 W	A - 319	A - 320	A - 321
AIRCRAFT	200.00	825.00	825.00	445.00	1,750.00	1,250.00	2,250.00	1,075.00	1,100.00	1,200.00
CREW	202.16	202.16	202.16	202.16	260.19	260.19	260.19	280.23	280.23	280.23
MAINTENANCE	695.00	1,100.00	1,250.00	1,255.00	843.00	920.00	964.00	1,001.00	1,070.00	1,100.00
AIRCRAFT INSURANCE	133.33	300.00	400.00	233.33	317.03	416.67	416.67	364.58	375.00	395.83
FUEL	4,536.13	3,685.61	3,969.12	3,543.85	3,093.08	3,450.30	3,743.73	3,178.13	3,392.18	3,606.23
ROUTE NAV.FEE	134.58	155.29	155.29	139.76	146.26	167.93	173.35	173.35	178.76	200.43
LANDING FEE	14.40	23.19	29.28	22.18	22.18	32.32	35.36	36.37	40.43	50.57
PARKING FEE	25.20	27.90	30.60	27.45	27.45	31.95	33.30	33.75	35.55	40.05
GROUND HANDLING	67.50	81.00	99.00	67.50	112.50	112.50	112.50	131.25	131.25	131.25
CREW TRAINING	6.64	9.08	9.08	9.08	13.27	13.27	13.27	16.59	16.59	16.59
CATERING	112.50	111.00	126.00	99.00	111.75	141.75	144.00	108.75	130.50	150.00
SUB TOTAL	6,127.45	6,520.23	7,095.52	6,044.31	6,696.70	6,796.87	8,146.36	6,399.00	6,750.49	7,171.18
B. INDIRECT OPERATING COST : *D O C x 10%*	612.74	652.02	709.55	604.43	669.67	679.69	814.64	639.90	675.05	717.12
TOTAL OPERATING COST	6,740.19	7,172.25	7,805.07	6,648.74	7,366.38	7,476.56	8,961.00	7,038.90	7,425.54	7,888.30
T O C / SEAT HOUR	*53.92*	*50.51*	*46.46*	*51.14*	*49.44*	*39.56*	*46.67*	*48.54*	*42.68*	*39.44*
MARGIN 10%	674.02	717.22	780.51	664.87	736.64	747.66	896.10	703.89	742.55	788.83
Selling Price per Hour	*7,414.21*	*7,889.47*	*8,585.58*	*7,313.62*	*8,103.01*	*8,224.21*	*9,857.10*	*7,742.79*	*8,168.09*	*8,677.13*
Selling Price per Seat Hour	*59.31*	*56.35*	*51.10*	*56.26*	*54.38*	*43.51*	*52.15*	*53.40*	*46.94*	*43.39*
PERCENTAGES OF FUEL COST	*67.30%*	*51.39%*	*50.85%*	*53.30%*	*41.99%*	*46.15%*	*41.78%*	*45.15%*	*45.68%*	*45.72%*

From tables 6 and 7, then, it can be observed how changes in the dollar exchange rate and the price of jet fuel greatly affect the selling price and the selling price per hour per seat hour of the types of aircraft used. As an example can be seen in the B 737-400 aircraft; it is seen clearly for the changes Total Operating Cost (TOC) per seat hour in 2013 have increased very significantly; of USD. 7506.02 to $ 7805.07 in January 2014, with the composition of the fuel cost from 49.75% to 50.85%.

Meanwhile, fleets with Boeing 737-800 NG are really very much different from the Total Operating Cost (TOC) per seat hour, or much lower and more competitive when compared with the Boeing 737-400 or the A-320.

By observing the condition of the existing airlines in Indonesia today, actually it is not in accordance with the expectations of the business. This is because Boeing 737-800 NG is still very limited in number and only a few airlines which use such a type of aircraft such as Garuda Airways, Lion Air and Sriwijaya Air. The cause of the limited use of Boeing 737-800 NG Fleet of which are working capital, the number of orders and the number of production of Boeing 737-800 which is not balanced by the number of customers spread all over the world.

Conclusion

As we know, almost 60 percent of the cost airline in US dollars, so, the weakening rupiah increasingly impacts on the company's combined with high jet fuel prices that always change every 2 weeks, of course, that will greatly affect operational costs. In particular ticket prices.

When viewed from the perspective of the aviation industry, during 2014 is a period of very heavy in order to survive and make a profit, if it does not have a specific strategy (fit strategy). In line with the above description, then, hopes are put on the government to keep strengthening the exchange rate against the dollar to help the domestic industrial sector, especially the aviation industry. In addition, fuel conservation is the strategy should be applied by the airlines in order to continue to compete within dollar exchange rate fluctuations and also the increase in aviation fuel is to make policy such as applying Cost Index, Tankering Fuel, Optimum Level Flight elections, focusing on flight technic and maintenance in order to improve efficiency in the use of fuel or aviation fuel during the flight so it is able to save operating costs.

References

Barry, W. S. 1965. *Airlines Management*. Seabrooke: Gorge Allen & Unwin Ltd.

Radnoti, George. 2002. *Profit Strategies for Air Transportation*. New York: McGraw-Hill Companies Inc.

Shaw, Stephen. 2007. *Airline Marketing and Management Sixth Edition.* Oxfordshire: Ashgate Publishing Limited.

Wells, Alexander T. 1993. *Air Transportation A Management Perspective*. California: Wadsworth Publishing Company.