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# AN INVESTIGATION INTO THE CORE UNDERLYING PROBLEMS OF INDIA'S AIRLINES

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## Abstract

India's aviation industry promises huge growth potential due to a large and growing middle class population, favourable demographics, rapid economic growth, higher disposable incomes, and overall low air transport penetration levels of less than 3%. However, the Indian Airline Industry has been going through a turbulent phase over the past several years, facing multiple and prolonged difficulties through which carriers are continuously underperforming financially. After conducting a set of expert interviews backed by a statistical analysis of secondary data, this paper concludes that restrictions on foreign ownership, outdated regulatory policies and overtaxed fuel, overlain by industry wide overcapacity issues are the major contributing factors.

Key words: Indian carriers, air transport regulation, overcapacity, aviation turbine fuel

## Highlights

- This paper examines the causes of poor performance among India's incumbent carriers.
- Expert views were triangulated with reliable secondary data analysis.
- The primary causes are determined and possible solutions discussed.

## **1.0 India – an economic powerhouse integrated with an enormous economically active population**

India is a vast country, with a land frontier of 15,200 km and a coastline of 7500km, and is home to one-sixth of the world's population. Recently, it has been in the midst of an economic transformation - its nominal GDP surged to \$1.7 trillion by 2010, up by 250% over ten years. Forecasts to 2015 reveal that India's GDP will increase by 120% to \$3.7 trillion (IHS Global Insight, 2011). British banking incumbent, Standard Chartered's research predicted that India will become the world's third largest economy by 2030, behind China and the US (The Economic Times, 2010). Doganis (2010) argues that generally the demand for air travel is directly correlated to GDP by an elasticity of around 1.5 (i.e. a 4% increase in GDP, for example, is associated with a 6% increase in traffic). Therefore, the scope for India's growth in air transport is far reaching, as the country's strong GDP growth could trigger a high demand for air travel. The future of India's air travel looks bright, as total consumer expenditure (of Indian nationals) is estimated to be almost 15 times more than it was two decades ago (Euromonitor International, 2009).

Until the early 1990s, India was a relatively closed economy. Average import-weighted tariffs exceeded 80%, while more than 90% of tradable goods were protected by quantitative restrictions on imports, and foreign investment was subject to strict limitations (Chadha et al., 2003). A study of India's aviation market by O'Connell and Williams (2006) discovered the same situation, finding that overall air transport enterprise had remained stagnant over many decades. Deep-rooted bureaucratic policies constrained any development and the state monopolised all aviation decisions. However, by the early 1990s, the country embarked on a series of major trade reforms, progressively cutting tariff-and non-tariff barriers, phasing out quantitative restrictions, and easing limitations on the entry of foreign investment through a liberalised policy framework that spanned the whole economy. India's government also initiated new aviation reforms that would provide a road map for a new aviation policy known as the 'Naresh Chandra', the aim of which was to deliver fast track reforms. Even though India

today can still be considered a heavily protected economy on many levels, progressive liberalisation has produced remarkable results. The country's recent openness has tripled international trade since the late 1980s, and its economy has been expanding at an astounding pace, second only to China who embarked on reforms earlier (World Bank, 2008). Marelli et al (2011) use a measure of 'Openness' (sum of exports and imports divided by total GDP) to demonstrate the earlier and then later gains made by both China and India respectively in trade liberalisation with China's degree of openness rising from around 14% to 60% since 1980 while India's openness grew from around 12%-40% over the same period with the largest gains being observed more recently.

India is the world's second most populous nation in the world, registering over 1.2 billion inhabitants in 2010, which represents about 17.3% of the total world population. Its population has increased by 181 million during the decade 2001-2011, which is slightly lower than the population of Brazil - the fifth most populous in the world (Census of India, 2011). According to a report by India's Defence and Security (2010), the country's dependent population<sup>1</sup> is decreasing and the percent of total active population<sup>2</sup> is increasing. Table 1 gives a snapshot of India's demographic indicators from 1995 to 2030. It shows that over 64% of India's population was of working age<sup>3</sup> in 2010, which is the highest in the world, and by 2030, it is set to mature further to almost 70%, which gives it an edge over other developing and developed nations. Meanwhile, the Airbus Global Market Forecast (2011) speculated that around 40% of the Indian population will live in cities by 2030, up considerably from the 28% that do so today. Indeed, the country's massive workforce is seen as one of its greatest resources and could positively trigger a socio-economic boom<sup>4</sup> for India, which will positively impact the air transport industry.

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<sup>1</sup> Total population within age groups of 0-14 and older than 65 years of age

<sup>2</sup> Total population between age group 14-64

<sup>3</sup> India had a median age of 25.3 years in 2010.

<sup>4</sup> The growth of the middle class and the economic growth of India are in a virtuous cycle. Rising incomes lead to more consumption, which in turn leads to higher economic growth, then more employment opportunities and subsequently higher wages and the circle starts again.

A McKinsey Global Institute (2007) study, using National Council of Applied Economic Research, indicated that India's middle class reached more than 50 million in 2005 and estimated that this segment will grow ten-fold by 2025 (McKinsey Global Institute, 2007; Deutsche Bank, 2010; U.S Department of State, 2010). It is this segment of the population that will use air travel extensively, as witnessed in South East Asia where the citizens earn similar incomes. In addition, data by Euromonitor (2011) illustrate that household disposable income in India grew at an average rate of 13% during 2000 to 2010 - but average household disposable income remains low overall, at just \$5,386 in 2010, which is 2.7 times more than in 2000. However, as the Indian household income increased, the inequality in the country's population increased. According to statistics provided by Euromonitor, Gini Index for India, the higher income segments are rising relatively faster than the lower ones, without increasing the poverty of the country.

**Table 1: India's Demographic Indicators**

	1995	2000	2005	2010	2020E	2030E
Youth Population, % of total (A)	36.7	35	31.6	29.7	26.7	22.8
Pensionable Population, % of total (B)	4.0	4.3	5.1	5.3	6.7	8.8
Dependent population, % of total (A+B)	40.7	39.3	36.8	35.0	33.4	31.7
Economically active population, % of total	59.3	60.7	63.1	64.3	66.5	68.3

Source: India Defence and Security Report, Q2 2010

Analysis from Airbus Global Market Forecast (2011) indicates that Indian citizens currently make an average of just 0.1 air trips per year compared with 2.2 times in the U.S., and it is very apparent that there exists an enormous potential for air travel in India, as consumers begin switching some of their discretionary income to this area either as new travellers or as travellers previously limited to using the slower, more highly congested rail network.

## **2.0 An introduction to the Indian air transport industry and an insight into the core underlying difficulties that are hindering its financial performance**

The Indian air transport market is currently one of the fastest growing markets in the world. After nationalisation in 1953, the air transport industry experienced a monopoly by the national carriers until the early 1990s. Increasing pressure for market liberalisation, coupled with the inefficiency of the state-owned carriers led to the repeal of the 1953 Air Corporations Act by the early 1990s. In 1992, the government took the first step to open up the domestic market by allowing private carriers to operate domestic flights. However, these start-up carriers had to comply with strict traffic allocation rules and were legislated to operate for 5 years in the domestic market before being allowed to serve the international destinations. Since most of the start-ups began operations almost at the same time, it was difficult for them to outperform each other financially and breakeven, as they

were competing head-to-head with each other on almost all routes. Subsequently, the Indian market underwent three major consolidations. The first was the acquisition of Air Sahara by Jet Airways in the year 2006, and the rebranding of the former as JetLite. The merger between Air India and Indian Airlines took place in the year 2007, and the NACIL (National Aviation Company of India Limited) was formed. This was immediately followed by the acquisition of Air Deccan by Kingfisher in April 2007. Two further carriers dissolved with MDLR (in 2009) and Paramount (in 2010), which resulted in seven airlines serving the Indian domestic market<sup>5</sup> by late 2011. On the international front, Indian carriers face stiff competition from some of the bigger global carriers - namely Emirates, Qatar Airways, Etihad Airways, British Airways, Lufthansa and Singapore Airlines - who have all successfully expanded in the Indian market, offering onward connections via their respective hubs to destinations in US, Europe, Asia, the Middle East and to Africa, which are all important markets that are currently underserved by the local Indian carriers. Analysis from Innovata data for 2011 indicates that the domiciled carriers only transport one-third of India's international traffic – forty per cent of all international traffic from India is Middle-East bound, and Emirates has positioned itself as the largest international carrier operating to/from India, with 185 flights per week, and had captured a 20% share of India's total outbound traffic by 2011. However, almost all of the home carriers have been financially underperforming over the last few years, and this is becoming an inherent long term challenge that is deep rooted within the Indian aviation landscape. Table 2 details the financial performance of the main home based carriers in India. All carriers, apart from non-publicly listed IndiGo, have accumulated losses over the six year period ending in the year 2011.

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<sup>5</sup> The seven airlines that operate in India's domestic market (with market share) in December 2011 were: Jet Airways (20.5%); IndiGo (20.4%); India (17.4%); SpiceJet (16.8%); Kingfisher (12.1%); JetLite(7.1%); Go Air (5.7%). Source: Innovata schedule analysis databank.

**Table 2: Recent financial performance of India's home carriers**

Net result (US\$mn)						
Carrier/Year	2011	2010	2009	2008	2007	2006
Air India	(1,786.4)	(1,250.5)	(1,173.7)	(1,193.4)	(554.8)	(99.1)
IndiGo	143.5	110.6	116.3	17.7	(55.9)	(44.7)
Jet Airways	1.9	(93.9)	(80.7)	(50.8)	5.6	90.7
SpiceJet	20.3	12.3	(70.7)	(26.7)	(13.5)	(11.5)
Kingfisher Airl.	(206.2)	(225.6)	(348.2)	(346.1)	(46.9)	(101.7)
JetLite	UA	(23.5)	10.0	(135.6)	(110.0)	(152.6)
GoAir	UA	UA	UA	UA	(43.6)	(52.5)
Kingfisher Red	N/A	UA	UA	UA	(95.4)	(76.0)

Sources: Air Transport Intelligence (2011), CNBC (2012)

Note: N/A = Not application, UA = Data not available

Despite the underperforming nature of the Indian Airline industry<sup>6</sup>, air traffic has witnessed unprecedented growth. This was primarily due to a combination of a more prosperous economy that was evermore diverging from its agricultural base, a growing middle class and a slowly liberalising aviation market, together with the growth and entrance of private full service and low-cost airlines. Statistics from the Indian Ministry of Civilian Aviation show that domestic passenger traffic carried by Indian carriers has almost tripled from 18.2 million in 2003, to 51.8 million by 2011, while international traffic grew to reach over 11 million passengers. The Airbus General Market Forecast (2011) predicts that demand for air traffic in India's domestic market, as measured by Revenue Passenger Kilometres (RPKs), will grow six-fold over the next 20 years – registering 9.8% growth per annum till 2030, which is the highest growth rate for any market worldwide, followed by China with 7.2% growth per annum. Airbus and Boeing both agree that the country is one of their fastest-growing markets, generating demand for more than 1,000 aircraft in the next 20 years. Research by the Indian government through its Economic Survey of 2011-2012 forecasted that around 420 million passengers will be handled by the Indian airport system by 2020 (India Infoline, 2011). Fuelled by India's

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<sup>6</sup> By comparison, the Global Airline Sector made net profits in the years 2006, 2007, 2010 and 2011 of the observed period and net losses only in the years 2008 and 2009 (FAA Aerospace Forecast, 2012). Table 2 shows Indian carriers incurred an average net loss in all of the observed years in the period 2006-2011.



booming economy<sup>7</sup>, demand for dedicated air freight services, as well as belly cargo (freight carried in aircraft holds on scheduled passenger services) has increased significantly in recent years. The Airports Authority of India (AAI) forecasts the growth of international and domestic cargo to be handled by Indian airports at 15% through to 2012-13, with more long-term growth of around 12% (Aviation Outlook, 2011).

However, despite such strong growth figures, all the mainline Indian carriers have recorded huge systemic losses over recent years (with the exception of IndiGo). Cumulative losses for the period between 2006 and 2011 amounted to around \$6.7 billion, as shown in Table 2, while losses for 2011-12 are estimated to be more than \$2 billion, and while the total debt load of Indian based carriers has escalated to \$20 billion (Reuters, 2012; Govindasamy, July 2012). These endemic losses are the result of deep rooted problems within the Indian aviation system. This paper seeks to uncover these issues with the help of a number of interviews, which were overlain by a necessary content analysis of the literature for the purposes of triangulation. Data from aviation databases such as OAG and PaxIS were analysed in order to detect patterns. The delegates that participated in the interview were Professor Rigas Doganis; IATA's Giovanni Bisignani; Vice Presidents at Air India; Vice Presidents at Jet Airways; Vice Presidents at Kingfisher; Senior managers at SpiceJet; Senior managers at IndiGo; and Senior managers at the Director General of Civil Aviation (DGCA), who all wished to remain anonymous. These interviews were conducted onsite during the summers of 2010 and 2011.

Three core underlying difficulties were uncovered in the research, and these were: Government regulations and policies; taxation policies on aviation fuel; and overcapacity in the domestic market - each of which will be assessed in detail.

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<sup>7</sup> India's software industry is revolutionising the economy. In 2010, the sector grew by 19%, generating \$76 billion in revenues and is forecast to generate \$225 billion by 2020. A report entitled IT-BPO Sector in India: Strategic Review 2011 published by the National Association of Software Services Companies stated that the IT industry contributes 26% to total Indian exports. Other high-tech industries such as Biotechnology and Pharmaceuticals are also growing at double digit rates collectively producing revenues worth \$16 billion in 2010 (Nasscom, 2011).

### **3.0 Reasons behind recent poor performance of India's home carriers**

#### **3.1 Government regulations and policies**

Although the Indian market witnessed two phases of liberalisation, past literature on the Indian airline industry and expert opinions from the interviews reveal the fact that the market is still partially regulated by some odd policies. According to the interview respondents, these odd policies have a negative impact on the carriers serving the market, and it needs further liberalisation in order to facilitate the strong growth predictions that lie ahead. This requires the government to reconsider certain restrictive policies such as its Ownership and Control policy in the civil aviation sector, its Taxation policy, and a proper and standardised framework for bilateral Air Service Agreements.

The Indian government allows only 49% equity participation in the Indian carriers as Foreign Direct Investment by non-airline entities. The most important constraint of this policy is that foreign carriers are not allowed to hold any equity capitalisation in India's airlines unless owned by Indian non-nationals, in which case 100% of India's home carriers could be bought. By contrast international ownership restrictions range from 25% in the US to 49% in the European Union though this time without such a nationality clause preventing foreign investment. The need for lifting this restriction arose as Indian carriers were struggling with mounting losses year after year (see Table 2), while they also faced a liquidity crunch coupled with mounting debts. With a wide scope for growth and development in the market, the players found themselves short of cash flows, which is an essential ingredient for longevity and growth in an airline's asset base. The lifting of this restrictive policy may lure investments from major carriers like Emirates<sup>8</sup>, Singapore Airlines, Lufthansa and British Airways. The interviewee respondents unanimously believed that the principal reason why foreign carriers would invest in their Indian

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<sup>8</sup> Emirates for example has indicated that it may consider investing in an Indian carrier, but only if it gets management control (Chowdhury, 2012). The Indian Civil Aviation Ministry is currently debating the proposal of allowing up to 49% equity investment by foreign carriers in domestic airlines in Parliament (Civil Aviation Policy, 2012, page 39).

counterparts is primarily due to their ability to feed domestic traffic to a hub airport, which is channelled from their extensive domestic route network where this traffic is collected and redistributed globally by the partner who operates primarily on the principle of sixth freedom traffic rights.

The 2010/11 Indian Fiscal budget increased the service tax to 12.3% of the gross value of the ticket – this was previously applied only on business and first class international services, but this has now been extended to all classes of travel as well as to domestic services (Indian Ministry of Finance, 2010). All the Indian carriers, the Ministry of Civil Aviation (India), the Central Board of Excise and Customs, and IATA have raised their dissatisfaction at the implementation of this service tax and described it as unacceptable and counter-productive.

Another important issue for the carriers is that of the Bilateral Air Service Agreements<sup>9</sup> (ASA's) signed by the Indian government. According to the Indian Ministry of Civil Aviation (2010), India has entered bilateral agreements (ASAs) with 103 countries. As of 1st April 2010, 72 foreign airlines operated to/from various destinations in India, providing 1,356 services per week and 326,705 seats per week, while the home carriers were only able to provide around 60% of this capacity, and operationally they were underperforming. According to DGCA (2009), total international traffic to/from India in 2008-09 grew by 6% from the previous year to 29 million passengers. When domestic traffic witnessed a decline in 2008-09, due to high fuel prices and the economic slowdown, international traffic continued to experience growth. On account of market liberalisation in 2004, India relaxed its regulations on international services by allowing multiple designations (more than one airline) of Indian carriers within its Air Service Agreements<sup>10</sup> (ASA's), which paved the way for private airlines to operate international

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<sup>9</sup> An ASA is setup within the framework of the Chicago Convention, which stipulates that two nations who seek to be linked by a commercial air service would negotiate the terms which outlines the privileges granted by either signatory country to the airline or airlines of the other country.

services alongside Air India, the state-owned international carrier, which in turn triggered foreign countries to operate multiple designation due to reciprocity of bilaterals. One of the important issues identified by the interview respondents was that most of the ASAs to which India is a signatory remain restrictive in nature, as many have limits on: capacity; airport exclusivity; the number of airlines allowed to operate; and pricing. Table 3 summarises the key characteristics of the ASAs governing the top five international Origin/Destination markets to/from India.

**Table 3: Summary of the Key Characteristics of ASAs governing the top five International O/D Markets to/from India**

No.	Country	Authorised Points	Capacity	Pricing	Airline Designation
1	UAE	Any	Limited	Single Disapproval	Multiple
2	UK	Any	Limited	Free pricing	Multiple
3	US	Any	No Limitations	Double Disapproval	Multiple
4	Saudi Arabia	Prescribed	Limited	Single Disapproval	Single
5	Singapore	Prescribed	Limited	Single Disapproval	Multiple

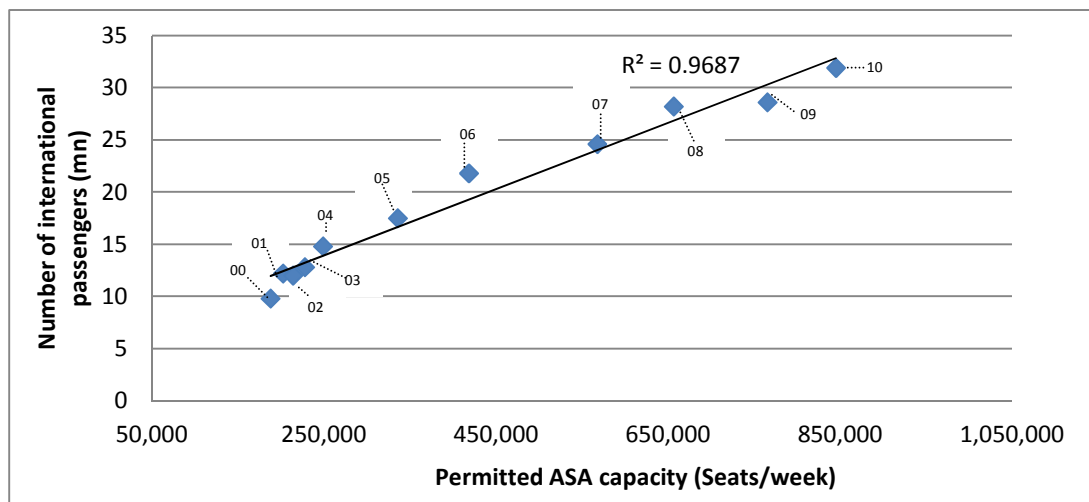
Source: Compiled from DGCA, 2009

Of the top five O/D markets outlined in Table 3, only the United States has a free and open policy with India, because of their open skies agreement that was enacted in 2005. This implies that there are no limitations with regard to the number of seats being supplied, the number of frequencies, or to the number of cities that US or Indian carriers can serve, while the double disapproval pricing procedure only applies when fares can only be blocked when both governments reject it. Upon analysing the top 20 O/D international markets to/from India, which account for over 80% of the total international traffic of the country, it was detected that 16 had ASAs that restricted the number of

points airlines can fly to (authorised points), 19 had restrictions on capacity (number of seats) and most of the ASAs placed restrictions on pricing (Single disapproval).

Overall, liberalisation that was applied to the International market has produced increased traffic, as India's domiciled carriers increased their footprint to overseas destinations, while foreign airlines also took advantage of the loosening regulatory environment that had evolved as a result of the second phase of liberalisation which occurred in 2003/04. Figure 2 shows the strong correlation between the Air Service Agreement (ASA) permitted capacity and the number of international passengers over the 11 year period 2000 – 2010. It illustrates that lifting some limitations on capacity for both home and foreign carriers has mirrored increases in traffic numbers after the year 2004, where large increases in the number of permitted seats per week coincided with significant increases in annual number of international passenger uplifted. However, traffic increases before 2004 were more modest, in line with more marginal increases in permitted capacity (giving a total Coefficient of Determination  $R^2$  of 0.97).

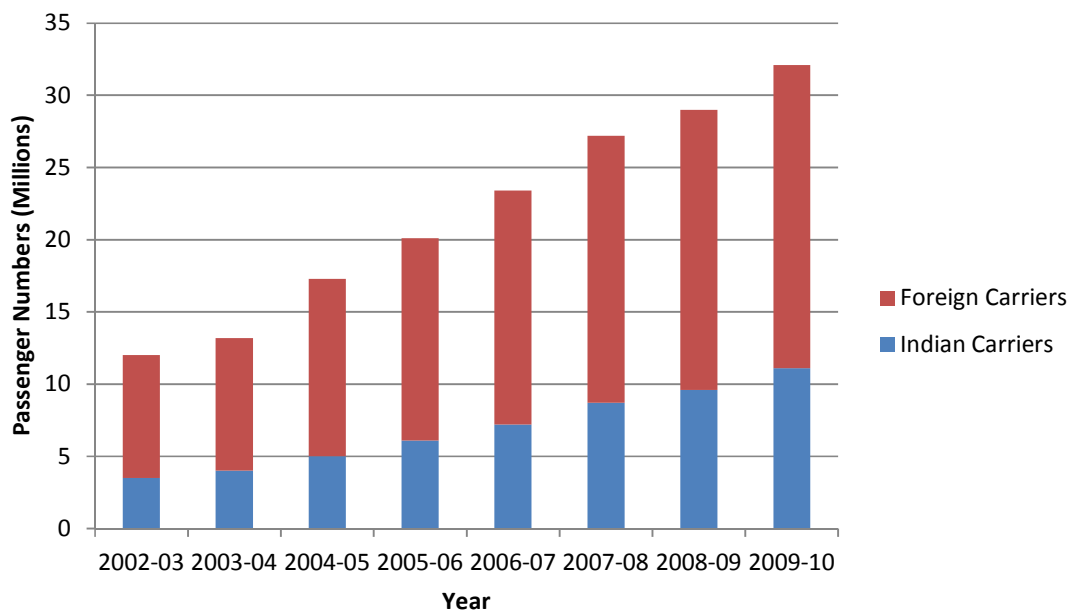
**Figure 2: Relationship between permitted international capacity (ASA) and traffic (2000-2010)**



Source: Compiled from ICAO (2010) and DGCA (2011)

If the results shown in Figure 2 are taken together with the breakdown of international traffic between home and foreign carriers, as shown in Figure 3, it becomes clear that foreign carriers such as Emirates and Qatar Airways were able to take advantage of the more liberal environment at a much faster pace than home carriers such as Air India, Jet Airways and Indian Airways. The revenue per passenger carried on international routes to/from India are 2.5 to 3.0 times the revenue per passenger carried on domestic routes, and foreign airlines are carving out sizable profits, with the domestic carriers left with price conscious no-frills passenger traffic, less viable routes and hence saddled with high operating losses.

**Figure 3: Passengers carried by Indian and Foreign Airlines to/from India (2002/03-2009/10)**



Source: DGCA (2011)

If permitted capacity and traffic data are disaggregated into liberal and non-liberal bilateral ASA sub-groups, two contrasting outcomes predominate. A study of 20 international country pairs during 2005-2010 involving India was conducted in order to assess the traffic growth in each sub-group, and Table 4 shows that when markets were

kept restrictive or partially liberal in terms of seat capacity, traffic grew at around 75%. In this environment, foreign carriers found it difficult to gain market share when operating to India – for example, in the Saudi Arabia to India country pair, Saudi Arabian Airlines lost traction as it had 49% market share in 2003, but by 2011 it had reduced to 44%, while the overall traffic increased by 80%, as shown in Figure 4a, which significantly favoured Indian carriers. Similarly, in the restricted India to Nepal market, the Indian carrier share of total traffic grew at a time when total traffic grew more modestly (by just 11% respectively), as shown in Figure 4b. Conversely, in markets where most or all of the capacity restrictions were lifted, the strongest traffic growth can be observed, but a higher proportion of the total market share was provided by foreign carriers such as the India to UAE country pair, as shown in Figure 4c. The 19% reduction in the Indian carrier market share coincided with a period in which traffic grew by 108%, suggesting that the increased number of foreign carrier services has had a stimulatory effect after the lifting of India-UAE bilateral restrictions in 2004.

**Table 4: Average passenger traffic growth across 20 international country-pair markets involving India**

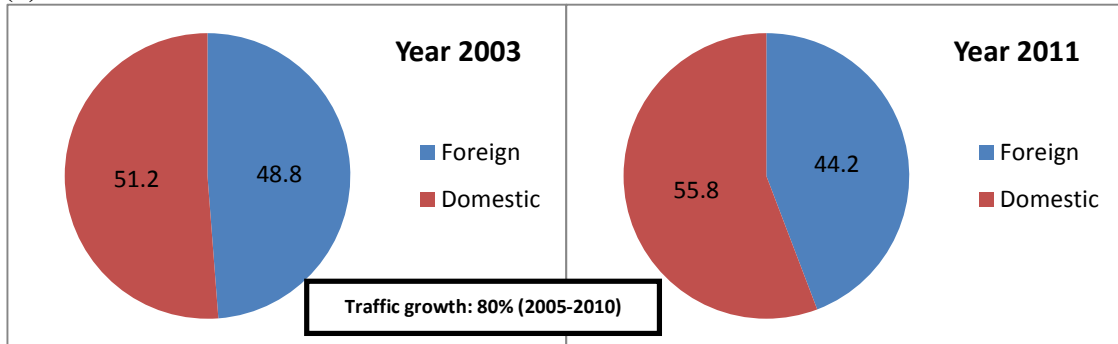
<b>Regulatory status 2005-2010</b>	<b>Average % growth</b>	<b>Standard Deviation % growth</b>
<b>Restrictive or partially liberal</b>	<b>75</b>	<b>57</b>
<b>Liberal</b>	<b>112</b>	<b>50</b>

**Restrictive or partially liberal country-pairs with India:** Saudi Arabia, Singapore, Thailand, Oman, Kuwait, Malaysia, Sri-Lanka, Germany, Qatar, Canada, France, Bahrain, Bangladesh, Hong Kong, Italy, Spain

**Liberal country-pairs with India:** USA, UAE, UK, Australia

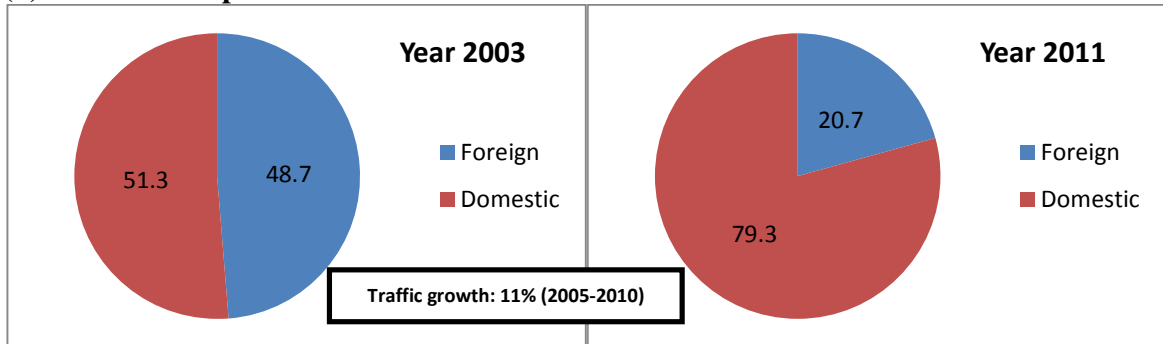
**Figures 4: (a), (b) and (c) Change in market share (2003-11) and traffic numbers (2005-10) on selected Indian international country-pairs**

**(a) India and Saudi Arabia – Restrictive status**



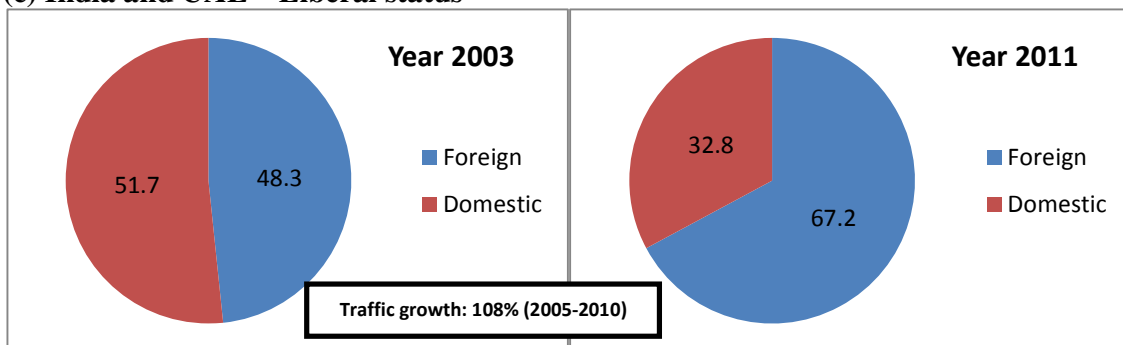
Sources: OAG back (2011) and PaxIS (2010)

**(b) India and Nepal – Restrictive status**



Sources: OAG back (2011) and PaxIS (2010)

**(c) India and UAE – Liberal status**



Sources: OAG back (2011) and PaxIS (2010)



These results imply an interesting trade-off for policy-makers. If capacity restrictions within India's ASA's are removed, international traffic is generally stimulated - but at the same time, home carriers lose out in terms of market presence, and a growing number of passengers switch to providers with the more attractive widespread route networks and frequencies. In contrast, market position for home carriers can be maintained in markets with more capacity restrictions, but a lack of ownership rights coupled with limited incentives to increase productivity, together with a laissez-faire environment to set one's own fares, will negatively impact the number of passengers uplifted and can derail business/tourism investments.

Thus two permutations exist: firstly, capacity restrictions can continue to be relaxed in these restricted country-pairs, but Indian incumbents must become much more competitive and react more quickly to market conditions - which to date has not occurred and is unlikely to occur in the near future; secondly, capacity restrictions can remain in place so that this will give the home carriers more time to make internal changes to ramp up productivity, efficiencies, competitiveness and brand development, and time to lobby the Government to make infrastructural changes to the countries airports<sup>11</sup>, navigational systems and regulatory landscape – with the interviewees strongly favouring the latter approach.

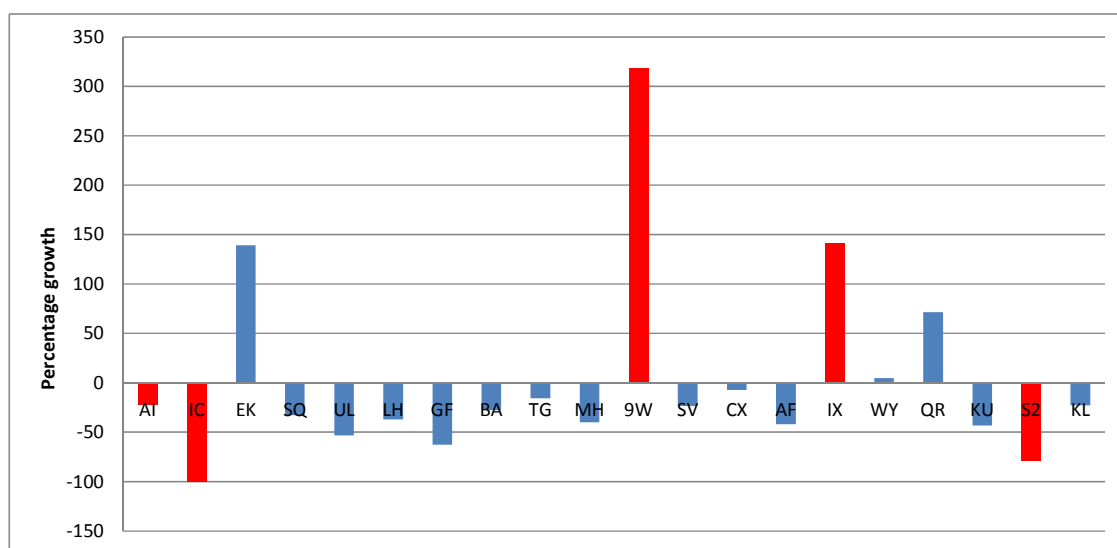
The overall picture in terms of growth since the 2004 round of policy reforms shows that both (private and national) home and foreign carriers (with the exception of the Gulf based carriers) have ultimately lost out in terms of market presence to the increasingly encroaching and competitive Emirates and Qatar Airways and Etihad Airways trio (averaging 87% growth over 2005 – 2011), despite some early successes by the privately owned and foreign carriers vying to take advantage of the newly granted traffic rights (e.g. Kingfisher, Lufthansa and Singapore Airlines). The only exception to this is Jet

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<sup>11</sup> The Airport Economic Regulatory Authority has authorised that landing charges at Delhi airport will increase by 340% in 2012, which will make it the most expensive airport for international long haul travel among 26 of the world's major airports (Govindasamy and Toh, 2012).

Airways<sup>12</sup>, who has been able to sustain its expansion into international markets with its overall international presence growing by over 300% from 2005 to 2011, as shown in Figure 5. However, for four of the seven observed years in this period, Jet Airways operated at an overall loss (see Table 2), suggesting that the concurrent downward pressure on yields (US\$0.08-0.06 cents per RPK) does not compensate for the cost of supplying that additional capacity.

**Figure 5: Growth of top 20 carriers of International traffic from 2005 to 2011**



Source: IATA PaxIS

Note: Airline Codes: AI - Air India, IC - Indian Airlines, EK - Emirates, SQ - Singapore Airlines, UL - SriLankan Airlines, LH - Lufthansa, GF - Gulf Air, BA - British Airways, TG - Thai Airways, MH - Malaysia Airlines, 9W - Jet Airways; SV - Saudi Arabian Airlines; CX - Cathay Pacific; AF - Air France; IX - Air India Express; WY - Oman Air; QR - Qatar Airways; KU - Kuwait Airways; S2 - JetKconnect; KL - KLM

<sup>12</sup> Over two-thirds of the Jet Airways capacity is now generated by international operations, aided by the airline's 'scissor' hub in Brussels with daily flights arriving from India (Chennai, Delhi and Mumbai) and flying across the Atlantic to Newark, New York JFK and Toronto. All routes are operated with 226-seat A330s which are all scheduled to arrive in Brussels at 07:50 in the morning. All six aircraft then depart at just after 10:00 allowing a good two hours for connections between flights to be made. Jet Airways is one of the world's only carriers that operate this type of hub activity, and this unique strategy is strongly contributing to its exponential growth profile.

### 3.2 Taxation policy on aviation fuel

Fuel is the largest single cost item for the global airline industry, and in 2010, it represented 26% of an airline's operating cost – globally, the fuel expense for carriers has increased five fold since 2003 (IATA, 2012). However, the cost of fuel in India is one of the biggest burdens for home carriers, as it constitutes around 45% to 50% of the total operational costs for carriers, which is well in excess of the global average - the cost of fuel in India is around 50-70% higher than the average international benchmarks<sup>13</sup> (Federation of Indian Chambers of Commerce and Industry, 2009).

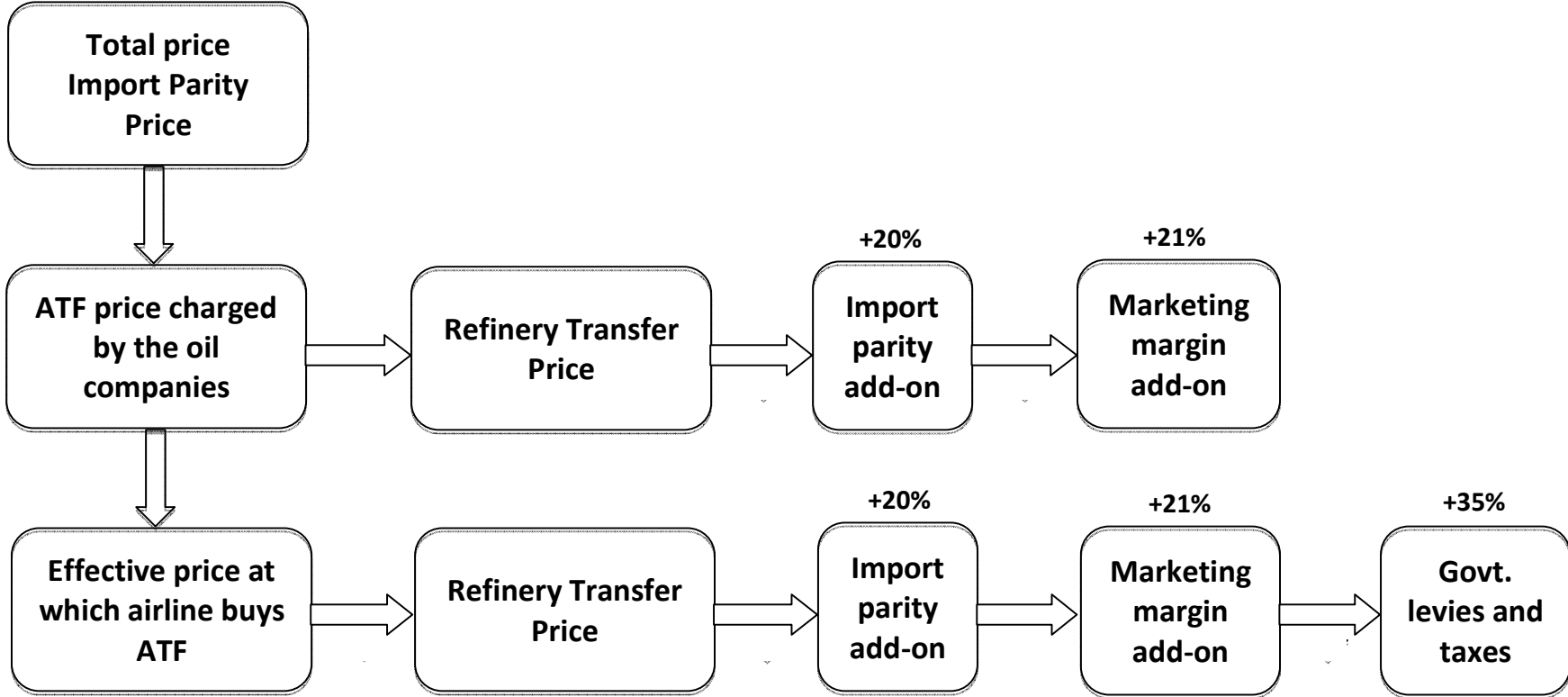
Aviation Turbine Fuel (ATF) is imported but refined by Indian oil companies; however, the Indian rupee has depreciated in value over the US dollar in recent years (18.7% depreciation in 2011 alone), and this has further contributed to the cost difficulties. The interviews conducted with airline personnel revealed that there are a number of add-ons to the base price of the fuel, which are detailed below and illustrated in Figure 6.

- The oil companies charge a 20% add-on to the Refinery Transfer Price (RTP) as import parity.
- In addition to this, oil companies include a 16% to 49% add-on towards marketing margins and contingencies on the RTP. This add-on varies between cities and averages out at around 21%.
- On the RTP, the Central Government levies an excise duty of 8%. On the resultant price, the various State Governments levy a local sales tax ranging from 4% to 39%, which, on average, works out at 25% nationwide.
- Thus, the total government levies sum up to an additional 35% beyond the import parity price, making the price of ATF in India up to 60% to 70% higher than international benchmarks.

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<sup>13</sup> In March 2012, one thousand litres of aviation fuel could be purchased in Mumbai for US\$1,207, compared to US\$808 in Singapore (New York Daily News, 2012).

**Figure 6: ATF Pricing Mechanism Followed in India**



Source: Compiled from Frost and Sullivan, 2009 and Interview respondents

The interviewees stated that fuel charges on domestic operations are slightly higher than those for international operations and can vary significantly from region to region. Indian carriers do not hedge fuel prices and have exhibited limited ability to charge fuel surcharges, due to irrational and undisciplined pricing dictated by competition rather than costs / demand. Frost and Sullivan (2009) estimated that Indian carriers lost around US\$500 million during 2008-09 as a result of this irrational ATF pricing, which accounted for about 25% of total losses to the Indian airline industry. The Federation of Indian Airlines (2009) estimated that if the government could standardise the ATF price for domestic operations so that it is aligned with international market prices, it would save the industry around US\$624 million, which in turn would raise operating profits by about 25%. The carriers also complained that high ATF taxes around the country not only affect the financial health of the carrier, but also make it unattractive for equity capital and debt financing.

### **3.3 Overcapacity in the domestic market**

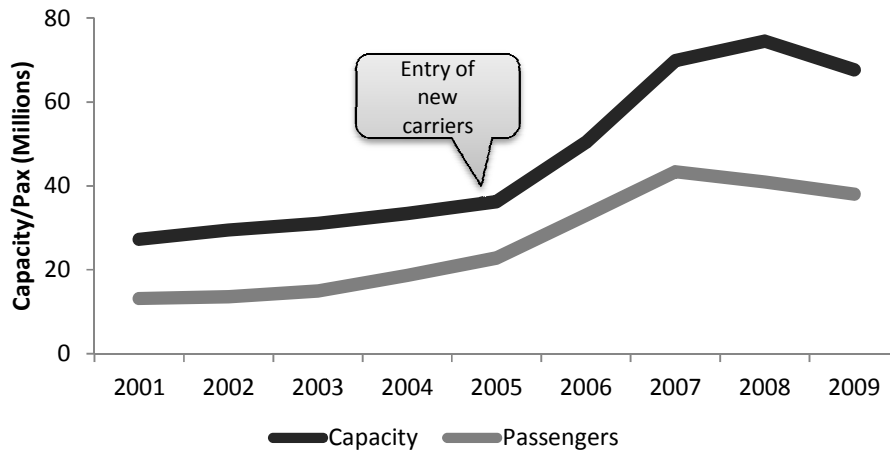
Serious overcapacity issues began to emerge after the second phase of liberalisation, as enormous volumes of capacity were added to the domestic market, especially by the new entrant carriers<sup>14</sup>. Analysis reveals that prior to this second phase (pre 2004), annual capacity growth was averaging at 7%, but from 2005 and 2007, it increased exponentially at a annual rate of 39% - and by 2008, capacity had doubled from its position three years earlier, as a direct result of the entry of a large number of new entrant carriers within a short timeframe (see Figure 7). To exacerbate the overcapacity issues, passenger traffic began to decline from 2007, as a result of the global economic slowdown as Indian carriers continued to furnish capacity, which created a significant gap between the market forces of supply and demand, as shown in Figure 7. By 2006-07, the total domestic capacity was around 70 million seats, while the total number of passenger carried was only 44 million, and this type of situation continued over the following years, whereby capacity was growing at a faster pace than the number of passengers that were being

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<sup>14</sup> The new entrants with their (start dates) included: Air Deccan (2003); Kingfisher (2005); Spice Jet (2005); Paramount (2005); Go Air (2005); IndioGo (2006); MDLR (2007).

transported<sup>15</sup>. The new entrants accounted for over 80% of the total capacity that was added, while Air Deccan and Kingfisher alone were responsible for 50%. The interviewee respondents reported that these carriers were far too focused on market penetration, rather than on achieving a profitable business entity that was sustainable. Since there were no restrictions from the government on deploying capacity in the market, the carriers went on adding aircraft at a rate of 6-6.5 per month during the period 2006-2008, while three aircraft per month would have been ideal to absorb demand growth (Centre for Asia Pacific Aviation, 2010).

**Figure 7: Trend in Capacity and Passenger Growth in the Indian Domestic Sector: 2001-2009**



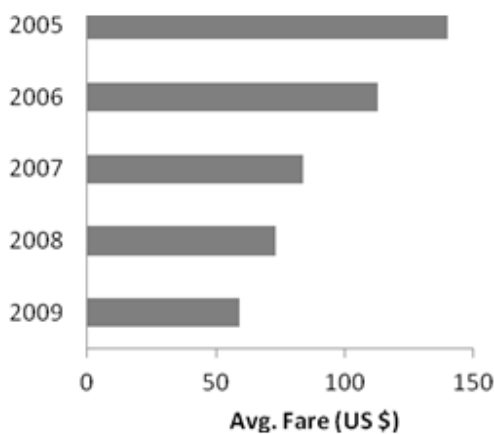
Source: Compiled from OAG and DGCA (India), 2009

The interviewees also expressed their concerns about the cut-throat domestic ticket pricing that was being rigorously exercised by the low cost carriers, which was having a big impact on the market dynamics, as they had captured 41% by January 2011 against 34% in the corresponding period two years earlier. As a result of excess supply, the airlines had to drop fares significantly in order to increase load factors. Figure 8 provides a clear picture of the drop in average fares in

<sup>15</sup> In 2008 for example, capacity continued to increase by 7% while the number of total passengers carried declined by around 6%, thereby increasing the difference between supply and demand by 35 million seats.

the Indian domestic market from 2005 to 2009 - analysis from PaxIs data revealed that the average domestic fares on routes with less than 1,000 km in 2005 were around US\$140, but by 2009, these fares were reduced to almost US\$60. Similar distances in the Australian, Chinese and US domestic markets recorded fares of US\$195, US\$104 and US\$179 respectively in 2009. Most of the respondents (except those at IndiGo) stressed that fares must rise or the industry could face meltdown, and they hypothesised on re-regulating the market in order to normalise pricing. Figure 9 reinforces the dilemma facing India's carriers on a key trunk route between Mumbai and Delhi, on which every carrier operates with high frequency<sup>16</sup>. It shows that despite consistent rises in passenger numbers, the total revenue was sharply declining, due to a significant reduction in the average fare on the route, and this was representative for numerous city pairs throughout mainland India.

**Figure 8: Decline in Average Domestic Fares**

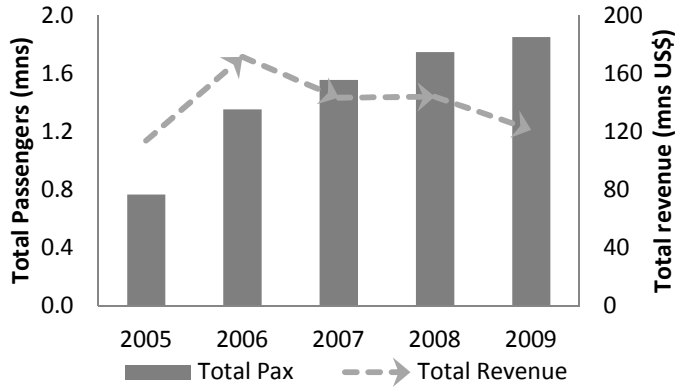


Source: Compiled from IATA PaxIS Data

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<sup>16</sup> There were 369 frequencies per week between Mumbai and Delhi in July 2009 which are as follows: Jet Airways (80); Kingfisher (72); Indian Airlines (61); SpiceJet (41); IndiGo (35); Go Air (32); Jet Lite (28); Air India (19); and India Express (1). Source: OAG database

**Figure 9: Decline in Revenue on Mumbai-Delhi route**



Source: Compiled from IATA PaxIS Data

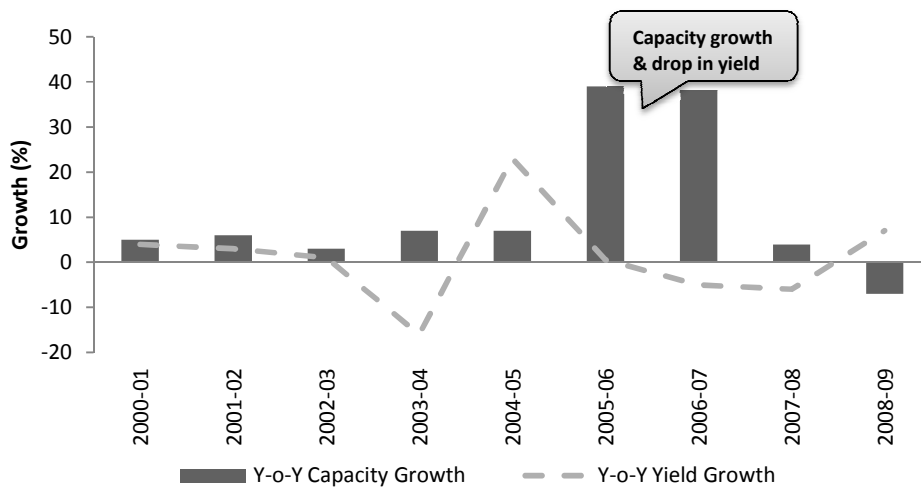
As a result of such a significant drop in revenue, costs were chiselled in order to improve the financial performance, which in turn caused carriers to trim the level of service, inducing passengers to regularly switch between competitors. The consequent reduction in the morale of the labour force resulted in strikes and ultimately in an underperforming workforce, while the Government continued to protect Air India<sup>17</sup>. Figure 10 shows the fluctuations in yield growth/decline over the decade against the growth in domestic capacity. Throughout the decade, yields contracted (except for a brief period in 2004-05) as a result of excess capacity and low ticket prices offered by the new entrant and incumbent carriers, while at the same time higher fuel prices and a depreciating Rupee have all converged to weaken yields. What transpired after a number of notable mergers and bankruptcies between 2007 and 2009 was a marginally more prudent group of carriers seeking to take measures to keep capacity in check, which resulted in an upward swing of improved year-on-year yields, as can be observed in Figure 10.

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<sup>17</sup> In early 2012, Air India is waiting for a cash injection of about \$1 billion from the Government, half of which will settle dues with oil companies, while over 20% is ear tagged for unpaid airport charges. This bailout will not solve the bigger issues that are looming in the Indian air transport market (Govindasamy, May 2012).



**Figure 10: Comparison between Year-on-Year Growth in Domestic Capacity and Yield for all Scheduled Indian Carriers: 2000-01 to 2008-09**



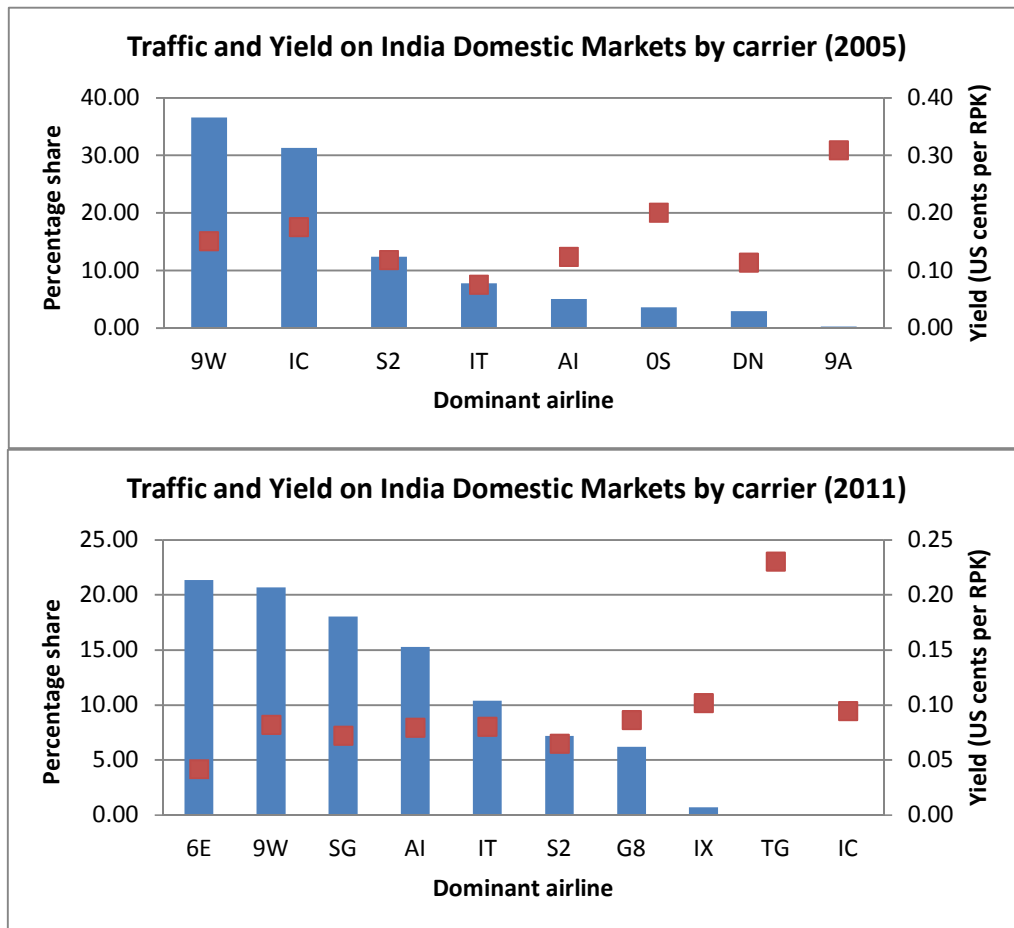
Source: Compiled from OAG and DGCA (India), 2009

To gain a deeper insight into the evolving dynamics of market share and accompanying yield, which appear to be the key constituents of the domestic market, further analysis was conducted and revealed that the new entrant low cost carriers such as IndiGo (6E) and SpiceJet (SG) have pushed down yields from an average of US\$0.15 cents per RPK in 2005 to just US\$0.07 cents per RPK by 2011, as shown in Figure 11. This type of ‘distressed yield syndrome’ is synonymous with low cost carriers, as they continue to encroach on the short haul markets right across the globe. These business models have enshrined the concept of ‘low cost’ in their very organisational culture, which culminates in reducing each unit of cost while achieving the highest possible staff and equipment productivity<sup>18</sup>, which in-turn allows them to reduce fares - low cost carriers have now become firmly embedded in the Indian landscape, and the traditional incumbents must seek solutions to counteract the problems emanating from these competitors. IndiGo now has the largest share of domestic passenger traffic in India, at around 22% (December 2011), with an average yield as low as US\$0.04 cents per RPK. The interviewees disclose that this remains one of the greatest challenges that will evolve into a long term concern

<sup>18</sup> In 2011, IndiGo, has 102 employees per aircraft, while Air India has around 4.7 times this amount.

which has the ability to inflict great damage to the traditional Indian carriers, and like many other issues, there are no clear strategies to address and resolve these concerns.

**Figure 11: Traffic (Bar) and Yield (Dots) in the Indian Domestic market in 2005 and 2011**



Source: IATA PaxIS

Notes: IATA Airline Codes: 9W – Jet Airways; IC – Indian Airlines; S2 – Jet Lite; IT – Kingfisher Airlines, AI – Air India; OS – Austrian Airlines; DN – Senegal Airlines; 9A Visa Airlines; 6E – IndiGo; SG – SpiceJet; G8 – Go Air; IX – Air India Express, and TG – Thai Airways.

Note: OS, TG and DN traffic and yield values are only present in Indian domestic markets due to the various marketing and codeshare agreements that they had with Indian carriers.

## 4.0 Conclusion

India's economy is surging and is set to become the world's third largest by 2030. It is one of the G-20 major economies. India is often seen by most economists as a rising economic superpower and is believed to play a major role in the global economy in the 21st century. However, air travel penetration in India remains among the lowest in the world; in fact, air travel penetration in India is less than half of that in China, where people take 0.2 trips per person per year, indicating strong long term growth potential. India's aviation industry promises huge growth due to a large and growing middle class population, favourable demographics, rapid economic growth, and the rising aspirations of the middle class, whose discretionary income will be partially spent on air travel. The industry has grown at a 16% CAGR in passenger traffic terms over the past decade. However, during this time, the landscape of Indian aviation has changed considerably over the last decade, as a wave of consolidation in the mid 2000's narrowed the playing field to just seven carriers, six of whom are severely underperforming financially, even though traffic has increased exponentially. Aircraft manufacturer forecasts predict that demand will continue to surge over the next twenty years as more Indians switch to air travel. However, the Indian Aviation Industry has been going through a turbulent phase over the past several years, facing multiple and prolonged difficulties through which carriers are continuously underperforming financially. An investigation was conducted in order to uncover the root causes that underpin these endemic financial losses that are striking the Indian carriers through interviews with high ranking airline personnel, which was overlain by a necessary content analysis of the literature for the purposes of triangulation.

Three core difficulties emanated from the research. The first major issue was government regulations and policies which prohibit foreign airlines to invest in Indian carriers, which is a common strategy that is practiced right across the globe. This capital injection would provide the catalyst for growth and development, together with global expertise and best

industry practices. The excessive taxes that are levied on India's carriers are significantly impacting overall yields, as fares are lowered in order to make trips more attractive for the prospective traveller. Since the Indian market is predominantly driven by its underlying economic development, growth in air travel is inevitable. To enhance this growth, it is likely that any remaining restricted international markets will be liberalised and a standard set of regulations will be set for the next decade by the Government. However, Indian carriers are unprepared for this inevitable consequence and will be overpowered by stronger foreign airlines, who will continue to encroach and gain dominance in India. It is clear that home carriers need more time to make strategic internal changes to ramp up productivity, efficiencies, competitiveness and brand development before the skies are further opened to more competition. A second major difficulty experienced by the home carriers was the excessive tax on fuel, as this constitutes an average of almost fifty percent of the cost structure, which is well in excess of the global average. The problems here are two-fold as there is a clear lack of regulation over a standardised price, and there is strong evidence of bureaucratic interference as many stakeholders are allowed into the supply chain, all of whom add levies which escalate the price. The final concern facing India's home carriers is overcapacity, as seat supply far outweighs passenger demand on domestic services. This has severely distressed overall yields and has significantly contributed to the financial underperformance of almost all of the domiciled airlines in India, mainly triggered by new low cost carrier entrants, whose business model works very favourably in such a market. India's traditional network carriers must develop their hub and spoke platform, whereby domestic traffic is channelled through fortress hub airports to then be transported onwards into international markets via their own network or through that of a synergised partner.

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