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**THE AIRLINE MARKET AND AIRPORT INFRASTRUCTURE IN BRAZIL: FROM A  
REGULATED TO A DEREGULATED SYSTEM**

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## **References**

### **1. Introduction**

## 1.1 - History of civil aviation in Brazil

Brazilian civil aviation, began after the aerial demonstrations of flight viability in the first decade of the century.

In the 1920s, the activities of commercial aviation began, with the creation of the first carriers. Some of those pioneer carriers survived in the market for decades, and two of them, still today, lead in the domestic and international markets: Viação Aérea Rio-Grandense - Varig S/A and Viação Aérea São Paulo S/A - Vasp.

Guided by military purposes, the aeronautical infrastructure was developed (airports, telecommunications, aeronautical meteorology and control of aerial traffic) by public and private initiatives, with a characteristic that, for many years, only Brazilian aviation had: the sharing of infrastructure by civil and military aviation which was consolidated in the 1970s with the entrance in operation of the Integrated System of Aerial Defense and Control of Aerial Traffic–SISDACTA.

In 1920, the Inspeção Federal de Viação Marítima e Fluvial (Federal Inspector of Marine and Fluvial Ways) was created.

The Department of Civil Aviation (DAC), the current regulatory agency, was created in 1931 by President Getúlio Vargas (one of the great responsible persons for the regulation and nationalization of the Brazilian economy), linked to the former Ministério de Viação e Obras Públicas (Ministry of Transport and Public Works).

In 1941, the Ministério da Aeronáutica (Air Ministry) was established, also by former-president Getúlio Vargas, as a separate entity from the former Ministry of Transport and Public Works, incorporating the whole material and human resources of the DAC, with overall responsibility of coordinating, supervising, and regulating all activities.

During that period, more than two dozen firms entered the industry. However, the origins of modern commercial aviation can be traced to the period immediately following World War II when Condor (under German ownership) and Panair do Brasil (a subsidiary of Pan American) were nationalized.

After the World War II, the existence of equipment surpluses from the conflict, especially airplanes at a low cost, favored the appearance of new companies.

As consequence there was a excess competition, with such adverse effects as: concentration of the activities in the coast, low use of the airships, low quality of the services and fare wars.

In 1944 Brazil signed the Convention of International Civil Aviation, known as the Convention of Chicago, and became a member of the Council of International Civil Aviation Organization (ICAO).

The Chicago Convention, initially signed by representatives of 52 countries, has today more than 180 countries as members, became the basis for the whole legal structure of the international civil aviation, in special concerning with rights and obligations of contracting States. It established the general principles of sovereignty in aerial space, the rights of traffic corresponding to regular and non-regular flights, nationality and registration of aircraft, and regulations on crew and airports. It recognizes the complete and exclusive sovereignty of each State on its air space, with means that no aircraft can flight on the territory of another state without the due authorization or special agreement.

From the Chicago Convention came the practice of bilateral agreements among the member countries authorizing flights on and in the territory of another state.

The creation of ICAO had as its consequence the concentration of power. In Brazil there was a serial of failures and merger of companies, because the carriers with real managerial vision looked to acquire the carriers without structure to compete, but with certain commercial value for their routes, that the DAC conceded a long time.

In the beginning of the 1960s the national carriers had been reduced to four.

Since then the industry has been the subject of extensive governmental regulation. Much of this regulation has been of the non-economic type, concerned with technical and safety standards. In addition to safety regulation, the industry has been subjected to comprehensive economic regulation that has profoundly limited the scope for competition in the sector.

In 1961 the National Conference of Commercial Aviation (CONAC) began in Brazil. As result of the discussions recommendations were established that guided the air transport policy for about 25 years. They stand out:

- Regime of controlled competition, with measures against the ruinous competition;
- Protection of the "legitimate economic interests" of the carriers;
- Adoption of measures to assure competition capacity the national carriers in international market;
- Stimulate the association and merger of companies;
- Reduction of the number of carriers for three in the domestic market and two in the international;
- Reject any state or private monopoly;
- Regulation of the concessions of aerial transport services, with definitions of rights, obligations and periods of validity of the concessions;
- Development of the aeronautical infrastructure, in agreement with international patterns; and
- The search of the understanding and collaboration among the domestic carriers and between these and the State, in order to increase the capacity of participation of the Brazilian flag in the international aerial transport.

The absence of regulation of the previous decades became a rigid regulation, with emphasis in decrease of the number of carriers, in controlled competition and in the defense of economic interests of the carriers. The regulation of the State was addressed in the sense of avoiding the ruinous competition among the carriers. The absence of defense of the users' legitimate interests was clear.

In fact, what happened with the regulation was an accentuated aerial development in the country, as well as the infrastructure, what would come to guarantee the offer of domestic and international flights. It lacked the real attention of the needs of users.

A 1973 decree formalized the sector's regulatory structure and reinforced existing statutory restrictions on entry and exit, fares, capacity and frequencies. In its effort to modernize the sector's legal and institutional environment, the Brazilian Congress adopted the Civil Aviation Code in 1986. The industry framework of regulation has been manager by DAC. In addition, a government-owned holding company, INFRAERO, was created to oversee the planning, management, and operations of the country's commercial airports.

The situation began to change in 1986, initially with the installment of the international aerial services, still for attendance of demands of carriers, but with benefits, in the medium and long periods, to the users, with the accomplishment of the 4<sup>th</sup> CONAC, standing out, in spite of the maintenance of the controlled competition and the fixation of fares, the change in the regime of concessions and authorizations for the international routes. The Air Ministry authorized to all national carriers access to international routes.

A long negotiation would take between Brazil and United States, the great market for world aerial transport, into a bilateral agreement with liberalization characteristic, if compared with the other countries. Although without attendance to the US request of "open skies", they stand out: the multiple designation of carriers, substantial increase in the number of offered flights and fare flexibility. In the Brazil-USA routes the user today is assisted

by eight authorized carriers, four of each part, increase of the offer, with more than 200 weekly flights and you reduced fares. The result was the increase of demand, before stagnated in 600 thousand passengers/year, to about 2 million passengers/year in 1997.

A slowly and gradually flexibility on fares started in 1989, around standard fares fastened by DAC.

In 1991 the 5<sup>th</sup> CONAC was completed, of whose recommendations settled down the current "policy for the commercial air transport services" standing out the following guidelines:

- Focus in the user;
- Domestic market:
- Fare liberalization: an objective to be reached in medium period;
- Monitored liberalization of fares, in narrow collaboration with the government and restraint to the abuses, trusts and dumping;
- End of restrictions or operation in the airports of Congonhas, Pampulha and Santos Dumont;
- Restriction to the share a carrier or association of carriers at 50% of the market;
- To avoid the overlap of lines or the proximity of schedules, protecting the users' interest;
- International market:
- The free market is an objective to medium period;
- It guaranteed the Brazilian carriers of the same opportunities to compete for rights, at least, as wide as the one of the carriers of the other country;
- Measures, in the economic area, that allow larger competition capacity for the Brazilian carriers in the international market;
- Address, in each market assisted for more than a Brazilian carrier, an offer capacity that stimulates the competition among the designated carrier. In the case of singular designation, the offer capacity should be compatible with the demand, saved the user's interest.
- Non-regular traffic:
- Regular carriers can participate of charter traffic;
- Regulation, for protection of the users' interests, of the market and of the carriers, with operation rules, opportunity and competition.

Recently the Air Ministry and DAC adopted the following measures in continuation of the gradually deregulation policy:

- Take off the non- scheduled services (charter) from other services (like hotels and tourism packet);
- Amplification of discount on standard fares;
- Liberation of the fares to charters; and
- End of restrictions of operation in central airports: Congonhas, Pampulha and Santos Dumont.

In the international area, ICAO completed, in 1994, the 4th World-wide Air Transport Conference. The recommendations were the following:

- Propose broadened ownership and control criteria for airlines in international operations, based on a combination of "principal place of business" and "permanent residence";
- Propose that States mutually agree on airline practices which could serve as signals of possible unfair competitive behavior, and identify such practices with regard to fares, rates, capacity and abuse of a dominant position;
- Put forward some measures by which States could ensure their effective and sustained participation in the liberalizing air transport environment, in areas including the regulation of fares, rates, capacity and market access;
- Propose an aviation industry-focused dispute settlement mechanism for use in the liberalizing environment; and
- Elaborate a series of model clauses, for use in bilateral or multilateral air services agreements, on airline "doing business" issues such as ground handling, currency conversion and remittance of earnings, payment of local expenses, employment of non-national personnel and access to local services, and sale and marketing of air service products.

In Brazil, the tendency is to remove the state presence in the areas of direct interest of the carriers, as the commercial, economic, financial and remain regulating the safety conditions of flights.

## 2. – Industry structure and the current situation of the civil aviation in Brazil

The Brazilian commercial aviation industry is divided into two categories of carriers – national and regional. The national carriers operate nationwide domestic networks and serve international routes; the route structures of the regional are restricted to specified areas of the Country and many of their operations are subsidized. At 1998, there were five national carriers – Varig, Vasp, Transbrasil, TAM, Itapemirim (cargo transportation, no passengers); and sixteen regional carriers (Table 1).

**Table 1**

### Regular carriers – national and regional – 1998

<b>National carriers</b>	<b>Regional carriers</b>
• Itapemirim Transportes Aéreos S/A	• Abaeté Linhas Aéreas
• TAM – Transportes Aéreos Meridionais	• Helisul Linhas Aéreas S/A
• Transbrasil S/A – Linhas Aéreas	• Interbrasil Star S/A – Sistema de Transporte Aéreo Regional
• Varig S/A – Viação Aérea Rio-Grandense	• Itapemirim Transportes Aéreos Regionais S/A
• Viação Aérea São Paulo S/A – Vasp	• Nordeste Linhas Aéreas Regionais S/A
	• Pantanal Linhas Aéreas Sul Mato-Grossenses S/A

	<ul style="list-style-type: none"> <li>• Passaredo Transportes Aéreos S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• Penta-Pena Transportes Aéreos S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• Total Linhas Aéreas</li> </ul>
	<ul style="list-style-type: none"> <li>• Transportes Aéreos Presidente S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• Rico Linhas Aéreas S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• Rio-Sul Serviços Aéreos Regionais S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• Taba Transportes Aéreos Regionais da Bacia Amazônica S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• TAF Linhas Aéreas S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• TAM Transportes Aéreos Regionais S/A</li> </ul>
	<ul style="list-style-type: none"> <li>• Tavaj Transportes Aéreos Regulares S/A</li> </ul>

**Source: Departamento de Aviação Civil – DAC**

Of the 16 regional carriers, five are subsidiary companies from the national five carriers. Varig owns Rio-Sul, TAM-Meridional owns TAM-Regional and Helisul, Transbrasil owns Interbrasil Star and Itapemirim owns Itapemirim Regionais.

The Varig consortium is the largest Brazilian airline, accounting more than a half of industry operating revenues in 1997. However, the consortium's extensive international operations cause its total share of industry revenues to overstate its domestic dominance. Varig earned about 50,7% of the industry's domestic operating revenues and 67,9% of the international operating revenues. Vasp is the second largest of the national carriers. Its 1997 share of domestic operating revenue was 23,2% (23,2% of international operating revenues) as compared to Transbrasil's share of 22,6% (8,8% of international operating revenues). TAM's share is 3,5% of the industry's domestic operating revenue, but just in 1997 became a national carrier and start operating international routes.

For years the DAC's regulation of the Brazilian airline industry has prevented the development of true competition and limited the airlines' ability to provide efficient service. DAC policies until 1997 had reduced or eliminated individual airline's ability to use fares and scheduling decisions as tools of competitive strategy.

The DAC exercises strict and detailed control over most aspects of civil aviation in Brazil. Its oversight responsibilities and powers extend to entry and exit, route capacity and scheduling, the size and composition of

each carrier's fleet, and the level and structure of fares on each domestic route. Like in many other parts of the world, economic regulation of air transportation in Brazil rested primarily on three pillars of belief: (a) it is necessary for a regulatory authority to design route networks in order to ensure that an integrated aviation system develops; (b) it is desirable to provide some subsidy in order to expand the route system to include many small communities; and (c) destructive competition might well characterize the industry in the absence of regulatory intervention.

DAC's policy established standard fares using operating cost formulas and target load factors. In theory, the airlines could exploit the DAC's zone of flexibility to attempt to more accurately track route-specific conditions. However, it seems clear that actual effect of standard fare policy is to provide a focal point for a rather homogeneous fare structure – the standard fare does vary non-linearly with stage length. A further impediment to price competition results from the activities of the Sindicato Nacional das Empresas Aeroaviárias (SNEA). This trade association provides a forum for carriers to discuss fare levels and fare structures, in addition to other industry issues. Combined, the DAC's calculation of a standard fare focal point and the collusive activities of the SNEA clearly discourage price competition by imposing a uniform, nationwide fare structure. This has the direct effect of preventing prices on a route from reflecting the route-specific supply and demand characteristics, such as operating costs and demand elasticity. The indirect effects of this form of price regulation are even more pernicious, since it prevents efficient carriers from disciplining inefficient rivals by means of price cuts, especially in the context of rigid capacity controls. Moreover, the fare regulation scheme establishes a hidden system of cross-subsidization among routes.

In the end of the 80s and early 90s, while the DAC fumbled to regulate competition, adverse macroeconomic conditions and re-equipment cycles that coincided with severe economic downturns rocked the Brazilian airline industry. Air transport demand has historically been quite sensitive to aggregate economic activity (like business and tourism travels) in addition to being reasonably price elastic. Slow economic growth, extraordinary levels of inflation, high interest rates and rapid cost increase staggered airline markets. As the Brazilian carriers incurred new debt to modernize their fleets and expand capacity, load factors declined, and operating margins turned sharply negative.

In the face of this substantive worldwide movement towards deregulation, the restrictions on competition in the Brazilian aviation industry were relaxed somewhat since 1991. The most important element of this modest movement towards regulatory decontrol has been the replacement of strict controls on the level of fares by a more flexible pricing policy—rate requests were routinely approved if they were no more than 32% above nor 50% below the DAC's basic price fare.

Last December 1997, the DAC enlarged the discount in relation to basic fare from 50% to 65%. The carriers began a process of concession of discounts, dividing the space in the airplane, with seats sold with gradual discounts until the maximum limit, and others with the full fare. They also started to operate night flights, with substantial discounts in the fares. It seemed to be a war of prices, by discounts, but the procedures were standardized among the four national companies.

Since 1994 the macroeconomic situation of Brazil's economy changed with the stabilization of the currency, low levels of inflation and economic growth. The stabilization increased the business travels and stimulates tourism in the Country. It's permit change the economic unbalanced of carriers, with a growth in demand.

However, the DAC continues to exercise direct controls on capacity and scheduling on a route-by-route basis. Carriers' network structures continue to be shaped primarily by the incremental route awards of the DAC.

The negative consequences of DAC regulation of capacity and fares, exacerbated by the operation of the Aviation Route Commission – CLA, a committee consisting of DAC and all national and regional airlines, and SNEA, take many forms. Capacity regulation – especially at the level of detail imposed in Brazil – makes airlines inefficient. They cannot add new routes to: (a) better utilize their aircraft; (b) make their network traffic flows more efficient; (c) respond to changing patterns of demand; (d) take advantage of profitable opportunities; and (e) grow if they are well-managed. Conversely, airlines are unwilling to drop uneconomic routes because of expectations that the route losses would be permanent, as well as the absence of any new routes on which to

redeploy the free aircraft. On individual routes, restrictions on altering capacities and schedules prevent airlines from adjusting frequencies and aircraft types to demand conditions, including time-of-day, day-of-week, seasonal and secular patterns. The overall consequences for Brazil appear to be mismatches of capacity and demand, suboptimization assignments of aircraft to routes, an inability to develop efficient route networks, and slow responses to longer-term trends (such as an apparent shifting of travel patterns from Rio de Janeiro to the Northeast). Most importantly, however, capacity regulation prevents the marketplace from serving its basic function: permitting efficient, successful carriers to expand at the expense of inefficient airlines.

One likely source of new competition would seem to be regional carriers. The regionals have recently begun to serve profitable routes such as Sao Paulo-Brasilia. Presumably, they could expand their operations in the face of any attempt at monopoly exploitation by Varig. It is difficult to assess at this stage whether the regionals are in a financial position to pose a significant entry threat. However, even if their finances are currently precarious, their market presence and established reputations should make them an attractive conduit for new capital to flow into the industry.

Despite the substantial growth of the Brazilian air transport system and its considerable successes, there are fundamental problems under the existing regulatory structure. Continuation of the present protective regulatory scheme will almost certainly perpetuate several cost-inducing inefficiencies. This is especially problematic given that the future economic environment for the airlines appears less hospitable than in the past - traffic growth is likely to be more modest and the productivity gains from technological change less dramatic.

## **2. The regulation of civil aviation in Brazil**

The basic regulatory and institutional framework about the Brazilian airline industry are Federal Constitution of 1988, the Complementary Law No. 69/91 and Law No. 7,565/86.

### **2.1. Federal Constitution**

According to the 1988 Federal Constitution the Union shall have the power to operate, directly or through authorization, concession or permission air and aerospace navigation and airport infrastructure (Article 21, XII, c). Also, the Union has the exclusive power to legislate on aeronautical law (Article 22, I). The law shall provide for the regulation of air and it shall, in respect to the regulation of international transportation, comply with the agreements entered into by the Union, with due regard to the principle of reciprocity (Article 178, Constitutional Amendment No.7/95).

According to Article 175, it is incumbent upon the Government, as set forth by law, to provide public utility services, as the civil aviation, either directly or by concession or permission, which will always be through public bidding. The law shall provide for the operating rules for the public service concession -or permission- holding companies, the special nature of their contract and the extension thereof, as well as the conditions of forfeiture, control and termination of the concession or permission; the rights of the users; fare policy and the obligation of maintaining adequate service.

### **2.2. Supplementary Law No. 69/91**

Executing the determination in Federal Constitution (Article 142, Paragraph 1), determined that Air Ministry has as complementary attributions: a) to guide, to coordinate and to control the activities of civil aviation; b) to provide the safety of the air transport; c) to contribute for the formulation and conduction of the National Aerospace Policy; and d) to establish, to equip and to operate, directly or by means of concession, the aerospace infrastructure.

### **2.3. Law No. 7,565/86 – Brazilian Code of Aviation (CBA)**

The Law No. 7,565, of 1986, regulates, besides the airlines, the aerial space and its use and the aeronautical infrastructure.



CBA classifies the aerial services in:

- Private
- Publics
- specialized
- of passengers, cargo or mail
- regular or non-regular
- domestic or international

The juridical relationship among the manager (individual or corporation, proprietor or explorer of the aircraft) and the user or beneficiary of the services is contractual, being governed by the norms foreseen in the Brazilian Code of Aeronautics - CBA and complementary legislation.

International air transportation is governed by the determination in the Agreements and pertinent Conventions.

Private aerial services are accomplished without remuneration, in benefit of the own operator, and it understands the activities of: recreate; sport; and transports reserved to the proprietor or operator of the aircraft.

The public aerial services request concession (regular) or authorization (non-regular).

The concession is given to the Brazilian legal carrier that has:

- its head-office and management in Brazil;
- at least 4/5 of its capital with vote right belonging to Brazilian citizens;
- chief executive office trusted exclusively to Brazilian citizens.

The transfer to foreigners of up to 1/5 of the shares with vote right depends on approval of the aeronautical authority.

The concessions and authorizations are regulated by the Executive Branch and they can only be given or transferred by means of DAC.

The concessionaire or authorized carriers can merger or incorporate, tends in view the improvement of the services and larger economic or technical revenue, the decrease of costs, or the users' best attendance.

The association and constitution of joint ventures are allowed tends in view the exploration of the services and maintenance of aircraft, the services of common characteristics and the formation, training and crew improvement and technical personnel.

The Executive Branch can intervene in the concessionaire or authorized companies whose operational, financial or economic situation threatens the continuity of the services, the efficiency or the safety of the air transport

The intervention seeks the re-establishment of the normality of the service and it lasts while necessary to the attainment of this objective.

In the hypothesis of impossibility of re-establishment the normality of services, the Executive Branch can decide for the extra-judicial liquidation (when with the accomplishment of the assets can be assisted at least half of the credits) or for the failure (when the assets is not enough to assist at least half of the credits, or when it has founded indications of illicit failures).

It depends on previous authorization of the aeronautical authority the agreements among exploiters of regular services that imply in consortium, pool, connection, consolidation or coalition of services.

The Government should establish norms to impede the ruinous competition and to assure the best economic revenue of the aerial transport services. DAC also can, at any time, to modify frequencies, schedules and fares of services and any other conditions of the concession or authorization.

The norms and conditions for exploration of non-regular services are fastened by DAC seeking to avoid the competition of those services with the one of regular services and they can be altered when necessary to assure, together, better economic revenue of the air services.

Every national or foreign company of public air services need to obey the fares approved by the aeronautical authority.

The international services can be accomplished by national or foreign companies. The exploration these services are submit to the dispositions of the bilateral agreements with respective States and Brazil.

The Brazilian Government designates the Brazilian companies for the international services, with the objective of assuring the best economic revenue in the international market, to stimulate the receptive tourism, and to contribute for the largest political, economic and cultural exchange.

To operate in Brazil, the foreign company will owe:

- to be designated by the Government of the respective country;
- to obtain operation authorization in Brazil to operate air services.

The conditions that the Federal Government find convenient to establish in defense of the national interests will consist of acceptance term signed by the petitioning company and will integrate the authorization ordinance.

The authorized foreign companies to work in Brazil are forced to have representative permanently in Brazil, with full powers to negotiate of any subjects and to solve them definitively.

The foreign companies of aerial transport that don't operate in Brazil cannot work in the national territory or maintain agency, branch, representation or office, except if they possess authorization to sale tickets or load, granted by DAC, subjects to the norms established by the Air Ministry, and the authorization won't be granted to company whose origin country doesn't assure reciprocity treatment.

For accomplishment of non-regular services of passengers, load or mail, it is necessary authorization to operation from the Executive Branch, which could extend for 5 years period, renovated for the same period.

Air-cab services constitute modality of non-regular services, by means of remuneration stipulated between the user and the transporter, under the fiscalization of the Air Ministry, seeking to provide immediate attendance, independent of schedule.

Historically, adjustments to the route structure, licensing changes, and new entry have been authorized by DAC only if, in the agency's judgement, did not threaten the financial health of incumbent carriers. The existing regulatory regime, therefore, exhibits a strong pro-incumbent bias. The DAC has sought to preserve the stability and profitability of the incumbent airlines through the rationalization of capacity and by eliminating redundancy. Thus, in its route authorization deliberations the agency has been guided primarily by viability criteria from its analysis of the patterns of traffic and the reported carrier costs – it ha refrained from authorizing entry into any route, unless demand analysis indicated that the entry of additional carriers would not cause undue fragmentation of effort.

Regulatory controls on entry have been accompanied by exit restrictions. Carriers must obtain DAC authorization prior to their discontinuing service on any particular route. In view of the extreme difficulty in

obtaining route authorization (especially to enter a route that is already being served), carriers have been traditionally very reluctant to abandon their routes.

DAC has pursued high load factors through strict controls over capacity and scheduling. Carriers are authorized to increase their frequencies in specific routes only if they have achieved average load factors in excess of 65% for at least six months. In addition, the agency has historically imposed rigid controls over equipment.

Another entity that directly affects the Brazilian airline industry is Infraero, a government-owned company that controls the 66 commercial airports in Brazil. Infraero obtains revenues from airlines (approximately half of the total) and from commercial operations at the airports. The DAC regulates the fares charged by Infraero under a mandate to permit the airport authority to cover its costs while preventing monopoly exploitation. The DAC is thus caught between Infraero's requests for rate increases and the struggling airlines' pleas for rate relief. Airlines in Brazil do not have dedicated terminal facilities, but instead use common space allocated to them by Infraero roughly in proportion to their respective shares of passengers. There do not appear to be major airport bottlenecks attributable to Infraero that prevent airlines from offering or expanding service.

### **3. -The commercial aviation industry in Brazil**

#### **3.1 – The airlines industry in Brazil**

Brazil is a large country that is sparsely populated. Distances between major cities are long. There is, therefore, scope for considerable reliance on aviation. The total number of domestic revenue passengers transported by Brazilian national airlines (excluding the regional airlines) in 1997 generated 11.1 billion revenue-passenger-kilometers (RPKs). For purposes of comparison, United States domestic passengers (for all scheduled airlines) in 1997 accounting for 598.4 billion RPKs. As Table 2 indicates, the Brazilian airline market is a small one by US standards, and it smaller than those of Australia and Canada, countries with similar geographic characteristics but substantially smaller populations.

**Table 2**

**Population and Domestic Airline Industry – 1997**

<b>Country</b>	<b>Total Population (millions)</b>	<b>Passenger-Kilometers (billions)</b>
Australia	17.5	20.6
United States	256.5	598.4
Canada	27.5	17.9
Brazil	155.4	11.6

**Source: Gazeta Mercantil – Panorama Setorial – Transporte Aéreo – 1998.**

Air travel in Brazil, during the 1970s and early 1980s, experienced substantial growth. This growth was largely fueled by technological improvements that increased travel convenience and reduced fares. According to DAC, the expansion of air travel continued into the late 1980s. Domestic passengers grew at a compound annual rate of 2.9%. In the early 1990s, therefore, the macroeconomic situation in Brazil and the international recession stagnated that period of growth. The stabilization of the currency since 1994 allowed that the flow of passengers grew again.

The growth of the passengers' flow, the appearance of the fourth company of national ambit and new directions taken by competitors are redrawing the correlation of forks among the Brazilian carriers.

The largest share growth was due by TAM that, as national company, began operations in 1997, accounted 1% of participation in the domestic flights and increasing for 9,7% in the accumulated from January to May - 1998 (Table 3). Varig is the largest and most successful of the Brazilian airlines. It has an extensive domestic and international route network, and provides service over nearly all of the major domestic routes and airports. Market leader, with 47,8% of market-share, Varig had 52,5% last year. Transbrasil dropped of 23,1% for 19,3% and Vasp maintained a share of 23,3%.

**Table 3**

**Domestic Air Traffic Shares (% of Passenger-Kilometers) – selected periods**

<b>Carrier</b>	<b>1988</b>	<b>1991</b>	<b>1997</b>	<b>1998</b>
Varig	49.3	46.3	52.5	47.8
Vasp	29.8	33.6	23.3	23.9
Transbrasil	20.9	20.1	23.1	19.3
TAM	-	-	1.0	9.7

Source: DAC

In the ranking of occupation of the airships Varig led of January to May - 1998, with medium use of 59%, Vasp with 56%, Transbrasil with 54% and TAM with 53% (Table 4).

**Table 4**

**Occupation (% of seats) on Domestic Air Traffic – 1997/98**

<b>Carrier</b>	<b>1997</b>	<b>1998*</b>
TAM	19	53
Transbrasil	57	54
Varig	62	59
Vasp	50	56

Source: DAC; \* Accumulated from January to May.

In the international air traffic shares, 1997, Varig leads with 68,4%, proceeded by Vasp with 23,9%, Transbrasil with 7,6% and TAM, that also began international flights in 1997 with 0,1% (Table 5). The table also shows the effects of the open of international routes to the national carriers, since the early 1990s, and the fall of Varig share, that until the end of the 80s accounted for 96% of the industry.

**Table 5**

**International Air Traffic Shares (% of Passenger-Kilometers) – Selected Periods**

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Carrier	1988	1989	1991	1997
Varig	96.6	96.3	92.8	68.4
Vasp	1.5	0.8	2.6	23.9
Transbrasil	1.9	2.9	4.6	7.6
TAM	-	-	-	0.1

Source: DAC, with data from carriers

Business and travelers are the main customers to domestic carriers in the Country. The carriers forecast that about 70% of the tickets are paid by corporations. For that reason, the domestic passengers, in general, are more worry about the quality of the services than fares.

The international passengers have high purchasing power and they have the profile of potential consumer of goods and services with high aid value. This characteristic explains the success of the free shops in the international airports.

In the case of international trips with destiny to Brazil, the participation of the tourism dropped from 69.5% in 1995 to 67.2% in 1996. The business travelers increased from 22% in 1995 to 24.6% in 1996 (Table 6).

**Table 6**

**Reason of international trips destined to Brazil (%)**

Reason of the trip	1992	1993	1994	1995	1996
Tourism	72.6	75.3	76.3	69.5	67.2
Business	21.4	18	19.4	22	24.6
Congresses	2.9	3.8	2.9	4.9	4.1
Others	3.1	2.9	1.4	3.6	4.1

Source: EMBRATUR – Study of International Tourist Demand–1996 and Panorama Setorial.

### 3.2 – Fare’s methodology adopted in Brazil

The determination of the domestic fare in Brazil is based on the Belgian Curve, like this denominated by having been used for the first time by the Belgians, in the 1930s, to define the prices in the rail transport, and it consists of a direct and indirect adjustment of curves of medium cost plus a mark-up.

The configuration of that curves is defined, for each stage to be traveled, the corresponding fare index, that is the unitary value of the kilometer, in currency. Besides, that value is decreasing in relation to the stage to be traveled, that is, as larger the stage, smaller the unitary price of the kilometer. Technically, the reason for that is in the measure in that the flight stage increases, the fixed costs associated to the flight are diluted, reducing the cost, and, therefore, the price of each flown kilometer. The fare certain connection is obtained multiplying the distance of the connection for the corresponding fare index.

The Belgian Curve in force was built in February, 1991, in agreement with the following methodology:

- a. format of the Curve of Fare Indexes with base in the inverse curve of the medium speed of Boeing 737/300, more representative aircraft in the Brazilian domestic regular routes;
- b. occupation (% of seats): 62% (average of 10 years of the industry in domestic routes);
- c. profitability: 12%;
- d. break-even: 54.6%;
- e. stage average/pax: 1,100 Km (average observed in the industry in domestic routes);
- f. unitary average cost (cost/seat offered Km) of the industry in domestic routes observed in Feb/91;
- g. intended market segmentation: 60% corporation and 40% individual, what represents a base fare average of 84 points (an average discount of 40% was considered);
- h. effects of the call fare erosion, esteemed in 15%.

Defined the Belgian Curve of passengers, the load curve was built under the hypothesis that the average relationship passenger/load is 170 Kg.

The unitary average cost mentioned in the item "f" takes in consideration the following input:

a. Direct costs:

- Crew;
- Fuel;
- Depreciation of flight machinery;
- Maintenance and revision;
- Airplanes insurance;
- Lease of airplanes;
- Landing and permanence fares;
- Communication fares;
- Flight equipment finance interest.

a. Indirect costs:

- Land organization;
- Passenger services;
- Other expenses.

a. Operational expenses:

- Commercial expenses;
- Administrative expenses.

The fare indexes of the Belgian Curve are denominated in nominal currency. The indexation of those indexes is made in function of the increases of the several items of operational costs. It consists of the determination of a specific index of cost inflation built with base in the real structure of operational costs of the Brazilian carriers.

Considering the form as the domestic segment of regular services is structured the regulation foresees the following basic fare levels: 100 points in national routes, operated by national regular carriers, and 130 points in the regional routes, operated by regional carriers.

The fare level of 130 points for the regional routes was established due a low density of traffic, smaller use and precarious infrastructure.

To non-scheduled (charter) segment the price is limited to a minimum of 35% of the fare of 100 points.

In the beginning of the 1970s the tendency of carriers specialization in the employment of jet aircraft and, therefore, with larger transport capacity, caused the abandonment, by regular services, of a great number of municipalities, by its low density of traffic, or restrictions in its airports infrastructure. The re-establishment of the regular services to those municipalities became, then, a national aspiration.

So, in 1976, the Integrated System of National Aerial Transport–SITAR was created, composed of carriers that would explore the five regions of the Country, under exclusiveness regime and receiving a fare supplement in the operation of its routes. The source of resources of that supplementation would be an additional of 3%, incident on the fares of the national routes, not being, in that way, financed with budgetary resources (direct subsidy).

The economic viability of the regional system is based on two elements:

- fare level of 130 points in the regional routes;
- fare supplementation for the regional routes.

### **3.3 – Comparison of Brazilian vs. international fares**

The evaluation of air fares requests an analysis of the elements that composes it. For that, some fares were selected as "Y" (basic) and domestic standard discounts in U.S., countries of the European Community, Argentina and Brazilian domestic fares.

The standard discounts fares are usually linked to certain restrictions that impose conditions that, if not observed, they can cart upset to the users, for example: period of validity, period for loads, maximum period of permanence in the destiny place, etc. Besides, the domestic standard discounts fares are linked to restricted number of seats, antecedence of tickets' purchase and could not be acquired in the moment of the embarks. This commercial policy is already diffused in the international aviation.

In agreement with the tables below, we can verify that, on the average, fares in Brazil, as the standard discounts, are more expensive than in the foreign.

Considering the short distances (about 300 Km), the basic domestic fares in Brazil, on the average, are cheaper when compared with similar distances in another countries, which are about 29% more expensive than in Brazil. This brings advantage for the passengers that usually use this type of fare traveling in business. However, for the same distances, when we compared the standard discounts fares, the situation is inverted, and the domestic standard discounts in Brazil (before the fare liberation happened in December of 1997) are about 39% more expensive than the selected in the exterior (Table 7).

In the medium distances (about 1,000 Km), the full fares practiced in Brazil are about 8% larger than in the exterior, while the standard discounts fares in Brazil are about 52% more expensive than the average in the selected countries (Table 8).

**Table 7****Domestic fares: comparative among Brazilian and other countries - short distance**

<b>Route</b>	<b>Distance (Km)</b>	<b>Y Fare (1) US\$</b>	<b>Standard discount Fare US \$</b>	<b>Price US\$Cents/Km</b>
Recife-Natal	251	114.00	68.50	45.42 27.29
Rio-Belo Horizonte	355	143.00	85.50	40.28 24.08
Belém-Macapá	328	134.50	80.50	41.01 24.54
Salvador-Aracajú	254	120.50	72.50	47.44 28.54
São Paulo-Rio	367	148.00	88.50	40.33 24.11
New York-Washington	346	169.00	51.00	48.84 14.74
New York-Boston	307	179.00	51.00	58.31 16.61
Miami-Orlando	323	212.00	75.00	65.63 23.22
Madri-Barcelona	483	94.50	52.00	19.57 10.77
Paris-London	354	199.00	56.00	67.91 17.98

1. Fares without restriction or "full".

Source: DAC-Tarifas IATA/Sistema Amadeus-Valid August/1997.

**Table 8****Domestic fares: comparative among Brazilian and other countries - medium distance**



Route	Country	Distance (Km)	Type of Fare	Fare US\$	Value US\$Cents/Km
Rio-Salvador	Brazil	1221	1	300.00	24.57
			2	180.00	14.74
New York-Chicago	United States	1160	1	520.00	44.83
			2	108.18	9.33
Milan-Palermo	Italy	886.5	1	197.00	22.22
			2	118.50	13.37
Buenos Aires-Mendoza	Argentina	975	1	196.00	20.10
			2	129.00	13.23
Tokyo-Saporu	Japan	823	1	199.00	24.18

1–Full fares

2–Standard discount fares.

Source: DAC–Fares IATA/IRIS/Rev.1–Valid August/1997.

For long distances (more than 2,000 Km) the full fares practiced in Brazil (São Paulo/Manaus) are about 3% more than in the exterior, in the selected routes. Considering the standard discounts, in the same routes, the situation is still worse: in Brazil the fares are about 27% more compared with the exterior (Table 9).

**Table 9**

**Domestic fares: comparative among Brazilian and other countries - long distance**

Route	Country	Distance (Km)	Type of Fare	Fare US\$	Value US\$Cents/Km
São Paulo-Manaus	Brazil	2660	1	522.50	19.64
			2	313.50	11.79
Atlanta/Los Angeles	United States	3127	1	760.00	24.30
			2	214.00	6.84
Buenos Aires/Ushuaia	Argentina	2364	1	252.00	10.66
			2	189.50	8.02
Kagoshima/Saporu	Japan	1564	1	337.00	21.55

1–Full fares.

2–Standard discount fares

**Source: DAC–Fares IATA/IRIS/Rev.1–Valid August/1997.**

With the above examples we can verify that they don't differ substantially of the conclusions inferred by a econometric study more sophisticated, taking for base the fares in Brazil, compared with fares practiced in routes with similar distances in the exterior, elaborated by M.Moreira Associated Consultants (12).

In the international ambit, the systematic of collection and values of fares for the use of the airport infrastructure present differences, as it can be verified in the Document no. 7.100 – Airport Fares Handbook, published by ICAO in 1994.

The fares practiced at each country differ on formulas and values. For comparison purposes, a sample of prices was elaborated by the use of the airport infrastructure, taking for base the tariffs of Infraero to Brazil and the fares introduced in referred ICAO Doc. 7.100 to other countries, considering the aircraft Boeing 767 (Table 10).

We can verify that the international landing and loading tariffs are relatively homogeneous in the five Continents. The smallest tariffs of international landing are practiced in America and the largest ones in Oceania. In Brazil the tariffs are practically identical to the international average, however they are about 47% superiors to the average of the tariffs practiced in America. With relationship to the international loading tariffs, the largest average is practiced in America and the smallest in Oceania. In Brazil they are the more expensive of the world, about 36% more than the international average and 22% larger than the average of America (without taking in consideration the temporary increase of about 100% determined by the Brazilian Government, with the measures adopted in October, 1997, to face the financial crisis in Asia).

**Table 10**

**Landing and departure tariffs: comparative among Brazil and foreign**

**Equipment: B767–PMD = 157 T**

<b>Continent Average</b>	<b>International Landing Tariff  US\$</b>	<b>International Loading Tariff US\$</b>	<b>Domestic Landing Tariff  US\$</b>	<b>Domestic Loading Tariff US\$</b>
America	903.55	14.78	459.02	9.50
Europe	1,622.93	12.38	1,049.16	7.08
Asia	1,501.21	13.40	883.53	*
Africa	1,004.18	13.80	565.47	4.17
Oceania	1,696.31	11.90	*	*
International average	1,348.85	13.23	848.01	7.17
Brazil	1,333.49	18.00 (1)	385.48	9.15

**Obs:**

(\*) It was not possible to obtain the data in the document source.

1. Later, the international loading tariffs were increased in 100% in agreement with measures adopted by the Brazilian Government in October of 1997, objectifying to face the financial crisis in Asia (now it is R\$ 36.00).

Source: DAC-ICAO.

In refers to the domestic fares, we observed a much larger variation than in the international ones. In this segment Brazil practices very smaller landing fares (a half) than the international average, however loading fares are 27% larger than the international average

According a World Bank Document of 1994, about Brazilian Airline Industry (13), DAC's policy of establishing standard fares using operating cost formulas and target load factors is reminiscent of the U.S. Civil Aeronautics Board (CAB) rate-making of the 1960s and 1970s. In developing a rigid formula for the whole network, this procedure makes pricing insensitive to route-specific characteristics of supply and demand. In theory, the airlines could exploit the DAC's zone of flexibility to attempt to more accurately track route-specific conditions. However, it seems clear that the actual effect of the standard fare policy is to provide a focal point for a rather homogeneous fare structure – the standard fare does vary non linearly with stage length. A further impediment to price competition results from the activities of SNEA. This trade association provides a forum for carriers to discuss fare levels and fare structures, in addition to other industry issues. Combined, the DAC's calculation of a standard fare focal point and the collusive activities of the SNEA help to maintain a rigid fare structure which suppresses price competition.

DAC's comprehensive control over industry capacity has predictable effects – it blocks new entry into the industry and essentially freezes the current route structures of existing carriers. This rigidity even exists at the route level, where new capacity cannot be added unless existing load factors are high, and when capacity growth is permitted, incumbents are given the opportunity to expand in lieu of new entry. Even the flight schedules become rigid, because of the existence of the CLA. Each carrier submits its proposed schedule changes to the committee for comment by other members, who examine them and submit responses. Apparently, the practical effect is that schedule changes are agreed upon by all affected carriers (i.e., competitors), with DAC intervening on the rare occasions when there are irreconcilable differences. The consequence of DAC regulation, combined with the operations of the CLA, is a rigid, cartel-like allocation of industry capacity that blocks new entry and denies airline management the basic tools needed to respond effectively to changing demand and supply conditions.

Fare regulation, as administered by DAC and supplemented by the operation of the SNEA, also has undesirable consequences. The system of reference fares and standard discounts clearly discourages price competition by imposing a uniform, nationwide fare structure. This has the direct effect of preventing prices on a route from reflecting the route-specific supply and demand characteristics, such as operating costs and demand elasticity. The indirect effects of this form of price regulation are even more pernicious, since it prevents efficient carriers from disciplining inefficient rivals by means of price cuts, especially in the context of rigid capacity controls. Moreover, the fare regulation scheme establishes a hidden system of cross-subsidization among routes. While explicit subsidies are not necessarily undesirable, hidden cross-subsidies are the enemy of economic efficiency. Placed in perspective, however, the negative effects of fare regulation are of less concern than those of capacity regulation. In part, this is because Brazilian airlines have generally been unprofitable at prevailing fare levels, so further discounting would not likely given the existence of capacity regulation. Indeed, the main reason why capacity regulation is of so much more concern than price regulation is that in the absence of any economic regulation, it is capacity that ultimately drives pricing in the airline industry.

### **3.4 – Economic and financial issues of the three larger national carriers**

A brief analysis was developed about the economic-financial situation of the three largest Brazilian carriers. The analysis was based on the accounting demonstrations of the carriers Varig, Vasp and Tranbrasil - once TAM only last year started to have status of national carrier.

The tables 11 to 13 demonstrates the position of leadership of Varig in the industry, with the largest share of the fleet and number of employees, approximately 60% of the market, operating with smaller revenue for passenger per kilometer (pax.Km) and with the largest costs/seats. However it possesses the largest use in terms of pax.Km upon capacity (available seat kilometers - ASKs): approximately 65%. Vasp presents growth of its participation in the industry and it possesses the largest revenue for transported passenger per kilometer. Transbrasil operates with the smallest costs/seats and it loses share in the industry.

In agreement with the data presented in tables 14 to 16, the analysis of some economic and financial indicators of the three carriers reveals significant increments of operational and commercialization costs.

**Table 11**

**Current situation of the fleet**

<b>Carrier</b>	<b>No. of Aircraft</b>	<b>%</b>
Varig	92	56.4
Vasp	39	23.9
Transbrasil	32	19.7
<b>Total</b>	<b>163</b>	<b>100.0</b>

Source: National Carriers.

**Table 12**

**Number of employees per Carrier**

<b>Carrier</b>		<b>Number</b>	<b>of</b>	<b>Employees</b>		<b>No. of employees/</b>
	<b>1994</b>	<b>1995</b>	<b>D %</b>	<b>1996</b>	<b>D %</b>	<b>Airplane – 1996</b>
Varig	21,127	19,541	-7.5	18,172	-7.0	197.5
Vasp	5,365	5,582	+4.0	6,430	+15	164.8
Transbrasil	4,520	4,855	+7.4	4,590	-5.4	143.4
<b>Total</b>	<b>31,012</b>	<b>29,978</b>	<b>-3.3</b>	<b>29,192</b>	<b>-2.6</b>	<b>179.0</b>

Note: D % means % variation related to previous year.

Source: National carriers.

**Table 13**

**Utilization: demand (pax.Km) upon capacity (available seat kilometers - ASKs) - %**

<b>Carrier</b>		<b>1994</b>			<b>1995</b>			<b>1996</b>	
	<b>Dom</b>	<b>Int</b>	<b>Total</b>	<b>Dom</b>	<b>Int</b>	<b>Total</b>	<b>Dom</b>	<b>Int</b>	<b>Total</b>

Varig	63.2	67.1	66.1	62.7	67.7	66.3	64.8	66.9	66.3
Vasp	48.9	58.3	53.9	53.1	54.2	53.8	54.4	49.9	51.5
Transbrasil	57.5	50.7	55.4	57.0	56.9	57.0	57.9	54.1	56.2

**Dom: Domestic**

**Int: International**

**Source: National carriers.**

In agreement with the economic-financial data, Varig presents the best situation; Vasp presents substantial improvement in its indicators and Transbrasil presents the worst situation, due to its debts.

**Table 14**

**Operational profits/losses – R\$ million**

Carrier	1994			1995			1996		
	Dom	Int	Total	Dom	Int	Total	Dom	Int	Total
Varig	100.5	-39.4	61.1	71.2	51.9	123.1	156.4	-162.1	-5.7
Vasp	42.9	54.7	97.6	136.0	-23.0	113.0	153.0	-118.3	34.7
Transbrasil	37.4	-12.9	24.5	79.4	-37.1	42.3	57.5	-101.0	-43.5

**Dom: Domestic**

**Int: International**

**Source: National carriers.**

**Table 15**

**Economic-financial indicators**

Indicator	1994				1995			
	Varig	Vasp	Trans	Indus	Varig	Vasp	Trans	Indus
Financial covering (%)	104	121	107	107	105	113	107	107
Profitability (%)	3.59	17.5	6.6	6.9	4.6	11.6	6.1	6.4
Utilization (%) (1)	66	54	55	62	66	54	57	62
Break-even (%)	64	44	52	58	63	48	54	58

Yield Pax.Km (%)	0.074	0.109	0.08	0.08	0.115	0.149	0.129	0.123
Cost per ASK (%)	0.047	0.048	0.042	0.046	0.072	0.071	0.069	0.071

		1996		
Indicator	Varig	Vasp	Trans	Indus
Financial covering (%)	99.8	103	94.4	99.8
Profitability (%)	-0.19	2.92	-5.93	-0.16
Utilization (%) (1)	66.3	51.4	56.1	61
Break-even (%)	66	50	60	61
Yield Pax.Km (%)	0.153	0.153	0.13	0.14
Cost per ASK (%)	0.076	0.076	0.079	0.078

Trans: Transbrasil; Indus: Industry. See Table 13.

Source: National Carriers.

An important dice to stand out is that since 1994 the airlines have been presenting negative operational result in the international segment, compensated by the profits in the domestic segment. That fact demonstrates the increase of competition in the international routes, with the opening of the international segment to the other national carriers.

**Table 16**

**Results demonstration–Vertical Analysis (%)**

	Varig		Vasp		Trans	
	1995	1996	1995	1996	1995	1996
Operational Revenue	100.00	100.00	100.00	100.00	100.00	100.00
Net Flight Revenue	98.11	98.36	99.09	98.13	88.78	86.02
Other Operational Revenue	1.89	1.64	0.91	1.87	11.22	13.98

Costs	-64.83	-68.39	-45.69	-56.6	-65.43	-67.87
Gross Profits	35.17	31.61	54.31	43.40	34.57	32.13
Operational Expenditures	-22.23	-26.11	-25.51	-30.56	-15.17	-17.94
Administrative Expenditures	-5.99	-4.82	-6.79	-7.54	-7.52	-8.78
Net Financial Results	-6.53	-6.93	-9.25	-10.10	-14.37	1.39
Result of participations	0.24	0.79	-0.09	-0.34	-0.03	-1.2
Operational Profits	0.65	-5.46	12.66	-5.14	-2.52	5.68

**Trans: Transbrasil. Source: National Carriers.**

Another point to highlight refers to the debt with of the carriers with the Union, in a total of R\$ 2 billion (around US\$ 1.68 billion), considering the debts with the Federal Revenue, the Social Welfare and the Fund of Warranty for Service Time – FGTS. With Social Welfare the largest debtor is Varig with R\$ 541 million (around US\$ 454 million), followed by Transbrasil with R\$ 433 million (around US\$ 363 million) and Vasp with R\$ 406 million (around US\$ 341 million). But the carriers also fight in the justice against the Union alleging damages with the fares freezing during the stabilization's plans of the end of the 1980s and beginning of the 1990s. Transbrasil already won an action against the Union, in the Supreme Federal Court, with the value of R\$ 300 million (around US\$ 252 million), what can represent a precedent for the referring actions to the other carriers.

### 3.5 – The nonscheduled service (charter)

The charter flights are executed starting from national territory with intermediary points and destiny in national territory or in the exterior. They are identified as passengers non-regular services.

The objectives of the passengers domestic charter are the following:

- foment to the tourism in the Brazilian territory, because it extends the option of air transport to non-frequent passengers;
- exploration of new routes;
- invigoration of the airlines market in a general way.

The regular carriers and non-regular companies are authorized to operate charter, that are sell by operators of tourism, travel agents or regular and non-regular carriers.

In the charter accomplished by the regular carriers a reduced special fare it be applied, tends in view that the operation is totally different from a regular one, due to the following factors:

- The flights are sold in complete packages with the totality of the aircraft's seats sold;
- The flights occur when readiness of aircraft exists, generally in the weekends, when the regular flights are reduced, in function of the behavior of demand, when the executives' transport is smaller;
- The costs with insurance, rent and wages, among other, will be paid with the airplane flying or not;

- All the commercialization responsibility is of the operator/travel agents.

DAC establishes a minimum regulation of the charter, for protection of the users' interests, which is based on the terms of the Enclosure 09 of the Chicago's Convention and is fast the solicitation process and authorization.

The growth of the charter in Brazil was basically for two reasons: the increase and the renewal of the fleet of the regional companies and also a larger articulation between the tourism operators and the carriers. This flights, where the airplanes take off practically full, solves one of the great problems of the aviation: the low index of seats occupation. But who finishes profiting is the consumer, that pays very less for the services.

The market of charter in the European Union is, now, superior at 50% of all the accomplished commercial flights. In Brazil this rate is inferior at 3%, according to data of Embratur (the federal state owned tourism company).

The characteristics of charter allow a significant reduction in the fares – something equivalent to 65% less of the full fares practiced in the regular flights, compatible with the characteristics of the national tourist demand as it can be observed in Table 17.

Besides the recent measures of flexibility related to charter adopted by Brazilian Government, this do not have a large effect in terms of its stimulation. The main reason alleged is the discounts conceded by national carriers on domestic flights whose fares, with 65% of discount, can compete with the charter fares. The table 18 below show the impact of the measures on charter flights.

**Table 17**

**Comparison between full fares and charter fares**

<b>From São Paulo to:</b>	<b>Basic fare (R\$)*</b>	<b>Levels of</b>	<b>Charter</b>	<b>fares (R\$)</b>
Recife	1,054.00	263.50	316.20	368.90
Florianopolis	420.73	105.18	126.22	147.25
Fortaleza	1,176.99	294.25	353.10	411.94
Natal	1,107.19	276.80	332.16	387.52
Porto Seguro	632.23	158.06	189.67	221.28
Salvador	860.80	215.20	258.24	301.28
Porto Alegre	530.00	132.50	159.00	185.50
<b>From Rio to:</b>				
Fortaleza	1,014.07	253.52	304.22	354.92
Natal	1,094.24	273.56	328.27	382.98
Porto Seguro	587.03	146.76	176.11	205.46

\* going and return fare

Source: PANROTAS – April/1998.



**Table 18****Domestic charter****Number of flights and passengers – January to March 1998/97**

<b>Company</b>	<b>Jan. to</b>	<b>Mar. 1997</b>	<b>Jan. to</b>	<b>Mar. 1998</b>	<b>Change</b>	<b>(%)</b>
	<b>Number of Flights</b>	<b>Passenger</b>	<b>Number of Flights</b>	<b>Passenger</b>	<b>Number of Flights</b>	<b>Passenger</b>
Varig	214	26,930	195	25,665	-8.8%	-4.6%
Transbrasil	10	1,177	182	21,256	1,720%	1,705%
TAM	2,390	354,041	1,741	278,588	-27.1%	-21.8%
Rio-Sul	371	34,789	582	64,591	56.8%	85.6%
Fly	162	20,806	158	20,784	-2.4%	-0.1%
Passaredo	-	-	200	36,706	-	-
Total	-	-	54	1,899	-	-
Pantanal	-	-	26	107	-	-
Vica	-	-	28	572	-	-
<b>Total</b>	<b>3,147</b>	<b>437,743</b>	<b>3,166</b>	<b>448,168</b>	<b>0.6%</b>	<b>2.3%</b>

Source: DAC.

#### **4 – The recent deregulation measures adopted by Brazilian Government**

In the end of 1997 and beginning of 1998 DAC, following a policy orientation of the Brazilian Government, adopted a group of measures that facilitated the amplification of competition among the carriers and reduced the fares. The measures were the following:

1– Liberation of discounts in the fares. Any company can grant the discount that want. Larger discounts than 65% of the full fare will have to be requested to DAC.

2– Alteration of the charter's regulation. With the new rules, the companies can negotiate the fares of the aerial part freely in function of the contracted services. The operators and travel agencies were released to link the terrestrial part (hotel, walks, etc) of the aerial part in the sale of packages in charter.

3– Reduction of the airport tariffs, guaranteeing the success of the flights with fares discounts, that is to say, the collected tariffs of the carriers for the use of the airport infrastructure (airports, sailing system, etc.) were reduced in the same proportion of the discounts offered by the carriers. Like this, if a carrier offers, for example, 70% of discount in the fares for the totality of the seats in the airplane will also have a discount of 70% in the tariff collected by the use of the airports.

4– Liberation for any Brazilian carrier (national and regional) to operate the calls Special Aerial Routes (routes that link central airports link Congonhas in São Paulo, Santos Dumont in Rio de Janeiro and Pampulha in Belo Horizonte).

For some passengers on domestic routes, it may seem that air fares are on clearance sale and that bargain-basement prices constitute a trend that airlines have decided to set from now on. Yet, what is happening in Brazil today is similar to the deregulation process that took place in the United States beginning in the late 1970s. Till then all carriers had to charge the same fares, what precluded free competition.

Now, in Brazil and elsewhere, differentiated rates are the order of the day. They entail the notion that each airplane seat, along with its corresponding fare, represents a unique good, tailor-made to meet the particular conditions of the user. The passenger who pays the full fare, usually a businessman traveling on business, buys a seat that stays at his disposal until the eleventh hour, with flexibility as to the use of the ticket, free endorsement, etc. These conveniences are essential for that kind of passenger. On the other hand, the special fares from which leisure travelers benefit are subject to restrictions such as reservations made far in advanced, previously set flights, time limits for cancellations, etc. This segment views restrictions as a matter of course, because special fares are very advantageous. Such rates have brought air travel within the reach of a new segment of the public. This opening has unmistakable social effects – new destinations are now available to people who could not afford the time required when traveling by bus or car.

As businessmen do not need all the seats available on an aircraft, those who acquire discount tickets make possible a larger number of flights, eventually favoring those who pay full fares. If all passengers paid discount fares, no airline would be profitable. Only the combination of differentiated fares allows the enjoyment of the comforts now available to those who travel by air.

Tables 19 to 28 show the impact of the recent measures in the airlines industry, special the growth in the number of flights using central airports, the lower fares with the discounts and the maintenance of level of occupation, besides the increase on number of flights.

Data from carriers shown that about 17% of the people that flew since the beginning of the concession of discounts in fares flew for the first time, reinforcing the tendency of popularization of the use of the airlines in Brazil. They forecast that, although the process of deregulation, it should bring to the market about 15 million consumers in potential.

According to projections of SNEA just 4% to 5% of the Brazilian population, about 8 million people, used the airplanes. The number of tickets sold at the Country for national and international trips rotated around 22 million a year. It is a low penetration rate, very distant of the 40% in United States or of the 25% of the European Union countries.

Between January and May the rate of occupation in domestic flights in Brazil stayed around 56%, practically stable in relation to the same period of 1997. The offer of seats in the flights, even so, went up 21%. This means that the companies are offering very more flights without losses in the number of passengers in each one of them.

The new fare policy is summarized as a system of promotions that little will affect the profitability of that part of the airplane that traditionally was already busy. What the carriers look for is maximize the use of its fleet, earning with seats that before didn't surrender any cents, the 44% of the seats that are unoccupied. It is the idleness of the flights that determines the size of discounts and more emptiness an airplane, smaller should be the fares. It is better to sell cheaper than not to sell. In the average, about 15 seats in an airplane have the maximum discount of 65%.

**Table 19**

**Average Discounts – Domestic Routes**

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Carrier	Route	Discount level		Change in fares%
		December 1997	March 1998	
Pool (1)	Santos Dumond/RJ-Congonhas/SP	0	27.3%	-27.3%
TAM	Santos Dumond/RJ-Congonhas/SP	0	24.9%	-24.9%
Rio-Sul	Santos Dumond/RJ-Congonhas/SP	0	27.3%	-27.3%
Varig	Porto Alegre/RS-Galeão/RJ	30%	55%	-35.7%
Varig	Porto Alegre/RS-Guarulhos/SP	30%	55%	-35.7%
Varig	Guarulhos/SP-Brasília/DF	30%	55%	-35.7%
Varig	Guarulhos/SP-Salvador/BA	30%	55%	-35.7%
Varig	Guarulhos/SP-Recife/PE	30%	55%	-35.7%
Varig	Brasília/DF-Galeão/RJ	30%	55%	-35.7%
Varig	Salvador/BA-Brasília/DF	30%	55%	-35.7%
Varig	Galeão/RJ-Salvador/BA	30%	55%	-35.7%
Varig	Galeão/RJ-Recife/PE	30%	55%	-35.7%
Varig	Salvador/BA-Recife/PE	30%	55%	-35.7%
Varig	Guarulhos/SP-Fortaleza/CE	30%	55%	-35.7%
Varig	All routes	High Season: 20%	20% a 60%	-25%
		Low Season: 30%		-14.3%

Vasp	All routes	15% a 40%	10% a 60%	-10.3%
Transbrasil	All routes	Single 40%	Single 45%	-8.3%

1. Pool Varig-Vasp-Transbrasil.

2. Source: DAC.

**Table 20**

**The new fares – examples – R\$**

<b>Route</b>	<b>How was</b>	<b>How is now</b>
Rio-São Paulo	R\$ 158 all carriers	R\$ 119 TAM R\$ 115 pool (1)
São Paulo-Brasília (2)	R\$ 294 TAM R\$ 352 Rio-Sul	R\$ 184 Varig e TAM R\$ 186 Transbrasil R\$ 106 to R\$ 239 Vasp
São Paulo - Belo Horizonte (2)	R\$ 284 TAM R\$ 233 Rio-Sul	R\$ 135 Varig R\$ 79 a R\$ 177 Vasp R\$ 135 a R\$ 216 TAM R\$ 134 a R\$ 187 Rio-Sul
Curitiba-Salvador	R\$ 438 all carriers	R\$ 172 Vasp R\$ 238 TAM R\$ 276 Transbrasil R\$ 309 Varig R\$ 411 Rio-Sul
Rio-Fortaleza	R\$ 507 all carriers	R\$ 203 Vasp R\$ 328 Transbrasil R\$ 354 Varig R\$ 369 TAM
São Paulo-Recife	R\$ 474 all carriers	R\$ 190 Vasp R\$ 197 Varig

		R\$ 263 TAM R\$ 306 Transbrasil R\$ 311 Rio-Sul
Belo Horizonte - Porto Alegre	R\$ 358 all carriers	R\$ 140 Vasp R\$ 194 TAM R\$ 224 Transbrasil R\$ 253 Varig R\$ 349 Rio-Sul

1. Pool Varig-Vasp-Transbrasil.

2. Flights between central airports.

Source: Revista Veja.

**Table 21**

**Growth in the number of flights**

**Route: Santos Dumont/RJ – Congonhas/SP (weekly)**

<b>Carrier</b>	<b>Aircraft</b>	<b>Flights in 1997</b>	<b>Authorized Flights in 1998</b>	<b>Total</b>	<b>% Growth</b>
Rio-Sul	B 737-500	44	+28	72	63.6%
TAM	FK-100	72	+30	102	41.7%
Meridionais	FK-100	0	182	182	-
Transbrasil	B 737-300	76	+12	88	15.8%
Vasp	B 737-300	115	+17	132	14.8%
Varig	B 737-300	190	+31	221	16.3%
<b>Total</b>		<b>497</b>	<b>+300</b>	<b>797</b>	<b>60.3%</b>

**Aircraft: B = Boeing; FK = Fokker**

Source: DAC.

**Table 22**

**Growth in the number of flights**

**Route: Santos Dumont/RJ – Pampulha/BH (weekly)**

--	--	--	--	--	--

<b>Carrier</b>	<b>Aircraft</b>	<b>Flights in 1997</b>	<b>Authorized Flights in 1998</b>	<b>Total</b>	<b>% Growth</b>
Rio-Sul	EMB 145	72	+28	100	38.9%
TAM	FK-50	48	+56	104	116.7%
Pool*	ATR-42	54	0	54	-
<b>Total</b>		<b>174</b>	<b>+84</b>	<b>258</b>	<b>48.3%</b>

**Aircraft:** EMB = Embraer.

**Source:** DAC.

**Table 23**

**Growth in the number of flights**

**Route: Congonhas/SP – Pampulha/BH (weekly)**

<b>Carrier</b>	<b>Aircraft</b>	<b>Flights in 1997</b>	<b>Authorized Flights in 1998</b>	<b>Total</b>	<b>% Growth</b>
Rio-Sul	B 737-500	86	+28	114	32.6%
TAM	FK-100	109	+42	151	38.5%
Nordeste	B 737-500	0	30	30	-
Meridionais	FK-100	0	56	56	-
Vasp	B 737-300	0	56	56	-
Varig	B 737-300	190	56	56	-
Transbrasil	B 737-300	0	56	56	-
<b>Total</b>		<b>195</b>	<b>+324</b>	<b>519</b>	<b>166.2%</b>

**Aircraft:** B = Boeing; FK = Fokker

**Source:** DAC.

**Table 24**

**Growth in the number of flights**

**Route: Congonhas/SP – Brasília/DF (weekly)**

<b>Carrier</b>	<b>Aircraft</b>	<b>Flights in 1997</b>	<b>Authorized Flights in 1998</b>	<b>Total</b>	<b>% Growth</b>
----------------	-----------------	------------------------	-----------------------------------	--------------	-----------------

Rio-Sul	B 737-500	58	+14	72	24.1%
TAM	FK-100	69	+28	97	40.6%
Meridionais	FK-100	0	42	42	-
Nordeste	B 737-500	0	20	20	-
Transbrasil	B 737-300	0	42	42	-
Vasp	B 737-300	0	42	42	-
Varig	B 737-300	0	42	42	-
Total		127	+230	357	181.1%

Aircraft: B = Boeing; FK = Fokker

Source: DAC.

**Table 25**

**Growth in the number of flights**

**Route: Santos Dumont/RJ – Brasília/DF (weekly)**

Carrier	Aircraft	Flights in 1997	Authorized Flights in 1998	Total	% Growth
Rio-Sul	EMB 145	46	+28	74	60.8%

Aircraft: EMB = Embraer.

Source: DAC.

**Table 26**

**Comparative Data**

**National Carriers - Domestic Routes**

Carrier	Jan	to Mar	97	Jan	to Mar	98	Change	98/97
	Seat-km Offer	Pax-km Carried	%	Seat-km Offer	Pax-km Carried	%	Seat-km Offer	Pax-km Carried
Meridionais	153,346	24,581	16	682,717	397,268	58	345.2%	1,516.2%
Transbrasil	1,209,942	765,229	63	1,363,517	741,668	54	12.7%	-3.1%
Varig	2,626,059	1,689,400	64	3,019,893	1,836,734	61	15.0%	8.7%

Vasp	1,453,395	716,498	49	1,544,739	795,022	51	6.3%	11.0%
Industry	5,442,742	3,195,708	59	6,610,866	3,770,692	57	21.5%	18.0%

Source: DAC.

**Table 27**  
**Comparative Data**  
**National Carriers**

**Domestic Routes – Period from Jan. to Mar. 1997/98**

Carrier	Seat-km	Offer	Pax-km	Carried
	1997	1998	1997	1998
TAM	2.8%	10.3%	0.8%	10.5%
Transbrasil	22.2%	20.6%	23.9%	19.7%
Varig	48.2%	45.7%	52.9%	48.7%
Vasp	26.7%	23.4%	22.4%	21.1%
Industry	100.0%	100.0%	100.0%	100.0%

Source: DAC.

**Table 28**  
**Utilization Demonstrative – Domestic Routes**

Carrier	March 1997	March 1998
TAM	16%	52%
Transbrasil	57%	45%
Varig	61%	57%
Vasp	48%	50%
Abaeté	36%	50%
Helisul	26%	44%
Interbrasil	49%	49%
Itapemirim	Did not work	45%
Nordeste	47%	50%



Pantanal	43%	25%
Passaredo	37%	46%
Penta	47%	39%
Presidente	35%	53%
Rico	55%	59%
Rio Sul	56%	50%
Taba	38%	52%
TAM	40%	45%
Tavaj	50%	51%
Total	51%	58%

Source: DAC.

## 5. The Sub-regional Agreement of Aviation in the ambit of Mercosur

The multilateral aerial agreement contemplates the transport in regular flights starting from points of the sub-area formed by the countries that stick to the agreement, respected the routes and determinations of the bilateral agreements among the countries. The companies can begin to operate soon the agreement is signed. In the case of Brazil, the decisions will have to pass first for the approval of the Congress. It is foreseen that in a first stage the international airports of each country will reach the sub-regional agreement. That is because it would be not viable, in short period, to endow national airports the necessary infrastructure.

One of the main objectives of the multilateral aerial agreement is to foment the connection among points of the interior of each country, today they are not served by the great carriers. These carriers, authorized to fly for the bilateral agreements, privilege the great entrance gates, that concentrate larger traffic of passengers. The most important in the agreement, however, it is that the regional companies of the four countries (Argentina, Brazil, Paraguay and Uruguay) can accomplish flights of short distance in foreign territory with possibility of doing stop over, what means that a carrier can, for example, to offer the route Córdoba-Porto Alegre with scale in Uruguaiana, where the passengers can go down and, days after, to catch the same flight to the final destination. In the scale it is not allowed load of new passengers, what would configure coastal traffic.

Another important point in discussion is that the sub-regional routes cannot already be coincident with the available routes. With that, more places will be covered by a larger number of carriers – main objective of the agreement.

One impasse is the lack of definition of airplanes' capacity that will operate in the sub-regional system, subject of extreme strategy for the carriers. That subject, with the need of selecting the international airports that will be part of the agreement, constitute the only quarrels so that the agreement goes into effect. The Brazilian aeronautical authorities still were not defined with relationship to that in reason of the arguments of the carriers. Rio-Sul argues that the attempt of the other carriers of placing larger aircraft, with more seats, is a strategy to do parallel connections among the capitals of those countries, instead of seeking small cities. TAM against-argues defending the thesis that a system that begins with limitations will not prosper. Paraguay defends the idea that

the sub-regional system should be made with airplanes of up to 25 seats and, besides, wants that the involved airports are at a minimum distance of 350 km of airports where operate carriers with bilateral agreements.

The liberation of the sub-regional flights among the countries of Mercosur can bring deep transformations in the composition collected by the great carriers and to benefit about 240 million people in the countries involved. The essence of the agreement is a partial liberalization, an intermediary point between the protectionism and the policy of open skies. In conformity with the agreement, the great carriers would have exclusiveness in the traditional routes that already explore now, while new routes would be free for the small and medium carriers.

The main points of the agreement on sub-regional aerial services are the following:

- "Sub-regional aerial services" are passengers' regular aerial services, cargo and mail of the sub-area that understands the territories of the countries members, according to the approaches established, different from the regional ones operated about bilateral agreements. It is intend to stimulate the development of new markets and tries to assist the users' demand properly.
- The designated companies will be entitled of overfly the territory of the countries members, to land in its territories, to embark and disembark passengers, load and mail, separate or combined in regular flights inside of the sub-area.
- Right to embark and to disembark passengers, load and destined mail or coming of territories of third countries will depend on the involved countries.
- The designated companies can allow its fleeting interruption of the trip, with right to posterior re-embarkation, in intermediary scales of a same sub-regional route.
- A carrier that has been designated and authorized by the aeronautical authorities of a country member can begin the regional services, since it executes the requirements of the other country member and the devices of the sub-regional agreement.
- Fares will be authorized for the aeronautical authorities of the origin country.
- A Council of Aeronautical Authority will be created with the objective of caring for the execution and application of the agreement.
- This agreement is open to the adhesion of another countries of South America, for solicitations that will be examined by the countries members and whose approval will be decided unanimously.

In Brazil the companies are already using the available resources and projecting new destinies:

- TAM, with an aggressive penetration in the market, through the acquisition and control of another carriers of the block (LAPSA and ARPA from Paraguay), should build an aerial web that includes the cities of the absorbed carriers (Ciudad del Este and Assuncion in Paraguay, Santiago in Chile, Montevideo in Uruguay, Santa Cruz de La Sierra in Bolivia, Lima in Peru, Buenos Aires and São Paulo), doing a hub of national flights in airport of Guarulhos and in Assuncion a hub of the international flights. It planned an investment of US\$ 30 million in the new operation.
- To Rio-Sul already requested the Brazilian government the route Uruguiana (Brazil)–Cordoba (Argentina), leaving from Porto Alegre (Brazil) and it intends to invest US\$ 12 million in the sub-regional system.
- Varig is already operating the line São Paulo-Belo Horizonte-Cordoba-Rosario and intends to operate cargo flights to Chile, besides using this country in having routes to Pacific and Asia, enlarging its international web. Varig assumed the operations of Pluna, from Uruguay, and possesses part of its stock control.

- Vasp, through the acquisition of a regional carrier in Argentina (Transportes Aereos Neuquén), started to operate inside the south of Argentina, besides Patagônia and cities from Chile and concentrated efforts in the amplification of the operations that will link the main cities of the Brazilian Northeast with Buenos Aires. Vasp acquired the stock control of the Ecuatorian and Bolivian Aerial Lloyd.

## 6. The airport infrastructure in Brazil

The federally owned Infraero system of airports is nationwide throughout Brazil. This network is supplemented by a second tier of airports owned by the individual states. In all Infraero owns and operates 67 airports, 17 of which have joint civil and military operations. The responsibilities of Infraero are as follows:

- Provision of airports infrastructure;
- Maintenance and operation of airports;
- Brazilian air traffic control (shared with Air Ministry);
- Telecommunications for aviation purposes;
- Alcântara space launch facility;
- Other operations.

The location of the Infraero facilities are shown in Figure 1 (page 51). For organizational purposes the operational facilities are divided into seven regional based centers: São Paulo; Rio de Janeiro; South; Northwest; Center-West; Northeast and North.

The administrative center of the organization is located with the Presidency of Infraero in Brasília. The Infraero system comprises:

- 67 airports;
- 77 air navigation support units.

The existing business centers are organized along regional lines with the affiliated airports having physical links by proximity. As a result some of the business centers such as those at São Paulo Guarulhos and Rio de Janeiro Galeão are profitable. Others such as those centers at Manaus and Belem are clearly unprofitable and especially so when the costs of capital improvements are taken into consideration. Table 29 shows the operating and profitability of the various airports which make up the seven business centers. This table takes no account of the depreciation costs associated with capital investment.

**Table 29**

### **Operating Profitability of the Seven Business Centers – since 1993**

<b>Business Center</b>	<b>Airport</b>	<b>Operating Status</b>	<b>Period</b>
<b>São Paulo Center</b>	Guarulhos	Profitable	1993-1997
	Congonhas	Profitable	1993-1997
	Viracopos	Profitable	1993-1997
	São José dos Campos	Lossmaking	1996-1997

	Campo Grande	Lossmaking	1993-1997
	Campo de Marte	Lossmaking	1993-1997
	Ponta Porã	Lossmaking	1993-1997
	Corumbá	Lossmaking	1993-1997
<b>Rio de Janeiro Center</b>	Galeão	Profitable	1993-1997
	Tancredo Neves	Lossmaking	1993-1997
	Belo Horizonte	Profitable	1993-1997
	Santos Dumont	Profitable	1993-1997
	Jacarepaguá	Lossmaking	1993-1997
	Vitória	Profitable	1993-1997
	Macaé	Profitable	1996-1997
	Montes Claros	Lossmaking	1993-1997
	Bartolomeu Lisandro	Lossmaking	1993-1997
	Juiz de Fora	Profitable	1996-1997
	Carlos Prates	Lossmaking	1993-1997
<b>Northeast Center</b>	Recife	Profitable	1993-1997
	Salvador	Profitable	1993-1997
	Fortaleza	Profitable	1994-1997
	Maceió	Lossmaking	1993-1997
	Natal	Lossmaking	1993-1997
	Aracaju	Lossmaking	1993-1997
	Ilhéus	Profitable	1996-1997
	João Pessoa	Lossmaking	1993-1997
	Teresina	Profitable	1993-1997
	Campina Grande	Profitable	1996-1997
	Petrolina	Profitable	1996-1997
	Paulo Afonso	Profitable	1996-1997
	Juazeiro do Norte	Profitable	1997

<b>South Center</b>	Porto Alegre	Profitable	1993-1997
	Curitiba	Profitable	1993-1997
	Foz do Iguaçu	Lossmaking	1996-1997
	Florianópolis	Profitable	1993-1997
	Londrina	Profitable	1996-1997
	Joinville	Profitable	1994-1997
	Navegantes	Profitable	1993-1997
	Pelotas	Lossmaking	1993-1997
	Bagé	Lossmaking	1993-1997
	Uruguaiana	Lossmaking	1993-1997
	Bacacheri	Lossmaking	1993-1997
<b>Northwest Center</b>	Manaus	Profitable	1993-1997
	Boa Vista	Profitable	1993-1997
	Porto Velho	Lossmaking	1993-1997
	Rio Branco	Lossmaking	1993-1997
	Cruzeiro do Sul	Lossmaking	1993-1997
	Tefé	Lossmaking	1993-1997
	Tabatinga	Lossmaking	1993-1997
<b>Center-West Center</b>	Brasília	Profitable	1995-1997
	Cuiabá	Lossmaking	1993-1997
	Goiânia	Profitable	1994-1997
	Uberaba	Profitable	1996-1997
	Uberlândia	Profitable	1996-1997
	Palmas	Lossmaking	1997
<b>North Center</b>	Belém	Lossmaking	1993-1997
	Santarém	Lossmaking	1993-1997
	Macapá	Lossmaking	1993-1997
	São Luis	Lossmaking	1993-1997

	Carajás	Lossmaking	1993-1997
	Altamira	Lossmaking	1993-1997
	Imperatriz	Lossmaking	1993-1997
	Marabá	Lossmaking	1993-1997
	Conceição do Araguaia	Lossmaking	1996-1997
	Julio César	Lossmaking	1993-1997
	Alcântara	Lossmaking	1997

Source: Infraero.

Infraero's traffic performance has been strong since the stabilization of the currency even though domestic fares have increased substantially in real terms since the introduction of the Real. Since 1991 overall passenger growth rates have increased at slightly under 5% per annum. Growth is expected to continue over the next five years. Infraero's current forecast average growth rate over the five year period is approximately 6%. The data on passenger growth is shown in Tables 30 to 32.

**Table 30**

**Embarking and disembarking domestic, transit excluded**

<b>Year</b>	<b>No. of operations (million)</b>	<b>Participation in the total (%)</b>	<b>Annual growth (%)</b>
1991	36.34	88	-
1992	30.31	81	-17
1993	31.36	80	3
1994	34.63	81	10
1995	37.55	83	8
1996	40.27	80	7
1997	43.79	83	9
1998	45.67	80	4.3

Source: INFRAERO and Panorama Setorial – Gazeta Mercantil.

**Table 31**

**Embarking and disembarking international, transit excluded**

<b>Year</b>	<b>No. of operations</b>	<b>Participation in the total (%)</b>	<b>Annual growth</b>
-------------	--------------------------	---	----------------------

	(million)		(%)
1991	5.05	12	-
1992	7.26	19	43
1993	7.93	20	9
1994	8.33	19	5
1995	8.31	17	0
1996	9.96	20	20
1997	11.6	17	7
1998	11.3	20	-2.6

Source: INFRAERO and Panorama Setorial – Gazeta Mercantil.

**Table 32**

**Infraero Total Passengers Performance (million): 1991-1998**

	1991	1992	1993	1994	1995	1996	1997	1998 (1)	Average growth rate (%)
<b>Domestic</b>	36.30	30.31	31.36	34.63	37.55	40.27	43.79	45.67	3.4
<b>International</b>	5.05	7.26	7.93	8.33	8.31	9.96	11.6	11.3	14.0
<b>Total</b>	41.35	37.57	39.29	42.96	45.86	50.23	55.39	56.97	5.0

**1. Infraero's forecast.**

Source: INFRAERO and Panorama Setorial – Gazeta Mercantil.

Cargo traffic has been seen to grow at an even faster rate than passenger traffic and considerable faster than the ICAO forecast for the South American region for the period 1993-1997. Growth during this four year period was occurring at a remarkable 10%, with the international portion of the traffic showing an extraordinary average growth rate of nearly 22%. Infraero's own traffic forecasts for the next five year period are at the high level of 17%. The relevant figures are shown in Table 33.

**Table 33**

**Infraero Cargo Traffic Performance (million ton.): 1993-1998**

	1993	1994	1995	1996	1997	1998(1)	Average growth rate (%)
<b>Domestic</b>	0.61	0.69	0.74	0.80	0.73	1.06	4.5

<b>International</b>	0.25	0.30	0.45	0.48	0.55	0.63	21.7
<b>Total</b>	0.86	0.99	1.19	1.28	1.28	1.69	10.4

## 2. Infraero's forecast.

Source: INFRAERO and Panorama Setorial – Gazeta Mercantil.

Mail and aircraft movements also show greater than regional average growth rates. The relevant figures are shown in Tables 34 and 35.

**Table 34**

### **Airmail Traffic at Infraero Airports (million ton.): 1993-1996**

	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Airmail (million ton)	0.142	0.168	0.173	0.154

Source: Infraero.

**Table 35**

### **Aircraft Movements at Infraero Airports (million): 1993-1996**

	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>
Aircraft movements (million)	1.30	1.41	1.57	1.63

Source: Infraero.

The stabilized Real has brought significant economic growth in the Brazilian economy which has brought with it an anticipated strong growth in air transport. With continued monetary stability it is anticipated that economic prosperity will continue and the strong growth rates in air transport demand will also continue. However, the very high air cargo growth rates forecast by Infraero can be sustained only with very strong growth in both domestic and international economies. A regional or global recession, like what seems to occur as consequence of financial crisis in Russia and Asia, would significantly depress the actual traffic below the forecast levels.

The financial performance of the sixty seven airports is shown in Table 36 which shows operating revenues and operating expenses. No allowance is made for depreciation of capital investment in these figures. It will be seen that the operating ratio varies between 0.65 and 0.72. As revenues increase over time is a tendency for expenditures to grow at a slower rate, indicating an ability of the system increasingly to generate some net income to support capital investment in the physical developments of fixed assets.

**Table 36**

### **Operating Revenues and Expenditures for Infraero's Airports: 1993-1997**

(R\$ million)

	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>



Operating revenues	298.7	254.3	493.1	673.9	769.4
Operating expenditures	214.5	177.0	320.7	452.8	524.3
Net operating profit	84.2	77.3	172.4	221.1	245.1
Operating ratio	0.72	0.70	0.65	0.67	0.68

Source: Infraero.

The financial performance of the entire Infraero system (airports and all other activities) is shown in Table 37. Because the airports constitute such a large proportion of Infraero's total operation, the performance of the entire company closely shadows the performance of the airport component.

**Table 37**

**Financial Performance Infraero, All Activities: 1994-1997**

(R\$ million)

	1994	1995	1996	1997
Revenues	285.2	530.4	741.1	848.4
Expenditures	215.6	409.0	603.0	667.9
Monetary Correction	9.1	3.2	-	-
Operating Profit	60.5	118.2	138.1	180.5
Depreciation	N/A	N/A	167.6	124.5
Net Profit (Depreciation included)	N/A	N/A	-29.5	56.0
Operating Ratio	0.76	0.77	0.81	0.79
Total Operating Income	N/A	N/A	689.7	799.3
Commercial Operations	N/A	N/A	178.8	207.0
Commercial/Total	N/A	N/A	25.9%	25.9%
Expansion & Modernization	N/A	N/A	134.5	165.7

Source: Infraero.

The Infraero system is generally in good physical condition and the level of service provided is of high standard. Given the very strong traffic rates, both historic and forecast, there are very high future capital investment requirements. The figures for the total Infraero requirements are shown in Table 38, and Table 39 compares the operating profits for the years 1993-97 with forecast capital investment requirements for the period 1998-2002.

**Table 38**

## Estimates of the Capital Investment Requirements for the Infraero System: 1998-2002

(R\$ million)

	1998	1999	2000	2001	2002
Own resources	370	400	420	440	460
Public sector partners	90	120	120	130	140
Private partners	180	250	280	290	300
Annual Total	640	770	820	860	900

Source: Infraero.

**Table 39**

### Comparison of Operating Profits for 67 Airports 1993-1997 with Infraero's Future Capital Investment Requirements

(R\$ million)

Year	Operating Profit *	Future Estimated Capital Investment
1993	85.47	-
1994	78.61	-
1995	174.31	-
1996	223.32	-
1997	246.23	-
1998	-	640
1999	-	770
2000	-	820
2001	-	860
2002	-	900

\* Operating profit is defined as (operating Revenue minus Operating Expenditures).

Source: Infraero.

As shown above, the probable necessity of resources to investment in the expansion and modernization of Brazilian airport system will invoke some private capital, and it aims some kind of privatization, contracting out or joint venture with private sector in the future. The aims to attract private capitals have been variously stated as:

- To reduce in the medium term the national deficit from its current level of approximately 7% of GDP;
- To reduce demands on public finance from future funding requirements of the growing airport system;
- The reduction of the number of public sector employees to encourage a more flexible workforce by placing more workers under the conditions of the private sector labor market.

There are also a number of secondary aims. These include:

- The conversion of fixed assets into capital to augment the national reserves;
- The increase of investment in aviation by creating a range of opportunities to attract private financial capital into the airport sector;
- The commercialization of the Brazilian airport system by introduction of commercial principles to the management of the system and the opening of the sector to a wider range of commercial operations;
- The attraction of non-Brazilian airport operators into Brazil through financial participation in any activities in airports;
- Increased efficiency of the system through capital investment in equipment, outsourcing of less efficient activities,
- The introduction of an element of competition into the Brazilian airport sector by breaking up the public monopoly situation of Infraero.

In considering any kind of private capital participation in the Infraero system, there are a number of factors which are likely to be unattractive to some degree to the private sector. These are:

- The large scale of the system;
- Future capital investment requirements;
- Retention of non-profitable airports.

## **8. Conclusion**

Civil aviation has for the last years been undergoing radical changes in the economic and regulatory climate. The airlines have been involved in:

- Deregulation, both economic and operational;
- Liberalization of domestic and bilateral constraints;
- Globalization in the form of airline alliances and partnerships.

Airports themselves have been caught up in the sweeping changes and have found themselves involved in a secularly growing market for air transport and subject to:

- Commercialization of both land and air activities;
- Corporation to permit private sector investment and partnership;
- Privatization of formerly governmental operations with the sale of all or part of the assets.

In Brazil, the negative consequences of DAC regulation of capacity and fares were borne by Brazilian travelers and shippers. Moreover, since many passengers are business travelers, the inefficiencies of the airline system flow through to the customers of their business, raising costs throughout the Brazilian economy. A long-run policy for the aviation sector, therefore, should focus on consumer welfare (travelers and shippers) rather than producer welfare (airline companies and employees). In the long-run, these are not necessarily incompatible, since consumers are best served by an efficient, competitive airline industry, which will also benefit well-managed airlines and their employees. There will, however, be losers as well as winners, as inefficient airlines either restructure or fail.

The most effective way of obtaining an efficient, competitive airline industry is by means of deregulation, as shown the recent measures adopted by Brazilian government, which promoted decreasing in fares and increasing in the number of routes, flights and offer of seats, besides the growth of efficiency with the liberalization of use of airports like Congonhas and Santos Dumont to national carriers. While this graduate policy prescription has widespread applicability, there are three important questions that should be addressed before deregulation in any particular domestic airline market: (i) Is the domestic market large enough to support meaningful competition? (ii) Is the economic and institutional framework (e.g. financial markets, bankruptcy laws, macroeconomic policy) sufficient to sustain deregulated, privately-owned airlines through the inevitable cyclical downturns? (iii) What is the transition path from comprehensive economic regulation to deregulation?

There is (as yet) no proof that a domestic market the size of Brazil can sustain multiple airlines in a deregulated environment, so caution is appropriate. With respect to the economic and institutional framework, Brazil is unique, having characteristics of both developed and less-developed economies. In view of the country's unstable macroeconomic environment and imperfectly developed capital markets, with a low domestic saving and highly subordination of foreign capital flow, caution is again appropriate for regulatory decontrol.

Determining the full consequence of any regulatory reform is virtually an impossible task. The relaxation of the present controls over entry, exit, capacity and pricing will generate opportunities for improvements in the Brazilian airline system. But, it will also engender risks and uncertainties which could adversely affect the traveling and shipping public, or other national interests. There are also dangers involved in failing to move in the direction of greater reliance on competitive market forces, besides there is strong evidence that the present regulatory system in Brazil has induced substantial inefficiencies.

Also, if airline competition is to be deregulated, there must be a firm law against collusion. The airline cannot talk to each other about fixing prices, etc, as nowadays happen with the practices of SENEAL.

DAC can retain its control over total industry capacity by regulating the fleet size of each carrier. Such authority would be sufficient to ensure that the industry does not experience a "glut" of excess capacity and "ruinous" competition, the arguments most frequently asserted in favor of continued comprehensive regulation. Also, concerns about dominance by a single carrier can be addressed without imposing all the inefficiencies inherent in the current regulatory system. This gives airline managers the opportunity to alter their flight schedules, aircraft assignments and route networks as they see fit, subject to overall limits on fleet size imposed by DAC. This result in a better match between supply and demand on each individual route, more efficient aircraft utilization, more rational route structures, and improved profits (or reduced losses).

The DAC's flexible pricing policy should be continued and institutionalized. Are evident the benefits to consumers of this policy. The airline industry has always been highly cyclical, regardless of the regulatory regime in place. Pricing freedom is essential for the competitive development of the industry as well as for the growth in traffic volume.

In order for competition to function effectively in the airline industry, it is essential that entry be liberalized. More liberal entry allows new or innovative carriers to provide the competitive impetus which can result in increased supply of services and competitive pricing – the ability of airlines to enter and exit easily would prevent fares from exceeding the costs of service even in city-pair markets that are naturally monopolistic. Thus, the caps should expand over time to accommodate growth by existing carriers as well as entry by new carriers. Since one of the goals of deregulation is to allow efficient, profitable airlines to expand, the regulatory

mechanism should allow for automatic increases in the seat caps of carriers that achieve high load factors and/or significant profitability. Another goal of deregulation is to permit the entry of new airlines, which should be accommodated by automatically granting an initial seat cap to each qualified entrant, where qualification is based on safety and fitness considerations rather than competitive effects. This is what shown us the entry of TAM in the national carriers market, since 1997. Inefficient and financial difficulties, as shown by Transbrasil, is consequence of the market competition and it can also guide to a merger with other carrier.

The disciplining force of entry is highly dependent upon Infraero's ability to ensure nondiscriminatory access to necessary airport facilities. Also, all artificial airport restrictions (such as the eliminated at Santos Dumont and Congonhas) should be lifted so that some airlines do not obtain contrived advantages over their competitors.

Although is unusual a military regulatory agency on civil aviation around the world nowadays, there are no evidence that a civil regulatory agency will be keep save by the influences of the power of regulated carriers. The maintenance of the military control on civil aviation in Brazil is a complex political and institutional question, because it means power, influence and some privileges, to the air force officials, get offices and job when retired at the DAC and Infraero, which represent an increase in the retired stipends.

The Brazilian Infraero airport system is the best and bigger of the South American airports. It is extensive in scale and has a larger number of airports.

Overall the system is operationally profitable, but future capital investments requirements are forecast to be very high making long term profitability marginal with extensive further commercialization. The majority of Infraero airports are lossmaking but a large number of the unprofitable airports are necessary for social and economic reasons. The profits of the few profitable can cover the losses of the others.

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