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Resurgence Strategies to Navigate Indian Aviation in the Liberalization Saga

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Liberalization policies in the aviation sector are intended to achieve high economic growth through the process of globalization and radically improve the infrastructure facilities. However, the policy of liberalization that led to the opening up of the economy has forced the aviation sector to navigate through turbulence. Detailed investigations are carried out on various effects that are consequent to the opening up of the economy, including galloping oil prices; declining seat occupancy; the effects of relaxing the cap on equity; the role of private players in modernization; upgradation and development of the aviation sector, and so on.

The studies revealed that global financial networks started directly influencing imports of crude oil after the Administrative Pricing Mechanism (APM) was dispensed with, thereby increasing state and central levies in the liberalized regime. Further, the emergence of private players during this period adversely affected the national carrier by consistently restricting its seat occupancy even while the private players too were lagging behind adequate Passenger Load Factor (PLF). To effectively tackle these problems the data pertaining to crude oil imports, refining capacity of aviation fuel, and various taxes levied are investigated. The passenger data pertaining to both national and private carriers during the peak period of liberalization when GDP touched its maximum level, are analyzed.

These studies revealed that import duties are levied for entire crude oil imports despite the fact that 50 per cent of the aviation fuel is being exported, while there is no uniform pattern in levying state and central taxes across the country. These findings go on to show that the density of passengers is primarily confined to metro airports with high percentage of load factors leaving a great scope for the development of other operational airports. The various measures that are being taken by the government following economic liberalization are found to be similar to the grand strategies advocated by Glueck, except the combination strategy. However several other miscellaneous measures such as rationalization of tax structures, modifying bilateral treaties and relaxation of mandatory guidelines and regulations are found to be similar to the combination strategy. These findings revealed that generic strategies intended for a business enterprise may be applicable to a Public Sector Undertaking (PSU); and may be reformulated as a resurgence strategy to effectively combat the problems in the Indian aviation sector.

Keywords: Liberalization, passenger load factor, aviation turbine, foreign equity, resurgence strategies.

INTRODUCTION

Aviation in India became a monopoly of the public sector with the enactment of the Air Corporation Act in 1953 and nationalization of the then-existing airlines assets held by *J.R.D. Tata.* The policy of liberalization introduced in 1991 transformed the socialistic economy to a capitalistic one, and inevitably led the aviation industry to integrate itself with the global society and economy following the deregulation process [1]. Subsequently in 1994 a deliberate policy was implemented to reduce state control over airline operations by allowing market forces to share the airline industry [2]. Consequently, six private airline companies with different fleet sizes were permitted to operate over Indian skies after repealing of the Air Corporation Act. The government of India merged operations of the domestic and international carriers – Indian Airlines and Air India – in 2007. Both the national

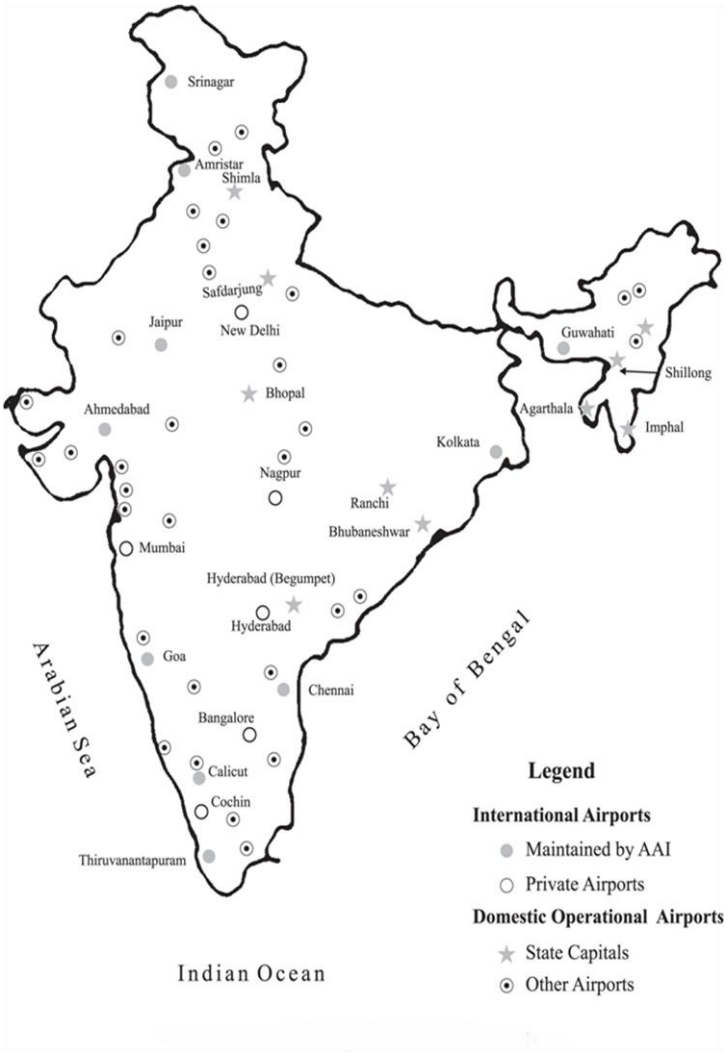

Figure 1. Different Categories of Airports in India

and private carriers are being supervised by the Airports Authority of India (AAI) under the Ministry of Civil Aviation.

The global recession directly influenced the economic viability of the entire Indian aviation industry due to the high fuel prices, multiple tax structures and downturn in traffic. International Air Transport Association [3] projected a cumulative loss of $1.5 billion for Indian carriers during the recession year 2008, saying that they would post the largest losses outside the US, though no airline in the country declared bankruptcy. According to it, the Indian carriers were likely to account for one in every three dollars of losses in the global airline industry. But the Indian economy showed signs of resilience by the unusual contribution of the service sector [4].

However the budding hopes are from the projections of Centre for Asia Pacific Aviation [5] which predicts that India's international and domestic traffic will grow by 10 per cent and 20 per cent respectively by the end of the year 2011, taking the overall market to more than 100 million passengers. These figures are reaffirmed by the Planning Commission [6] projections that state that the number of domestic and international passengers would reach about 1,036 lakh and 297 lakh passengers respectively by the end of the eleventh plan period, i.e. 2012, through all operational airports in India.

Presently there are 77 operational airports in India out of a total of 125 airports, and both the national and private carriers cover all these operational airports. These airports are classified into international hubs, regional hubs and other operational hubs depending on the extent of the area of operation. Out of the 77 operational airports, 12 are international airports (out of which 7 are metro airports) leaving 48 as non-metro airports and 17 as civil enclaves at military airfields (figure 1).

Details of national and private carriers, their promoters, fleet size and market share [7] along with year of starting of operations, parent company, head quarters and total destinations covered are investigated in the present study. All these details are codified and presented in

Table 1a. Details of National and Private Carriers along with Destinations Covered and Market Share

S. No	Airline, Starting Year and Founder	Parent Company and Headquarters	Total Destinations Covered	Market Share (per cent)
I	National Carriers			
	NACIL,(2007)	Indian airlines and Air India merged by Govt. of India, Mumbai	92	17.4
II	Private Carriers			
	a. Jet (1992)	Tailwinds Limited	76	18.2
	Naresh Goyal	Mumbai		
	). Kingfisher (2003)	United Breweries Group	71	18.8
	Vijay Mallya	Mumbai		
	c. IndiGo,(2006)	InterGlobe Enterprise	31	18.7
	Rahul Bhatia	Gurgaon		
	d. JetLite, (2007)	Tailwinds Limited	30	8.1
	Subatra Roy	Mumbai		
	e. SpiceJet,(2005)	Spice Jet Limited	29	13.4
	Neil Mills	Gurgaon		
	f. GoAir (2005)	Wadia Group	19	5.3
	Jahangir Wadia,	Mumbai		

*Prior to current crisis

table 1a and b. It can be observed from table 1 a and b that the existing fleet size of NACIL is quite small as compared to the private players with coverage of 92 destinations, while the private players have a total of 256 destinations with different fleet sizes. It can be further observed that Jet group comprising Jet Airways, JetKonnect and JetLite covers 106 destinations with a fleet size of 119 aircrafts and had the highest market share of 26.3 per cent in 2011, followed by Kingfisher(*) with 18.8 per cent with a fleet size of 66 aircrafts. Further it is found that the National carrier (NACIL) has 17.4 per cent market share with 126 aircrafts following IndiGo, while SpiceJet and GoAir were lagging behind NACIL. The cascading effects of continuously galloping price of aviation fuel have necessitated systematic investigations for formulating strategies for resurgence of the aviation sector.

Crude Oil, Aviation Fuel and Tax Structures

Crude oil prices in India are directly influenced by international market prices subsequent to the withdrawal of the Administered Pricing Mechanism (APM) in 2002, which was shielding the effect of rise in international oil prices. Though Indian oil reserves are estimated to be approximately 5.6 billion barrels [8], the crude extraction within the country meets only 30 per cent of the domestic requirements. Therefore, India imports 70 per cent of its crude oil requirement, mainly from the twelve developing *OPEC* nations. The imported crude oil is refined and the Aviation Turbine Fuel (ATF) is supplied through the Public Sector Undertakings (PSUs) such as Indian Oil, Hindustan Petroleum and Bharat Petroleum. These PSUs have a refining capacity of a total 2.1 million barrels per day and have a monopoly in refuelling of the Indian carriers and foreign airlines. The production of crude oil, including imports and consumption of ATF for the years 2004-2010 along with the details of the tax duty, sales tax and service tax are presented in table 2a and b along with details of exports of the aviation fuel from India.

Table 1b. Types of Private and National Carriers with total Existing Fleet Size and Proposed Fleet Size

S. No	Airlines	Type of Aircrafts under Operation								Existing Fleet	Proposed Fleet
		A330	A321	A320	A319	A310	ATR	CRJ	Boeing		
I	National Carriers										
	NACIL	2	20	34	24	4	7	4	31	126	30
II	Private Carriers										
	Jet	12	-	-	-	-	20	-	68	100	39
	Kingfisher	5	8	23	3	-	27	-	-	66	150
	c. IndiGo	-	-	46	-	-	-	-	-	46	234
	d. JetLite	-	-	-	-	-	-		19	19	6
	e. SpiceJet	-	-	-	-	-	-	-	37	37	39
	f. GoAir	-	-	11	-	-	-	-	-	11	72

It can be observed from table 2a that while domestic production more or less remained constant at almost 33 million tonnes, crude imports have grown considerably over the past six years from 95.8 in 2004-05 to 159.2 million tonnes in 2009-10. Further it can be observed that the various taxes that are levied on crude oil includes import duty as add-on to the Refinery Transfer Price (RTP) [9] , excise duty along with 21 per cent margin on marketing before effective price is fixed for the airline operators.

While fixing the selling prices of ATF, excise duty is levied as an inland tax on the goods produced for sale; in addition, sales tax and *Value Added Tax (VAT) is levied* on top of the excise duties at each stage on the sale of goods by the various state governments. Over and above, it is found from table 2b that service tax is levied on the sale of tickets and on landing and air navigation for both domestic and international journeys. Therefore, state and central levies have contributed to a threefold rise in the prices of aviation fuel over the past three years, making it 60 per cent higher than prevailing prices [10] in most countries.

Passenger Load Factor (PLF) in the National and Private Carriers

It is well known that *Passenger Load Factor (PLF)* is useful for calculating the average occupancy on various routes of airlines. Systematic studies are carried out on PLF for the years 2004-05 to 2009-10 including national and private airlines' number of passengers carried, *passengers travelled per kilometres* and available seats per kilometres for domestic and international flights, and are codified and presented in table 3a and b.

It can be observed from table 3a that the share of private airlines for domestic travel ranges from 58.7 to 83.2, while for international travel it ranges from 4.2 to 38.5. It is interesting to note that the share of the private sector in domestic operations is almost double as compared to the international operations in all the six years starting from 2004. Accordingly, the total passengers carried in both the national and private carriers vary from 19.44 to 45.33 million while the total international passengers varied from 5.32 to 11.61 million. It is observed that the majority of the passengers are clustered around metro airports as compared to other operational airports. The PLF for private carriers is observed to be high for both domestic and international passengers, indicating the liability of the national carrier in pushing the aviation sector into turbulence.

With a view to study the status of international and domestic passengers travelling across seven

Table 2a. Production and Consumption of ATF from Crude Oil for the years 2004-2010

S. No	Item	All Figures in Million Tonnes(Except S.No 1 & 8)					
		2004--05	2005--06	2006--07	2007--08	2008--09	2009-10
1	Production of Crude Oil in India	33.9	32.1	32.9	34.1	33.5	33.6
2	Imports of Crude Oil	95.8	99.4	111.5	121.6	128.1	159.2
3	Total Crude Oil	127.4	130.1	146.5	156.1	160.7	182.7
4	Production of ATF	5.2	6.1	7.8	9.1	8.0	8.0
5	Consumption of ATF	2.8	3.2	3.9	4.5	4.4	4.6
6	Exports of ATF	2.3	2.8	3.6	4.4	4.5	4.5
7	Wholesale price index of ATF	174.1	228.7	262.6	272.7	337.7	237.2
8	Crude Oil (Indian Basket) US $/bbl	39.2	55.7	62.4	79.2	83.5	69.7

Table 2b. Various taxes imposed on Aviation fuel along with Service Tax

S. No	Item	Per cent	Remarks
1	Crude oil Tax: Import Duty	10	*Public Sector Oil companies charge 20per cent add-on to the Refinery Transfer Price (RTP) (Frost and Sullivan, 2009)
	Excise Duty	8	Excise duty is levied as an inland tax
	Market Margin	21	Before effective price is fixed for the airline operators to buy
	Sales Tax and Value added tax	23	Both Taxes levied on top of the customs and excise duties in each stage on the goods by the State Governments
2	ATF Taxes :		
	a. Excise Duty	8	Including Education Cess 2per cent
	b. Sales Tax	0-30	Sales Tax varies from state to state, i.e. minimum in Andaman with 0per cent, maximum in Karnataka, Gujarat with 28--30per cent,
3	Service tax :		2per cent extra Service tax on Business class
	On tickets both domestic and International journeys	10	
	On landing, airport & air navigation fees	15	Present rate is 12per cent Service Tax + 3per cent Education Cess.

metro airports *vis-à-vis* other operational airports, details are investigated and presented in table 3c. It is interesting to note from table 3c that air traffic in the seven metro airports has reached 80 per cent of the total

Table 3a. Distribution of Domestic Passengers by National and Private Carriers

S. No	Years	National Carriers		Private Carriers			Total Passengers in National and Private carriers	Passengers Kilometres performed	Available Seats Kilometres	Passenger load Factor (%)
		Departures	Passengers Carried	Departures	Passengers Carried	Share (%)				
1	2004--05	0.10	7.84	0.15	11.59	58.7	19.44	18030	27790	64.9
2	2005--06	0.12	7.76	0.21	17.44	68.2	25.20	23709	35077	67.6
3	2006--07	0.14	7.91	0.31	27.87	76.9	35.79	33519	48702	68.8
4	2007--08	0.11	8.16	0.40	36.21	80.7	44.38	41718	60590	68.9
5	2008--09	0.10	6.29	0.40	33.17	82.8	39.46	37704	59160	63.7
6	2009--10	0.11	7.61	0.40	37.73	83.2	45.33	43959	61091	72.0

Table 3b. Distribution of International Passengers by National and Private Carriers

S.No	Years	National Carriers		Private Carriers			Total Passengers in National and Private carriers	Passengers Kilometres performed	Available Seats Kilometres	Passenger load Factor (%)
		Departures	Passengers Carried	Departures	Passengers Carried	Share (%)				
1	2004--05	0.040	5.10	0.002	0.22	4.2	5.32	22272	31126	71.6
2	2005--06	0.043	5.44	0.005	0.62	10.2	6.54	27858	40452	68.9
3	2006--07	0.047	5.79	0.009	1.08	15.7	7.56	30355	44624	68.0
4	2007--08	0.047	5.72	0.014	1.81	24	9.10	36129	54465	66.3
5	2008--09	0.042	4.59	0.028	3.38	42.4	10.01	40740	62172	65.5
6	2009--10	0.043	7.14	0.032	4.47	38.5	11.61	45483	63988	71.1

air traffic and it has grown by nearly 30 per cent within a span of six years for both domestic and international carriers leading to congestion in the terminals, on the runways and in the air. However, the policy of liberalization has facilitated the adoption of different methods for effectively meeting the rapid changes in the aviation sector through privatization and the initiation of joint ventures which are found to be similar to [11] generic strategies.

Resurgence Strategies from Aviation Turbulence

The word ‘strategy’ is derived from Greek and carried the original meaning ‘general-ship’ which

Table 3c. Details of Domestic and International Passengers at Top 7 Airports along with other Operational Airports and its Share

S. No	Name of the City	Number of Passengers (In millions)							
		2005--06		2006--07		2008--09		2009--10	
		Domestic	International	Domestic	International	Domestic	International	Domestic	International
1	Mumbai	11.68	6.72	14.90	7.34	15.31	8.11	17.37	8.23
2	Delhi	10.46	5.76	13.79	6.65	15.07	7.76	17.81	8.31
3	Bengaluru	4.79	0.86	6.86	1.26	7.12	1.64	8.00	1.94
4	Chennai	4.17	2.60	6.07	2.89	6.17	3.66	6.67	3.86
5	Kolkata	3.66	0.74	5.18	0.80	5.98	1.00	6.85	1.18
6	Hyderabad	2.99	1.00	4.53	1.21	4.64	1.56	4.79	1.71
7	Kochi	0.73	1.15	1.13	1.42	1.34	2.00	1.65	2.22
	Total Passengers in Top 7 Airports	38.50	18.86	52.49	21.60	55.67	25.77	63.16	27.48
	Total Passengers in all Operational Airports in India(including top 7 airports)	50.98	22.36	70.61	25.75	77.29	31.58	89.36	34.36
	Share of contribution by top 7 Airports	75%	84%	74%	83%	72%	81%	70%	79%

is the ability of governing through the deployment of military force to achieve a particular goal. The term strategy is used initially by [12] to indicate the basic objectives of an enterprise in the industrial sector. Subsequently, Glueck proposed generic strategies comprising stability, expansion, retrenchment and combination aimed at achieving the objectives of a chosen business sector/enterprise. Later, [13] and [14] extended the concept and philosophy of strategy towards meeting the corporative objective. However, Azhar Kazmi [15] opined that strategy is a critical

input to the industry that commits a pre-determined course of action towards achieving its success by effectively dealing with the uncertainties that faces a corporation. Accordingly, the author carefully codified and analyzed various measures that have been taken by the aviation sector by classifying and comparing them with Glueck's generic strategies, and these have been presented in table 4.

It can be observed from table 4 that stability corresponds to various steps that are being taken by the national carrier in terms of increasing equity and providing loan support, along with several cost-cutting measures and voluntary leave without salary (VLS) for its employees, and these are detailed in the table along with concept and content of generic strategies. In addition, steps are also being taken by the national carrier to increase the non-commercial revenue from malls, book shops, and entertainment centres which is presently 25-30 per cent in India. Further the analysis as observed from the table reveals that the expansion strategy involved different aspects such as integration, diversification, and cooperation through mergers, acquisitions and joint ventures for both national and private carriers. The strategy of retrenchment is implemented in the aviation sector through different processes of disinvestment and Public Private Partnership (PPP) that are abbreviated as BOOT (Build, Operate, Own and Transfer), BOLT (Build, Operate, Lease and Transfer) and BOO (Build Operate and Own). The other components of generic strategies observed are either 'turnaround' for reversing the negative trend or 'liquidation' for winding up a business.

Consequently *foreign equity* through *FDI* and *FII* is used for modernization of infrastructure, upgradation of technologies, along with the development of green field airports. These are found to be accelerating the national *GDP* that grew by 9.7% during 2007 with encouragement of *AERA* and these have been codified and presented in Annexure 1 a and b for ready reference. The detailed nature and form of public private partnership companies along with their accompanying technological benefits to the Indian aviation sector are presented in table 5.

It can be observed from table 5 that infrastructure development is mainly contributed from major partners GMR and GVK, while the technology upgradation is observed in the terminal handling through CUSS and CUTE for navigation with AODB for operational database. Various other steps that are being taken following these policies with regard to aviation fuel and increasing the seat occupancy and other related aspects comprising policies, laws and regulation (including training and education) are discussed in the following paragraph.

It is observed from the earlier section that 50 per cent of the aviation fuel is being exported after refining the imported crude for which the duties are already paid at various stages. Therefore adoption of uniform sales tax policy by levying 4% under *declared goods* is a pragmatic way as opined by Federation of Indian Airlines (FIA). Since it is also found from the earlier analysis in the same section that average Passenger Load Factor (PLF) is coming out to be around 60 per cent though the private carriers have over 70 per cent. Therefore *cabotage* rights through appropriate bilateral agreements for allowing domestic passengers in the foreign carriers passing through the Indian destinations are needed. Further, in view of lower seat occupancy in the Indian carriers navigating in the North-Eastern regions of the country, mandatory Route Dispersal Guidelines [16] should be modified appropriately for *code sharing*. Along with these measures, steps are needed on the fiscal reforms for rationalization of various state and central levies which are much higher than the neighbouring countries. All these miscellaneous measures are analogous to combination strategy proposed by Glueck and intended for a business enterprise can be termed as a resurgence strategy in the public sector.

CONCLUSIONS

National aviation has a network of 60 operational airports along with seven metro airports for navigating to 92 destinations with a fleet size of 126. Following the deregulation policy, six private carriers have emerged which have three times the fleet size of the national carrier and cover 256 destinations. The analysis of the data on the crude oil imports in the post-liberalization era revealed that imports of crude oil have grown threefold in a short span of six years from 2004 to 2010. The consumption of aviation fuel has also increased during this period. It is observed that over 50 per cent of refined aviation fuel is exported by keeping the cap on refueling capacity of public sector units at 2.1 million barrels per day. Further it is found that the central taxes on import and excise duty are levied on the entire crude oil imports though only 50 per cent of the aviation fuel is consumed in the domestic sector. In addition state levies are found to be highly varied, ranging between 8 per cent to 30 per cent, including those such as Value Added Tax (VAT), sales tax and service tax along with other local taxes with the cumulative burden of 30 per cent on the aviation fuel price in the domestic market.

Corresponding to these periods, the passenger data revealed that the private carriers have over 70 per cent higher seat occupancy while the seating occupancy in the national carrier is declining. Further, it is interesting to note from the analysis of the passenger data that over 75 per cent of passenger traffic is concentrated and distributed over seven metro airports while all the other operational airports account for less than 25 per cent. It is also observed from the data that both national and private carriers have attained maximum seat occupancy of 70 per cent in all these years. The post-2000

Table 4: Successful Resurgence Strategies adopted in Indian Aviation

S. No	Steps for Resurgence Strategies	Details of the Various measures	Corresponding Content and the Concept of Glueck Strategies
1	**Stability:**		It is an incremental improvement in its function
	Increase in Equity	• Increasing the equity from Rs 145 crores to Rs 1500 crores	i. No change: No threat from competitors
	Providing the Loan	• Advancing the loan of Rs 1000 crore from Govt of India (2008)	ii. Pause/Proceed with Caution: For expansion
	Cost-Cutting measures	• At an estimated save of 850 crores for AI	iii. Profit : To get over temporary difficulty
	Non-Commercial Revenue	• For profit earnings through enhancement of the commercial revenue from malls, book shops, entertainment centers, which is presently 25--30% in India.	
2	**Expansion:**		Aims at high growth by broadening the scope through,
	Indian Airlines	• Indian Airlines went for vertical integration with Air India	i. Integration
			• Vertical: With a new addition within organization
	ModiLuft	• Spice Jet in 2005 horizontally integrated with ModiLuft	• Horizontal: when an organization taking up similar type of activity from elsewhere
			ii. Diversification
	InterGlobe Enterprise	• InterGlobe Enterprises is an integrated travel corporation spanning various domains: aviation management, domestic low-cost airline, hotel development	• Concentric: Taking up activities related to the business
			• Conglomerate: Taking up activities which are not related to the business
			iii. Cooperation
	Kingfisher	• Kingfisher Under the United Breweries Holdings limited, they are investing on Aviation, Fertilizers, Beverage Alcohol	• Merger: For expanding the operations
			• Acquisition: Takeover or buying one company by another
			• Joint Venture
			An entity formed for an economic activity by two or more parties
	Kingfisher Red	• Deccan airlines merged with Kingfisher and renamed as Kingfisher Red	
	Jet and Air Sahara	• Jet Airways acquiring Air Sahara for Rs. 400 crores by renaming as Jetlite in 2007	
	Delhi International Airport Limited	• Delhi International Airport Limited: GMR, Pan-India with International Presence(Fraport and Malaysian Airport Holdings) and AAI	

Annexure 1a. Eligibility Criteria, Cap and Entry Route of FDI

S.No	FDI Cap/Equity and Entry Route	Eligibility Criteria	Details
1	No cap, up to 100% is allowed and the entry route is automatic	• New Projects	Greenfield airports like Benguluru and Hyderabad have been completed with private sector participation.
		• Maintenance and repair organisations • Flying training institutes and • Technical training institutes	Rajiv Gandhi National Flying Institute at Gondia has been started by AAI & CAE Global Academy.
		• Scheduled Air Transport Service/ Domestic Scheduled Transport Services	Market share of Private airlines in the domestic traffic during 2009 reached 80%.
		• Helicopter Services/Sea Plane services requiring DGCA approval	Pawan Hans Helicopters Ltd. (PHHL) was incorporated in 1985 with78.5% shareholding of the Government of India and 21.5% of Oil and Natural Gas Corporation (ONGC).
2	• Automatic up to 74%. • Beyond 74% with special permission from Ministry of Finance • However, 100% for NRIs	• Ongoing Projects	The existing International airports in Delhi and Mumbai through major private sector, participation of GMR and GVK Joint Ventures (JV).
3	• Automatic up to 49%. • Government route beyond 49% and up to 74% • However, 100% for NRIs	• Non-scheduled Air Transport Service/ Non-scheduled airlines, Chartered airlines, and Cargo airlines	Deccan Charters started daily air service between Kolkata, Jamshedpur and Cooch Behar from 2009
		• Ground handling services are subject to sectoral regulations and security clearance	Globe Ground India and Air India / Singapore Air Terminal Services (SATS) are providing ground handling services at Benguluru

Annexure 1b. FDI, Share of Air Transport in FDI, FII and National GDP for the years

S. No	Year	FDI (million rupees)	Share of Air transport in FDI (million rupees)	FII (million dollars)	National GDP (%)
1	2005	356874	1788	8686	9.3
2	2006	503856	2236	9926	9.7
3	2007	797355	4359	3225	9.1
4	2008	1397687	2095	20328	7.3
5	2009	1309820	848	15017	5.9

Table 5. Top Seven International Airports in India with Constituting Partners, Nature of Partnership and Handling Company

S. No	City and Name of the Airport	Nature of Partnership and Activity	Partnership Company and year of establishment	Advancements of Airport Infrastructure
1	Mumbai Chatrapati Shivaji International Airport	Upgradation of the infrastructure, BOOT with GMR	Mumbai International Airport Limited 2006	. Operating both CUSS (Common Use Self Service) kiosks . CUTE (Common Use Terminal Equipment) check-in systems.
2	Delhi Indira Gandhi International Airport	Restructuring and Modernisation , BOOT with GVK	Delhi International Airport Limited 2006	. New biometric airport security technologies associated with the Smart cards' operation.
3	Benguluru Benguluru International Airport	Newly Constructed, BOOT with GVK	Benguluru International Airport Limited, 2008	. 82 aircraft stands each attached with a fuelling pit which is first of its kind. . CUTE Check in system . Check-in counters: 117 and Self check 66.
4	Chennai Annadurai International Airport	Modernisation and Expansion BOLT with AAI	Airport Authority of India (AAI), 2008	. New passenger terminal buildings, parallel runway, taxiways, aprons. . Infrastructure Design: Gensler and Frederic Schwartz Architects for passengers' terminal buildings, parking garage structures and access roadway access system. . Landscape: George Hargreaves Associates
5	Kolkata Netaji Subash Chandra Bose International Airport	Modernisation and Lengthening runways, AAI BOLT with AAI	Airport Authority of India (AAI), 2009	. Lengthening of the runways by AAI. . New integrated cargo terminal: Automatic Storage & Retrieval System first of its kind.
6	Hyderabad Rajiv Gandhi International Airport	Newly Constructed, BOOT with GMR	Hyderabad International Airport Limited , 2008	. Airport Operational Database (AODB) technology first of its kind. CUTE Check in systems and CUSS kiosks.
7	chi Nedumbassery Airport	Newly Constructed, BOO with BOO	Cochin International Airport Limited 2005	. Over 80 open workstations for connecting Airport for check-in, boarding, load control and baggage areas. . Air transport IT specialist SITA is providing automation of the passenger check-in process and passenger bag reconciliation

witnessed a profound effect on modernization and up-gradation of airports, air transport services and non-air transport services through the process

of privatization. Private public participation is found in three slabs with varying percentages from 49 per cent, 74 per cent, and 100 per cent. Consequent to this there is steep rise in FDI and FII which have grown fourfold in a short span of five years reaching from Rs. 356,874 million in 2005 to Rs. 1,309,820 million in 2009.

Various measures that are being taken by the Indian aviation sector such as increasing equity, advancing loans, cost-cutting exercises and non-commercial revenue are found to be similar to the stability strategy. Further merger, acquisition of both private and national carriers and promoting joint ventures through private participation for infrastructure development and closure of private carriers correspond to expansion and retrenchment strategies advocated by Glueck. In addition, other miscellaneous steps that are need are levy of uniform tax of 4 per cent on Aviation Turbine Fuel (ATF) bringing it under the Declared Goods category; tax incentives for the carriers operating in difficult terrain, and modifying code sharing along with bilateral treaties that are the similar to the combination strategy intended for business can be extended to the public sector which has given rise to the concept of resurgence strategies.

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Definition of Terms

• Jehangir Ratanji Dadabhoy Tata was a pioneer aviator and important businessman of India.
• OPEC nations comprise Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
• Value Added Tax (VAT) is the form of collecting sales tax under which tax is collected in each stage on the value added of the goods. However it differs from the sales tax in that, where the tax is collected, at the point of purchase by the end consumer.
• Passenger Load Factor (PLF) is a measure of the amount of utilization of the total available capacity of a transport vehicle. It is useful for calculating the average occupancy on various routes of airlines, railways and buses.
• Passenger travelled per kilometres is calculated by dividing total distance travelled in kilometres in a given period, by the number of passengers and used by transport companies for calculating profit levels etc.
• Foreign Equity is the portion of a domestic securities market that includes shares issued by foreign companies.
• Foreign Direct Investment (FDI) refers to long term participation by country A into country B. It usually involves participation in management, joint-venture, transfer of technology and expertise.
• Foreign Institutional Investor (FII) is an investor or investment fund that is from or registered in a country outside of the one in which it is currently investing.
• Gross Domestic Product (GDP) is the total market value of all final goods and services produced in a country in a given year, equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports.
• Airports Economic Regulatory Authority (AERA) is responsible for encouraging these investments in regulating tariffs of aeronautical services and further protecting economic and viable airports that are being established.
• Declared Goods, goods of special importance such as rice and other food grains, coal, cotton, iron and steel and LPG where states governments are empowered to levy tax.
• Cabotage is the right to operate a vessel or an aircraft is registered within the domestic border in one country for operating in another country.
• Code sharing is a multiple airlines selling space on the same flights, where a seat can be purchased on one airline but is actually operated by a cooperating airline under a different flight number or code.

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