

## THE CONCENTRATION PATTERN AND IMPLICATION OF 2001 FLIGHT DEREGULATION POLICY ON DOMESTIC COMMERCIAL FLIGHT INDUSTRY IN INDONESIA

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### ABSTRACT

*To enhance competition in the transport market, the Government of Indonesia has, since 2001, implemented deregulation policy for the flight sector. Through the decree of Minister of Transportation No. 11/2001, the requirements to obtain a flight operator license are simplified and an airline company can operate even without having to have its own plane.*

*This research aims to analyze the condition before and after the flight deregulation policy. In particular, the purposes of this research are: (1) to analyze pattern of concentration for domestic commercial flight industry; (2) to calculate index of concentration for domestic commercial flight industry; (3) to analyze the market structure of domestic commercial flight industry; and (4) to analyze the implications of the flight deregulation policy in 2001. The measurement and analysis of the concentration pattern of domestic commercial flight industry are conducted using Hirschman-Herfindahl index, concentration ratio, and entropy index.*

*The results show that the concentration level of domestic commercial flight industry in Indonesia is smaller under the new policy than that under the regulated regime. Not only the number of airline companies increases, but the share of domestic flight market is also more diversified. While the structure of domestic commercial flight market in Indonesia is still oligopoly, it changes from rigid into less rigid.*

**Keywords:** *Concentration ratio; Hirschman-Herfindahl index; Entropy index; Domestic commercial flight industries; Flight deregulation policy.*

### BACKGROUND OF THE STUDY

A country with rapid economic development needs good and reliable transportation. Air transportation is important particularly when it is needed to save time. Moreover, a country such as Indonesia which consists of thousands of islands and a large number of citizens will be more efficient if reached by air transportation. Take an example, in Jakarta in which floods and traffic jams often occur, air transportation is now commonly used. Thus,

air transportation as a part of transportation sector becomes more important than other kinds of transportation.

In general, almost all developing countries own only a few shares in initial air transportation compared to other kinds of transportation. Thus, it must be developed through various strategies. According to Hooper (1998), one of the strategies to increase market in the flight sector is through the deregulation of its system. By Minister of Transportation

decree no. 11 in 2001 on air flight procedures, Indonesian government gives an opportunity, especially, national investors to run their business in domestic flights. This decree enables airlines to run their business in a minimum capital, 6 billion IDR. In the previous regulation, it was stated that an airline wanting to have flight transportation license had to have their own planes, while in the latest regulation, the companies do not need to own their private planes, but they may have access to the planes so that costly investment can be minimized.

The implication of the deregulation system increases private airlines in Indonesia, in which it also increases economic development in Indonesia. Prior to 2001, there were only five airlines serving domestic flights in Indonesia, namely *Garuda Indonesia*, *Sempati Air*, *Merpati Nusantara*, *Bouraq Indonesia Airlines*, and *Mandala Airlines*. They were not able to serve all regions in Indonesia. However, since 2001, the number of domestic airlines has increased up to 14 companies.

The increase in the number of airlines is followed by rising competition among those companies and lowering market concentration. The consequence following that is price competitions. The ticket price becomes much cheaper, and this condition benefits the consumers as they have more choices to get low price tickets offered by the airlines. The phenomenon of low price tickets rises due to low cost carrier and low cost industry implemented by the companies.

The phenomenon of low cost carrier causes fierce competitions, not only in airlines but also in other transportation business. Many consumers prefer to use air transportation rather than other types of transportation such as: ship, bus, and train. Thus, the segment of air transportation is not only for upper class of society, but also medium up to lower class society.

The increase of airlines as the consequences of deregulation policy in 2001 brings

both positive and negative impacts toward airlines in Indonesia. Therefore, the impact of flight deregulation in 2001 toward flight industry in Indonesia must be analyzed thoroughly. The research can be focused either on domestic commercial flight or scheduled flight transportation. A scheduled flight is a flight transportation which is open to public and it is based on fixed and regular schedule, either arrival or departure.

This research aims to analyze the condition prior to and after the flight deregulation of Minister Decree no. 11 in 2001 on domestic commercial flight industry in Indonesia, namely: (1) analysis on concentration pattern; (2) calculating concentration index; (3) analysis on market structure; and (4) analysis on the implications due to flight deregulation policy in 2001.

## RESEARCH METHODOLOGY

The definitions on concepts in the research are: concentration level, market structure, domestic commercial flight industry, and flight deregulation. Concentration level shows the competition among domestic commercial flight industry in Indonesia which is measured by Concentration Ratio (CR), Index of Hirschman-Herfindahl (IHH), and index of Entropy. The bigger the CR and IHH value, the bigger the concentration, and vice versa for index of Entropy.

The market structure of domestic commercial flight industry in Indonesia is measured from concentration level, barriers to entry, and the number of company (Lipczynski & Wilson, 2001: 133). The bigger the concentration level and the fewer the number of company in domestic commercial flight industry in Indonesia, the bigger the barriers to entry and the more the market tends to be monopoly. On the other hand, the lower the concentration level and the more the number of company in domestic commercial flight industry in Indonesia, the lower the

barriers to entry and the market tends to be perfect in competition.

The three techniques used in this research are (Lipczynski&Wilson, 2001: 108-111) :

1. *Concentration Ratio* (CR) by measuring *market share* of n domestic commercial flight industry in Indonesia. The formula is as follow:

$$CR_n = \sum_{i=1}^n X_i$$

2. *Index of Hirschman-Herfindahl* (IHH) is formulated by adding quadrate of *market share* of all domestic commercial flight industry in Indonesia. The formulation is:

$$IHH = \sum_{i=1}^n (X_i)^2$$

where n is the total number of domestic commercial flight industry in Indonesia, and  $X_1, \dots, X_n$  is the *market share* of each company. To find out how many companies are sustainable in the future, *number equivalent* is applied. Equivalent value is derived from  $1/IHH$ .

3. *Entropy coefficient* measures uncertainty level of a certain company (Hart, 1971; Lipczynski, 2001). This measurement is used in information theory to find out the level of certainty level which can be achieved as a decision base. The formulation of entropy coefficient is as follow:

$$E = \sum_{i=1}^n X_i \cdot \log \frac{X_i}{n}$$

$X_i$  is a *market share* of company i.

## FINDINGS AND DISCUSSION

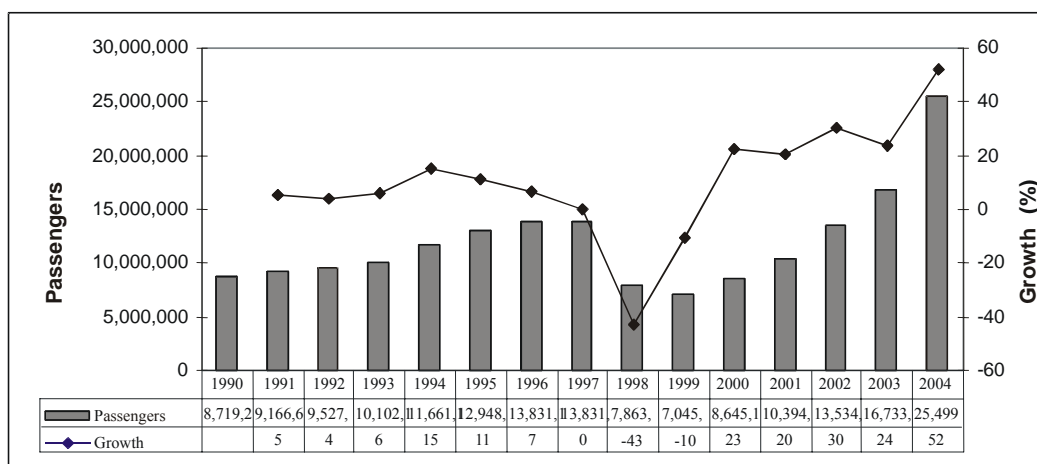
### The Development of Domestic Commercial Flight Industry In Indonesia

The national monetary crisis in 1998 affected the performance of domestic

commercial flight industry in Indonesia. Compared to the previous years, the number of flight attendance generally decreased significantly. As shown in Table 1, in 1997 the number of passengers reached 13.831.526 people, while in 1998 there were only 7.863.838 people or decreased up to 43,15 percent. In 1999, the number of flight passengers decreased considerably, approximately 10,40 percent. It was influenced by economic crisis and due to the increase of air transportation fare. Figure 1 showed that the number of flight attendance increased again after 2000.

Air fare increase in 1999 was almost three times higher than that prior to economic crisis. It was caused by Avtur increase and fuel as they were imported from other country. Moreover, the avtur price depended on USD fluctuation. The increase of air fare affected the number of passengers who went to various destination within Indonesia. Consequently, air transportation became the last choice for people to travel.

Nowadays, the trends of *low cost carrier/LCC* applied by air transportation services lead to a considerable flight travel and passenger volume. The phenomenon of *low cost carrier* in Asian region was started in 2001 when Air Asia implemented *low cost carrier* (LCC) concept, and it was noted as the first *low cost carrier* company in Asia. The concept offered by Air Asia now becomes common phenomena in aircraft industries. The phenomenon of Low Cost carrier often causes fare competition among flight industries. It may affect positively in increasing company's efficiency, however; it also gives negative effects on passenger's safety due to cost component reduction such as maintenance cost, fuel limitation, and other components related to passengers' safety, directly or indirectly.



Source: BPS, tabulated.

**Figure 1.** The Growth of Domestic Flight Passengers During 1990 – 2004

**Table 1.** Departure of Flight Passengers, Goods, Baggages, and mail/Packages For Domestic Flight during 1990-2004

Year	Flight (unit)	Passengers (people)	Goods (ton)	Baggages (ton)	Mail/Package (ton)
1990	296.908	8.719.253	112.247	86.787	9.994
1991	292.842	9.166.637	114.995	68.022	10.667
1992	308.581	9.527.207	117.084	94.378	12.477
1993	309.179	10.102.101	114.715	100.687	11.925
1994	330.329	11.661.102	148.837	108.914	12.407
1995	345.159	12.948.854	177.881	119.680	12.986
1996	359.441	13.831.105	201.476	127.658	13.498
1997	383.318	13.831.526	216.753	109.457	12.664
<b>1998</b>	<b>262.231</b>	<b>7.863.838</b>	<b>147.719</b>	<b>81.193</b>	<b>13.612</b>
1999	237.257	7.045.786	161.033	74.379	17.174
2000	235.881	8.645.181	161.201	85.612	13.160
2001	233.045	10.394.330	164.135	106.714	9.399
2002	288.648	13.534.906	172.336	144.126	17.985
2003	300.279	16.733.769	526.203	328.868	19.532
2004	320.184	25.499.880	649.889	537.470	27.830
Average Growth (%)	29,10	58,63	93,10	26,12	26,72

Source: BPS Surabaya, tabulated.

Based on Table 2, it is shown that since March 1, 2002, the government has issued the regulation of scheduled domestic air fare for economic class. The government, through minister decree no. 8 and 9 in 2002 has determined the maximum upper and lower limit which becomes the guideline of airlines. The regulation was made to protect the consumer and air transportation users. The Transportation Department has also implemented *safety audit* procedures for flight companies.

**Table 2.** Scheduled Domestic Air Fare Economic Class

No	Distance (KM)	Basic Fare Per PNP (Rp)
1	Below 150	1.450
2	150 s/d 225	1.365
3	226 s/d 300	1.295
4	301 s/d 375	1.230
5	376 s/d 450	1.170
6	451 s/d 600	1.100
7	601 s/d 750	1.050
8	751 s/d 900	1.000
9	901 s/d 1.050	950
10	1.051 s/d 1.400	900
11	Above 1.400	850

Source: Ministry of Transportation (2002)

### The Passenger's Safety Level of Domestic Commercial Flight Services

Safety, comfort, punctuality, and trust are the most important things in a flight service. Security means that air navigation orders are obliged by the company. In June 2005, the government through the Transportation Minister issued a regulation (*Peraturan Menteri Perhubungan*) no. KM 35 in 2005 on the procedures of operating air transportation on jet engine category for air passengers. The

regulation stated that the air flight entering and registering for the first time in Indonesia had to have landing less than 50.000 times. In addition, the planes operated by companies were restricted to have 70.000 landing at most or no more than 35 years old, depending on which criteria reach the first time. According to the research of *Aircraft Accident Investigation Commission/AAIC*, aircraft accidents had risks five times more in Indonesia than in other countries.

Based on the data above, there were 169 aircraft accidents in Indonesia during 2001-2005. Of 169 accidents, 69 times (43 percent) happened in the airport due to coordination disconnection between plane guide on the airport and the pilot. Thus, it showed that the airport condition was very important considering its function as the plane guide to take off. The airport had an important role in taking care of passengers' safety. An airport having limited facility would result in less qualified service, and thus led to accidents. As a matter of fact, the high risk of accidents was not only caused by the airlines due to omitting some operational cost related to *safety* flight, but also caused by bad management of the airport as well as bad weather.

Due to many aircraft accidents happened in Indonesia, some countries issued *travel warning* and travel ban to Indonesia (see Table 3). The travel warning and travel ban policy from foreign countries resulted in the decrease of tourist visits in Indonesia. All airlines in Indonesia were regarded as illegible to fulfill the requirements of passengers' safety. In fact, the finding of *safety audit* from Transportation Department showed that some flight companies did not apply flight regulation yet so that they might be potential to cause insafety of the passengers.

**Table 3.** The Policy Post Aircraft Accidents on Indonesian Aircraft Companies

No	Date	Description
1	March 22, 2007	The General Directorate of Air Transportation announced that none of the flight companies in Indonesia fulfilled the highest score (category I) of passengers' safety. Garuda Indonesia Company ranked the second position.
2	April 16, 2007	The United States prohibited its citizens living in Indonesia or in Asian countries to use Indonesian airlines services.
3	June 26, 2007	The General Directorate of Air Transportation announced that Garuda Aircraft company increased its rank into category 1, while other companies were still in the 2 <sup>nd</sup> and 3 <sup>rd</sup> rank.
4	June 26, 2007	Australia Embassy announced and warned Australian not to use Indonesian flight companies which belonged to category 3.
5	June 28, 2007	European Union prohibited all Indonesian Aircraft companies to cross all over European countries due to safety reason, and asked European people not to use Indonesian Aircraft companies.

Source: *Jawa Pos*, June 29, 2007

Based on various accidents happened in Indonesian Aircrafts, the government of Indonesia did evaluation on the performance of aircraft companies in Indonesia by using 20 items of evaluation criteria. The result of the auditing based on the criteria was then accumulated to determine the category of evaluation as follows ([www.hubud.dephub.go.id](http://www.hubud.dephub.go.id)):

#### 1. Category I

If the accumulation value was more than 161, the aircraft company was regarded as fulfilling the requirements of civil passenger safety.

#### 2. Category II

If the accumulation was between 120 and 160, the aircraft company was regarded as fulfilling the minimum standard of flight safety, however; some requirements were still unfulfilled but did not affect the flight safety.

#### 3. Category III

If the accumulation was less than 120, the aircraft company was regarded as fulfilling the minimum standard of flight safety, however; some requirements were still

needed to be fulfilled as they could affect the flight safety.

Besides publishing the announcement on flight audit result and planes grounded, the Ministry of Transportation also announced the flight companies which were banned. Since March 2005, 10 *aircraft operator certificate* (AOC) have been banned.

### **The Pattern of Concentration and the Market Structure of Domestic Commercial Flight Industry**

The concentration pattern and the measurement of concentration level on domestic commercial flight industry were based on the number of passengers in every airline. During 1999-2004, as shown in Table 4, the number of domestic commercial flight passengers increased significantly. The average growth of the passengers during those periode was 26,02 percent. The passengers' increase was caused by the more number of airlines and the easier access to open new business in airlines, as regulated in Transportation Minister Decree no. KM 11 in 2001. Moreover, the increase was also due to low cost carrier phenomenon.

**Table 4.** The number of Passengers based on Domestic Airlines in Indonesia During 1999-2004 (people)

Company	1999	2000	2001	2002	2003	2004	Average Growth (%)
PT Garuda Indonesia	3,337,490	3,861,287	4,409,891	4,679,566	5,631,868	6,109,680	10.60
PT Merpati Nusantara	1,493,521	1,690,805	1,951,237	2,305,186	3,408,613	2,874,779	11.53
PT Lion Air		43,455	181,684	833,883	3,078,858	5,759,103	
PT Mandala Airlines	819,134	1,015,056	1,243,880	1,681,513	2,100,290	2,702,139	22.01
PT Bouraq Airlines	598,491	713,014	521,881	1,102,365	1,624,300	1,958,944	21.85
PT Star Air			77,548	373,610	699,315	1,336,263	
PT Pelita Air Service	116,845	32,769	244,228	303,783	151,892	882,643	40.08
PT Dirgantara Air Service		123,444	127,896	107,269	108,538	102,241	
PT Airmark Indonesia			36,651	36,087	19,095	0	
PT Bayu Air			42,213	4,637		0	
PT Awair Internasional			208,376	28,749		0	
PT Kartika Air			51,215	45,674		0	
PT Jatayu Air			71,359	380,609		1,569,608	
PT Batavia Air						1,579,854	
PT Trigana Air Service						276,006	
PT Bali International Air						223,329	
PT Derraya Air Service						125,291	
Total	6,365,481	7,479,830	9,168,059	11,882,931	16,822,769	25,499,880	26.02

Source: Ministry of Transportation, *Air Statistics*, tabulated.

Until 2001, the passengers of domestic commercial flight in Indonesia were dominated by Garuda Indonesia and Merpati Nusantara Airlines. However, since 2001 some new private airlines have been serving domestic commercial airlines in Indonesia. Although Garuda Indonesia owned bigger *share* of the passengers, its passengers' growth decreased up to 12,12 percent. The growth was relatively lower compared to other private airlines such as Lion Air, Star Air, Jatayu Air, and Batavia Air. Those airlines were able to grow rapidly as they operated their business more efficiently and they were able to offer much cheaper tickets. Besides, those airlines served new routes. Having cheaper tickets, those private airlines were able to attract new customers to use air

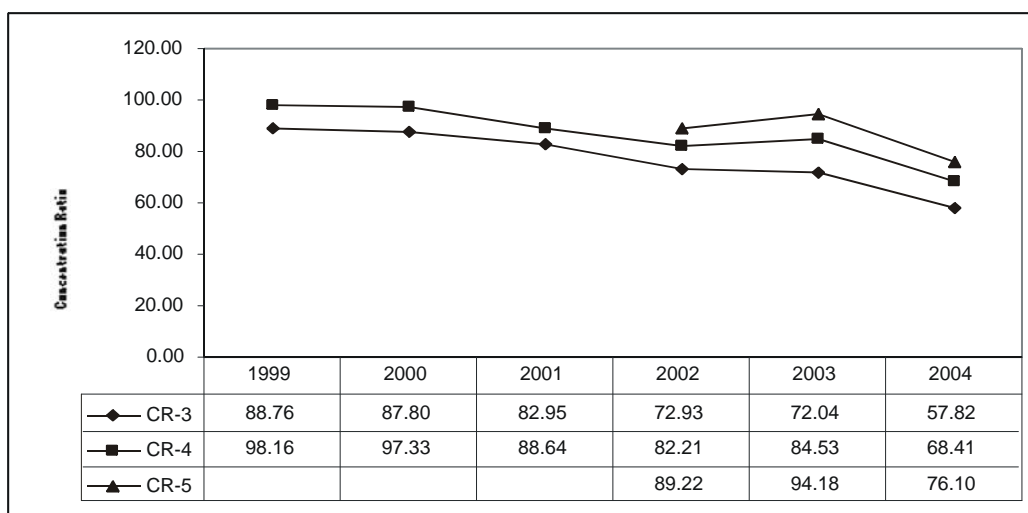
transportation rather than land and sea transportation.

In order to measure the concentration level of domestic commercial airlines in Indonesia, *Concentration Ratio* (CR), Hirschman Herfindahl (IHH) index, and Entropy index were employed. The calculation using CR 3 (three companies with biggest *market share*), CR 4 (four companies with biggest *market share*), and CR 5 (five companies with biggest *market share*) were shown in Table 5 and Figure 2 below; indicating lowering value. It means that the passengers were not concentrated on three or four biggest companies but they spread all over airlines. The fact showed the increase of domestic commercial airlines in Indonesia. The fiercer the competition, the lower are barriers to entry.

**Table 5.** Market Share and Concentration Ratio (CR) Index Based on Domestic Airlines in Indonesia During 1999-2004 (%)

Airlines	1999	2000	2001	2002	2003	2004
PT Garuda Indonesia	52.43	51.62	48.10	39.38	33.48	23.96
PT Merpati Nusantara	23.46	22.60	21.28	19.40	20.26	11.27
PT Lion Air	0.00 CR-3	0.58 CR-3	1.98 CR-3	7.02 CR-3	18.30 CR-3	22.58 CR-3
PT Mandala Airlines	12.87 88.76	13.57 87.80	13.57 82.95	14.15 72.93	12.48 72.04	10.60 57.82
PT Bouraq Airlines	9.40	9.53	5.69	9.28	9.66	7.68
PT Star Air	0.00 CR-4	0.00 CR-4	0.85 CR-4	3.14 CR-4	4.16 CR-4	5.24 CR-4
PT Pelita Air Service	1.84 98.16	0.44 97.33	2.66 88.64	2.56 82.21	0.90 84.53	3.46 68.41
PT Dirgantara Air Service	0.00	1.65	1.40	0.90 CR-5	0.65 CR-5	0.40 CR-5
PT Airmark Indonesia	0.00	0.00	0.40	0.30 89.22	0.11 94.18	0.00 76.10
PT Bayu Air	0.00	0.00	0.46	0.04	0.00	0.00
PT Awair Internasional	0.00	0.00	2.27	0.24	0.00	0.00 CR-8
PT Kartika Air	0.00	0.00	0.56	0.38	0.00	0.00 93.69
PT Jatayu Air	0.00	0.00	0.78	3.20	0.00	6.16
PT Batavia Air	0.00	0.00	0.00	0.00	0.00	6.20
PT Trigana Air Service	0.00	0.00	0.00	0.00	0.00	1.08
PT Bali International Air	0.00	0.00	0.00	0.00	0.00	0.88
PT Derraya Air Service	0.00	0.00	0.00	0.00	0.00	0.49
	100.00	100.00	100.00	100.00	100.00	100.00

Source: Table 4, tabulated.



Source: Table 5.

**Figure 2.** Index of Concentration Ratio (CR) Based on Domestic Airlines in Indonesia, During 1999-2004



The calculation using IHH index was presented in Table 6 which showed decreasing value, from 0,3557 in 1999, 0,3003 in 2001, and 0,1501 in 2004. This tendency had an implication that *market share* was diversified to other airlines. The *Market share* which was previously dominated by PT Garuda Indonesia, PT Mandala Airlines, and PT Merpati Nusantara, were diversified in 2004 to other private airlines, such as Lion Air, Batavia Air, and etc. The decrease of IHH value was the effects of flight deregulation toward domestic commercial airlines. The market structure could be measured through the number of the company, market share distribution, or the concentration level of domestic commercial airlines in Indonesia (Lipczynski and Wilson, 2001).

Based on IHH calculation, the number equivalent could be counted. The calculation

showed that equivalent number was bigger after 2001. The equivalent number was derived from  $1/IHH$ . The lower the IHH, the bigger is the equivalent number, vice versa. The equivalent number showed the companies which would be sustainable in the long period in certain IHH level. Thus, in the low concentration level (IHH) or bigger equivalent number, more airlines would be sustainable.

The calculation using Entrophy (E) index showed increasing number. Value  $E = 0$  indicated monopoly market structure if there was no substitute product (Lipczynski & Wilson, 2001: 110). On the other hand, bigger value E indicated bigger gaps (Kuncoro, 2002: 89). Thus, the result of CR, IHH, and Entrophy index calculation shown in Table 7 generally described that the market structure of domestic commercial airlines in Indonesia tended to focus on oligopoly. The market structure

**Table 6.** Index of Hirschman Herfindahl and *Number Equivalent* Domestic Commercial Airlines Services in Indonesia During 1999-2004

Airlines	1999	2000	2001	2002	2003	2004
PT Garuda Indonesia	0.2749	0.2665	0.2314	0.1551	0.1121	0.0574
PT Merpati Nusantara	0.0551	0.0511	0.0453	0.0376	0.0411	0.0127
PT Lion Air	0.0000	0.0000	0.0004	0.0049	0.0335	0.0510
PT Mandala Airlines	0.0166	0.0184	0.0184	0.0200	0.0156	0.0112
PT Bouraq Airlines	0.0088	0.0091	0.0032	0.0086	0.0093	0.0059
PT Star Air	0.0000	0.0000	0.0001	0.0010	0.0017	0.0027
PT Pelita Air Service	0.0003	0.0000	0.0007	0.0007	0.0001	0.0012
PT Dirgantara Air Service	0.0000	0.0003	0.0002	0.0001	0.0000	0.0000
PT Airmark Indonesia	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PT Bayu Air	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PT Awair Internasional	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000
PT Kartika Air	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PT Jatayu Air	0.0000	0.0000	0.0001	0.0010	0.0000	0.0038
PT Batavia Air	0.0000	0.0000	0.0000	0.0000	0.0000	0.0038
PT Trigana Air Service	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
PT Bali International Air	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
PT Derraya Air Service	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
IHH	0.3557	0.3454	0.3003	0.2290	0.2134	0.1501
Number Equivalent	2.8	2.9	3.3	4.4	4.7	6.7

Source: Table 5, tabulated.

**Table 7.** Index of Hirschman Herfindahl (IHH), Concentration Ratio (CR), and Index of Entrophy Domestic Commercial Flight Industry in Indonesia During 1999-2004

Year	IHH	CR 3 (%)	CR 4 (%)	CR 5 (%)	Entropy Index
1999	0.3557	88.76			1.2367
2000	0.3454	87.80	97.33		1.4071
2001	0.3003	82.95	88.64		1.8042
2002	0.2290	72.93	82.91	89.22	1.8873
2003	0.2134	72.04	88.53	94.18	1.6930
2004	0.1501	57.82	68.41	76.10	2.0316

Source: Table 4, 5, and 6, tabulated.

change resulted in fiercer competition among airlines or lower *barriers to entry*. Since 2001, the *market share* was not only concentrated on two airlines, namely Garuda Indonesia and Merpati Nusantara, but also scattered to some new airlines with various gaps.

#### THE CONCLUSION AND THE IMPLICATION OF FLIGHT DEREGULATION IN 2001

The policy of deregulation on domestic commercial airlines in Indonesia was marked by issuing the Decree of the Minister of Transportation No. 11 in 2001 on Air Transportation Procedures. The implication of the deregulation policy was increasing competition among domestic commercial flight industry due to more number of airlines in Indonesia. The policy of flight deregulation gave an opportunity to national investors to enter domestic commercial flight market in Indonesia. After the deregulation was issued, the number of domestic commercial flight industry increased, from 5 to 17 airlines having new schedules.

The calculation on CR, IHH, and Entropy index showed that the concentration level of domestic commercial flight industry in Indonesia was getting lower during 1999-2004 period. This condition resulted in fiercer competition among airlines, even distribution of market share among airlines, and smaller barriers to entry.

Moreover, based on IHH calculation, the equivalent number was also bigger. It indicated that there were more number of airlines which were sustainable on domestic commercial flight industry. It means that the performance of domestic commercial flight industry in Indonesia was better if more companies were sustainable on the market of domestic commercial flight industry. However, the more number the airlines (exceeded the equivalent number), the worse is their performance.

The increase of the competition among domestic commercial flight industry also resulted in the lower flight ticket (the flight ticket which used to be expensive turned to be cheaper). The lower ticket price caused the competition not only among airlines, but also among other kinds of transportation. Many people changed their ways of transportation, from land and sea transportation to air transportation so that the number of domestic commercial flight passengers increased every year.

To regulate price competition on flight industry, the government issued a regulation on flight cost scheduled domestically for economic class in March 1, 2002. The regulation determined the maximum upper and lower price for the sake of consumer/flight passengers. The price might be applied by airlines provided that it was within the minimum tariff. The price competition among airlines often resulted in bankruptcy as some

airlines could not compete with those which applied efficient management and offered lower ticket price.

The tariff competition, eventually, gave both positive and negative implication. The positive implication resulted in the airlines which were more efficient in operating their business, while the negative implication was indicated by the rise of the number of accidents in flight industries in Indonesia.

In order to avoid more accidents in air transportation, the government needs to have coordination with all parties related to air transportation system. Evaluation and betterment on air transportation management such as supply and demand balance regulation, plane feasibility, airlines efficiency, airport management, and so forth had to be conducted. Finally, the government was expected not to give the opportunity to new airlines operate their business on air transportation. The number of airlines had even exceeded the equivalent number (the equivalent number in 2004 was 7 airlines).

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