Recent Deregulation of the Air Transportation in Brazil[1]

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Abstract

In 2001, the regulation of air transportation sector in Brazil improved considerably. In addition to the analysis of a Draft of the Law which creates the National Regulatory Agency for Civil Aviation, currently under the examination of the Brazilian Congress, the Government has created the Council for Civil Aviation (*Conselho de Aviação Civil-CONAC*) to decide on major subjects related to civil aviation.

The Ministry of Finance, as a member of this Council, presented two propositions to deregulate airfares in Brazil, which were later approved. The first proposition was presented in April 2001, when airfares of flights among the main airports started to be defined by the market and the second in August 2001, when airfares for passengers and cargo transportation were deregulated in the entire country.

This paper presents the main characteristics of the sector, as well as the basic premises which led the Ministry of Finance to propose the total deregulation of the market.

Resumo

Em 2001, o Governo brasileiro propôs uma série de medidas para aperfeiçoar a regulação no setor aéreo no País. Além de estar examinando um projeto de lei de criação da Agência Nacional de Aviação Civil ao Congresso Nacional, o Governo brasileiro decidiu criar o Conselho de Aviação Civil – CONAC para decidir sobre os principais assuntos relacionados à aviação civil.

O Ministério da Fazenda, como membro desse Conselho, apresentou duas propostas de desregulamentação das tarifas aéreas no Brasil, que foram aprovadas posteriormente. A primeira proposta foi apresentada no mês de abril de 2001, quando as tarifas aéreas de passageiros no mercado doméstico entre os principais aeroportos do Brasil passaram a ser definidas pelo mercado. A segunda proposta foi apresentada no mês de agosto de 2001, quando houve a liberação tarifária total no transporte aéreo de passageiros praticado no mercado doméstico, bem como total liberação tarifária no transporte aéreo de carga e mala postal.

Este trabalho apresenta as principais caractéristicas do setor, em particular as premissas que levaram o Ministério da Fazenda a propor a liberalização total das tarifas aéreas.

1. A Brief history of Air Transportation Sector in Brazil [6]

The first national airline companies in Brazil date from the 1920s. They used to operate regionally. The regulation from 1925 required that only companies with headquarters in Brazil could operate domestic flights. Foreign companies operated in Brazil through their subsidiaries in Brazil. The first Brazilian company was the Riograndense Air Company - Varig, founded in 1927, followed by São Paulo Air Company –Vasp, founded in 1933.

The Civil Aviation Department (*Departamento de Aviação Civil - DAC*)**,** responsible for the commercial civil aviation regulation[7], was created in 1931 under the supervision of the Ministry of Infrastructure and in 1941 it became a department of the Department of the Ministry of Aeronautics. Its creation was followed by the nationalisation of foreign companies subsidiaries in Brazil. The DAC has currently the responsibility of domestic and international routes concessions, the supervision of airfares, as well as the definition of the number of frequencies and the fiscalization of air companies.

Another important information about air transport regulation was the adoption of The Brazilian Code of Aeronautics (*Código Brasileiro de Aeronáutica - CBA***)** in 1986, gathering the norms and basic procedures of regulation of the sector. It was prepared with the objective to integrate the country regionally. Following the political environment in that period, the strong regulation of air transportation was directly related to national security issues and industrial development efforts.

[6] Updates data from the "Nota Técnica Número 123/Seae", October 19, 1999.

[7] **Civil aviation** comprehends commercial transportation by air, agricultural air transportation and other related activities which exclude military air activities. Commercial air transportation is divided in regular and non-regular transportation. **Non-regular transportation** comprehends charter flights and air taxi services, among others. In 1996, these means were responsible for 15% of total cargo and passenger transportation. These services are offered by specialised companies or by regular companies. Among the most important companies, the following may be mentioned: Aeroexecutivos, Andirá Táxi Aéreo, Cruzeiro, GSA-Glob Serviços e Aerotáxi, Jet Sul, Salt Jad Táxi Aéreo e Tirreno Táxi Aéreo. **Regular transportation** are responsible for the most important operations in air transportation, comprehends the routes operated systematically by airlines, under the public concession for the period of 15 years, renewable. In 1996, these companies were responsible for 85% of air transportation in Brazil. Regular transportation comprehends regional, national and international routes.

In 1992, under the Government airfare flexibilization context promoted by the Federal Government from 1990, a first phase of deregulamentation was initiated, following the suggestions of the V National Conference of Civil Aviation. The main measures of the flexibilization policy were the following:

- The elimination of entry barriers to new airline enterprises;
- The end of territorial restrictions to regional enterprises, which could start to compete with national enterprises in long distance routes;
- The end of exclusivity to national enterprises to operate Direct Flights to Central Airports (*Vôos Diretos ao Centro -VDC*), i.e., those flights among the Airports of Santos Dumont, Pampulha, Congonhas e Brasília. This measure aimed at reaching businessmen and allowed regional enterprises to interlink the three main Brazilian cities (São Paulo, Rio de Janeiro e Belo Horizonte) to Brasilia, the Federal Capital, through their main airports; and
- A long run shift in the tariff control methodology.

1.1. Price Control Policy

The main changes in price control policy have been gradual. In a first moment, the Government started to set reference airfares. The airline companies could offer 50% discount over the reference price or charge an additional price of 32% over the reference price. It is worth mentioning that in 1994, a regulation, which was transformed into Law no. 9.069 in 1995, established that public prices and tariffs adjustments and revisions would be defined by the Ministry of Finance. From this period on, the Department of Civil Aviation of the Ministry of Defence calculated the costs faced by airlines proposing adjustments in airfares and then sent to the Ministry of Finance for analysis and approval. Thus, two Administrative Directives were necessary for approval, one from the Ministry of Finance and another one from the Ministry of Defence.

In 1997, the discount margin has been modified from 50% to 65% in relation to the reference price. A ticket costing less than 65% relied on Government previous approval. The Administrative Directive no. 701/DGAC, from December 1998, stated that each

regular company had to inform four days in advance their net reference airfare indexes, or changes in theses indexes, and had to submit domestic airfares to the DAC five days later. These airfares would be, however, established freely by the regular airlines[8].

In 1997, the Administrative Directive no.1003/DGAC set more flexible rules for charter flights. The operation of these flights were disconnected from travel packages and hotel reservations. Prices started to be negotiated freely. However, charter flights continued to depend on DAC authorisation. Currently, BRA and Fly charter flight companies, the most important in the country, operate above all to the North-eastern region of Brazil are particularly important.

A series of Administrative Directives were published between July and August 1999 with the objective to deregulate the market. They established the following rules: regulation of the Airlines Commission (*Comissão de Linhas Aéreas – CLA*); the creation of the Programme for Airfare Reduction; and the restructuring of regular air transportation system.

In 2000, new measures adopted by the Government allowed airlines to adopt efficiency gains in the sector. For example, the DAC allowed large airplanes to fly between the airports Juscelino Kubitschek (Brasília) – Santos Dumont (Rio de Janeiro). The Administrative Directive no. 569/GC-05 from 6 September 2000 of the High Command for Aeronautics decided that in Airports where demand for routes concessions is higher than supply, the number of slots had to be fixed in 37% maximum for each airline.

In 2001, the Federal Government initiated a partial liberalisation of airfares through the Administrative Directive no. 7, from 28 March 2001, of the Civil Aviation Counsel (*Conselho de Aviação Civil – CONAC*), approving the free establishment of airfares by

[8] **Domestic airlines** have their origin and final destination inside the country. They can be categorised as national, regional and special routes (Administrative Directive no. 504/C5, August 12, 1999). **National routes** comprehend long distance domestic routes, interlinking large cities. They are defined by the Administrative Directive "Portaria" no 504/GM5, as those which connect directly two or more significant populated and economic urban areas. They are operated in general by domestic companies, operating in at least 12 states and 8 states capitals. The airplanes operating in these areas are usually medium and large, depending on airports with sophisticated infrastructure available in a few airports. Regional routes comprehend those which are complementary to the national routes. They are part of the national integration programme, receiving subsidies from the DAC, in proportion to the number of seats (passengers) transported by kilometre. These subsidies are financed by an additional tariff. Special routes are those which connect two central airports (Santos Dumont in Rio de Janeiro, Congonhas in São Paulo, Pampulha in Belo Horizonte) or a central airport with the Airport of Brasilia.

airlines among the main national airports. In April 5, 2001, the Administrative Directive of the Ministry of Finance no. 90 has liberated airfares charged by regular air companies in direct flights among the following airports: International Airport of São Paulo/Guarulhos, International Airport of São Paulo/Congonhas, International Airport of Rio de Janeiro/Galeão-Antônio Carlos Jobim, Airport of Santos Dumont; International Airport of Belo Horizonte/Tancredo Neves, Airport of Pampulha , International Airport of Brasília/Presidente Juscelino Kubitschek; International Airport of Curitiba/Afonso Pena; International Airport of Porto Alegre/Salgado Filho; International Airport of Campinas/Viracopos; International Airport of Florianópolis/Hercílio Luz.

The Administrative Directive no. 90 also established that the new level of airfares on the above mentioned routes have to be informed to the DAC in the next 5 working days of their adoption. The DAC also became responsible for complementary technical instructions with the objective of establishing rules and procedures required to liberalise airfares, as well as their registration and monitoring.

It is worth mentioning that the responsibility of monitoring of the Brazilian civil air transportation should be revised in the near future, as the Law Proposal to the creation of the National Regulatory Agency for Civil Aviation (*Agência Nacional de Aviação Civil – ANAC*) is being analysed by the Brazilian Congress. Airlines believe that, with the deregulation of the sector, they will be able to manage more easily the airfares discounts according to the destinations, time of the flights and seats available in the airplanes.

With respect to the deregulation of the sector, the Ministry of Finance analysed the following issues in the next sections of this paper:

- Demand side: passengers
    - Demand Elasticity
    - Demand Growth
- Supply side: airlines
    - Barriers to entry
    - Institutional and Regulatory Barriers

- Physical Barriers
- Economic Barriers
- Barriers of Information
- The Current Airline Market in Brazil
  - Concentration and competition in Air Transportation
  - Airfares composition
  - Airfares deregulation
  - The role of the Brazilian Competition Authorities
  - Air Cargo Transportation

2. Demand Side: Passengers

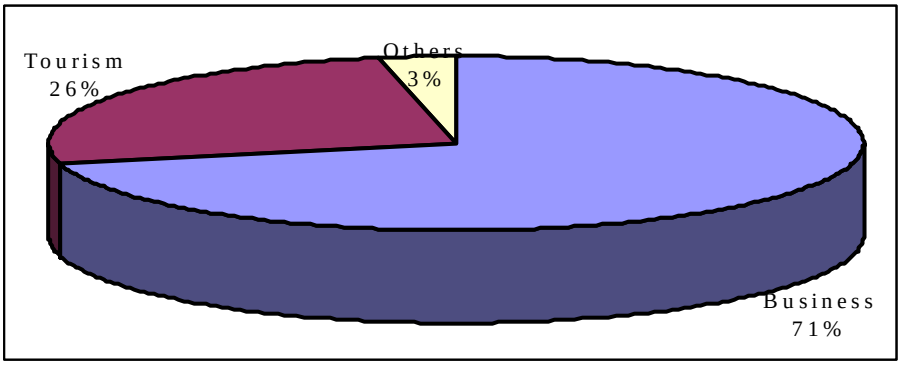
2.1. Demand Elasticity

The price elasticity of demand for domestic flights is low. A study carried out by the Airlines Labour Union -SNEA indicates that 71% of the passengers in Brazil between 1980 and 1996 were in business trips, while the international average is 55%, according to the IATA[9]. Most of the passengers are middle age businessmen (74%) with a high purchasing power. According to a survey of the Brazilian Newspaper Gazeta Mercantil, the three most important factors taken into account by businessmen when choosing the companies are the existence of direct flights, the time of departure and the number of frequencies. Prices of air tickets came only in the fourth place.[10] Airlines operating in the major routes among the most important business centres in Brazil, where clients were mostly businessmen or enterprises travelling with business purposes, charged during this long period, airfares 32% higher than the reference price.[11]

[9] Gazeta Mercantil, p. 58.
[10] Ibid. p. 59
[11] Respício A. do Espírito Santo Jr, José Henrique de L. C. D. Barreiro e Márcio P. de Sequeira Santos. "Flexibilização do Transporte Aéreo no Brasil: Ingresso numa Era de Maior Competição?" in *Anais Artigos Científicos. XII Congresso Nacional de Pesquisa e Ensino em Transportes*. Fortaleza, 23 a 27 de novembro de 1998. p. 543. Doravante "Espírito Santo et al."

The low price elasticity of demand for air tickets is also observed in other countries. An article of The *New York Times* (15/01/98) demonstrates that airfares charged to businessmen in the United States increased significantly by the end of the 1990s. These behaviour was observed, for instance, in the route Boston-Los Angeles, where a round trip ticket, without restrictions to modifications, bought during the day of the trip may cost up to US$ 2.004 in any of the eight major airlines. In the same flight, it could be observed that a tourist could have paid only US$ 238 for a non refundable ticket. Thus, the demand for airlines tickets by businessmen has low elasticity, which allow companies to charge higher airfares without reduction of the demand.

Figure 1 – Demand profile for air tickets in Brazil,



1980-1996

Source: SNEA and Panorama Setorial, 1998.

However, for tourists, price elasticity of demand is normally high. According to the Brazilian Enterprise for Tourism (Embratur), there was a 26% growth in tourism demand in the first quarter of 1998, in relation to the same period of 1997, as a result of a discount policy adopted by airlines during that moment[12]. It is estimated that there is a potential number of 18 million new passengers, mainly tourists, which could start using airplanes if prices are lower. In 1997, one third of the 3.9 million tourists which took international flights from Brazil to other countries were travelling by airplane for the first time.[13]

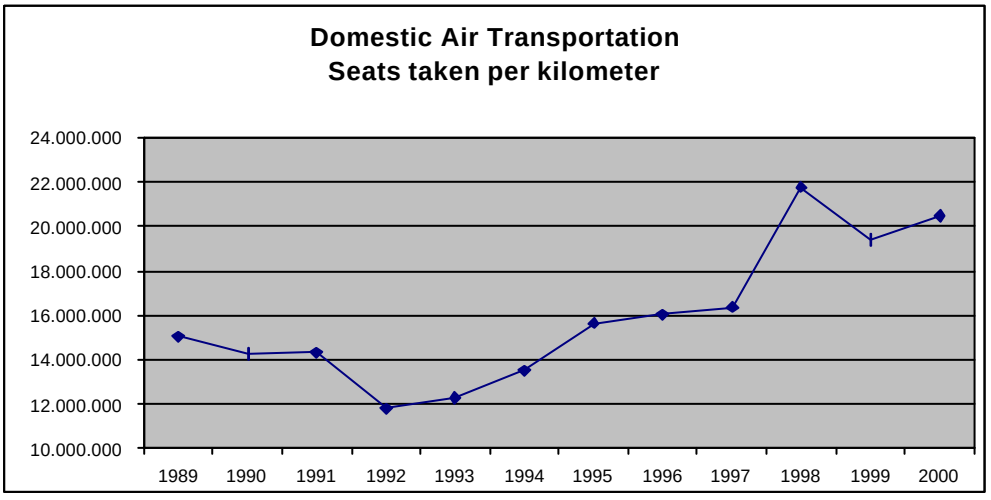
[12] Gazeta Mercantil, p. 59.
[13] Idem. p. 125

The Secretariat for Economic Monitoring - SEAE of the Ministry of Finance has prepared an econometric study in 1998, with the objective to estimate the demand curve for air transportation, including price elasticity and income elasticity in the sector. Based on data from the Institute of Civil Aviation between 1978 to 1997, results demonstrated that price elasticity was around -0,439 and a revenue-elasticity around 1,067 for the period between 1978-1994, and -0,438 and 1,067, respectively for the period between 1994-1997.

2.2 Demand Growth

During the 1960s, the demand for air tickets was relatively stable. Between 1969 and 1973, the number of kilometres by domestic passengers has grown at an annual rate of 20%, as a result of technological advances which have increased the efficiency of transportation and have allowed lower tariffs. The industry growth has continued during the 1980s at a lower rate. The Real Plan, a Brazilian economic plan implemented since 1994 to curb inflation, and the increase of long run financing are among the main causes of the increase in the number of passengers transported in the last few years. The discounts policy offered by airlines between 1997 and 1998 were an additional factor to demand increase. The figure below presents an evolution of the number of seats taken per kilometre from 1989.

Figure 2: Domestic Air Transportation: 1989-2000



Source: Anuário do Transporte Aéreo 2000. Vol. 1. DAC.

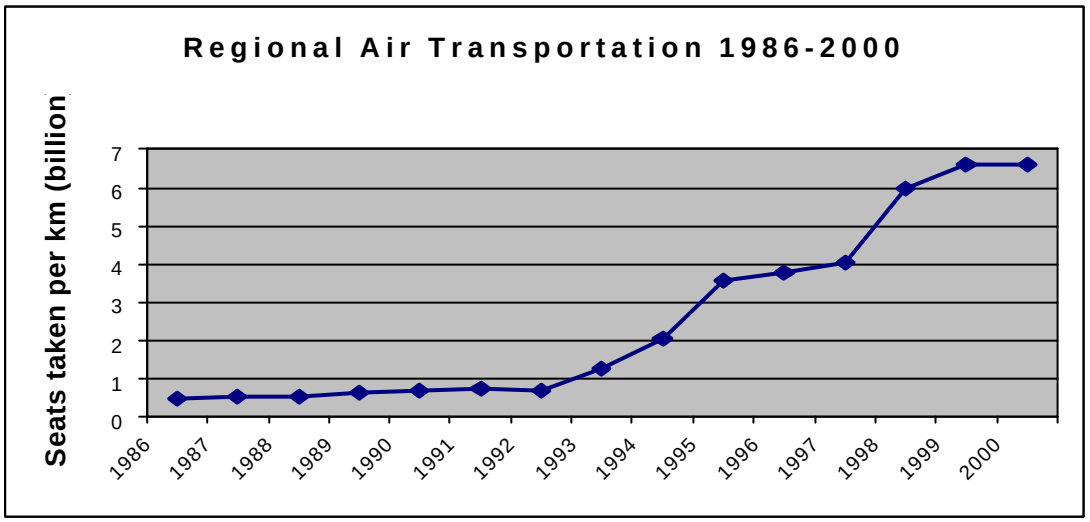
Table 1: Domestic Air Transportation: 1989-2000

Year	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
Pax-km (billion)	0,49	0,51	0,51	0,63	0,69	0,76	0,69	1,25	2,04	3,55	3,78	4,06	5,95	6,6	6,6
Annual change	0.58	0.04	0.00	0.24	0.10	0.10	0.09	0.81	0.63	0.74	0.06	0.07	0.46	0.11	0.0

Source: *Anuário DAC*, 1998, 2000. Elaborated by SEAE

The flexibilization measures adopted since 1992 promoted a significant increase in the demand for air transportation at the regional level.

Figure 3



Source: Anuário do Transporte Aéreo 2000. Vol. 1. DAC.

3. Supply side: Airlines

There are five national airlines in Brazil operating regular flights: Transbrasil, Varig, Vasp, TAM and Gol. Their domestic market share in the first quarter of 2001 was the following:

Table 2: Market share (Passengers per Km transported)

Airlines	January/March 2001 (%)
TAM	31,3
VARIG	30,9
VASP	15,8
TRANSBRASIL	12,6
RIO SUL	9,4
TOTAL	100

Source: DAC

Table 3: Market share (Seats taken per Km)

Airlines	January/March 2001 (%)
TAM	34,3
VARIG	29,3
VASP	14,7
TRANSBRASIL	11,9
RIO SUL	9,7
TOTAL	100

Source: DAC

There is still no data concerning the market share of Gol Airlines, which started to operate in January 2001. Currently, the company has been operating in Belo Horizonte, Brasília, Campinas, Curitiba, Florianópolis, Porto Alegre, Recife, Rio de Janeiro, Salvador and São Paulo.

In 2000, the fourteen regional companies operating in Brazil were the following: Abaeté Linhas Aéreas Ltda.; Interbrasil Star; Nordeste Linhas Aéreas Regionais S.A.; Pantanal Linhas Aéreas Ltda.; Passaredo Transportes Aéreos Ltda.; Penta Transportes Aéreos S.A.; Rico Linhas Aéreas Ltda.; Rio-Sul Serviços Aéreos Regionais S.A.; Taf Linhas Aéreas S.A.; TAM - Transportes Aéreos Regionais S.A.; Tavaj Transportes Aéreos Regulares S.A.; Total Linhas Aéreas S.A.; Transportes Aéreos Presidente S.A., TRIP-Transporte Aéreo Regional do Interior Paulista e a META – Mesquita Transportes Aéreos.

Table 4: Annual Supply of passangers per kilometer transported - paid regular regional transportation (million)

Airlines	94	95	96	97	98	99	00
TAM	918,6	1.900,7	2.209,9	2.257,8	2.442,3	2.802	2.911
Rio Sul	676,8	1.013,0	1.163,1	1.279,9	1.844,9	2.041	2.261
Passaredo	-	3,4	22,1	49,3	562,1	532	20
Nordeste	48,4	117,3	227,6	361,3	549,8	627	844
Penta	-	-	16,8	60,5	127,3	133	95
Helisul	-	8,4	13,9	43,6	102,1	-	-
Pantanal	44,3	85,4	85,1	78,6	76,9	59	80
INTERBRASIL		11,0	31,8	51,6	63,5	152	145
TAVAJ	7,0	13,0	32,1	51,1	57,5	56	33
RICO	-	-	1,2	26,8	51,6	58	63
TOTAL	-	-	7,6	29,0	38,1	35	22
TABA	273,2	276,9	31,2	9,1	11,5	7	-
TRIP	-	-	-	-	6,7	33	38
PRESIDENTE	-		0,2	4,3	3,3	0,66	4
ABAETÉ	-	0,2	1,8	2,2	3,2	3	3
TAF	-	4,7	7,9	6,4	2,9	1,1	1
ITAPEMIRIM	-	-	-	0,8	1,2	-	-
BRASIL CENTRAL	64,2	92,5	140,3	79,4	-	-	-
TOTAL REGIONAL			4.046,2	4.391,9	5.945,0	6.635	6.560

Source: *"DAC jan/dez 98"*, 1999, p. 2 e 20; Anuário *DAC*, 1999, 2000, elaboration Seae.

Non-regular air transportation are regulated by article 194 of the Brazilian Code of Aeronautics - CBA. The increase of tourism as a result of the Real Plan, which reduced inflation and increased purchasing power of the population, has promoted an increase of 22,24% in the number of charter flights between 1995 and 1997. In January 1998, the DAC allowed the purchase of tickets in charter flights without the obligation to buy tourist packages, which includes hotel accommodation and the liberalization of prices in this segment.

3.1. Barriers to entry

The analysis of the barriers to entry is fundamental to understand the airline market and the supply structure, as their absence or existence leads to a more or less competitive

environment for companies in the market, affecting innovations and decrease of costs and prices.

Barriers to entry are those hindering an easy access of new agents to a specific market. Barriers can be related to technology, to information, to finance, to the institutional framework aspect and to regulations. Technological and informational barriers could be related to the knowledge of certain agents of specific technical procedure. Economic barriers could be the need of large investments, unavailable for most economic agents. Sunk costs, which are costs necessary for companies to become agents in a certain market and could not be easily recovered by companies if they want to leave the market, as for example marketing costs. Economic agents always consider the costs of entry and exit of an economic activity, when they decide to invest in a certain market. Institutional barriers are in general a consequence of regulations set by authorities. For instance, to drive a taxi, a person may request a license from local regulators; to fly in a certain route, an airline may receive a concession to operate in a certain region.

Air transportation is generally characterised by difficult barriers of entry. In this sector, barriers are institutional, regulatory, physical, technical, economic and related to lack of information.

3.1.1. Institutional and Regulatory Barriers

New entrants in domestic air transportation are controlled by the DAC. The Article 180 of the Brazilian Code of Aeronautics states the following:

> "The operation of public air transportation depends on a previous concession in the case of regular air transportation or on an authorisation in the case of non-regular transportation or specialised services."

The authorisation procedure for an airline company is described in the Administrative Directive no. 536/GC5, from 18 August 1999, which substituted the

Ministry Directive 686/GM5 from 15 September 1992.[14] Currently, an authorisation is approved only to Brazilian companies with headquarters in the country. This decision is taken by the Director-General of the DAC, after an analysis of technical, operational, economic, financial, legal and administrative factors of a company. The concessions to operate regular air transportation in Brazil depend, in a first moment, on legal aspects analysed by the DAC. Concessions contracts are signed between companies and the DAC. Once a concession is approved, it can only be modified by the DAC. A similar procedure is adopted by the concession of non-regular air transportation.

The Ministry Directive 686/GM5, dated 15 September 1992, which facilitated the entry of new companies in the air transportation sector, regular and non-regular, has promoted an increase in the number of new regional and national airlines during the period between 1992 and 1998, as well as a remarkable increase in the existing regional airlines as TAM and Rio-Sul, companies that could be categorised as national, by the volume of passengers transported. [15]

The entry of a new airline called Gol, in the year 2001, in several important routes in Brazil (Brasilia, Belém, Belo Horizonte, Campinas, Curitiba, Florianópolis, Porto Alegre, Rio de Janeiro, São Paulo, Salvador), demonstrates that the institutional barriers to entry are becoming less important, as a consequence of the deregulation policy.

3.1.2. Physical Barriers

The main physical barriers to new entrants in the airline sector are usually the availability of airplanes and of airport infrastructure, in particular the availability of slots and gates.

A slot is a period of time in which an airplane is authorised to land and take off. The concession of slots depends on the airport capacity to manage the movement of passengers and airplanes. The right to use a slot may be cancelled if not used for 30 days. The entry of a new company in a certain route depends on the availability of slots in the route. Some countries distribute slots as temporary concessions, through market

[14] In 1999, the Government started to consider national and regional flights in the same manner.
[15] Espírito Santo et al., p. 536 a 540.

mechanisms, which could be cancelled if not properly used. The same procedures are adopted by the distribution of airport gates. Brazilian airports have been adopting an efficient policy in the concession of gates allocation, as they approve their use according to actual departures, not to specific companies.

Another barrier to new entrants, which is related to infrastructure, are airports fees. Currently, they are charged according to the use of time of airport services, independently of demand and supply in certain periods of the day. Recently, the Government has also been considering to adopt a system which would consider reduced fees in non-rush periods allowing the entrance of new companies, particularly those related to tourist packages.

3.1.3. Economic Barriers

The airline business requires a large amount of capital for its beginning, operation, and maintenance. It presents a low rate of return and low profit margins. Thus, in addition to the expressive investments involved, it is usually difficult to obtain large financing to start operating in the sector. Brazilian companies have also to face extremely high levels of interest rates, in comparison to other countries. While in Brazil the average cost of financing is around 18,5% ^{aa} , in the United States the cost is approximately 6,8% ^{aa}.

According to SNEA, the cost of acquisition of a new airplane by a Brazilian airline is approximately 10% higher than the international average, as a consequence of the smaller number of airline stops in the Country, of the higher interest rates for financing airplanes and of the shorter periods approved by financial institutions for paying back the loans. The average cost to acquire a Boeing 737-300 by national companies was around US$ 32 million in 1997. When a larger number of airplanes were involved in a deal by a company, the price was 15% smaller, reaching US$ 27 million. The alliance among companies, as TAM, Lan Chile and Taca, which negotiated as a group with Airbus, has created the possibility of acquiring airplanes at a lower cost. In 1997, the average payment of airplanes lasted around 12 years for financial leasing and around 5 years for operational leasing. In the United States and Europe, these periods were much longer in average, 20

and 10 years respectively.[16] As illustrated in the table below, interest rates paid by American companies in financial leasing are much lower than those paid by Brazilian companies:

Table 5: Cost of acquisition of a Boeing 737-300, year 1997

Conditions	Brazil	Large deals (American companies)
Price	US$ 32 million	US$ 27 million
Time of financing	12 years	20 years
Interest rates	Libor + 3,5%	Libor + 0,19%
Monthly payments	US$ 370 thousand	US$ 200 thousand
Final Price	US$ 53 millions	US$ 48 millions

Source: "SNEA and Panorama Setorial da Gazeta Mercantil"

Airplanes imports, as well as their components, is subject to na authorisation of the Commission of Civil Air Transportation (*Comissão de Coordenação do Transporte Aéreo Civil –COTAC*) from the DAC. In addition, the sector must fulfil, the Internal Revenue Secretariat rules. These procedures are very time consuming (between 30 and 45 days), provoking additional difficulties to the entrance of new companies in the business or to the exploration of a new route by na existing company.

Furthermore, the air transportation sector is characterised by operational assets with a high unitary cost. The return depends on a large extent on an intensive use the assets, which means that when airplanes are not flying as a result of long periods of maintenance, the companies have to face significant financial loses. The current regulation concerning the reparation of airplane components, which may be sent abroad to be fixed, does not allow temporary substitution of components (a practice called trade-n). Thus, many companies must keep in stock a certain amount of components, which may not be used in the short and medium term. In Brazil, for a 10 airplane fleet of B-737, the value of this stock may amount up to 15% of the total amount of the fleet. In the United States, this percentage only reaches 0,5%.[17]

[16] "Operational leasing is pure rent. It does not involve buying the airplane at the end of the contract. Payments are done monthly and a contract lasts in average 5 years." Gazeta Mercantil, vol. I, p. 87.
[17] DAC. O Transporte Aéreo no Brasil - Regulamentação e Tarifas. 29/10/97. p. 8-10.

Another economic barrier is the limitation to the participation of foreign airlines in Brazil imposed by the article 181 do CBA. This Code only allows foreign companies to own 20% of shares with voting power, among other restrictions. In the United States, this limitation reaches 25% and there are proposals to increase it. In Europe, foreign companies may have up to 49%.

3.1.4. Barriers of information

Barriers of information are usually those related to the lack of information on passengers preferences, which demand significant expenses in marketing and market research. Large airlines in Brazil developed computer programmes for booking passengers tickets and made them available to travel agencies throughout the country. Without these programmes and historical data, new enterprises face additional barriers to enter in the sector. Large companies usually offer computer terminals able to book flights to travel agencies, which sell approximately 80% of the airline tickets.

4. The Current Airline Market in Brazil[18]

In 1999, airlines in Brazil faced a series of setbacks, as a result of the Real devaluation against the dollar, the reduction of tourists to the country, the decrease of Brazilians travelling abroad and the higher costs, as many loans were indexed to dollars. Companies were forced to reduce their former discount policies to passengers and reduce the number of employees in order to counterbalance the national currency devaluation. According to data collected by the National Bank of Social and Economic Development - BNDES, the proportion of seats occupied in airplanes in the domestic market has dropped from 59% in 1998 to 54% in 1999[19], and from 64% to 61% in the international trips by local companies. In the year 2000, the market had recovered. In the first nine months of the year, those proportions have increased to 59% in domestic flights and to 72% in international flights.

[18] This section is based on a large extent on the paper : "A regulação na indústria de transporte aéreo de passageiros: uma análise sob a ótica da Teoria Política Positiva da Regulação", from Márcia Paim Romera. Monography presented to the Department of Economics at the Universidade de Brasília – UnB. December 2000.
[19] BNDES. "Aspectos de Competitividade do Setor Aéreo", Março de 2001, available at the site www.bndes.gov.br

In these two years, TAM became the second largest Brazilian airline, after Varig, which joined the Star Alliance in 1999. In the first quarter of the 2001, TAM had a higher participation in the domestic market than Varig. During this period Vasp and Transbrasil faced serious financial problems and reformulated their market strategies.

With respect to the institutional framework of the sector, it is important to mention that during this period, it was created the Ministry of Defence (by the Complementary Law no. 97, June 1999), and the Council for Civil Aviation (*Conselho de Aviação Civil – CONAC*). The Presidency also initiated the discussion on the creation of the National Agency for Civil Aviation (*Agência Nacional de Aviação Civil – ANAC*12). In April 2001, the Council for Civil Aviation decided to free prices of airline tickets in the eleven most important airports of Brazil, initiating the process of airfare deregulation.

5. Concentration and competition in Air Transportation

The concept of a market, in the antitrust analysis, is hypothetical. It allows the analysis of the effects of concentration or business conducts in the provision of products or services. Basically, market concentration is only significant if analysed in specific relevant markets. It should also consider the geographical and temporal elements involved in the commercialisation of a product. A relevant market in air transportation in Brazil could be considered for instance the route Congonhas-Brasília in the morning, when businessmen from São Paulo come to the capital for different purposes. An alternative route for this market could be the Airport of Guarulhos in São Paulo. For the average users of this route, there would not be another alternative, as transportation by land would last tem times longer and had to be done by evening. However, in order to simplify, this section, we will consider the relevant market in Brazil, the domestic market.

The antitrust analysis in Brazil, as well as in many other countries, is based on a set of parameters which allow policymakers to evaluate the possibility of unilateral or co-ordinated action to acquire a strong influence in the market behaviour. In Brazil, a company that dominates more than 20% of the market, or four companies, that together, hold more than 75% of the market are considered as companies which can have a strong influence over the markets. Factors as no barriers to markets, effective competition among competitors or easy importation mechanisms may reduce their power. Even if we consider

the relevant market of air transportation business in Brazil as the domestic market, the companies in this sector could easily act as trusts. In the domestic market, the largest company controls more than 20% of the market and the C4 index[20] is superior to 75%, reaching 90,6% (see table 2). In 1999, when Seae Note nº 123 (Nota Técnica 123) was prepared, the institutional structure established allowed low rivalry among the airlines, as the market division and the fixation of prices were adopted by the regulatory bodies.

Some of the measures taken by the Flexibilization Programme started in 1992 promoted a higher competition in some routes. The end of geographical restrictions for regional, including the permission to flight straight to major hubs (Vôos Diretos ao Centro - VDC), and the implementation of larger airfares bands are some examples. The end of geographical restrictions may be the most important measure, as it allowed small and medium sized companies to compete in larger distances. From 1992 to 1998, there was a large increase in the number of regional airlines. It was also noted that the growth of some regional airlines, particularly TAM and Rio-Sul, was the result of their acquision by large national airlines (Rio-Sul by Varig, Nordeste by Rio-Sul, Brasil Central and Helisul by TAM and the creation of InterBrasil Star by Transbrasil).

The end of control over major hubs caused a new demand for 700 frequencies If all of them were approved by regulatory bodies, there would be an increase of 50% in total availability of frequencies. However, the right to fly in routes with departure in major hubs was provided only for airlines which operated regular domestic flights for more than two years, ie. National airlines.[21] It is important to mention that between March and July of 1998, the route between Rio de Janeiro and São Paulo, the DAC approved an increase in the number of TAM's daily frequencies from 6 to 23 and Rio-Sul's from 6 to 16, and allowed Nordeste to have 10 daily frequencies. The Ponte Aérea Regional (PAR) and Transair, a charter company, were also authorized to fly in the same route. This period coincided with the practice of discounts by airlines, which were observed as a result of

[20] The C4 index is the sum of the participation in the market of the four biggest companies. Na index C4 larger than 75% indicates that companies have the possibility to influence significantly a certain market, in a coordinataded or not manner. Other information on market structure that helps the analysis are barriers of entry, effective rivalry and the possibility to import products.

[21] Gazeta Mercantil, p. 33.

larger price bands authorized by the Government and the need to increase the number of seats taken in each flight.[22]

The two main elements that are taken into consideration in competition analysis of the air transportation sector are airfares and transport supply capacity. Airlines in a market economy could differentiate themselves by airfares charged to passengers in different routes (different classes, times, etc), discount policies, conditions of purchase, restrictions of tickets swaps and yield management practices[23]. Airlines transport supply capacity, in competition analysis, observes capacity to enter in a new route, to change the number of flights in each route and to use certain types of airplanes.

6. Airfares composition

Until recently, the authorisation to adjust airfares was based on price indexes.[24] Such methodology, which takes into account the price variation of some specific costs of the sector and not individual costs, results in airfares which do not reflect supply and demand characteristics, as operational costs and demand elasticity. In addition to regulatory, economic and other barriers, this practice hindered the implementation of discount policies and the adoption of airfares that reflect the real costs faced by companies.

In 1992, the Government adopted a price band system, through which it used to define the reference price and established the margins based on which maximum and minimum prices were defined. This methodology allowed a relative flexibilization of the system, and led to a moderate price competition. However, airlines needed to submit their reference airfares and discounts offered to the DAC. The airfare band was increased in 1997, through the Administrative Directive 986/DGAC, with discounts up to 65% over the basis price. The Administrative Directive no. 701/DGAC reduced the DAC control, but requested that airlines continue to inform price indexes and airfares charged.

[22] Idem. p. 23.
[23] O *yield management consists of a strategic system of competition oriented to the otimization of income, based o n the following premisses*:
- Price discrimination instead of fixed price – price structure with discounts;
- Product differentiation leading to purchase restrictions;
- O*verbooking.*

In the beginning of 1998, there was a wide airfare dispute among the major airlines. On the one hand, this dispute was an effect of wider airfares bands. On the other hand, it was a result of the need to increase airplanes occupancy rate. The airlines started to adopt, with a certain delay in relation to foreign airlines yield management practices. With an average rate of occupancy around 72-73%, the reduction of prices did not require an increase in airlines fleet, as long as the network and frequencies remained the same. In addition, it was noted in this year that there was a impressive increase in the supply of seats, without an increase in occupancy. [25]

In March 1998, the DAC approved a concession for TAM Airline to fly between Rio de Janeiro (Santos Dummont Airport in the city centre) and São Paulo (Congonhas Airport in the city centre) and reduced airfares from R$158 to R$ 115. The decrease of airfares was followed by the other companies operating in the same route. In the same period, TAM has announced a 30% discount in the route São Paulo – Brasília, and, later on in eight more routes. Then, Rio Sul Airlines has also offered 30 to 50 % discounts in routes. In June 1998, all other Brazilian airlines started to offer discounts in their airfares. Discounts in airfares varied according to the demand for seats in different flights. The greater the availability, the higher the discounts. Thus, occupancy rates have improved in 1998, as shown in the following table:

Table 6. Domestic Flights – Occupation (%) e *Yield* Pax-Km (R$) - 1996 - 1998

Airlines	**96 (a)**		**97 (b)**		**98 (b)**	
	Occupancy	***Yield* Pax-Km**	**Occupancy**	***Yield* Pax-Km**	**Occupancy**	***Yield* Pax-Km**
Transbrasil	58,00	0,1664	58,28	O,1704	60,80	0,1449
Varig	64,79	0,1877	63,95	0,2000	61,41	0,1804
Vasp	54,38	0,2372	52,94	0,2573	56,74	0,2212
TAM Meridional	61,92	n.d.	41,57	0,1644	54,12	0,1381
Total Domestic	61,00	0,1937	58,67	0,2106	59,33	0,1793

(a) Source: Panorama Setorial GM, v.2, p.12, 53, 64, 84 e 109.
(b) Source: DAC, "Info PL-3, Jan/Dez 1998", 1999.

[25] Espírito Santo et al., p. 545.

However, in January 1999, after the strong devaluation of the Real, discounts in airfares were modest. As a result, occupancy rates diminished again. Throughout the year 2000, discounts started to be offered again, up to 60%, in most airlines, causing an increase in occupancy rates. In 2001, discount policies continue to be adopted by airlines, although figures are still not available.

Table 7: Rate of occupation in domestic flights – 1999 e 2000

Airlines	**Jan/Dec 99 (%)**	**Jan/Dec 00 (%)**
VARIG	64,1	66,9
VASP	47,5	56,8
Transbrasil	52,2	52,0
TAM Meridionais	41,5	52,4
Total Domestic	53,8	58,7

Source: DAC

In 2001, the entry of new competitors in the market, such as Gol Transportes Aéreos, offering cheaper fares, provoked the same behaviour in the other companies. In many cases, airlines started to offer higher discounts for tickets bought 20-30 days in advance. After the beginning of the liberalisation of the routes which link the main airports, the supply of seats per kilometre offered by airlines has grown significantly, especially as a result of the growth in some airlines as TAM, Rio-Sul and Gol. Thus, these were consequences of the flexibilizaton measures adopted since 1992, which supported the entry of new companies in the market.

7. Airfares deregulation

The deregulation of air transportation has as an objective the establishment of new patterns of efficiency in the sector. This objective could be reached in two manners: on the one hand, free determination of airfares, free supply of seats, and an easier access to airport infrastructure; on the other hand, establishment of a general structural framework to promote competition in the sector.

The liberalisation of airfares was initiated in April 2001, when the Ministry of Finance Administrative Directive no. 90 approved the free establishment regular domestic airfares in direct connections between the following airports:

> *International Airport of São Paulo/Guarulhos, International Airport of São Paulo/Congonhas, International Airport of Rio de Janeiro/Galeão-Antônio Carlos Jobim, Airport of Santos Dumont; Internacional Airport of Belo Horizonte/Tancredo Neves, Airport of Pampulha, International Airport of Brasília/Presidente Juscelino Kubitschek; International Airport of Curitiba/Afonso Pena; International Airport of Porto Alegre/Salgado Filho; International Airport of Campinas/Viracopos; International Airport of Florianópolis/Hercílio Luz.*

After a few months, a preliminary evaluation of the Government demonstrated that the airlines' average yield achieved good results. According to the DAC, there is an ideal *yield* , which combines a minimum occupancy rate, profit margins around 12% and a maximum yield. The maximum yield is calculated supposing that airlines are charging the maximum airfare possible in the previous period before the liberalisation. Based on these parameters, the DAC calculates a representative average yield of the sector. Then, it was possible to observe that companies did not practise a predatory competition, because their average yield would be below the ideal yield. Furthermore, it has not been observed that up to now, there are no indications that airlines have not been adopting abusive conducts with regards to airfares in the liberalised routes. In reality, the average yield, which reflect the real conditions of the sector, has been smaller than the yield to be obtained if airfares were at their highest levels, as observed in the following table:

	Route	Yield Ideal	Yield Max Reference	Aver.Yield April	Aver.Yield May	Change Yield May/Yield April	Change Yield May/Yield Max.
1	Santos Dumont/Brasília	0,2399	0,3944	0,3634	0,3186	-12,33%	-19,22%
	Brasília/Santos Dumont		0,3944	0,3655	0,3549	-2,90%	-10,02%
2	Santos Dumont/Campinas	0,3287	0,6314	0,4761	0,5073	6,55%	-19,65%
	Campinas/Santos Dumont		0,6314	0,4764	0,4134	-13,22%	-34,53%
3	Santos Dumont/Congonhas	0,3462	0,5699	0,4524	0,3724	-17,68%	-34,66%
	Congonhas/Santos Dumont		0,5699	0,4542	0,3781	-16,75%	-33,66%
4	Santos Dumont/Confins	0,3462	n.a	n.a	n.a	n.a	n.a
	Confins/Santos Dumont						
5	Santos Dumont/Curitiba	0,2722	0,4889	n.a	0,4340	n.a	-11,23%
	Curitiba/Santos Dumont		0,4889	0,4467	0,4353	-2,55%	-10,96%
6	Santos Dumont/Florianópolis	0,2575	n.a	n.a	0,3870	n.a	n.a
	Florianópolis/Santos Dumont				0,4119		
7	Santos Dumont/Guarulhos	0,3563	n.a	0,1749	0,2595	48,37%	n.a
	Guarulhos/Santos Dumont			0,1749	0,2595	48,37%	
8	Santos Dumont/Pampulha	0,3563	0,6189	0,5665	0,5121	-9,60%	-17,26%
	Pampulha/Santos Dumont		0,6189	0,5522	0,5414	-1,96%	-12,52%
9	Santos Dumont/Porto Alegre	0,2219	0,3861	n.a	0,3325	n.a	-13,88%
	Porto Alegre/Santos Dumont		0,3861	0,3611	0,3425	-5,15%	-11,29%
10	Galeão/Brasília	0,2399	0,3965	0,2430	0,2850	17,28%	-28,12%
	Brasília/Galeão		0,3965	0,2571	0,2927	13,85%	-26,18%
11	Galeão/Campinas	0,3370	n.a	0,1794	0,2600	44,93%	n.a
	Campinas/Galeão			0,1815	0,2574	41,82%	
12	Galeão/Congonhas	0,3462	0,5543	0,2566	0,2639	2,84%	-52,39%
	Congonhas/Galeão		0,5543	0,2444	0,2595	6,18%	-53,18%
13	Galeão/Confins	0,3462	0,5691	0,4584	0,5079	10,80%	-10,75%
	Confins/Galeão		0,5691	0,5173	0,5127	-0,89%	-9,91%
14	Galeão/Curitiba	0,2722	0,4663	0,4009	0,3923	-2,15%	-15,87%
	Curitiba/Galeão		0,4663	0,4012	0,3856	-3,89%	-17,31%
15	Galeão/Florianópolis	0,2575	0,4934	0,3276	0,3483	6,32%	-29,41%
	Florianópolis/Galeão		0,4934	0,3105	0,3127	0,71%	-36,62%
16	Galeão/Guarulhos	0,3563	0,6172	0,4736	0,4941	4,33%	-19,94%
	Guarulhos/Galeão		0,6172	0,4964	0,5074	2,22%	-17,79%
17	Galeão/Pampulha	0,3563	n.a	n.a	0,2948	n.a	n.a
	Pampulha/Galeão				0,2940		
18	Galeão/Porto Alegre	0,2219	0,4046	0,2855	0,2788	-2,35%	-31,09%
	Porto Alegre/Galeão		0,4046	0,2930	0,2934	0,14%	-27,48%
19	Congonhas/Brasília	0,2453	0,4055	0,3261	0,3269	0,25%	-19,38%
	Brasília/Congonhas		0,4055	0,3182	0,3228	1,45%	-20,39%
20	Congonhas/Campinas	0,5621	1,1429	0,8695	0,8574	-1,39%	-24,98%
	Campinas/Congonhas		1,1429	0,8493	0,8384	-1,28%	-26,64%
21	Congonhas/Confins	0,3014	n.a	n.a	n.a	n.a	n.a
	Confins/Congonhas						
22	Congonhas/Curitiba	0,3563	0,5921	0,4659	0,4631	-0,60%	-21,79%
	Curitiba/Congonhas		0,5921	0,4934	0,4668	-5,39%	-21,16%
23	Congonhas/Florianópolis	0,3140	0,5758	0,4326	0,4826	11,56%	-16,19%
	Florianópolis/Congonhas		0,5758	0,4440	0,4663	5,02%	-19,02%
24	Congonhas/Pampulha	0,3014	0,5198	0,3993	0,4082	2,23%	-21,47%
	Pampulha/Congonhas		0,5198	0,3899	0,4095	5,03%	-21,22%
25	Congonhas/Porto Alegre	0,2453	0,4234	0,3048	0,3327	9,15%	-21,42%
	Porto Alegre/Congonhas		0,4234	0,2745	0,3261	18,80%	-22,98%
26	Guarulhos/Brasília	0,2453	0,8187	0,3290	0,3338	1,46%	-59,23%
	Brasília/Guarulhos		0,8187	n.a	0,3373	n.a	-58,80%
27	Guarulhos/Campinas	0,5652	0,9398	0,8014	0,7981	-0,41%	-15,08%
	Campinas/Guarulhos		0,9398	0,7918	0,7998	1,01%	-14,90%
28	Guarulhos/Confins	0,3140	0,5131	0,4507	0,4520	0,29%	-11,91%
	Confins/Guarulhos		0,5131	0,4413	0,4407	-0,14%	-14,11%
29	Guarulhos/Curitiba	0,3462	0,5404	0,4513	0,4439	-1,64%	-17,86%
	Curitiba/Guarulhos		0,5404	0,4506	0,4557	1,13%	-15,67%
30	Guarulhos/Florianópolis	0,3014	0,5398	0,4087	0,4333	6,02%	-19,73%
	Florianópolis/Guarulhos		0,5398	0,4526	0,4405	-2,67%	-18,40%

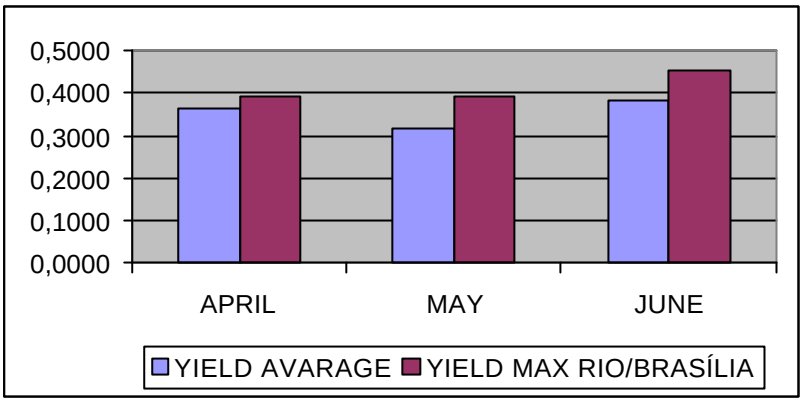
	Route	Ideal Yield	Yield Max Reference	Aver.Yield April	Aver.Yield May	Change Yield May/Yield April	Change Yield May/Yield Max.
31	Guarulhos/Pampulha Pampulha/Guarulhos	0,3140	n.a	n.a	0,3296 0,3432	n.a	n.a
32	Guarulhos/Porto Alegre Porto Alegre/Guarulhos	0,2453	0,4046 0,4046	0,3206 0,3207	0,3162 0,3266	-1,37% 1,84%	-21,85% -19,28%
33	Campinas/Brasília Brasília/Campinas	0,2575	0,4900 0,4900	0,3873 0,3883	0,3898 0,3892	0,65% 0,23%	-20,45% -20,57%
34	Campinas/Confins Confins/Campinas	0,3140	n.a	0,4354 0,4370	n.a	n.a	n.a
35	Campinas/Curitiba * Curitiba/Campinas	0,3563	n.a	0,5736 0,5704	0,5615 0,5625	-2,11% -1,38%	n.a
36	Campinas/Florianópolis Florianópolis/Campínas	0,3014	0,5549 0,5549	n.a	n.a	n.a	n.a
37	Campinas/Pampulha Pampulha/Campinas	0,3140	0,5863 0,5863	0,4508 0,4525	0,4486 0,4486	-0,49% -0,86%	-23,49% -23,49%
38	Campinas/Porto Alegre Porto Alegre/Campinas	0,2453	0,4485 0,4485	0,3287 0,3363	0,3339 0,3439	1,58% 2,26%	-25,55% -23,32%
39	Brasília/Confins Confins/Brasília	0,2905	0,5763 0,5763	0,3226 0,3254	0,3043 0,3126	-5,67% -3,93%	-47,20% -45,76%
40	Brasília/Curitiba Curitiba/Brasília	0,2302	0,4048 0,4048	0,3407 0,3398	0,3480 0,3453	2,14% 1,62%	-14,03% -14,70%
41	Brasília/Florianópolis Florianópolis/Brasília	0,2079	0,3851 0,3851	0,2777 0,2647	0,2985 0,2612	7,49% -1,32%	-22,49% -32,17%
42	Brasília/Pampulha Pampulha/Brasília	0,2808	0,4689 0,4689	0,4339 0,4391	0,4075 0,4157	-6,08% -5,33%	-13,09% -11,35%
43	Brasília/Porto Alegre Porto Alegre/Brasília	0,1918	0,3296 0,3296	0,2780 0,2727	0,2609 0,2802	-6,15% 2,75%	-20,84% -14,99%
44	Confins/Curitiba Curitiba/Confins	n.a	0,4071 0,4071	n.a	n.a	n.a	n.a
45	Confins/Florianópolis * Florianópolis/Confins	n.a	n.a	n.a	0,4568 0,4715	n.a	n.a
46	Confins/Porto Alegre Porto Alegre/Confins	n.a	0,3387 0,3387	0,3442 0,3441	0,2825 0,3008	-17,93% -12,58%	-16,59% -11,19%
47	Pampulha/Curitiba Curitiba/Pampulha	0,2511	0,4160 0,4160	0,3442 0,3441	0,3506 0,3485	1,86% 1,28%	-15,72% -16,23%
48	Pampulha/Florianópolis Florianópolis/Pampulha	0,2349	0,4158 0,4158	0,2120 0,2120	0,2120 0,1974	0,00% -6,89%	-49,01% -52,53%
49	Pampulha/Porto Alegre Porto alegre/Pampulha	0,2079	n.a	0,1857 0,1857	0,1734 0,1886	-6,62% 1,56%	n.a
50	Curitiba/Florianópolis Florianópolis/Curitiba	0,4109	0,6870 0,6870	0,6116 0,6207	0,5866 0,6027	-4,09% -2,90%	-14,61% -12,27%
51	Curitiba/Porto Alegre Porto Alegre/Curitiba	0,3014	0,5375 0,5375	0,4723 0,4779	0,4646 0,4762	-1,63% -0,36%	-13,56% -11,40%
52	Florianópolis/Porto Alegre Porto Alegre/Florianópolis	0,3462	0,5813 0,5813	0,4096 0,4042	0,3827 0,4695	-6,57% 16,16%	-34,16% -19,23%

Source: DAC

Based on the data above, comparing the average yield in April and May with the maximum yield established in the last readjustment in July 2000, in the six most important routes in the country, which had their airfares liberalised by the Administrative Directive

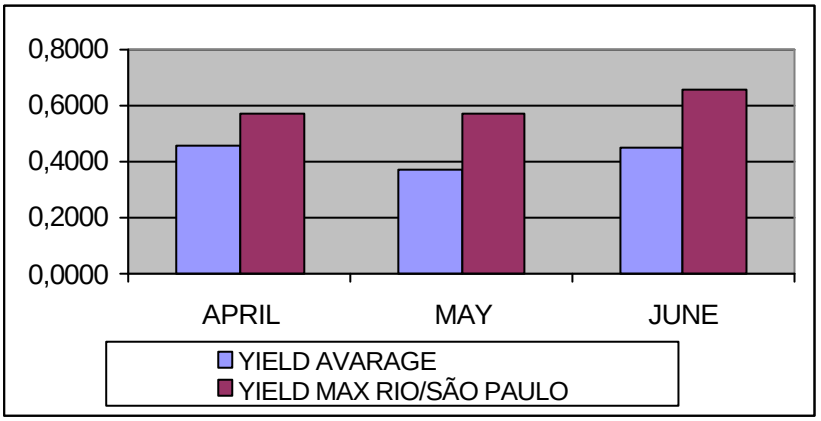
MF no. 90, we could observe that the average yield, obtained by airlines, is below the level that could be implemented in practice.

Figure 4: Route linking the airports of Santos Dumont and Juscelino Kubitschek



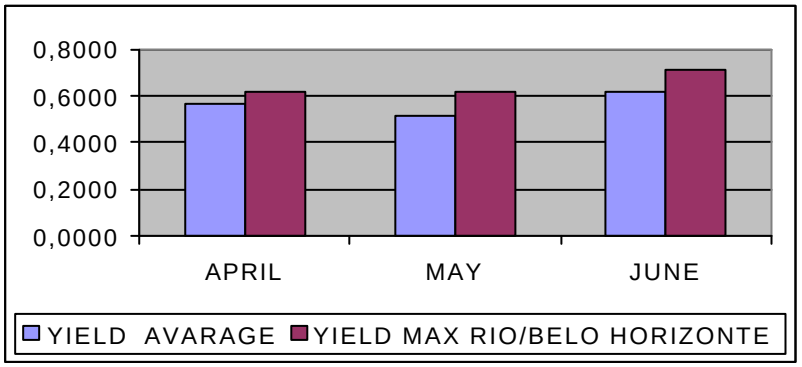
Source: SEAE

Figure 5: Route linking the airports of Santos Dumont and Congonhas



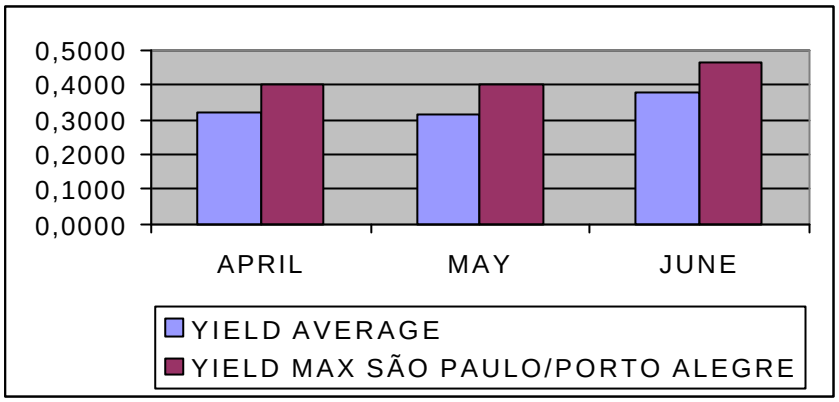
Source: SEAE

Figure 6: Route linking the airports of Santos Dumont and Pampulha



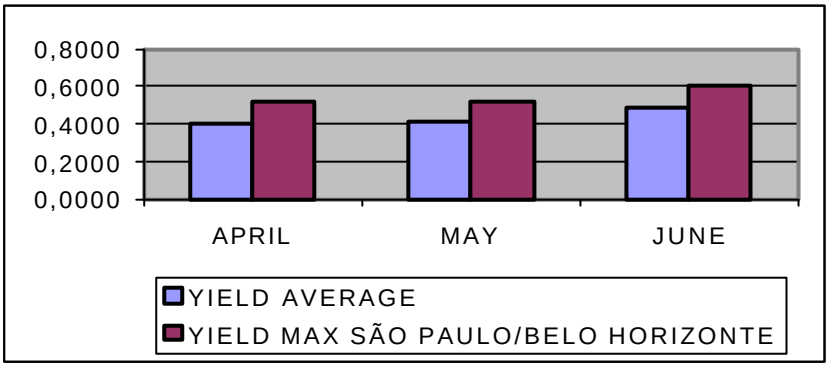
Source: SEAE

Figure 7: Route linking airports Guarulhos and Salgado Filho



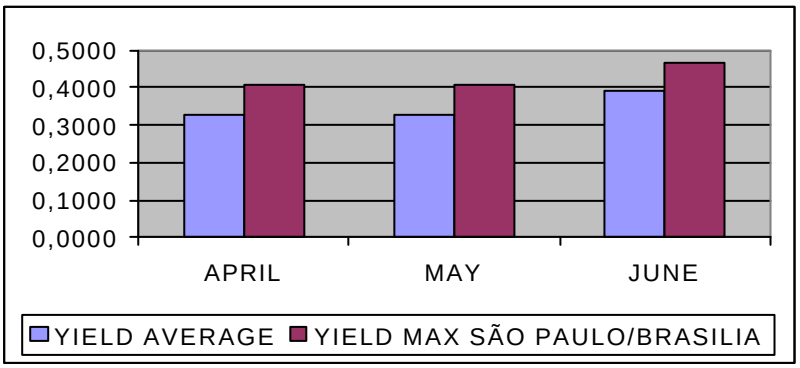
Source: SEAE

Figure 8: Route linking the airport Congonhas and Pampulha



Source: SEAE

Figure 9: Route linking airports Congonhas and Juscelino Kubitschek



Source: SEAE

The DAC observed some adjustments in the supply of airlines in the liberalised routes. In particular, there was a migration of flights from liberalised routes to other routes which were not liberalised and vice-versa. However, the DAC did not notice any supply problem in the routes after the liberalisation. In addition, the reduction of flights in certain routes did not cause an increase of airfares, as can be observed in the following table:

Table 8: Supply analysis (Regulated markets/Liberalised) 2000 X 2001

DOMESTIC SUPPLY								
MONTH	2000				2001			
	MARKETS		TOTAL	PART. (%) LIB.	MARKETS		TOTAL	PART. (%) LIB.
	REGULATED	LIBERALIZED			REGULATED	LIBERALIZED		
JANUARY	5.443.817	2.668.232	8.112.049	33	5.857.896	2.790.332	8.648.228	32
FEBRUARY	5.164.415	2.623.917	7.788.332	34	5.210.562	2.480.369	7.690.931	32
MARCH	5.461.348	2.672.371	8.133.719	33	5.890.369	2.975.200	8.865.569	34
APRIL	5.379.966	2.612.789	7.992.755	33	5.491.769	2.770.683	8.262.452	34
MAY	5.532.456	2.413.588	7.946.044	30	5.703.867	3.081.137	8.785.004	35
TOTAL	26.982.002	12.990.897	39.972.899	32	28.154.463	14.097.721	42.252.184	33

MONTH	CHANGE (%) (2000 X 2001)	
	REGULATED	LIBERADIZED
JANUARY	7,6	4,6
FEBRUARY	0,9	-5,5
MARCH	7,9	11,3
APRIL	2,1	6,0
MAY	3,1	27,7
TOTAL	4,3	8,5

Source: DAC.

Thus, according to the DAC data, the liberalisation of airfares in the most important routes of Brazil were a good indication that the airline companies behaved as other companies in a market economy. As a result, the Government started to evaluate that all other routes in the country could be liberalised. Table 9 below presents the main national airports and their passengers movements, demonstrating that the market is big enough to allow a free competition of airfares domestically.

Table 9: Number of passengers movement in 2000 by airport

Airports	Passengers transported	Participation in total
International Airport of São Paulo / Guarulhos *	13.173.611	19,39%
International Airport of Congonhas/São Paulo *	10.483.071	15,43%
International Airport of Rio De Janeiro / Galeão – Antônio Carlos Jobim *	5.359.630	7,89%
International Airport of Brasília – Presidente Juscelino Kubitschek *	5.242.231	7,71%
Airport of Santos Dumont *	4.883.361	7,19%
International Airport of Salvador – Dep. Luís Eduardo Magalhães	3.243.433	4,77%
International Airport Salgado Filho – RS *	2.517.516	3,70%
International Airport of Guararapes (Recife)	2.453.207	3,61%
Airport of Belo Horizonte (Pampulha) *	2.206.787	3,25%
International Airport Afonso Pena (Curitiba) *	2.129.364	3,13%
International Airport Pinto Martins (Fortaleza)	1.917.741	2,82%
International Airport Eduardo Gomes (Manaus)	1.153.365	1,70%
International Airport Belém	1.025.120	1,51%
International Airport Florianópolis *	988.652	1,45%
International Airport Augusto Severo (Natal)	986.322	1,45%
Airport of Vitória	857.738	1,26%
Airport of Goiânia	848.581	1,25%
International Airport Tancredo Neves (Confins) *	701.160	1,03%
International Airport of Viracopos/Campinas *	695.143	1,02%
Airport of Maceió/Zumbi Dos Palmares	611.019	0,90%
International Airport Marechal Rondon (Cuiabá)	529.080	0,78%
International Airport of Foz Do Iguaçu	474.023	0,70%
Airport Marechal Cunha Machado (São Luís)	403.880	0,59%
Airport of Navegantes – SC	395.433	0,58%
International Airport of Campo Grande – MS	389.973	0,57%
Airport of Londrina – PR	379.637	0,56%
Airport of Uberlândia – MG	338.382	0,50%
Airport of Aracaju – SE	301.615	0,44%
International Airport Presidente Castro Pinto (João Pessoa) – PB	257.608	0,38%
Airport of Teresina – PI	247.696	0,36%
Airport of Joinville – SC	232.699	0,34%
Airport of Macaé – RJ	229.389	0,34%
International Airport of Macapá – AP	227.507	0,33%
Airport Campo de Marte – SP	223.012	0,33%
Airport of Porto Velho – RO	203.953	0,30%
Airport Ilhéus – BA	190.198	0,28%
Airport of Santarém – PA	158.320	0,23%

International Airport of Rio Branco – AC	151.424	0,22%
International Airport of Boa Vista – RR	105.600	0,16%
Airport of Palmas – TO	101.296	0,15%
Airport of Petrolina – PE	98.454	0,14%
Airport of Imperatriz – MA	81.481	0,12%
Airport of Uberaba – MG	73.156	0,11%
Airport of Marabá	71.104	0,10%
Airport of São José dos Campos – SP	65.270	0,10%
Airport of Altamira – TO	51.601	0,08%

Source: INFRAERO
* Airports liberalized by Portaria MF nº 90, 5 April 2001.

The movement of passengers in some of these airports is even higher than in those where airfares were already liberalised by Portaria MF nº 90/2001, as Airport Dois de Julho (Salvador), Guararapes (Recife), Eduardo Gomes (Manaus), Belém (Pará), Goiânia (Goiás), Vitória (Espírito Santo), Augusto Severo (Rio Grande do Norte), among others.

9. The role of the Brazilian Competition Authorities

An important lesson learned from the American experience is that the potential gains of deregulation of airlines depends on the efficiency of competition and the implementation of antitrust legislation, as well as its relationship with regulatory bodies. In June 2001, the Secretariat for Economic Monitoring – Seae from the Ministry of Finance, which is one of the bodies which compose the Brazilian System of Competition, has initiated an administrative process in order to investigate a trust behaviour of some airlines in Brazil.

The process was a consequence of some airlines announcements that they were going to raise their fares during the same week, a fact that was indicative of a possible trust conduct which deserved a more detailed investigation.

In addition, the existence of strong labour unions in the air transportation sector which participate in the process of airlines adjustments (through pressures to raise wages) could also be considered as a barrier to competition. A World Bank Report mentions that the Brazilian labour union - SNEA is a strong barrier to competition in this sector in Brazil, as it supports high airfares levels to finance costs structures which incorporate a wide set of airline expenses. The role of these entities, in other economic sectors has been considered

by the Administrative Council for Economic Protection - CADE (*Conselho Administrativo de Defesa Econômica*) as a barrier to economic efficiency, which could lead to punishment as established in articles 20 and 21 of the Law number 8.884/94.

Media mechanisms to diffuse information of airfares levels represents another anti-competition event. In the United States, the Department of Justice – DJ has been paying attention to the communication channels used by airlines to indicate their levels of airfares in different routes. These channels are often called as "facilitating practices".

The entities in charge of competition surveillance in Brazil, under the terms of Law 8.884/94, are aware of some of these practices. The recent process of "agreed rates of airfares adjustments" against airlines in Brazil is na evidence of this surveillance.

10. Air Cargo Transportation

The income obtained as a result of the domestic air transportation of cargo varies considerably among companies. In 1998, the income earned by Vasp Airline, one of the biggest airlines in Brazil, with cargo transportation was equivalent to 28% of the income received by passengers. Varig and Transbrasil earned approximately 15%. TAM and Rio Sul 8% and 4% respectively. Other smaller companies, as Total Airline receive more incom from cargo transportation than income from passengers.

Table 10 – Income obtained in Air Cargo Transportation 1998

(in Reais)

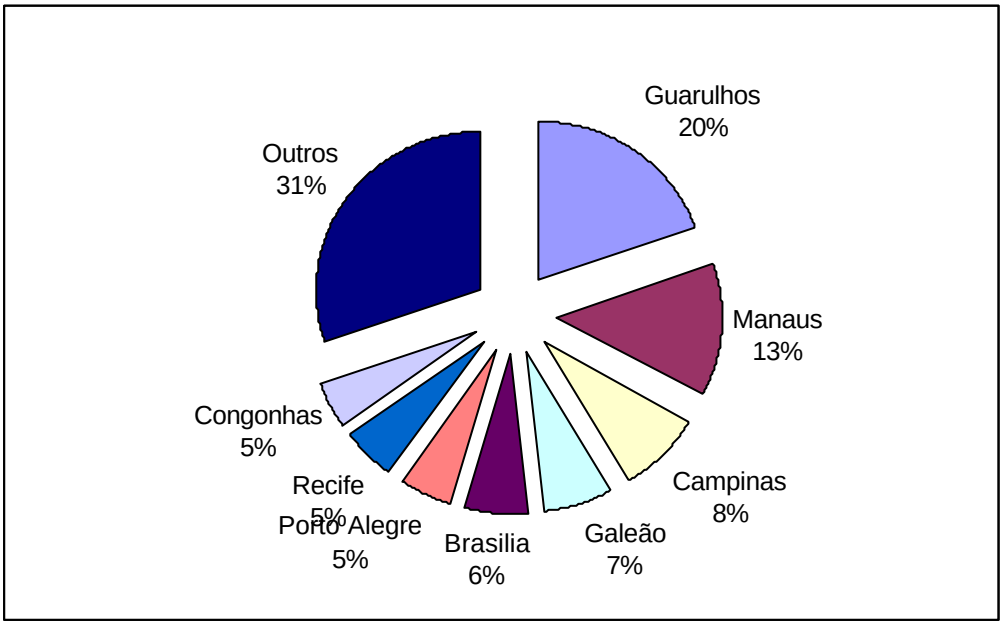
Airlines	Income from Cargo (a)	Income from passengers (b)	(b)/(a)
Varig	175.099.000,00	1.201.242.000,00	14,58
Vasp	180.093.000,00	640.083.000,00	28,14
TAM	56.181.000,00	705.785.000,00	7,96
Transbrasil	77.123.000,00	410.813.000,00	18,77
Rio-Sul	18.034.000,00	421.832.000,00	4,28
Total	9.307.000,00	8.671.000,00	107,33
Rico	781.000,00	9.447.000,00	8,27
Passaredo	279.000,00	41.321.000,00	0,68
Total	516.897.000,00	3.439.194.000,00	15,03

Source: Anuário do GEIPOT 2000

The market for cargo transportation by air in Brazil is competitive. It presents large players, powerful users and many companies involved in the activity. Airfares usually are negotiated between several airlines and some large consumers, as distribution companies. Discounts in airfares may be more significant in cargo transportation than in passengers transportation. In addition, several enterprises use charter cargo aeroplanes to transport their products. The percentage of reduction in airfare usually is not informed to the market, as a result of the very competitive characteristics of the sector.

Air transportation of cargo (in terms of volume) is concentrated in the following airports: São Paulo (Guarulhos) with 20% of the total in Brazil, Manaus with 13%, Campinas (Viracopos), with 8%, Brasília with 6%, Rio de Janeiro (Galeão) with 7%, Recife with 5% and Porto Alegre with 5%. The international transportation of cargo is concentrated (91%) in four main airports São Paulo (Guarulhos), Campinas (Viracopos), Rio de Janeiro (Galeão) and Manaus. The figure below shows the main Brazilian airports per cargo transported domestically.

Figure 10: The main airports which transport cargo by air, 2000



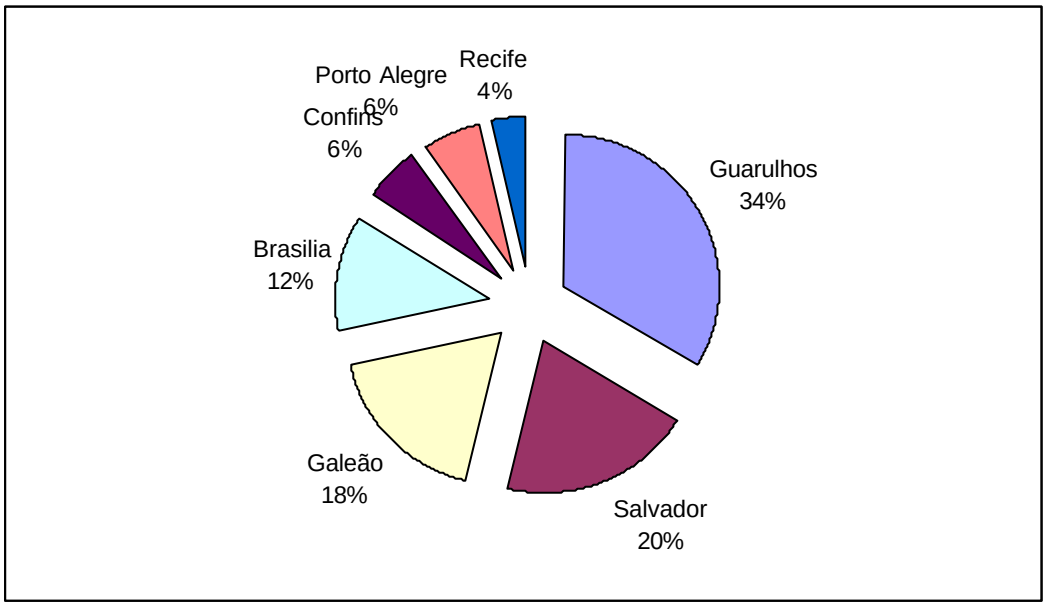
Source: INFRAERO

Transport of air mail is categorised in a different manner by the regulatory bodies responsible for air transportation as it is a specific type of material transported. In relation

to airfares, the Brazilian Mail Company, a Government Institution, contract services with airlines after public bids announced previously in the main Brazilian newspapers. In many instances the Mail Company rent non regular airplanes to transport mail during the evening.

The main airports, in terms of mail transported, are the following: Guarulhos (São Paulo) with 24% of the total, Salvador with 14%, Galeão (Rio de Janeiro) with 13% and Brasilia with 9%. In the airports of Congonhas (São Paulo), Santos Dumont (Rio de Janeiro) and Viracopos (Campinas), some of the biggest in the country, there is no movement of mail transported.

Figure 11: Transport of mail, year 2000



Source: INFRAERO

There is a series of regulations to transport of cargo by air. However, most of them are related to the transportation of dangerous products. The main regulations are issued by DOC 9284-AN/905 "Technical Instructions for Transportation without Risks by Air by the International Civil Aviation Organisation – ICAO (*Organização da Aviação Civil Internacional – OACI*) on the transportation of dangerous products, including their identification, package, distribution and stock is regulated, and by Resolution 618 of IATA about the Regulation of Dangerous Articles.

10. Conclusion

The Ministry of Finance concluded that air transportation of cargo and passengers in Brazil was sufficiently mature to act as a competitive sector, without airfare regulation by the Federal Government. In addition, the Brazilian Government System of Competition Policy would be able to supervise anti competitive behaviour.

The National Council for Civil Aviation also agreed with the suggestion of the Ministry of Finance to liberalise airfares in Brazil. The Ministry of Finance then issued an Administrative Directive no. 248 in August 10, 2001 liberating airfares for passengers, cargo and mail. Airlines, however, still needed to inform the level of airfares to the Civil Air Department of the Ministry of Defence after 5 working days of their adoption. The Secretariat for Economic Monitoring of the Ministry of Finance continued to control the market through its activities related to competition policy.