Regulating the Civil Aviation Sector

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Introduction

The Civil Aviation Sector in India is witnessing unprecedented changes. The sector has been completely under government control for a considerable period of time, but proactive policy changes are taking place. A policy of "opening up the skies" has principally been adopted in the domestic sector for sometime now, but the benefits of such a policy change has not yet trickled down to the consumers. The Government continues to be a major player in the sector and national policies still effectively curb competition by favouring the flag carrier. Moreover, we have an amazing number of airports in the country, although only a fraction of that is operational. Further a smaller fraction is actually equipped to handle even moderate traffic.

Given the financially ill-managed state of the civil aviation sector in India, it is no wonder that popular opinion favours privatization initiatives in the sector. However, privatization and foreign investment in this sector, like most sectors, are viewed with a lot of skepticism. Primarily there are two reasons which are forwarded to stall such initiatives. The first pertains to profits being appropriated by the bourgeoisie and the second, and more importantly, the unemployment that such initiatives will entail. These arguments are not unique to the civil aviation sector. However, subsidy (which comes from taxes) does not work in the long run and even low or negative growth cannot be justified for long. If privatization and /or deregulation measures can improve growth rates, then the employment curtailment argument does not hold ground. Moreover in a democratic setup, socialist goals are good, but should not be at the cost of development. Air India, our international flag carrier, has 750 employees per aircraft (as compared to 146 of Japan airlines and 170 of Cathay Pacific), that makes it the most over-staffed airline in the world. Again, Air India's average cost per employee is over Rs. 5 lakh a year, perhaps the highest among Indian Public Sector Units and it has accumulated losses of Rs. 1,004 crores in the past five years. Its number of destinations has shrunk from 32 to 19 in the past 10 years.[1]

Surely complete privatization is not the correct policy initiative for all sectors. For example, the electricity distribution sector by its sheer magnitude, does encourage natural monopoly and there the government has a vital role to enact. The problem lies in the phrase 'role of the government'. The role of the government is not that of a controller, but that of a facilitator. The government should initiate de-regulation and positive regulation so as to ensure proper or free and fair competition, which can translate into better services.

The objective of this paper is to discuss the characteristics of the civil aviation sector and thus outline the subsequent role of the government as a facilitator. The discussion begins with a justification for regulation or governmental role and then goes on to the attributes that characterize the civil aviation sector and the regulatory structure in India. The worldwide trends are discussed next. This lends credibility to the theoretical perspective. Here we segregate between the air services and the airports and each is dealt in a separate section, within which, the Indian scenario is painted. Finally a brief conclusion sums up the discussion.

Why Regulation

General equilibrium theory specifies the conditions under which the decisions of utility maximizing consumers and profit maximizing firms will lead to the inevitable, spontaneous establishment of equilibrium in all markets simultaneously. This is established only when competitive forces have led to the equality of marginal benefit and marginal cost in the market for every single commodity and service. Although the establishment of such an equilibrium situation might not seem too practical, nevertheless, there are two reasons for knowing what conditions must hold, for general equilibrium to be obtained. These are - (a) while all real markets may not obey these conditions, many of them will, and (b) the specification of the conditions that lead to general equilibrium provides a benchmark for evaluating various markets and making recommendations for public policy.

Now there is a direct link between general equilibrium theory and welfare economics. This is because general equilibrium has characteristics that lead to socially optimal levels. In other words, general equilibrium is both productively, as well as allocatively, efficient. So from a consumer's point of view, the proper functioning of the market is beneficial. However, if the conditions of competition are not attained, it is impossible for conditions of general equilibrium to hold. So we are interested in situations which prevent the essential condition of competition from being attained in the market, i.e., we are interested in the cases of market failure. There are four conditions under which the market fails. They are – (a) monopoly and market power, (b) externalities, (c) public goods, and (d) severe informational asymmetries.

Again from a consumer's point of view, markets and regulators are complementary instruments as the role of the latter is to compensate in some way for the failings of the former. Apart from this, policy also has to address the developmental goals of a sector, as well as that of the country, especially so if the sector or the country is still in its infancy. Thus there is a two-fold need for regulation :

a) to correct the situations when markets fail, and

b) to address the developmental aspects of the sector

The primary role or purpose of regulation is to ensure that markets don't fail i.e., competition is not breaking down and is working properly. The goal of regulation is to devise social arrangements best suited to this purpose. Moreover, each industry and its regulation are in essential respects unique and must be so treated.

Policies are also required for enhancing development. Correspondingly, regulations are at times geared towards this end, especially if there is a need to develop the sector. This has important relevance for the civil aviation sector, especially for a country like India, which is vast geographically. And the civil aviation sector being highly capital intensive, is in the nature of infrastructure. So certain economically unviable routes may exist, which nevertheless need to be developed. At the same time, due restraint must be observed to ensure non-wastage of unnecessary resources for the sake of development goals.

At the initial stages of the sector's development the airports or the air services do tend to act as public utilities. Consequently they are not profitable business, and are subsidized. There is nothing inherently wrong in this, for without a subsidy it is not feasible to promote the greater good of the development of a country's civil aviation as a whole. Nevertheless, the status quo cannot carry on perpetually, and a decision must be reached as to when the facilities need to be self-sufficient. In other words, the infant industry argument cannot be carried on endlessly.

Regulation can be either over price or over entry or over quality of service, alone, or any two of them, or all three simultaneously. Each of the four reasons for market failure needs to be analyzed, its relevance to the concerned industry seen, and the type of regulation that is best suited identified.

Market Failure and the Civil Aviation Sector

The civil aviation sector can be broadly divided into two categories, air services and airports. The justification for regulation for each of the two categories is different.

However, both these are subjected to a plethora of regulations, which might not be appropriate. Accordingly, the objective of this section is to look at the issues involved and identify the need as well as the kind of regulation that might be warranted.

The first reason for market failure is monopoly in its various forms – monopoly in the output market, collusion among otherwise competitive firms or suppliers of inputs, and monopsony in the input market. In a situation where monopoly exists, the price is high and the quantity supplied low from the viewpoint of efficiency (i.e., with respect to a competitive situation). Although the primary aim is to replace monopoly with competition wherever possible, they can also be regulated in the price charged and/or quality of service rendered.

The civil aviation sector encourages monopoly. For the air services, the fixed cost associated with the setting up of operations is high enough to discourage most non-serious entrants. Again the possibility of collusion among competitive firms (which would translate into higher fares charged) is quite high, as the number of airline operators is generally few. However, it must also be mentioned that with the possibilities of leasing of aircraft becoming more and more easy, the fixed cost should show a declining trend.

The State generally tends to focus on price regulation rather than quality of service. The reason for this is that quality is both subjective, as well as technical. Moreover, price regulation is easier. Again, the ICAO and IATA confine themselves only to international operations. But regulating price alone does not help, as buyers can be exploited just as effectively by giving them poor or unsafe service (as by charging them excessive prices for proper quality). Prices have no meaning except in terms of an assumed quality of service. Many consumers again might be more interested in the reliability, continuity, and safety of the service than in the price they have to pay.

So the role of the regulator is in monitoring quality of service and preventing both monopolistic prices, as well as collusion among competitive firms, given the nature of the civil aviation sector.

On the other hand, airports have an economic as well as strategic importance, but the operator enjoys monopoly powers in its operation. So there is a clear need for regulation here so as to prevent the operator from abusing or exploiting the monopoly power. Regulation should also ensure that the needs of the industry as a whole are catered to. At the same time, the regulation should not be such as to stifle the enterprise that privatization should bring in its wake.

Regulation can consequently be administrative and economic. Administrative regulation means a watchdog body, which is set up to safeguard against monopoly abuse. Economic regulation is essentially price regulation. There can also be a rate of return regulation in which case neither the onus nor the incentives lie with the operator. And so it may not promote efficiency.

Externality is another source of market failure. It appears when the benefits or costs of an exchange inside a market spill over onto other parties than those explicitly engaged in the exchange. The presence of externality in the civil aviation sector can also be argued, albeit in a round about fashion. It has been a worldwide experience that even in the busiest of routes, not more than 4 to 5 scheduled airlines can operate. So, entry of new operators in any route should not be free. Thus a kind of restriction on quantity (associated with a case of externality so that the firm operates on the social marginal cost curve) in the form of barriers to free entry is needed. Otherwise, the cost of exchange between the new operator and the consumers would spill over to the other (already existing) operators and can lead to under utilization of their aircraft and in turn to sickness in the industry, assuming that the optimal number of operators already operate their flights in the particular route. The busiest route in the US, from LA to San Francisco has 4 operators, the busiest route in Japan, the Tokyo to Osaka route has 3 operators, while sometime back, the Delhi to Mumbai route had 6 operators, and they turned sick.

Again since the initial fixed cost is very high, i.e., entry and exit is costly, one cannot possibly have the margin of time by which the market determines the optimal number of

airline operators for any particular route. This role has to be taken over by the Government. They need to put an entry restriction. Entry should be regulated in accordance with traffic projections, market development, capacity requirements and the existing capacity available (overcapacity can lead to sickness).

The externality problem also arises in the developmental stages of the civil aviation sector. In order to provide the linkages and foster development of an area, civil aviation has to cater to economically unviable regions and routes. The external costs due to operations in such routes (which are not based on economic principles) burden the civil aviation sector in most less developed countries. Here, the role of regulation can be to ensure that the least cost operator plies, and there is some mechanism through which the region that benefits from the air transport industry gets to compensate the operators. In other words there must be some incentives that must be designed into the system.

Severe Informational asymmetries, the fourth reason for market failure, might have potential effects for the civil aviation sector. In many exchanges the sellers know more than the buyers do. The Government can force the seller to disclose the information through regulation. The alternative would be to make the seller liable for damages accruing later, and, about which information was deliberately withheld. However, for the civil aviation sector, issues pertaining to safety and environmental standards can be fatal even with a marginal error. The sector also needs sophisticated instruments and highly trained personnel. Yet knowledge of safety and environmental standards are quite low among most users of air service, although they can be very sensitive to these issues. So there can be *prima facie* reasons for the airline operators to withhold information. Hence the role of the regulator in ensuring safety and environmental standards, as well as proper flow of information, are crucial.

The Structure of Civil Aviation in India

The Ministry of Civil Aviation, Government of India, is the apex body in the regulatory structure of civil aviation in India. The Ministry of Civil Aviation is responsible for the formulation of national policies and programmes for development and regulation of civil

aviation and for devising and implementing schemes for orderly growth and expansion of civil air transport. Its functions also extend to overseeing the provisions of airport facilities, air traffic services and carriage of passenger goods and services. Within its administrative purview lie certain organizations.

These can be sub-divided into three categories[2]. The first category can be thought to consist of the air carriers - Air India Limited, Indian Airlines Limited / Alliance Air and Pawan Hans Helicopters Limited. This category is discussed in the next section. The second category pertains to airports and here the Airports Authority of India is the sole authority. We discuss the Airports Authority of India in Section 4. The third category consists of attached/subordinate/autonomous organizations. These look into and are responsible for particular aspects of civil aviation and the concurrent regulations. They are purely regulatory and administrative in nature and unlike the previous two categories, do not have any commercial facet. These are Bureau of Civil Aviation Security (BCAS), Indira Gandhi Rashtriya Uran Academy (IGRUA), and Directorate General of Civil Aviation (DGCA). We discuss these next.

The Bureau of Civil Aviation Security or BCAS is an attached office of the Ministry of Civil Aviation. The BCAS is responsible for laying down the standards of pre-embarkation security and anti-sabotage measures vis-a-vis civil flights in India but does not take part in the actual enforcement on the ground. This is entrusted to the police of the respective State/Union Territory.

The Indira Gandhi Rashtriya Uran Academy is an autonomous office under the Ministry of Civil Aviation. The academy conducts airline oriented flying training courses to the level of contemporary international standards. The academy offers courses for Commercial Pilot's License to pilots holding private degrees and also imparts ground training.

Although the Ministry of Civil Aviation is the apex body, yet it is the Office of the Directorate General of Civil Aviation which is most important in the regulatory structure

of civil aviation in India. The Directorate General of Civil Aviation is responsible for regulation of air transport services to, from and within India; registration of civil aircraft; formulation of standards and grant of Certificate of air worthiness for civil aircrafts registered; licensing of pilots, aircraft maintenance engineers and flight engineers; licensing of aerodromes in India; investigation into air accidents and incidents; rendering advice on matters relating to air transport; processing of aviation legislation; supervision of training activities of the flying and gliding clubs in India; development of light aircrafts, gliders and wenches; and type certification of aircraft. It also coordinates all regulatory functions with International Civil Aviation Organization and is in charge of the implementation of bilateral air service agreements with foreign countries. Thus clearly, the role of the Directorate General of Civil Aviation is far more encompassing and important than the other two organizations.

Air Services

We first look at experiences of some Asian countries vis-à-vis liberalization of air services to analyze the trends and the characteristics that have historically affected this sector. This can have very important lessons for India.

The aviation sector, in the world over, is not only growing at a fast rate, but is also undergoing a paradigm shift in terms of technology, characteristics, and service profile, which gets reflected in changes in the ownership structure, Government policy, and public awareness. What is particularly interesting is the changing attitude of protectionism of the State towards this sector.

Air transportation has traditionally been viewed as being central to economic development and national sovereignty. Consequently civil aviation remained under the auspices of the State for a substantial point of time, and still continues to do so in many countries. Since World War II, most nations had established State-owned airlines. They not only enjoyed domestic monopolies, but were also the sole carriers of their national Governments' international routes.

However, the efficacy of Governmental control from efficiency point of view slowly became questionable, and the role of the State started getting limited to public goods or where the security of the country was involved. The civil aviation sector was no exception. Since the 80s, popular opinion started shifting towards privatization and deregulation of the air transport sector. This was also the result of various forces that gathered momentum through the seventies and eighties[3]. These forces include growth in demand for air services, technical changes, emphasis on safety, and changing perceptions of limited Government intervention in commercial activities.

The burgeoning growth in air traffic also put additional strains on the aviation system and its regulatory structure. It induced important reforms, both in the ownership system as well as in the regulatory structure. The United States took the lead in introducing them.

These reforms led to improved efficiency in operations, increased competitiveness, lower fares and increased traffic flow in many countries. Overall the customer benefited. Gradually, more countries privatized their airlines and eased regulations.

The effectiveness of a liberalized market system has been realised only since the late 70s in the developed countries, and later still in the developing countries. A well-developed capital market was conspicuous by its absence in most countries till the 80s, and an alternative recourse to large funds was absent. So, the primary reason for the public ownership of airlines as well as the airports, was the perceived role of the State vis-à-vis large investment. Air transportation thus had a history characterized by State policies that protected the flag carriers.

Linkages are also very important, especially for integrating the inaccessible regions of the country. They are particularly important for developing countries. However, the economic viability of such operations remains in question. Operation in loss producing routes characterized civil aviation, especially in such countries.

Civil aviation also confers certain external benefits to the economy. For example, it plays a catalytic role in the case of tourism promotion. Civil aviation was consequently heavily regulated and had fare ceilings. However, in the process, neither the fares nor the frequency of flights were optimal, and at times, not even economically viable. Public subsidies were the end result. However, economic development, by way of providing linkages and promoting tourism justified such actions[4]. Overall entry and exit barriers, operational inefficiencies, public subsidies, and inadequate infrastructure besides a jumble of bilateral agreement vis-à-vis international civil aviation have characterized the civil aviation sector. International aviation rights are negotiated through a series of bilateral agreements between individual countries[5] as no multilateral framework on allocation of international civil aviation rights exists[6].

Public ownership does not necessarily lead to resource mobilization, as they are not intended for it. The focus remains on ensuring linkages and fostering economic

development. But the role of the aviation sector shifted from ensuring connectivity to proper utilization and allocation of resources. Governmental controls led to a situation wherein the externality problem was not internalised. The inefficiency in the operations, and the resulting operating losses incurred by the carriers, could not be sustained in the long run by way of subsidies in the developing countries. The system did not provide the incentives for efficient operations.

Moreover during the 1980s and 1990s, most of the developing countries witnessed rapid economic development, and this was reflected in the dynamism of the airline industry. Air traffic got a major boost, both on domestic and on international routes. The development in turn necessitated important reforms in the role of the State. It needed loosening up of the regulations. The need for secondary air carriers also arose. The divergent needs of business travelers, tourists, shippers of cargo, and the airlines themselves put considerable strain on the regulatory structure. The United States had started deregulating its aviation industry in 1978 (it went on till 1984). With private sector participation, competitiveness of the industry increased and fares decreased. Countries like UK, Canada, Australia, and Germany followed the US experience successfully. The repercussions were felt worldwide. There was thus a need for airlines elsewhere to be competitive inorder to survive. Liberalizing the civil aviation sector became a necessity[7].

Liberalization of the sector entailed a combination of both privatization initiatives as well as deregulation as a whole. Privatization of the airlines from Government control enabled the airlines to operate on economic principles. On the other hand regulatory reforms made possible the participation of the private sector, which in turn helped establish competition and improved efficiency.

Worldwide experience shows that privatization of ownership improves efficiency in operations, as the parameters that govern the operations are no more non-economic. Excessive Government control has been one of the weak links of the sector. Private ownership also facilitates resource mobilization. It is especially important for developing

countries because it is perhaps the best way of bringing in financial discipline. However the results can be far from desirable if the attempts remain half-hearted and uneven. The experiences of developing countries like Philippines and Indonesia reinforce this. In Indonesia the flag carrier faced active competition from private carriers in the domestic market but subsequent Government regulations served to limit the scope of competition by favouring the state carrier.

Deregulation also leads to the desired objectives. With regulatory reforms and private sector participation, competition ensures that operations are efficient and customers benefit. It can somewhat be seen as an alternative to privatization of the airlines. However, increasing the competitiveness of these airlines is the key and so deregulation becomes a necessity. So, a combination of the two is both logical and desirable. The experience worldwide has been so. Privatization of an airline is meaningless without any flexibility in the regulatory structure. For example if the Government still gets to control the fare structure or can still impose ceilings on fares, privatization of the airlines can be quite a futile exercise. Again, if the State retains the ownership of the major carrier, it can indirectly, through other policies, and through the bureaucracy, render private sector competition ineffective. Experiences of many countries reinstate this. The Thailand Government, for example, controls 90 per cent of the State carrier, and experiments with deregulation has remained farcical there. The Government does not allow double tracking in any route. So all the lucrative routes are still operated by the State carrier.

Again, with decrease in Governmental control in most countries, the operating rules needed both, flexibility and fundamental changes. Lower public sector involvement required different sets of controls. It is in this direction that the civil aviation sector in most countries has progressed. Yet liberalization of civil aviation, in most developing countries has been incomplete and uneven. The primary reason for this is the reluctance of the State to relinquish controls significantly. State intervention is a necessary to prevent liberalization from leading to destructive inter-carrier competition and this along with the need for economic development, has been the justification for the failure of the State to liberalize properly.

Historical Trends

We next look at some of the experiences of Asian countries vis-à-vis privatization and deregulation initiatives. However, USA was the first country to introduce deregulation in the civil aviation sector, and before elaborating the Asian experience, we deal with the experience of USA.

Deregulation in the USA was introduced with the promulgation of the Airline Deregulation Act in 1978. Prior to that, regulation typically controlled market entry by requiring new airlines to obtain licenses before start of operations, controlled cargo rates and passenger fares, covered operating losses by way of direct government subsidies, and controlled inter carrier relations such as mergers and agreements. However, by the late seventies experiments with relaxed regulatory constraints were carried out by granting airlines more fare flexibility, and permitting far easier entry and exit from new markets. The process of deregulation was completed in 1984 by even allowing inter carrier mergers and agreements. Further, in 1985, the Department of Transportation amended its rule in 1985 to allow airlines to trade in airport slots as like permits. The allocations were 'grandfathered'. This was done in order to minimize the role of the government in the allocation of slots.

After 1978, the scenario changed dramatically. The number of new entrants increased and by 1985 the share of the large established carriers, for overall traffic in the trunk routes, declined from 94 percent to 77 percent. A period of fierce price competition ensued, resulting in lower average passenger fares (after being adjusted for inflation) in almost all markets. Overall traffic increased, as did the frequency of flights.

The established carriers countered the situation by using a variety of strategies, which effectively raised the cost of entry, and developed economies of scope[8] that affected consumer choice in favour of major established airlines. The most common strategies included building extensive hub-and-spoke route systems and developing marketing programs that would increase carrier loyalty and expand carrier services like computer

reservation systems, frequent flier programs and code sharing with commuter airlines. They also traded in the airport slots in such a way so as to increase their control over the slots and thus limit access to routes beginning or ending at any of the slot-controlled airports. This led to a sellers market for airport slots, driving the price of slots up and defeating the very objective of competition.

These methods ultimately paid dividends for most established carriers. The number of carriers decreased, and the airline industry went through a period of consolidation through mergers and acquisitions. In 1994, the major, nationals, and large regional carriers accounted for 99.4 percent of total passenger traffic.

Japan, the Asian super power had a contrasting experience. Its civil aviation sector grew up in strictly regulated environment till 1986, when it deregulated its airlines sector in order to keep pace with the trends worldwide. It recognised that an American style of deregulation did not suit Japan, but proceeding with policies that promote competition through the implementation of flexible administrative management was imperative. Multiple tracking was promoted. Yet the new policy did not result in increased flight frequencies and diversified and lower average fares, as was the US experience. Thus there wasn't any substantial welfare gains from the consumers' viewpoint. This was because the air transport policy introduced in 1986 failed to bring in effective competition. So, in 1994 conditions for introducing and setting discount fares in domestic markets were further relaxed. Consumers have finally started reaping in the benefits of lower fares and increased flight frequency.

China's experience has been quite different from the rest. It realized that supply did not match its growing volume of air traffic. It focussed on infrastructure development. In 1985, the Civil Aviation Authority of China, an aviation regulatory body and the country's sole carrier shed its airline status and assumed a purely administrative role. It divided airline services into six autonomous regional airlines. Other private airline operators also joined the fray and today China has 19 airlines. However, the major airlines have not been privatized and are still under Government control. In fact,

regulation and inadequate infrastructure continue to constrain the growth of China's airlines. The carriers face a web of Government regulations and constraints, which include foreign exchange restrictions, acquisition of aircraft and spare parts, and controls on routes and fares. China also prioritized the safety aspects associated with airlines as it had an appalling record. This was done in the hopes of attracting foreign capital at a time when other countries were still trying to develop their own airline industry. It developed a short haul approach as pre-requisite to the hub and spoke system. In this respect, it is similar to the US development pattern.

In most countries privatization programme has been initiated to enhance the performance of the national carrier but in Singapore this was not the case. Infact such initiatives were initiated mainly as part of the strategy of "popular capitalism" initiated in all industries and was not specific to the civil aviation sector. Privatization was not initiated in Singapore Airlines (SIA) to make it competitive. It was already competitive before 1985.

Being a very small country, Singapore does not have any domestic flights. It focuses its operations mainly in Asia. Privatization initiatives were introduced in SIA in 1985. However, the Government still retains 54 percent of the equity in Singapore Airlines. Nevertheless, it does not interfere with the management of SIA. This is also quite exceptional for in almost all countries where the government retains a major share in any airlines, there is deliberate market distortion in favour of the carrier. Yet it provides a very strong support to SIA. In fact it is one of the rare Asian countries to have a favourable bilateral agreement with the United States.

In South Korea competition in the domestic market was initiated with the entry of a second private airline, Asiana, in 1988 in addition to Korean Air Lines. Thereafter there was rapid growth in traffic. The market structure also underwent a rapid change. Consequently a set of guidelines was formulated in 1990. Progressively, Government control has been limited[9] and a revised version of the civil aviation policy was formulated in 1994. However, entry and exit is not free, and this coupled with other problems like capacity constraints at airports, operational restrictions imposed by the air force, the

existing procedure of calculating fares[10], cumulatively distort the market. There has been a marked absence of price competition and a resulting decrease in fare. The existing structure favours collusive pricing. However, in contrast to domestic service, international air service has been far less exposed to competition due to the policies pursued by the Government. Nevertheless growing awareness among consumers vis-a-vis travelers' problems, environmental concerns and the problems faced by the airlines have put considerable pressure on the protectionist aviation policies. Pressure from outside for aviation liberalization grew. Boosting the economic efficiency and competitiveness of carriers has become imperative.

Again countries like Malaysia, Indonesia, Philippines and Thailand had a very similar pattern in their aviation industry. In all these countries the State owned airlines enjoyed monopolies in the domestic market as these were seen as a tool for promoting economic development, as well as guarding national sovereignty. The airlines were plagued with excessive Government control which encompassed fare regulation, route regulation, entry and exit barriers, inadequate infrastructure, barriers in acquisition of aircraft and spare parts, and a resulting inefficiency as wells as losses in operations. All the countries are in South East Asia, and aim to be the major hub in the region. Consequently, they have initiated airport expansion plans, but lack of funds continues to be a shortcoming.

Malaysia initiated reforms in the civil aviation sector in 1985. Till 1993 the Government had divested 58 percent of its equity holding but still retained a lot of control. However, in 1993, it sold 32 percent of its share to a single businessman. This has led to a turnaround in the fortunes of the airline. Competitiveness has increased in both, the passengers as well as the airfreight markets since 1993. The Government has also deregulated the industry significantly.

Indonesia initiated deregulation programmes in 1989. Consequently, three private airlines entered the scenario. Yet the Government has resisted moves towards privatization of its State owned and dominant airline, Garuda Airlines. Excessive Government controls and regulation has constrained the growth of the new airlines, which is natural as the

Government still retains a vested interest. Nevertheless, the limited open sky policy has been successful to an extent towards the desired goals although excessive Government controls still hinder further growth prospects of the industry.

Philippines initiated deregulation in 1988 and privatization of its flag carrier in 1992 by selling 67 percent of its equity. Yet mismanagement, Government interference and domestic fare ceilings hindered profit and thus growth prospects. The initiatives have been marred by excessive political interference. Philippines also has a disadvantageous bilateral air agreement with the United States and this has also been responsible for the dismal performance of its flag carrier. Philippines needs to strengthen the initiates and remove fare ceilings.

Thailand introduced privatization initiatives of its official carrier in 1992. Thailand privatization initiatives have so far remained farcical. The Government, in 1992 privatized Thai Airways and offered only 7.2 percent of its capital equity to the public. It thus retains very strong control over its flag carrier. Deregulation also has not really taken place due to the presence of a military Government. It does not allow double tracking and so lucrative routes are operated only by its flag carrier.

Air Services in India

The Department of Civil Aviation was established in April 1927. From then on till the Second World War, air transport grew at a steady pace in India. However, at the end of the World War, the civil aviation sector suddenly found itself abounded with an inventory of surplus aircraft, network of aerodromes and ground based meteorological, navigation and communication infrastructure. Consequently, there was a major spurt in the number of private carriers, which mushroomed to nine operators plying domestic as well as international services. However air transport grew at a slow pace and these airlines lacked organisational back up, maintenance infrastructure, proper planning, and adequate financial resources. Indiscriminate licensing of several operators on the same route restricted market share and utilization of assets. The result was low load factors, high operating costs and a consequent lowering of other safety and service standards.

Subsequently the transport industry turned sick due to the indiscriminate and unsound licensing of too many operators. This led to unhealthy competition, an increase in costs, and consequently low revenue for the operators.

The Government nationalized the air transport sector by taking over the existing airlines and forming two corporations under the Air Corporations Act, 1953. These were Air India International and Indian Airlines Corporation. The market was segregated between them, with the former plying essentially on international routes, and the later concentrating on domestic routes. The next four decades witnessed complete governmental control of the aviation sector. During this time, the aviation industry grew under State monopoly as the Air Corporations Act prohibited private carriers to operate scheduled air services in the country. The two flag carriers also overcame the initial weaknesses they had inherited, but as time lagged by, a step by step deregulation became imperative.

From March 1, 1994, the undertakings of both Air India and Indian Airlines were transferred to and vested in Air India Limited and Indian Airlines Limited respectively, as public limited companies registered under the Companies Act of 1956. The objectives of both these air carriers were to provide safe, efficient, adequate, economical and properly coordinated air transport services. Thus in accordance to the objectives, they are not guided entirely by the profit motive. At present, Air India Limited operates to 45 destinations outside the country while Indian Airlines Limited operates to 57 domestic stations and 17 international destinations in 13 countries.

India reverted back towards an 'open sky' policy in the nineties conforming to the worldwide trends in the aviation sector. The main reasons for deregulating the civil aviation sector in India were as follows:

- Decline in performance as well as profitability of both Air India and Indian Airlines.
- Increased passenger demand from 1990 onwards, necessitated additional capacity creation in the domestic market, but Indian Airlines was incapable, especially following the grounding of its Airbus-320 fleet in 1990.

- The Government pursued a general policy of economic liberalization. To attune the civil aviation sector with this policy, and enabling it to play an important role in exports and imports, liberalization of the sector was necessary.

Consequently the major reform measures initiated in the domestic market are as follows:

- Private operators are allowed to operate scheduled and non-scheduled services thus removing entry and exit barriers.
- Choice of the aircraft type and size left to the operator to decide.
- Foreign equity up to 40 per cent and NRI/OCB investment up to 100 per cent permissible in the domestic air transport services.
- Open sky policy for cargo operators on a permanent basis.
- Control over fares has been withdrawn and left to the market forces.
- Constructions of private airports both for international and domestic operations are being permitted. Private participation including full foreign equity in the development of existing airports is allowed.

However equity from foreign airlines was not allowed, directly or indirectly in the domestic air transport services. Private operators were also not allowed on international routes. This despite the fact that there is no Indian carriers plying to certain countries like Spain and Australia.

The new air transport policy also laid down two important categorizations; one regarding air services, and the other, regarding route dispersal. For the orderly development of air transport services, it was divided into four categories – Scheduled airlines, Regional airlines, Non-scheduled (Air Taxi) Charter services and Air Cargo services for transportation of cargo and mail. Scheduled airlines operated on all routes according to a published timetable, each flight being open to use by members of the general public. Regional airlines operate from the State headquarters and are essentially for the inter-state transport movements connecting the state headquarters with regional/district headquarters. Non-scheduled services cover specialized traffic like business tours, executive flights, and special flights to destinations where no scheduled operator is

operating. Here, the operator is not allowed to publish the time schedule and issue tickets to passengers. Air cargo services can be either on a scheduled or on a non-scheduled basis, but it does not carry passengers. However these destinations are within the country. For operating outside India, the operator has to take specific permission from the Director General of Civil Aviation, demonstrating his capacity for conducting such operations.

The second important categorization is of air route dispersal. This was done inorder to account for the need of air transport services in different regions of the country. Accordingly, a three-way categorization was made. Category I has two way routes from Mumbai to Bangalore, Calcutta, Delhi, Hyderabad, Chennai and Trivandrum; from Calcutta to Chennai and Bangalore; and from Delhi to Bangalore, Hyderabad and Chennai. Category II has routes connecting stations in the North Eastern region, Jammu and Kashmir, Andaman and Nicobar Islands, and Lakswadeep. Category III has routes other than those in Category I and II. The guidelines further mandated that all scheduled operators are required to deploy in Category II routes atleast 10 percent of their deployed capacity in Category I routes. Of this 1 percent capacity is to be deployed exclusively on Category II stations. Moreover, 50 percent of the capacity provided on Category I routes are to be deployed on Category II routes. These two categorizations are important, as they have been at the bottom of many problems faced by the Indian civil aviation sector.

Impact of Partial Liberalization

Since the repeal of the Air Corporations Act, and the entry of private operators, seven private airlines were assigned "scheduled" status and were allowed to operate on all domestic routes alongside Indian Airlines. Apart from these there were 27 non-scheduled operators also[11]. However, there are no private operators on international routes.

Initially there was a lot of euphoria and optimism that accompanied the entry of private operators in the Indian domestic market. However the private operators could not sustain their operations for long and soon turned sick. There are several factors that contributed towards this. Setting up an airline operation required substantial capital investment, and so the number of aircrafts that each of these operators have was limited. Since the Delhi-

Mumbai route carries 52 percent of total domestic passengers, all the operators wanted to ply in that route. Consequently, there were six operators at one point of time in that route. This was unsustainable as it led to under utilization of aircraft capacity and thus led to these operators turning sick. It has been a worldwide experience that even in the busiest of routes, it is not viable for more than 3 to 4 scheduled airlines to operate. The busiest route in the US, from LA to San Francisco has 4 operators, while the busiest route in Japan, the Tokyo to Osaka route has 3 operators.

Again, the operators had to adhere to the route categorization laid down by the government, or in other words had to ply in certain economically unviable routes; but these airlines operated long-haul jets on the trunk routes and due to lack of smaller aircrafts had to operate category II/III routes with bigger aircrafts. These further made the operations uneconomical. The private operators could not afford to maintain separate aircrafts for flights on category II/III routes.

Overall, the private airlines failed to provide a regime of regular, stable and professionally run air transport services in the country. They have also been involved in various disputes relating to lease agreements, payment of dues, lack of schedule integrity, frequent shifting of routes and operations, etc. Gradually most of the airlines turned sick. Thus despite liberalization and deregulation of the civil aviation sector, the domestic air transport sector has not grown on expected lines. The private airlines, which had to close down, blamed their sickness apart from a host of factors on the following main reasons.[12]

- Lack of transparent and consistent government policy,
- Route Dispersal Guidelines – Operations on uneconomic routes,
- High Cost of Aviation Turbine Fuel,
- Inland Air Travel tax and Income Tax on leasing of aircraft,
- High rates of airport charges,
- Lack of adequate airport facilities and limited watch hour problem at minor airports,
- Uneconomic fares

The experiences of the Air taxi operators have not been particularly different. The operators who started operations in the wake of the open sky policy adopted a regional or feeder approach. Yet none of them have been consistently profitable, and they had their share of problems and difficulties in operating in an uncertain and difficult environment. They have suffered due to certain policies of the DGCA too. For example the safety record of civil aviation in India lies with the DGCA. Towards this end it has adopted certain policies, which are not justified from an economic point of view. For example the DGCA does not allow the use of kuccha or semi-prepared airstrips. The cost for the concrete airstrip raises by eight to ten times. Such high cost is not always justified, especially where operations of air taxis might be needed. Even when there is a temporary need kuccha or semi-prepared airstrips can well be used. Again, Single Turbine Aircraft are not being allowed in India, while the cost effectiveness between a Single Turbine Aircraft and a Twin Turbine Aircraft can be substantial. Moreover, there is very high customs duty on Avgas fuel, which is used primarily by the Air Taxi operators, adding to increased economic inefficiencies.

Existing Bottlenecks

A lot of problem, which is generated and perpetuated in the civil aviation sector in general, stems from a lack of foresight on the part of the government. What is conspicuous by its absence is the lack of a proper policy on civil aviation. This gives rise to a lot of anomalies in the present system which in turn hinders the proper development of air services in India. These briefly are the following:

- There is no proper forecasting system. So, entry and exit of airlines are not based on traffic projections. As a result, between Delhi and Mumbai at one point of time there were six operators although it has been historically seen that three to four operators is the maximum that any route can sustain. As a result all the airlines had low load factors and this contributed to their sickness.
- While on the one hand the Government wants to push forth an open sky policy, the entry guidelines for an airline are not transparent and consistent. They are not in accordance with any traffic projections.

- In general the DGCA is vested with a lot of powers and there is a need for delegation of power. For example, with regard to the import of aircraft either through purchase or through leasing, the present system is ad hoc. There is a need to have a separate committee on aircraft acquisition who should be vested with more powers. Again, kuccha or semi-prepared airstrips or Single Turbine Aircraft not being allowed are two examples, which hinder the growth of air taxi operators in the country. In effect, policy changes are not followed with adequate regulatory changes in the DGCA.
- The present system of importing aircraft is not transparent and promotes rent seeking. For example, the DGCA is the body that clears the import of aircraft, but other agencies like the customs do not always acknowledge the 'No Objection Certificate' issued by the DGCA. In this sense there is a multiplicity of agencies too.
- 'Wet Lease' is not allowed in India. Again, hiring of foreign professionals requires certain clearances and the procedure takes a couple of months, but hiring them can be of an emergency nature. This is the result of the ad hoc and at times illogical measures that DGCA perpetuates.
- The official guideline mandate that all scheduled operators are required to deploy in the unviable Category II routes atleast 10 percent of their deployed capacity in Category I routes. Of this 1 percent capacity is to be deployed exclusively on Category II stations. Moreover, 50 percent of the capacity provided on Category I routes are to be deployed on Category III routes. This has led to sickness in the civil aviation sector as it robs flexibility from the system.
- There is no system of incentives in the route categorization system. Incentive systems like the region benefiting from this practice compensates the airline, or a system of tradeable permits which ensures that the lowest cost airline(s) operates is absent.
- There are quite a few destination countries like Spain and Australia, where Air India (or Indian Airlines) does not fly. Yet Air India is still the sole carrier on our international routes. This practice should be changed and double tracking with private scheduled operators should be allowed on international routes when the slots are unused, or if there is a possibility that new markets can be tapped.
- Many smaller airports suffer from the 'Watch hour' problems (i.e., the airport staff operate till 6 p.m. in the evening). This constitutes a major problem in the development of

fractional ownership of aircrafts.[13] There should atleast be a minimum of one 24 hours airport in each region.

- There is no systematic and transparent system to allocate landing (time) slots, parking space, air terminal space, ticket counters, etc. The present civil aviation policy, it is alleged, has a strong bias towards the public sector carriers. This also hinders the overall growth plan of the industry. Here a desirable balance needs to be struck.
- We do not have any policy on issues that pertain to safety and environment concerns. We also do not have the required regulations on these issues.
- There are certain pricing related problems that act as bottlenecks. These relate to taxation of Air Turbine Fuel, high airport charges, high customs duty on Avgas fuel, and high parking/hangar fees. These are not in line with either international practice nor are they based on economic principles. They are generally levied in an ad hoc fashion, which retards development of airline services in India.

Airports

Airports are quintessential elements in the system of air transportation. They have become the hubs of a multi-modal transport network. It is also a sector of the industry, which is facing a period of major change, as it strives to cope with the need for capacity and the continued priority for safety. Airports cover activities like aircraft maintenance, ground handling, air traffic control as well as management of the various activities in the airport terminal building. Airports have also evolved into multifaceted commercial operations. They contain hotels to shopping malls and provide facilities like car-parking and rental activities.

Airports or civil aviation infrastructure were primarily built, owned and operated by the State. One can envisage three combinations of the ownership and management structure.
Structure I - Public ownership and public management
Structure II - Public ownership and private management
Structure III - Private ownership and private management

Within these combinations, for a comparative purpose, there can be five broad classifications[14] :
A. National or Federal ownership and operation normally managed by a government department;
B. Public ownership and Public operations managed according to commercial practices (a form of "public corporation");
C. Regional ownership and management (state government or local communities or municipalities and user provisions that may be run based on commercial practices);
D. Public ownership with operations contracted to the private sector; and
E. Private ownership and operations within a regulatory structure.
Clearly, categories A, B and C fall within structure I, while, categories D and E fall into structures II and III respectively. In this context, India is still stuck at the first structure of state control, both in ownership and management.

Ownership structures address different objectives and there is no optimal ownership structure. In fact, the property rights of the vast majority of the airports still remain with the State. It is the management where the changes have been taking place. There are quite a few reasons for this. The primary reason is that airports are still viewed as infrastructure which are to serve strategic interests and developmental needs of the State, rather than a capital investment which can be a profitable business on its own right. It is nevertheless true that airports are not extremely attractive business propositions at a comparative level. However, in the era of liberalization, efficiency and financial performances are becoming more and more important and these have induced changes in the management structure.

On the other hand, there are important reasons for initiating privatization of the airports. The primary reason is the access to private capital markets, which becomes vital to infrastructure development and is a key element of economic growth strategies worldwide. Investments in development and upgradation of airport facilities are huge and such large investments can be mobilized from private capital markets[15]. Growth in passenger capacity has led to inadequate capacity at key airports. The money that is required to build and expand airports will always be difficult to mobilize by the governments in developing countries as they have other developmental priorities. Compliance with international safety and environmental standards are also rare, as there is a limited access to resources from the government. In fact, future investment needs is the most important reason why governments throughout the world are pursuing changes in the airport ownership structure.

Traditionally the airports are seen as infrastructure, which serve developmental goals and are subsidised. Debt financing is thus either directly from government sources or indirectly through official lending institutions. Privatization frees the government from the need to fund deficits.

Again, privatization frees the management from the quagmire of bureaucratic restrictions and controls. It thus brings in accountability and transparency and also helps to ensure that the nation's scarce resources are not wasted by applying commercial disciplines to

investments in airports. In the process, potential for efficiency gains increases. This is because privatization infuses the goal of profit maximization and cost effectiveness. Incentives also get internalized.

Finally, airports require longer horizons which governments generally fail to promote as they have relatively shorter horizons. When it comes to spending, and exerting financial controls, this can be crucial. Privatization frees the airports from such a scenario.

Privatization of Airports

Privatization can take various forms. It can be an outright sale of the airport, or a part sale, leasing, the establishment of joint venture companies between the government and private parties, and the award of operating concessions to private companies. Outright sale involves a straightforward transfer of property rights. Part sale can either be an equity sale or sale of specific activities or functions to private parties. We assume that access to private capital for building and upgrading any facility will be the primary driving force behind privatization initiatives rather than outright sale of an entire or part of an airport.

Activities in any airport and the consequent revenue that is generated can be divided into landside and airside revenues. Landside revenues are obtained mainly from non-aircraft related commercial activities in terminals and rents from airlines and concessionaires. Consequently, aircraft maintenance, ground handling and air traffic control would come under airside activities.

Airside activities are more complex than landside activities and require specialized expertise. They require larger investment. Here Built-Operate-Transfer (BOT) and/or Built-Own-Operate-Transfer (BOOT) are effective instruments depending on the extent of investment that is required. If the investment required is quite large and requires loan guarantees, then BOOT is preferred and revenue generated can be divided according to the existing ownership breakdown. The facility that is developed or improved upon can be passenger terminal, cargo terminal, runway or the entire airport itself. Usually the

duration for which the private firm operates the facility varies between 20 to 40 years. The firm builds, operates and finally transfers the ownership to the government at a notional cost at the end of the commissioned period. The government in this process uses private capital at no cost without undertaking any project or commercial risk. The private sector participator weighs the perceived revenue, investment and risk factors. The attractiveness depends to a big extent on the demand/revenue trends. There is an increasing trend in demand internationally for air services and the revenue trend also seems to be fairly predictable. On the flip side, private sector participation would entail higher tariff rates, but it can be assumed that the multiplier effect that such investments induce would increase the base over which the cost will be spread and thus, tariff differentials can be assumed to be marginal.

In this process, the activities are administered as a private company, but subject to the general supervision and control of the government. The advantage with these operations is that they provide access to private capital markets, transfers project risk to the private sector, and enables the project to benefit from the skills and experiences that may not be available to the host country. Also the property rights remain with the government.

Nevertheless, financing of airport infrastructure has certain inherent problems. These projects have large sunk costs, have a long gestation period, and have highly uncertain returns on investment based on several assumptions of traffic growth that may fail to materialize. Hence, the mechanisms by which project risks as well as costs can be transferred to the private sector should be explored and utilized as much as possible.

Build-Own-Operate (BOO) or Buy-Build-Operate (BBO) are variants of BOOT in the sense that these are schemes to bring in private capital and management, but without returning the title to the public sector at the end of any concession period (like BOT or BOOT). In these kind of open ended concessions, the underdeveloped or deteriorated facility is generally purchased from the government through a concession agreement, and then, the facilities are expanded or upgraded, but these do not involve a transfer of the

property rights back to the government. In effect this means a transfer of government property to any private entity (or a group of private sector entities).

For both landside and airside activities, 'Equity Sale' and Lease-Develop-Operate (LDO) are the other two possibilities. However, the profitability of the operations needs to be established first, so as to get the maximum benefits from either leasing it out or selling it to raise cash for further investment. In LDO, the private firm upgrades and expands the facility and manages the cash flows although the government holds the property rights of the facility throughout the concession period and receives lease payments on the assets. On the other hand majority or partial divestitures or equity sale can raise funds for future expansions and modernization. However, although a part of the property right gets denuded, the overall management gets freed from absolute government control. This is a fairly attractive option if the government sells the equity slowly. Initially the change in management can help in the rationalization of cost structures and in the expansion of revenue generation which would in turn build and improve the confidence of investors, leading to a more profitable equity sale by the government. As for new airports, establishment of joint venture companies can also be an important instrument.

Landside activities are fairly straightforward and require little expertise although it might require substantial funds at times. These activities can be sub-contracted out or operated by specialized concessionaires who pay concessions fees and rents to the airport authority, so that the airport authorities concentrate on the airside activities. Moreover, revenue generated from these activities is the lowest in government department airports. They are almost untapped by this kind of ownership structure. The easiest way to generate funds in these activities is to give out management contracts to private parties for a limited period. If the facilities are to be built, BOT can be quite useful. This can serve as the first step in the transformation of airport management from traditional public utilities to a more commercial perspective, which can be in tune with changing market conditions.

Privatization Experiences of Some Airports

It is also very important to understand the trend internationally. The management and ownership of airports have undergone two distinct shifts. The first change began in the early 1970s, when a number of countries created airport corporations under public ownership to improve efficiency and provide access to private capital markets. In the mid-1980s, a second shift occurred within the context of restructuring the role of the State. A number of countries began to turn to the private sector for financing airport investments directly and further improving efficiency. This means that the first shift remained within Structure I, but the second shift was towards private management with or without private ownership, i.e., Structures II or III.

However, now most countries are bypassing the stage of corporatization and proceeding directly to some form of privatization. Empirically, it has been found that publicly owned airports, with a few exceptions like the Hong Kong Kai Tak Airport, generally have not performed at the same level of efficiency as compared to airports with private sector participation. Deregulation and privatization policies have been driven by disenchantment with public sector performance, fiscal crises (which are often related), and technology changes that have increased the scope for competition. Nevertheless, the use of privatization techniques has been limited and no single model has emerged.

Even today, most of the airports are still under State control, and only recently has greater private participation been observed in this activity. The reason behind this is the reluctance of the private sector to get into airside activities, as it requires a lot of technical expertise. Also the behaviour of returns from investments in airports are not very clear or attractive. In fact, Private participation for infrastructure development in the transportation sector has been a recent phenomenon.

As mentioned earlier, privatization options can range from divesting an entire airport, its management, its airside functions or its landside activities. By privatization experiences, we essentially mean public ownership with private operations or private ownership with private operations, that is, structures II or III.[16]

Public ownership of airports can entail privatization by allowing the private operator to be a partner with the state through joint ventures, majority or partial shareholding or bidding the right to collect user fees over a specific period, after which, the government re-auctions the improved asset. The definitive element in a privatization venture is the modality of sharing risks, responsibilities, and rewards, between the private and the public sector.

The Kansai airport in Japan is an example of joint venture between the public and the private sector. The Japanese government, nevertheless, owns two-thirds of the shares, and as a result, the airport has limited managerial and financial autonomy. Moreover, there is no independent economic regulation to oversee the pricing mechanism.

Majority or partial divestitures is more common in the smaller European countries like Switzerland, United Kingdom, Austria, Denmark and Italy. The Zurich Airport in Switzerland, the Liverpool, East Midlands and Birmingham Airports in United Kingdom, the Vienna International Airport in Austria, and the Copenhagen Airport in Denmark are examples of airports where partial or majority divestitures took place. Apart from these some of the larger airports in Italy like Aeroporti di Roma, Genoa, Florence, Naples, and Turin are managed by companies holding an airport concession with both public and private shareholders. The fund thus raised through equity sale is essentially for future investments for airport expansion plans.

Management contracts are a popular option if the government wants to retain the ownership, but is committed not only towards major investments in airport infrastructure but also at the same time wants to divest management functions and operations to the private sector. Seven out of the fourteen airports in Cameroon was brought under such a contract scheme in 1993.

Privatization in the form of Built-Operate-Transfer (BOT) airports or terminals has been completed or is underway in 17 countries. This form of privatization is extremely

attractive as the private sector operator assumes all commercial risk under the concession. Several variations of this framework have been used, but most involve long-term leases and predetermined investment commitments. The El Dorado Airport in Bogota, Columbia is an example where Built-Operate-Transfer has been used. Here the Civil Aviation Authority of Columbia will continue to provide air traffic control services, while the private sector operator is responsible for the maintenance of the runways at the El Dorado Airport.

Built-Own-Operate-Transfer (BOOT), another variant similar to BOT has been used to develop the new airport in Athens, Greece and a terminal, Terminal 3, in Toronto Airport, Canada. This scheme is typically used when loan guarantees are required. Lease-Develop-Operate (LDO) is a long-term concession granted to a private firm to upgrade an existing facility. Examples of this scheme are Atlantic City and Morristown in New Jersey, and Maracaibo in Venezuela.

On the other hand, private ownership as well as operations can also take place. Under this structure there are two forms or mechanisms that can be visualized. The first, is the complete or partial sale of an existing airport and its assets (after a track record as a public corporation has been established) while the second, is the expansion or the creation of a new airport facility under private ownership, like a new terminal building. The first mechanism has been used primarily in the United Kingdom. The British Airport Authority is an example, where individual investors own roughly 95 percent of the assets. The Belfast International Airport in Northern Ireland is another example where full airport divestiture has taken place.

As regards the second mechanism where instead of sale of an existing asset, a new asset is created (or an old asset expanded), Build-Own-Operate (BOO) or Buy-Build-Operate (BBO) can be used. These are essentially open-ended concessions, wherein, certain facilities (in a deteriorated condition) is bought by the private sector from the government (through a concession agreement) and upgraded and/or expanded. Examples of Build-Own-Operate or Buy-Build-Operate are Freeport Airport in the Bahamas, the London

City Airport in the United Kingdom, and the Punta Cana Airport in the Dominican Republic.

Overall, it was found that privatization has not been undertaken within a general framework or within an integrated policy of privatization of airports. The large and major airports have undertaken privatization initiatives, while several no-viable airports still are under government control and subsidy. They have not taken place within the context of a network-system. As a result, the question of cross subsidy has not been transferred to the private sector. Again, it was found that there is a general lack of efficient airport corporations, and the ones that exist are tending towards becoming global operators. Moreover, as a result of this, the government often negotiates privatization of airport facilities with only one partner. In that case, if there is not enough transparency in the mechanism during the divestiture process, the initiative can break down. This is what happened with the proposed privatization of terminals 1 and 2 in Toronto Airport in Canada. It was also found that there exists no correlation between the type of airport ownership and the levels of passenger traffic.

Airports generally operate under monopolistic competition. So, regardless of the ownership structure, policy should be aimed at minimizing monopoly rents arising out of airport operations. And, policy should analyze the relationship between sources of airport revenues, prices charged for airport services and the regulatory framework. This relationship can either impede or foster private sector participation. Hence a well-defined regulatory entity should be established before airport activities are transferred to the private sector.

The Indian Context

In India, the airports are owned by a government department - the Civil Aviation Ministry of the Government of India, and thus are under national public ownership. The Airport Authority of India, a body directly under the Ministry of Civil Aviation, manages the airports. The Airport Authority of India came into existence on April 1, 1995. It was formed by merging the International Airport Authority of India and the National Airports

Authority in order to bring about an integrated development, expansion and modernization of the operational, terminal and cargo facilities at the airports in the country, and which conformed to international standards. It is also responsible for managing the entire Indian airspace and provides air traffic services over the entire Indian airspace and adjoining oceanic areas.

At present there are 449 airports/airfields in the country, but the Airport Authority of India manages 5 international airports, 87 domestic airports and 28 civil enclaves, a total of 120 in the country. However most of the airports are almost non-functional. Of the total traffic in 1996-97, more than fifty percent was handled at the airports in Mumbai and Delhi. All the airlines together operate only through 61 airports. Thus there is an uneven distribution in the flow of traffic resulting in lack of infrastructure at certain places and at the same time a massive under utilization of the existing network of airport infrastructure. Moreover, due to bureaucratic quagmire and the resulting lack of accountability and transparency, profits have very rarely been a consideration. The airports in India are generally inefficient and rely on government subsidies to cover operating expenses. The primary reasons for this are political interference in the appointment of management, uneven commercial structures, inadequate maintenance and operational inefficiency resulting from overstaffing and limited commercial orientation. This calls for a well-laid out policy for airport infrastructure development.

The Policy on Airport Infrastructure

The Ministry of Civil Aviation came out with a "Policy on Airport Infrastructure" in December 1997. The policy acknowledged that airports do assume a significant role in the national economy and the quality of airport infrastructure contributes directly to a country's international competitiveness and flow of foreign investment. The policy document also mentions that the government is developing a separate policy framework for the entire civil aviation sector and so the present document on airport infrastructure should be read along with the national Policy on Civil Aviation. Nevertheless the "Policy on Airport Infrastructure" is very sketchy and simplistic in its approach. It also fails to address the problems per se.

The policy proposes to reclassify airports into International Hubs, Regional Hubs, and Other operational airports.[17] For this purpose, and keeping with ICAO standards and recommended practices, the policy paper proposes to modernize and upgrade airport infrastructure. The paper also proposes to establish 'Greenfield airports' and provide air traffic services according to ICAO standards and recommended practices. For this CNS/ATM systems are to be introduced on a priority basis. Ground handling, cargo handling, and airport security are also to be according to ICAO standards and recommended practices. The "Policy on Airport Infrastructure" also recognizes the low landside revenue generation in the Indian airports[18], and proposes to improve the scenario.

The "Policy on Airport Infrastructure" lays a lot of stress on the need for financing of airport infrastructure by the private sector. For this the report proposes that "Foreign equity participation in such ventures may be permitted upto 74% with automatic approvals, and upto 100% with special permission. Such participation could also be from foreign airport authorities." This is most significant and in tune with the general policies on deregulation and foreign direct investment in infrastructure development followed in the country.

Inorder to facilitate private sector participation, the "Policy on Airport Infrastructure" proposes to establish an 'Airport Restructuring Committee' in the Ministry of Civil Aviation. The Committee is to identify existing airports where private sector participation in the development and upgradation of infrastructure is desired. It will also prepare a shelf of projects in respect of Greenfield airports and the pre-feasibility reports are to be made available to the private sector. The "Policy on Airport Infrastructure" also proposes to establish an independent statutory body called the 'Airport Approval Commission'. This body would have adequate technical and financial expertise is to examine the proposals for private sector participation and then submit its recommendations. Then the Central Government is to take a decision, which is supposed to be a irreversible one from the governments side. The "Policy on Airport Infrastructure" also proposes to provide

fiscal incentives for this purpose. It also lays down the roles of the central and the State Governments. Finally, the policy paper also proposes to establish a fair and independent appellate authority, called the 'Airport Regulatory Board' as a grievance redressal mechanism, which would help in speedy and effective resolution of disputes among the various stakeholders.

The Policy on Airport Infrastructure identifies the problem areas in the existing scenario as:

- the need to declare some additional airports as international airports;
- capacity addition in some of the airports to overcome congestion;
- improvements and up gradations in some of the airports; and
- Overcoming the deficiencies in respect of ground handling facilities, night landing systems, cargo handling etc., at some airports.

However, the "Policy on Airport Infrastructure" does not elaborate on any of these problems. In fact, the policy paper touches on every topic from 'modernization and upgradation of airport infrastructure', to 'airport security' and 'legal framework', but they are extremely sketchy. There is no concrete policy measure that is adopted or is proposed to be adopted, which would help overcome the problems mentioned above. The lack of a concrete policy is by far the main bottleneck of the existing scenario.

Recommendations

Any civil aviation policy in the early part of its development will tend to promote the greater good of the country's civil aviation as a whole and there the airports are not expected to be profitable business. They are also subsidized, but the objectives towards its airports, cannot be geared solely towards the promotion of a national system after a point of time. They need to be self-sufficient, or else they might damage the industry itself. Viability, efficiency and the availability of financing sources have become important objectives. Moreover, airports have evolved into multifaceted commercial operations, which require a restructuring of the role of the State. At the same time it is also not prudent to put a monopoly in private hands as they can be abused. Consequently,

the role of regulation has to be very well defined. It should neither be too loose, leaving the operator free to exploit his monopoly, nor too tight, so as to stifle the enterprise from the benefits that privatization would bring.

In the Indian scenario, due to bureaucratic quagmire and the resulting lack of accountability and transparency, profits have very rarely been a consideration. The airports in India are generally inefficient and rely on government subsidies to cover operating expenses. The primary reasons for this are political interference in the appointment of management, uneven commercial structures, inadequate maintenance and operational inefficiency resulting from overstaffing and limited commercial orientation. Compliance with international safety and environmental standards are also rare as there is a limited access to resources from the government. Debt financing is either directly from government sources, or indirectly through official lending institutions. In fact, future investment needs is the most important reason why governments throughout the world are pursuing changes in the airport ownership structure. Access to private capital markets becomes vital to infrastructure development and is a key element of economic growth strategies worldwide.

Built-Operate-Transfer (BOT) or Built-Own-Operate-Transfer (BOOT) can be very effective instruments for investment in airport infrastructure for the Indian scenario. Most importantly, the property rights remain with the government. This is important because the Indian mindset is generally against the process of privatization although the principal objective of privatization is to increase private investment, especially where traditional sources of public funds are scarce. In fact, the variants of BOT or BOOT are Build-Own-Operate (BOO) or Buy-Build-Operate (BBO), but these do not involve a transfer of the property rights to the government. Hence these do not seem to be practicable options, as any transfer of property rights to the private sector would be protected with nationalist zeal both by the Indian bureaucracy and the Indian politicians.

Equity sale and Lease-Develop-Operate are also feasible options in the Indian case. However, the profitability of the airports needs to be established first. The change in

management can help both in the rationalization of cost structures and in the expansion of revenue generation. Even joint ventures for new airports can be a potent instrument.

It is important to understand that not all airports are financially viable. Many airports serve regional and social functions regardless of viability. These airports cannot just be abandoned. However the extent of the burden has to be reduced. For these airports there are three possibilities- either the issue of cross subsidy is transferred to the private sector, or the government retains some commercial risk but allows the private sector to improve financial performance, or the government retains the unviable airports and uses money from sale of financially strong airports.

Transparency in the privatization procedure is essential, as adequate dissemination of information tend to increase the economic value of the transaction as well as public goodwill. Moreover, the government needs to acknowledge the growing role of global airline and airport operators in managing these corporations efficiently, and their expertise has to be harnessed.

Conclusion

One aspect that is often misunderstood is the difference between privatization and deregulation. Governmental control and privatization are not two mutually exclusive policy initiatives. Infact, they are complimentary policies. The ultimate aim or measure of any policy is the benefits that accrue to the consumers. It was argued that the market structure with its price mechanism is best suited for this purpose. However it is not always feasible for the market to function effectively or the characteristics of the sector might be such so as to encourage a non-market set-up. For example, the government best provides for defense services. Nevertheless, the consumer ideal should be supreme for which free and fair competition should be by and large encouraged and ensured. Herein lies the role of the government, especially as a facilitator. We have seen how the civil aviation sector *per se* has built in distortions so as to make the markets fail. The solution lies in making the markets work with help from the government in the form of positive regulation and not an active role of control by the government. Instances of government failure abound most sectors including the civil aviation sector in India.

The historical trends and worldwide experiences certainly support these. Moreover, it was found in the case of air services that incomplete privatization or farcical deregulation leads to more harm than good. There is no room for ad hoc policy changes, but unfortunately in most developing countries, including India, this has been the norm.

For the airports, an extensive discussion on the scope of privatization initiatives for the Indian scenario was discussed. These initiatives have very solid economic logic to them. In order to implement them, strong commitment by the government towards privatization needs to be displayed. Moreover, any privatization initiative in the airports has a long time horizon. So, the resolutions displayed by the government should be strong and lasting. Civil aviation especially airports, are perceived to be elite institutions and so, if properly initiated, such policies can save a lot of money to the exchequer.

Overall, a well-designed regulatory entity should be established as the changes in the ownership patterns take place. Any civil aviation policy for India should address the reactive ownership and management structures, undeveloped revenue sources, inefficient provision of services, unsafe and low environmental standards, lack of commercial orientation, distorted pricing schedules, absence of underlying regulatory structures and insufficient investment. Again, the growing capacity constraints due to exceptional growth in air transport, the globalization of industry and the global trend towards deregulation and liberalization of the airline industry should also be kept in mind.

Endnotes

[1] For details see "Maharaja in a Maha Mess", *India Today*, June 5, 2000.

[2] This categorization under the Ministry of Civil Aviation, and the subsequent functions of the bodies under it is based on the definitions provided in the Annual Report of the Ministry of Civil Aviation. For details see **Annual Report 1998-99**, Ministry of Civil Aviation, Government of India.

[3] Some countries e.g. USA responded by policy changes while others did not.

[4] This is in a way an externality problem. And externality leads to market failure and thus justifies Governmental control or regulation. However, regulation, which was in force, was not complimentary to the market system.

[5] These agreements specify the cities that are to be linked, ascertain the identity of the carriers to which the access is granted as well as the traffic to be allowed. Depending on the negotiations, various kinds of rights are conferred to a foreign airline. But the cabotage rights, which allows a foreign carrier to pick up and discharge traffic traveling entirely within the home country, is seldom given.

[6] Attempts towards this end were made unsuccessfully in 1944 and in 1947. Representatives of various countries met in Chicago and Geneva respe
ctively. The only worthwhile outcome was the creation of the International Civil Aviation Organization, a United Nations body mandated with facilitating operational, technical and safety standards.

[7] However, there were countries like Singapore that liberalized its aviation industry not because it had to be competitive or it had to enhance the performance of the carrier, but because it was part of the strategy of "popular capitalism" initiated for all industries. In fact, the Government still retains 54 percent of the airline's equity although privatization initiatives were introduced as early as 1985.

[8] Economies of scope arises when airlines offer a wider variety of services while allocating overhead costs over an increasing number of services.

[9] For example, since 1992, the airlines do not need to report fare changes to the Government. However, international flights still require prior Government approval.

[10] Fares are calculated on the basis of average cost per flight kilometre for all flights. This introduces market distortions and cross subsidisation of short-haul routes by longer routes.

[11] As on 1st April 1998, the number of scheduled operators stood at seven and the number of non-scheduled operators stood at twenty seven.

[12] For details see the **Report of the Committee to Review the Reasons for Sickness of Private Domestic Airlines,** Ministry of Civil Aviation, Government of India, April 1988.

[13] Where there is a huge future potential, and which is the practiced norm in Europe.

[14] This classification is made by The World Bank. For details see Anil Kapur, **Airport Infrastructure: The Emerging Role of the Private sector**, World Bank Technical Paper No. 313, The World Bank, Washington D.C.

[15] Provided the airline operations are efficient and profitable.

[16] For a detailed discussion on this topic see Anil Kapur, **Airport Infrastructure: The Emerging Role of the Private sector**, World Bank Technical Paper No. 313, The World Bank, Washington D.C.

[17] Airports are presently classified into five categories – International Airports, Customs Airports, Model Airports, Other Domestic Airports and Civil Enclaves in Defense Airports. Apart from the International Airports, Customs Airports have limited international operations. Model Airports are domestic airports, which have a minimum runway length of 7500 feet and adequate terminal capacity to handle aircrafts of the Airbus 320 type. They can also cater to limited international traffic if required. All other airports are covered under the fourth category apart from the 28 civil enclaves in defense airfields.

[18] This is around 22 percent compared to 60-70 percent worldwide.