

Airports

Wings of growth

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Ideas create, values protect



Shankar K
+91 22 4040 7412
shankar.k@edelcap.com

Shashikiran Rao
+91 22 4040 7581
shashikiran.rao@edelcap.com

Abhishek Bhandari
+91 22 4063 5496
abhishek.bhandari@edelcap.com

Edelweiss Securities Limited

Executive Summary

Global airports multiple plays on single asset; India joins the bandwagon

Globally, airports have gone beyond the limited core aviation functions and have emerged as centers of hospitality, retail spaces, and ultimately as alternative central business districts for cities they are located in. The core aviation function is largely a public utility in terms of operations as well as economics and is therefore closely regulated. Airport operators, however, have large avenues to earn higher returns by developing airport-enabled activities such as free trade zones and knowledge parks in the extended airport city. In India, the Ministry of Civil Aviation (MoCA) has taken some measures to help key Indian airport locations such as Delhi, Hyderabad, and Bangalore develop into integrated airport cities on the lines of Dubai and Hong Kong.

Indian airport projects: So far so good, but fuel costs speed bump

Domestic and international air traffic has expanded at a CAGR of 22% and 14%, respectively over 2002-07, driven by growth of low-cost carriers and the emergence of India as a business and tourist destination. These figures outstrip government forecasts of a CAGR of 6-7% over the same period and have shown up the inadequacies of India's aviation infrastructure. Airport developers are likely to see their projects achieve higher-than-anticipated capacity utilisation in the early years of development. However, high crude prices are forcing airlines to rationalise air traffic on certain routes and cut down on some short haul flights which could lead to lower traffic growth in the short term.

Regulatory uncertainty regarding airport projects

In addition to traffic growth, returns from airport projects also depend on relevant operating agreements that developers have with the government and the regulatory framework. Typically, greenfield projects have returns that are not capped and retain all traffic-linked upsides, while brownfield airports have a regulatory cap on returns and a certain degree of subsidisation from non-aeronautical revenues. Such regulatory nuances for airport development are still in the nascent stage and there is lack of clarity on various issues.

Valuation of airport BOT command premium valuations in early stages

We see airport concessions as a combination of three components: (1) the core aviation business, which follows a classic public utility economic model of moderate, but secured returns; (2) airport non-aviation returns, which depend on volumes handled by an airport in terms of air traffic movement (ATM), passenger foot falls, and cargo volumes—this can be maximised by the operator, but nevertheless bears the business risk; and (3) extended airport city-side development, which follows the special economic zone (SEZ) model. We value the first two businesses in a single DCFE model as they are normally linked to each other. City-side developments need to be valued separately, despite their synergies with the airport business, as their economics are, to some extent, delinked from the periodic fortunes of the aviation business.

Investment Rationale

“Airports will shape business locations and urban development in 21st century...”

Just as...

Townships developed around highways in the 20th century.

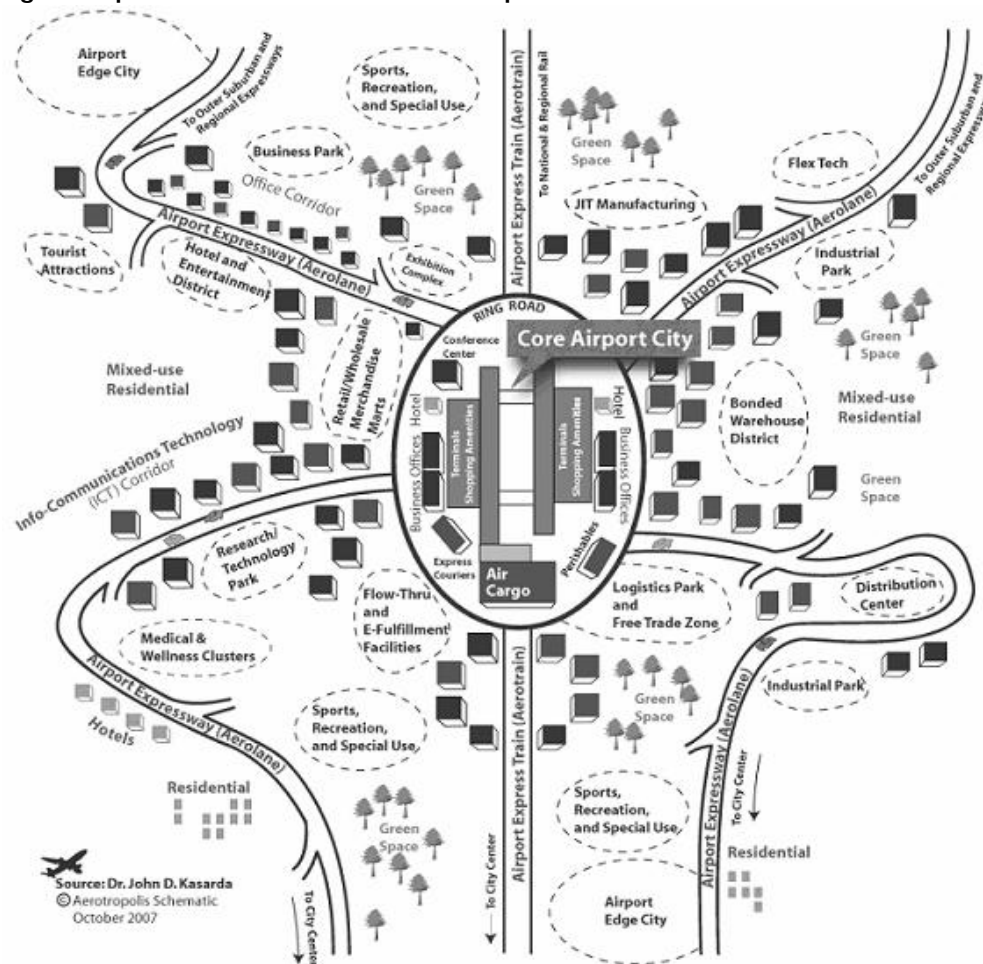
Communities developed near rail stations in the 19th century.

Seaports and waterways were the commercial hubs in the 18th century”

-Prof. John Kasarda

The business models of Indian airports are on the verge of undergoing a paradigm shift. Most Indian airports have developed out of minor private airstrips, which were modified and scaled up to handle larger aircrafts. This has left them with little potential to handle growing traffic and much less to develop as hubs for urban development. Globally, modern airports are being developed as nodes for urban development. Typically, new airports in major cities are away from city centers as these areas face constraints in handling the ever-increasing flow of passenger and cargo traffic. Local governments then invest substantially to connect airport cities to existing central business districts (CBD) using high-speed multi-modal transportation networks. This, coupled with the fact that the land surrounding the airport is initially relatively undeveloped compared to the CBD, makes them strategically placed to attract various connected businesses ranging from time-sensitive manufacturing and distribution centers to travel-related facilities such as hotels and retail and entertainment centers. This concept of a city built around the airport has been termed as *Aerotropolis* and is being pursued globally.

Fig. 1: Airport commercial model—Aerotropolis



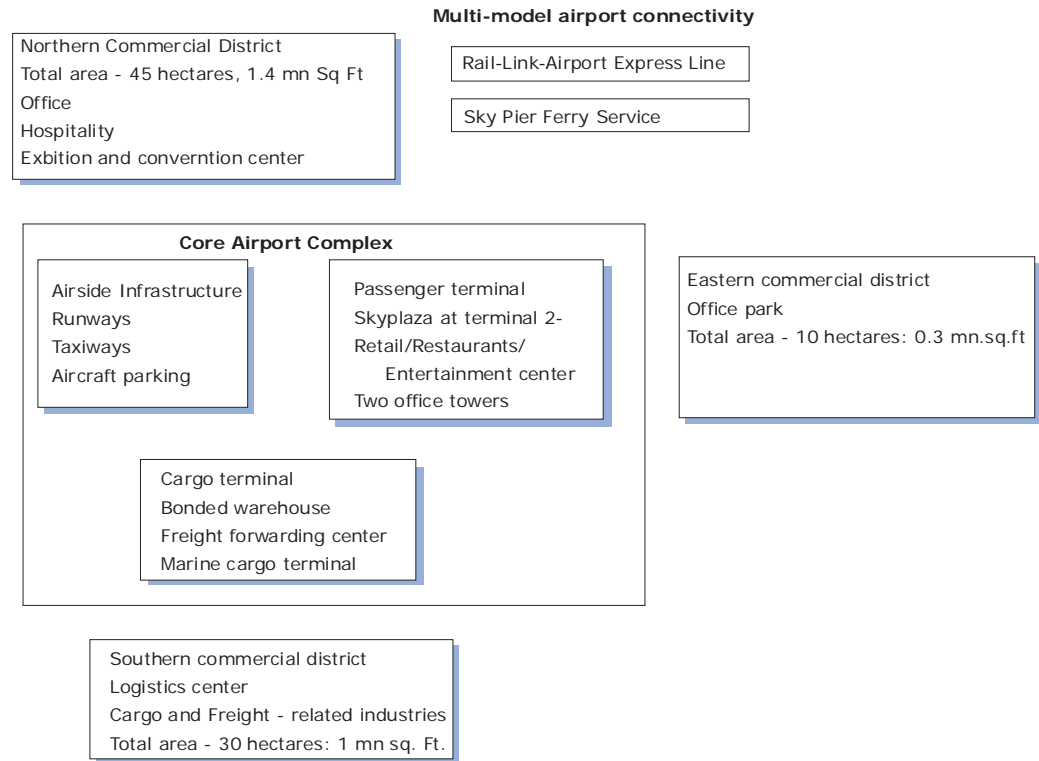
Source: Aerotropolis.com

The new Hong Kong International Airport (HKIA) is a classic example of a complete airport city, which commenced operations in 1999 and is located on a reclaimed island. This model is being replicated across several cities in the world, including Kuala Lumpur and Dubai World City; the latter being a full-fledged Aerotropolis under construction around the new Jebel Ali Airport.

The key features of the HKIA extended airport city are:

1. Passenger terminal consisting of retail, restaurants, and advanced entertainment facilities.
2. Three business districts with synergies with airport facilities such as industrial parks, office parks, and MICE centers.
3. Multi-modal transport such as sky pier ferry service and airport express line linking the existing city to the airport city.

Fig. 2: Hong Kong International Airport — Schematic picture Extended Airport City



Source: Edelweiss research

Clearly, the economic opportunities that arise from airport development can be immense, but an operator’s ability to capitalise could vary, based on several factors such as:

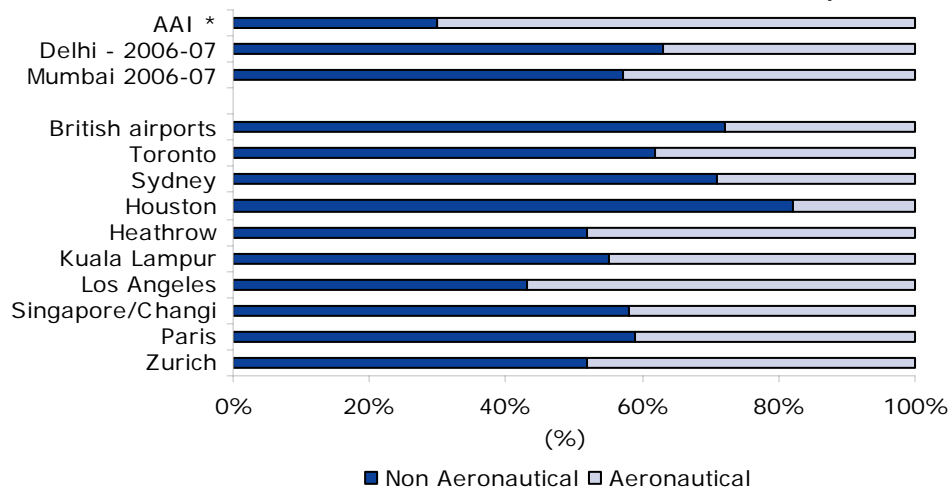
1. **Availability of sufficient space:** Airport projects located at some distance from crowded city centers have an advantage in this regard. In India, the Delhi Airport and greenfield airport projects like Bangalore and Hyderabad have an advantage over older airports like the Mumbai Airport.
2. **Commitment from local authorities to develop multi-modal connectivity:** All the airport cities mentioned earlier are in the public sector. For private airports to develop connectivity with the main city, adequate co-operation between the public and private sectors is the key.

3. **Terms of airport concession:** Development of economic zones around the airport is subject to the terms of the concession agreement awarded to the operator. In India, the aviation policy provides for passenger facilities to be constructed in the airport city and this is encouraged by ministry of civil aviation (MoCA), but there is some grey area whether other airport-enabled activities like office spaces, IT parks, and manufacturing can be allowed. We believe, MoCA as well as state governments are gradually awakening to the economic potential of airports and some commercial projects have been permitted. This will be concretised over time.

Airports as an investment: Landside vis-à-vis airside

Globally, aeronautical revenues of airports are capped by government agencies. Since airports are government-mandated monopoly businesses, governments across the world try to ensure that airport operators do not charge exorbitant rates that will hurt airlines and passengers. At the same time, however, since airport build-operate-transfer (BOT) projects typically entail substantial investments on facilities such as the runway, terminal building, aircraft parking bays, and air traffic control towers, aero charges are fixed to sufficiently cover these investments. In that sense, airports could be treated similar to an utility investment. Airport cities offer immense potential for commercial activities. The idea is to maximise traffic into airports, the benefits of which will flow in the form of other revenues. In most busy airports, aeronautical revenues are ~50% of total revenues. In contrast, non-aeronautical revenues constituted 28% of the Airports Authority of India's (AAI) revenues, including cargo revenues, in FY05. Cargo revenues form a major part of non-aeronautical revenues. Commercial concession for retail space has been limited to duty free shops and food and beverage (F&B) outlets. One of the key goals of the new aviation policy is to ensure optimisation of non-aero revenues.

Chart 1: Aeronautical and non-aeronautical revenues across different airports



Source: Airports survey 2006, Edelweiss research

Note: *(All Indian Airports in 2006-2007)

Revenues for AAI do not include route navigation and terminal parking charges, which do not accrue to airports in most parts of the world as these charges are for sovereign air-traffic control functions.

Valuation

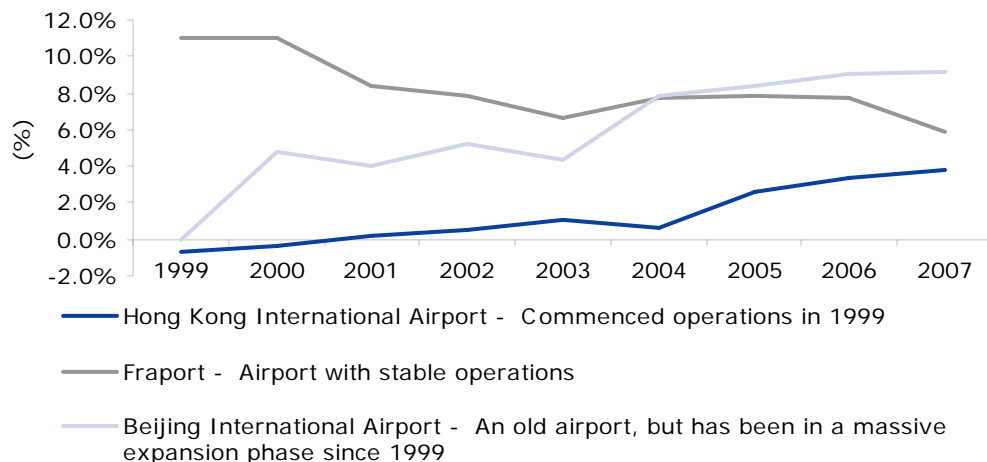
Airport valuation: Returns vary on phase of project

Typically, airport concessions stretch over four distinct phases of development:

- Investment phase:** At this stage, the asset is not in operation. Since project construction is at its peak, the risk profile is the highest. As the first phase nears completion, the risk perception of the project reduces and the investment is re-rated.
- Commencement of operations, post first phase of construction:** Initially, the focus is on opening up essential services at the airport. Revenues in this phase are typically from aeronautical services. As airport charges are regulated, the operator earns a low, but guaranteed, return on assets (RoA).
- Expansion:** Modern airports are built in a modular fashion that allows the airport operator an option to expand capacity, based on requirements of traffic conditions. Also, master plans for airports allow expansion of cargo facilities in subsequent phases. As airport traffic expands, the expansion of hospitality and retail and office spaces is taken up in subsequent phases. This provides top-up returns over revenues from aviation activities. As the investment rolls forward, the valuation of the airport increases.
- Saturation:** In this phase, the potential to expand capacity is saturated and hence, no investment is needed. Airports earn high, reasonably-secured cash flows and operators can enhance the valuation of concessions by securitising contractual proceeds and restructuring the leverage structure of the entity.

Thus, RoAs of airport operators vary according to the phase of operation and tend to rise once airports stabilise aviation operations and expand retail and other commercial operations as traffic figures increase. The chart below shows RoAs of three airport operators with assets in vastly different phases of operations:

Chart 2: Evolution of RoAs employed across different airport projects



Source: Edelweiss research

Thus, the benchmarks for valuing airport concessions vary, depending on the phase. A good part of the upside from airport development comes from permission granted to use surplus airport land for commercial purposes. These activities are not necessarily aviation-related; proposed plans for the land include IT SEZs, multi-product manufacturing facilities, malls, and retail hospitality. In all these cases, revenues from facilities are not considered a part of core aviation activities. While they are nestled within the operational airport special purpose vehicle (SPV), revenues from their development are not treated as airport earnings, and hence not utilised to subsidise aeronautical revenues. Also, since commercial development

has a different risk-reward profile compared to the airport, these components should be valued independently.

Global airport comparables and valuations

Airport privatisation is new in India, but is an increasing phenomenon globally. While there are quite a few listed airport players, most of them are state-owned entities with one or two airport assets. Macquarie Airports (Macquarie) is the closest comparable example of a private airport investor with multiple airport assets across geographies in Europe and Australia. Fraport, which operates the Frankfurt airport in Germany, is the largest airport company by market capitalisation, but it is largely a single-asset company with minority holdings in other assets. Some other unlisted airport operators such as Malaysian Airports operate multiple airports across the world and has investments in several airport projects. Global comparables among airport operators comprise of companies such as Macquarie, Ferrovial and Abertis who have invested in standalone assets that have come up for privatisation in different geographies and pure-play airport operators such as Fraport and Beijing Airport as shown in the table below.

Table 1: Valuation comparables — Largest listed airport players by market capitalisation

| Company | Region | Passengers (mn) | ATMs (mn) | Cargo handled (MT) | M cap (USD) (mn) | Trailing EV/EBITDA (x) | Trailing P/E (x) | RoE (%) |
|---------------------------------------|-----------|-----------------|-----------|--------------------|------------------|------------------------|------------------|---------|
| Fraport | Europe | 54.2 | 0.5 | 2.1 | 5,861 | 7.8 | 19 | 8.7 |
| Shanghai International Airport | Asia-Pac | 46.1 | 0.4 | 2.5 | 5,401 | 26.6 | 22 | 15.6 |
| Macquarie Airports | Australia | 77.1 | NA | NA | 4,351 | 12.4 | 4.1 | 23.9 |
| Beijing Capital International Airport | Asia-Pac | 53.6 | 0.4 | 1.2 | 3,634 | 13 | 22.2 | 11 |

Source: Bloomberg, Edelweiss research

While companies like Fraport and Macquarie (with mature asset profiles) trade at an EV/EBITDA of ~8x, companies with assets in early stages like Shanghai International Airport, which manages the new Pudong International Airport (commenced operations in 1999), trade at an trailing EV/EBITDA of ~26x.

Indian growth story: Aviation traffic beats forecasts for all projects

Between FY01 and FY05, air-traffic across India grew at a modest 9% CAGR. Around 2005, when the focus shifted to airport modernisation, this figure was incorporated in the capacity plans for airports. However, following the introduction of low-cost airlines, air-traffic has zoomed. Total passenger traffic grew 23% Y-o-Y in FY06, 32% in FY07, and 28% in FY08. A major portion of this growth came from domestic traffic; international traffic also has been accelerating, growing 14-15% in each of the three periods. The growth in (air-traffic movements (ATMs) has tracked passenger growth.

Chart 3: Growth in cargo tonnage in India

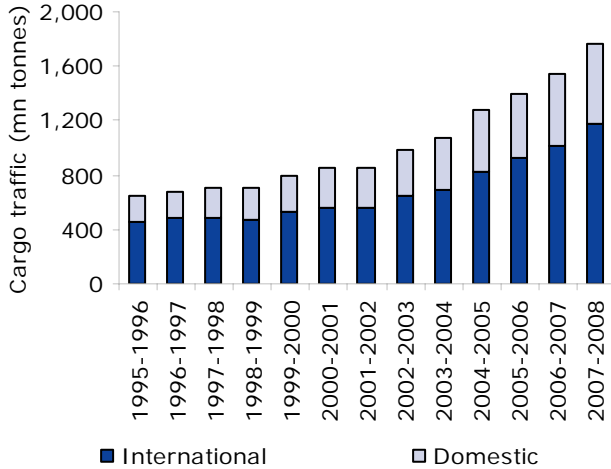
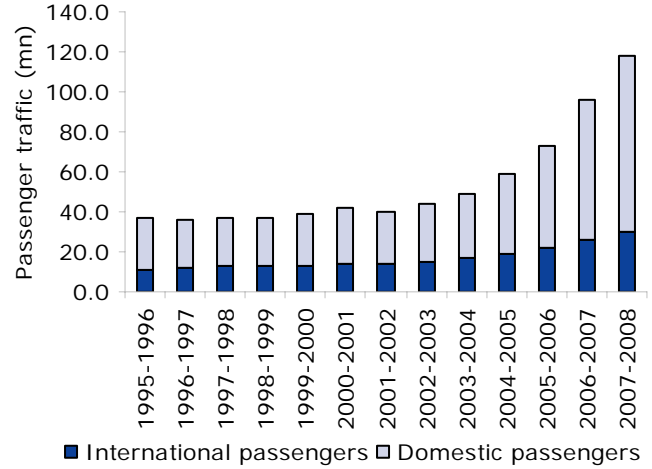


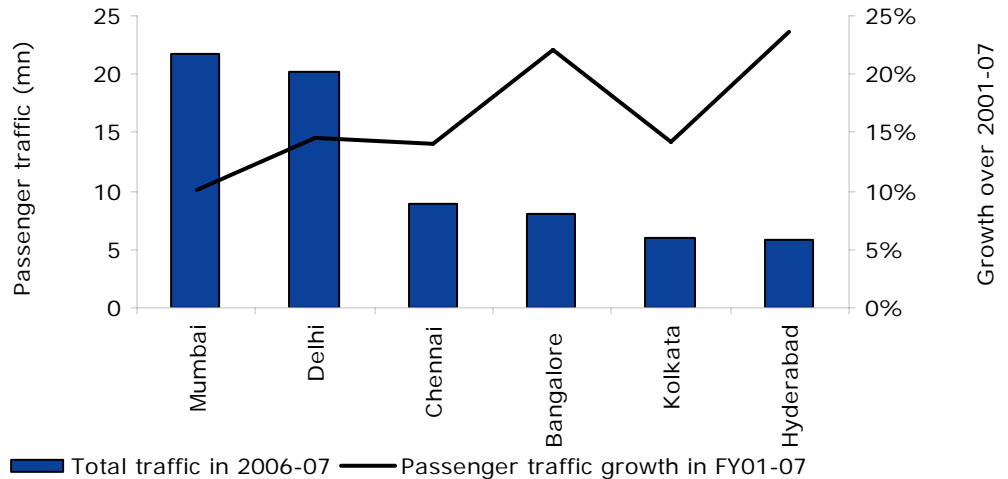
Chart 4: Growth in passenger traffic in India



Source: AAI

While major airports have borne the brunt of traffic growth, Bangalore and Hyderabad have seen a multi-fold increase in both domestic and international traffic. Chennai and Delhi have also seen higher-than-average growth.

Chart 5: Passenger growth in top aviation markets in India



Source: Edelweiss research

Sudden spurt in traffic has exposed inadequacies of airport infrastructure

The explosion in air traffic has left Indian airports unprepared. For example, the old Bangalore airport was designed to handle a maximum of 4 mn passengers per annum; but in FY07 the airport handled 9 mn passengers. The spurt in traffic comes as a challenge for the aviation ministry, and consequently, a boon for investors in airport development. According to report prepared by the Committee on Infrastructure (CoI) in 2006, the government envisaged a total investment of INR 400 bn under the airport development plan (details mentioned in the table below).

| (INR mn) | Airport | Cost |
|--|--|----------------|
| Restructuring / Modernisation for world class airports | Delhi & Mumbai | 150,000 |
| | Chennai & Kolkata | 50,000 |
| Greenfield airports | Bangalore, Hyderabad, Goa, Pune, Navi Mumbai, Nagpur (Hub) & Greater Noida | 100,000 |
| Upgradation | 25 selected airports | 70,000 |
| Modernisation / Improvement | 55 airports | 30,000 |
| Total investment envisaged by 2010 | | 400,000 |

Source: Government of India, High Power Committee on Infrastructure

The figures given by Col are now dated and have been exceeded in most cases. For example, the master plans for the Delhi and Mumbai airports now envisage a capex of ~INR 90 bn each, which is higher than the combined designated investment of INR 150 bn. Clearly, the investment opportunity in the sector is larger and more attractive than previously anticipated. Revenues for airports are to varying extents a function of the traffic at the airport; higher the traffic growth, the sooner is the expected break-even of investments.

Changing rules for landside development mid-course could reduce developer gains

Airside revenues from airport development provide base returns for developers, but that alone does not make the project attractive to bidders. Therefore, as an added incentive, the government typically allows the developer to use 5-10% of the total airport land for commercial development. Gains from these developments are not linked to the aeronautical component, and hence, not capped.

Table 3: Landside upside of various airport BOT companies

| (In acres) | Total land | Land for development | Key developer | Status |
|------------|------------|----------------------|---------------|---|
| Delhi | 5,100 | 250 | GMR | Study on for first phase of development |
| Mumbai | 2,000 | 276 | GVK | Partly under encroachment |
| Bangalore | 4,050 | 0 | Siemens | |
| Hyderabad | 5,500 | 1,100 -1500 | GMR | 500 acres as notified SEZ |

Source: Company reports, Edelweiss research

While this has increased the attractiveness of airport projects for fresh bidders, it has also attracted a great deal of controversy, as in the case of the Delhi Airport project. The controversy focuses on the sharing of revenues from the development project with the government. The Operating Management and Development Agreement (OMDA) currently does not clarify whether or not the developer has complete rights on such revenues. If the government rules that landside revenues should also be shared, it could significantly reduce the attractiveness of airport projects.

Not many new airport projects in lucrative metro markets in the pipeline

Given the immense resources invested in airports for a particular city and the need for scale at each individual center for the project to be economically-viable, airport projects are typically government-mandated local monopolies—a status enjoyed by the new Bangalore and Hyderabad airports. As the government has been slow on the privatisation process, there are not many opportunities that are likely to come up in the near future in major Indian cities. The Navi Mumbai airport is the only greenfield opportunity that we see in the near future.

Delhi: High growth, ample expansion potential; second airport unviable

Delhi's National Capital Region (NCR) has the second-highest air traffic in the country and as there is no other international airport in the North, it is the regional hub. The master plan for the existing airport expansion aims to eventually handle 100 mn passengers annually by 2036, which makes it a unique airport project in India. Despite this, there is a strong proposal being pushed by the Uttar Pradesh government for an international airport at Noida, which is part of NCR and just 67 km from the existing airport. We are not positive on the economic prospects of this proposal.

Mumbai: Strong case for additional airport in Navi Mumbai

Mumbai currently has the highest air traffic on both the domestic and international circuits. The current international airport is in the heart of the city and the amount of land available for expansion is limited. Hence, the Union Cabinet has already given an in-principle approval for constructing a second international airport to be developed in the Mumbai metropolitan region. The site identified is in Panvel, in proximity to the Mumbai-Pune highway. The target date for completion is 2012, though it is a stiff deadline, considering that the government has not yet begun the bidding process.

Kolkata and Chennai: Privatisation proposal stalled

After the privatisation of Mumbai and Delhi airports, Kolkata and Chennai airports were expected to be next in line. However, given the opposition from airport staff, the government has gone back on the idea and is planning to develop these under AAI.

Non-metro airports: Amritsar, Udaipur first in line; more tier-II cities may not follow

MoCA has identified 35 key non-metro airports for development and modernisation. It is unclear whether all the projects will be executed by AAI on its own or if it will be done through the public-private-partnership (PPP) route. Recently, the government invited bids for modernisation of the Amritsar and Udaipur airports on BOT basis, but no further progress has been achieved on this front. Currently, the government is only talking about landside development through PPP and retaining AAI control. While the opposition to airport privatisation has slowed down the bidding process for other airports, opportunities should arise over time.

Table 4: Non-metro airports — Capital envisaged**(INR mn)**

| | Airports covered | Capex | | | Total |
|----------------------------|---|----------|---------|----------|--------|
| | | Terminal | Airside | Cityside | |
| Phase-I (10 airports) | Ahmedabad, Amritsar, Guwahati, Jaipur, Udaipur, Trivandrum, Lucknow, Goa, Madurai, and Mangalore | 14,960 | 4,200 | 10,500 | 29,660 |
| Phase-II (15 airports) | Agati, Aurangabad, Rajkot, Khajuraho, Vadodara, Bhopal, Indore, Varanasi, Bhubaneswar, Vishakapatnam, Trichy, Coimbatore, Patna, Port Blair, and Nagpur | 12,400 | 6,820 | 3,000 | 22,220 |
| Phase-III (10 airports) | Agra, Chandigarh, Dimapur, Jammu, Pune, Agartala, Dehradun, Imphal, Ranchi, and Raipur. | 5,300 | 2,940 | 1,500 | 9,740 |
| Total capex envisaged | | 32,660 | 13,960 | 15,000 | 61,620 |

Source: Committee on Infrastructure

The plan envisages airside development to be taken up by AAI and cityside development to be taken up by private parties under the PPP route. The objective is to increase non-aeronautical revenues from these airports. Under this scheme, bids for redevelopment of Amritsar and Udaipur airports have been received, but there is no clarity on when the process will be taken forward. Therefore, the scope for full-fledged airport development in the PPP model is not in the pipeline. However, some state governments have taken up the task of developing airports in their respective states and this could offer relatively smaller, but interesting opportunities, for prospective developers.

Revenues for airports

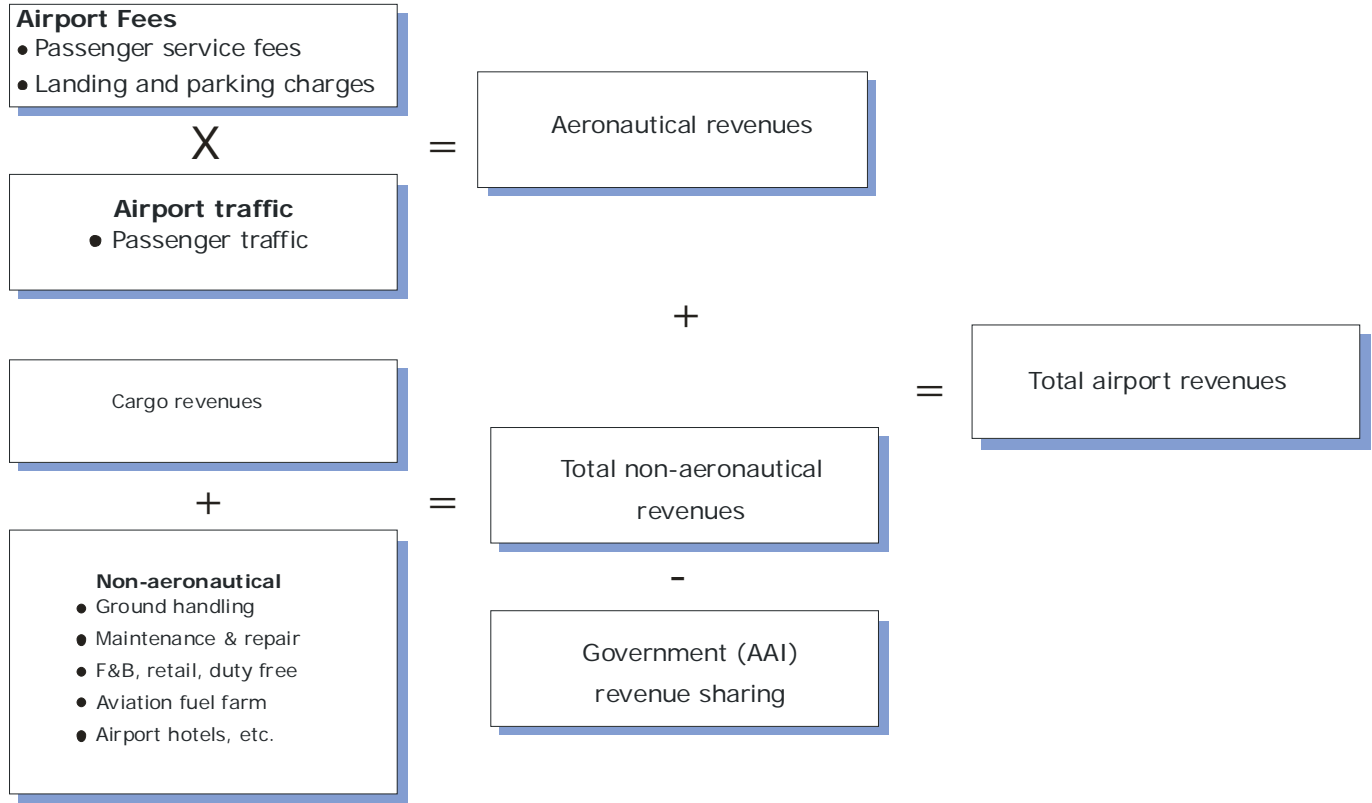
Broadly, revenues for airports are categorised into three main streams:

1. **Aeronautical revenues:** Charges airlines pay for using airport facilities. All aeronautical charges are currently designated by AAI and fixed across the country. These principally include landing and parking charges (*refer appendix 1 for full details*).
2. **Aero-related revenues:** From aviation-related airport operations. The charges here are not AAI-mandated, and hence, airports have some control over them. Principal categories in this are:
 - o **Cargo handling operations:** These include ground handling for cargo operations, bonded warehouse, de-stuffing and demurrage facilities, and transportation. This is normally the largest component of aero-related revenues.
 - o **Aviation fuel farm:** Typically, airports get a concession fee from oil companies that offer re-fuelling facilities for aircrafts.
 - o Maintenance repair and overhauling (MRO) operations for aircrafts.
3. **Non-aeronautical revenues:** In some revenue models, aero-related revenues are clubbed with non-aeronautical revenues. Other than the components mentioned above, airports earn income from non-aeronautical activities within the airport premises. These include F&B outlets, duty free areas in international airports, other retail shops, and entertainment centers. Most of these activities are allotted to concessionaires. Revenues from these activities come in two forms—rentals for the space leased out to these outlets and the airport's share of revenues.

Aeronautical revenues: Principally regulated

All airport charges are currently fixed by AAI and will be regulated by the airport regulator, once it comes into existence. The charges follow two models viz., the traditional and the regulated model, also referred to as CPI-X. In the traditional model (adopted by greenfield airports like Hyderabad and Bangalore and all AAI-run airports), aeronautical revenues are not linked to capital investment and are a direct function of air traffic. Non-aero revenues are also not regulated. Neither is there a cap on non-aeronautical revenues, nor is any part of the revenue used to cross-subsidise aeronautical charges.

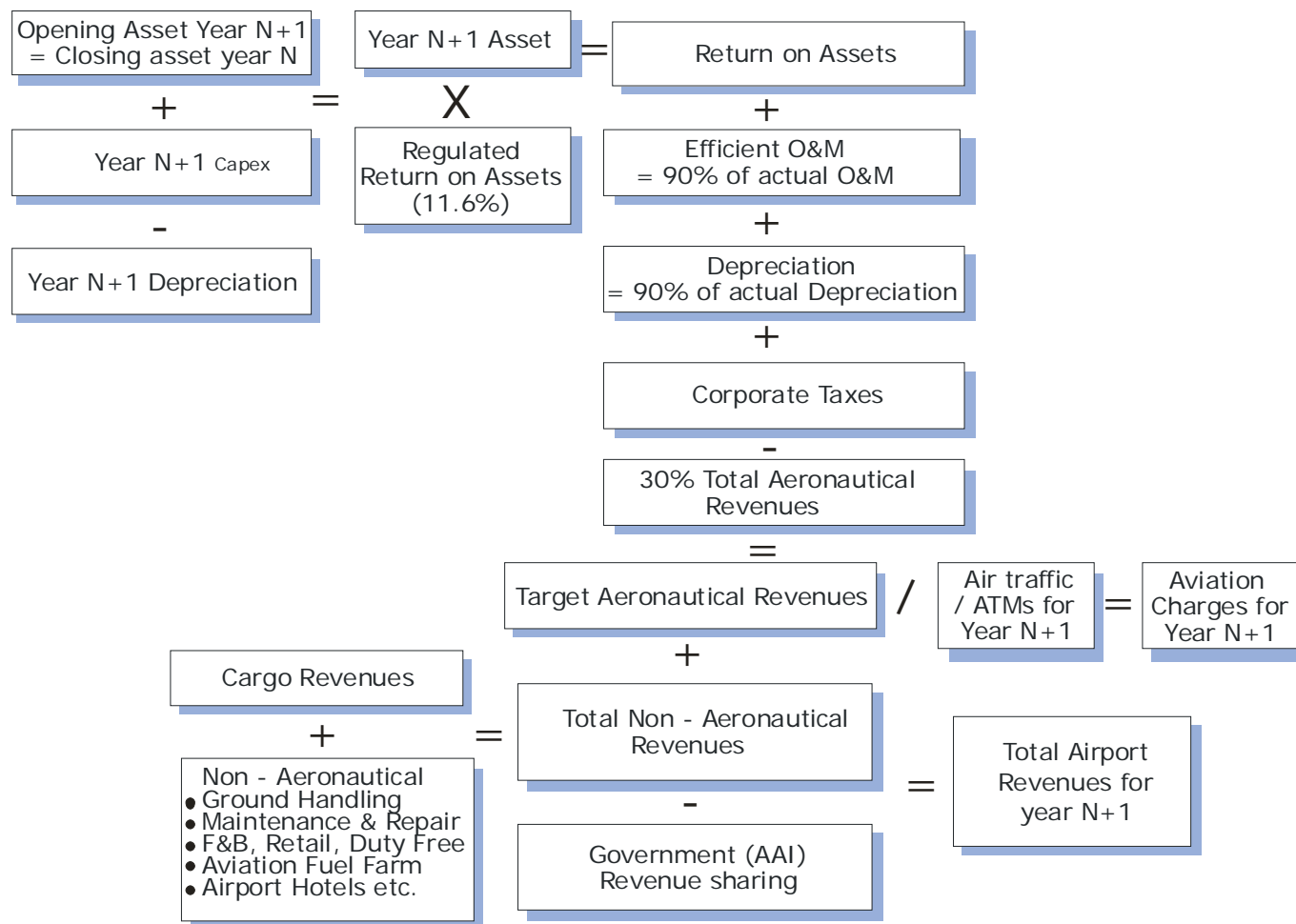
Fig. 3: Traditional airport revenue model



Source: Edelweiss research

In the CPI-X model (followed by brownfield airports like Mumbai and Delhi), aeronautical revenues are capped using a regulated return model. The model ensures that part of the gains from higher-than-expected growth in traffic flows to passengers. The airports retain the upsides from expansion in non-aeronautical revenues (including aero-related), but ~30% of non-aero revenues cross-subsidise aero charges, as illustrated in the chart below.

Fig. 4: CPI-X model



Source Edelweiss research

Aviation charges are fixed by dividing target aeronautical revenues for any particular year by the estimated traffic figure. If actual aeronautical revenues exceed or fall short of the target, they will get “trued up” within blocks of five years. For instance, if we have blocked years three-seven of the concession as one block and the actual aeronautical revenues fall short in year four, then the aeronautical charges i.e., passenger service fees and landing and parking charges for years five-seven will be adjusted in a way so as to make good this shortfall. Therefore, this model offers a secure rate of return to the developer as long as the developer maintains a certain minimum standard of operations.

High operating leverage business: Revenue management holds key

Airports are a high operating leverage business in the sense that the fixed cost component forms a larger part of the total cost. The fixed costs are related to employee and facility management costs, which will be indexed to inflation and not vary based on operational volumes. Revenues, on the other hand, have a higher sensitivity to variations in volumes. Broadly, four operational volume indicators drive the revenue model of any airport. They can be divided into two categories viz., passenger (traffic and ATMs) and cargo (tonnages and ATMs). Since airports are capital-intensive businesses, players try to reduce the variability of revenues from both aeronautical and non-aeronautical streams. This is done by offering long-term concessions and rental incomes from commercial development, which makes revenues less sensitive to movement in passenger and cargo traffic.

Fig. 5: Categorisation of airport revenues based on sensitivity factor

| Revenue sensitivity | Long term fixed | Medium term fixed | Variable with minimum guarantees | Variable - traffic driven | |
|---|--|--|---|--|--|
| Typical revenue stream | Commercial development rentals Office rentals Free-trade zone revenues | Airport rentals Duty free rentals Fuel farm Rental cargo Warehouses rental | Airport concessions revenue sharing Fuel farm revenues Duty free/duty paid retail Food and beverages | Passenger Passenger service fees Landing and parking charges | Cargo Cargo handling revenues Ground handling revenues |
| Parameters affecting the revenue stream | City real estate rentals | Airport passenger traffic | Airport passenger traffic | Passenger traffic/ATMs | Cargo traffic |
| | Typically long term leases with fixed escalations | Typically have 5-10 year concessions | Concessionaries may provide airport minimum revenues guarantees but link it to airport traffic growth | | |

Source: Edelweiss research

Lease rentals from facilities within airport premises such as cargo terminal rentals and duty free rentals provide medium term stability to earnings, while revenues from the extended airport city provide long-term revenue visibility. Most airport concessionaires such as duty-free/duty paid retail and aviation fuel farms offer revenue shares to the airport developer, which come with minimum revenue guarantees. However, these revenues are subject to definite airport traffic (passenger or cargo) being achieved.

Special funding for greenfield projects: Viability gap funding, user development fees

As airport development projects are constructed on state support agreements, the government provides a means of ensuring minimum cost recovery for these projects. Currently, a combination of two modes is used:

- Viability gap funding
- User development fees (UDF)

UDF, meant to fund further investments in airports, are to be charged for every departing passenger—both domestic and international—for the first 10-15 years of airport operations. The extent of these charges is approved by the government, based on the approved capital costs incurred in the development.

Non-aeronautical revenues: New airports can expand underdeveloped avenues

Airport fees form the core revenues for the operators, but being regulated, there is very little scope to optimise the same. However, there are several non-aeronautical revenue opportunities, which have not been fully optimised as yet, such as:

- Retail: Duty free and duty paid, F&B
- Air cargo facility developments, including bonded warehouses, trans-shipment and other similar facilities
- Maintenance, repair and overhaul (MRO) facilities for domestic and international aircrafts within airport premises.
- Optimisation of core airport facilities like re-fuelling and ground handling through exclusive concessions.

Air cargo: Comes with substantial collateral benefits

Globally, air cargo forms a significant part of total cargo transport and typically is used for high-value products. As per data from the International Air Transport Association (IATA), air cargo forms ~1% of the total world cargo traffic by tonnage, but over 40% by value. Air cargo growth in India has also increased with the aviation boom, at a CAGR of 17% since 1997, but cargo traffic is way below that in major international airports

Table 5: Cargo traffic in major Indian airports

| in 000'MT | Cargo Handled | Growth in CY08 (%) |
|-------------------------------|---------------|--------------------|
| International Airports | | |
| Memphis | 3,841 | 4.0 |
| Hong Kong | 3,773 | 4.5 |
| Anchorage | 2,826 | 0.6 |
| Seoul | 2,556 | 9.4 |
| Shanghai | 2,495 | 15.5 |
| Indian Airports | | |
| Mumbai | 522 | 12.1 |
| Delhi | 421 | 9.0 |
| Chennai | 264 | 14.5 |
| Bangalore | 174 | 7.7 |
| Kolkata | 81 | 0.7 |
| Hyderabad | 50 | 16.1 |

Source: DHL

This has been partly due to the lack of adequate cargo handling infrastructure in Indian airports. For example, total air cargo tonnage across 10 of the largest Indian airports (comprising over 90% of total volume) is ~1.5 MT, which is less than the cargo handled by Singapore Airport alone (~1.92 MT). An improvement in cargo facilities provides several accompanying business opportunities and can boost several industries. Some examples:

- Time-critical manufacturing can be located close to airports
- Export-oriented manufacturing for high value items such as apparels and electronic equipments
- Cold chain for perishable commodities can be set up to boost agri-related industries in the vicinity
- Aviation-related manufacturing units
- Air-express and mail cargo facilities will get a boost

Given the immense potential offered by expansion of cargo infrastructure, this is one of the key thrust areas in the civil aviation policy and is an important part of airport developer plans.

- National Aviation Corporation of India (NACIL; the cargo arm of Air India) is planning to set up a cargo hub in Nagpur, which it intends to promote as a single point hub for all-India air cargo requirement.
- The Delhi airport master plan mentions converting an existing terminal into a designated cargo terminal area.
- The greenfield Hyderabad and Bangalore airports contain dedicated cargo terminals and have tied up to provide warehousing facilities.
- Both the government and airport developers are exploring development of a cargo village concept, which will enable handling of cargo tonnage in excess of 1 MT.
- Hyderabad airport is developing a multi-product SEZ, which will provide facilities largely for time-sensitive manufacturing.

Airport policy overview: Sector still evolving to reach critical size

The aviation infrastructure policy of 1997 first recommended moving towards privatisation of airports. The policy paper recommended several structures for participation of the private sector in development, out of which the BOT model was chosen. Key features of the policy:

- A greenfield airport may be permitted where an existing airport is unable to meet projected requirements of traffic or a new focal point of traffic emerges with sufficient viability.
- No greenfield airport will normally be allowed within an aerial distance of 150 kilometers of an existing airport unless demand parameters require it.
- Special attention to the speedy handling of cargo. The objective is to reduce dwell time of exports from four days (in 1997) to 12 hours, and of imports from four weeks to 24 hours, in line with internationally achieved norms.
- Raise proportion of non-aeronautical revenues in total airport revenues from 22% to the international standard of 60-70%.
- Concessionaires can also raise revenues from UDF for setting up new facilities. While the government will not regulate revenues from non-aeronautical sources for airports, UDF will be subject to government approvals.

While the aviation policies framed in 1996 and 2003 paved the way for the open skies policy and, hence, the entry of new airlines, airport regulations remained in the domain of mutual negotiations between MoCA and PPP players. With an increase in the number of players in the space and complaints of arbitrariness in the regulatory framework, the government is waking up to the need for an airport regulator separate from AAI, which is a market participant. The Union Cabinet has approved the Airport Economic Regulatory Authority (AERA) Bill, which has the following objectives:

- Set up an independent airport regulator to encourage investments in airport facilities
- Regulate aeronautical service tariffs
- Balance the interest of the users and developers
- Establish an appellate tribunal for arbitration of disputes over airports

The bill is pending parliamentary approval, but once approved should provide much-needed regulatory clarity for future investments in the sector.

Key Risks

- **Air-traffic fluctuations**

Viability of the airport business model depends on secular growth in air and cargo traffic. Traffic figures have been on a growth path for decades now; however, there have been short to medium term blips in the past, which reduce air traffic and cause losses for airport operators. Till now, developers have had only positive surprises with respect to traffic growth, since the privatisation process commenced in 2005, and returns for early investors will exceed projections. This may not be the case for newer airport privatisation projects where traffic growth expectations will be much higher from all bidders. Air traffic growth has historically witnessed periodic shocks (Chart 6 and 7). The two main shocks in the recent past were largely concerning security issues in 1991-92 and 2001-02 due to the Gulf War and September 11, respectively.

Chart 6: Historical growth of world passenger traffic

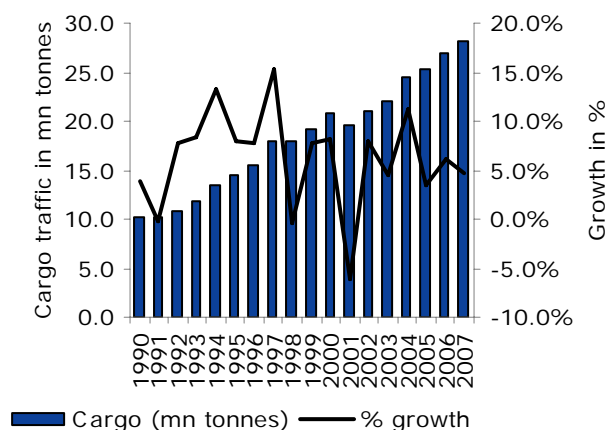
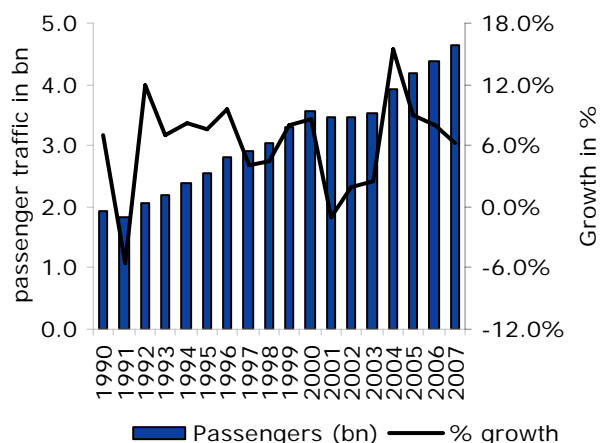


Chart 7: Historical growth of world cargo traffic



Source: Airports Authority of India

The steep rise in crude prices has hit the profitability of the Indian aviation sector and could slow down growth, going forward. Already several airlines are rationalising schedules to optimise flights on domestic routes. This could lead to a drop in total passenger numbers as well as ATMs in the short term. We believe, in the long run, air traffic will revert to the growth path. Given that this is a high operating leverage business, marginal blips in traffic growth could lead to a high impact on profitability.

- **Regulations clouded: Airport regulator still some time away**

Airport projects being in their execution phase, much of the regulation of their economics are still being worked out through negotiations rather than under any definite policy framework. All the agreements currently executed have a provision that they will be covered under regulations from the airport regulator once the airport economic regulator (AERA) Bill is passed. However, the bill has been pending for over a year in the Indian Parliament and is unlikely to be passed before the term of the House expires in April 2009. Therefore, the regulatory uncertainty will continue. This will have a negative overhang on investors in this space. There have been recent instances of disputes between the civil aviation ministry and airport operators that have remained unresolved in the absence of the regulator. For instance, the 10% hike that was allowed to the Mumbai and Delhi airports in FY09, under their respective OMDAs, has not yet been granted by the ministry.

- **Capex costs and interest rate-sensitive business**

Airport development is a public utility project involving high capital expenditure. Additionally, each airport project is unique and hence there are no watertight benchmarks for capital cost for different projects. In the high current inflation scenario,

the possibility of cost over run in these projects is high. The modernisation projects of the Mumbai and Delhi airports have already undergone upward revision in capex by as much as 50% on account of material cost escalation and expansion in scope of projects. This risk is partly mitigated by government-mandated returns in the aviation charges. But all the capital costs associated with the projects need to be approved by the Government before the revised charges are approved and this involves a certain degree of discretion with the government.

Given the high capex involved, the projects are typically funded on a debt-to-equity ratio of between 1:1 and 3:1. The high debt component in projects entails a high rate of risk in the rising interest rate scenario. Airport projects have been trying to mitigate the costs by availing foreign currency loans at more competitive rates. As international airports typically have foreign currency receivables, they provide a natural foreign currency hedge against loan repayments.

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GMR INFRASTRUCTURE

INR 104

**On the runway****ACCUMULATE**

August 20, 2008

Diverse infrastructure player: A pioneer and now a specialist in airports

GMR Infrastructure (GMR) became the first Indian company to successfully execute a greenfield airport project in India under the private public partnership (PPP) route with the inauguration of the Hyderabad Airport on March 16, 2008. It is also the lead player in the consortium managing and modernising the existing New Delhi International Airport and Sabiha Gokcen International Airport in Turkey. The company has secured the most attractive projects in this space with a host of lucrative concessions.

Significant upside potential from airport landside development

Both Delhi and Hyderabad airport projects have come with a significant upside on both the airside—through air traffic growth—and on the landside—through the mandate for development of surplus airport land for commercial purpose. In all, GMR has over 250 acres of land available for commercial development in the Delhi Airport project and about 1,500 acres in the Hyderabad project, which include two SEZs of 250-acre each, which have already been notified.

Power project pipeline still at nascent stage

GMR has three power plants operational currently with an installed capacity of 808 MW; but two of them are facing uncertainties due to fuel and PPA issues. The company has a pipeline of 3,000 MW in various stages of development, which includes five hydro projects of 1,100 MW and two coal-fired projects of 1,050 MW each. GMR has acquired a Dutch-based global power company Intergeren which has generation units across Mexico, Europe, and Australia of 6,231 MW under operation. This acquisition will put GMR up the learning curve in power markets across several geographies.

Outlook and valuations: Attractive; initiating coverage with 'ACCUMULATE'

Our base case sum-of-the-parts (SOTP) valuation of the company gives a value of INR125/share. We are confident on the growth story of the company, but we believe that regulatory uncertainty affecting the business could prevent the stock from realising its full potential in the medium term. Any declines from the current market price of INR 104 could offer attractive buying opportunities. We initiate coverage on the stock with 'ACCUMULATE' recommendation.

Shankar.K

+91-22-4040 7412
shankar.k@edelcap.com

Shashikiran Rao

+91-22-4040 7581
shashikiran.rao@edelcap.com

Abhishek Bhandari

+91-22-4063 5496
abhishek.bhandari@edelcap.com

Reuters : GMRI.BO
Bloomberg : GMRI IN

Market Data

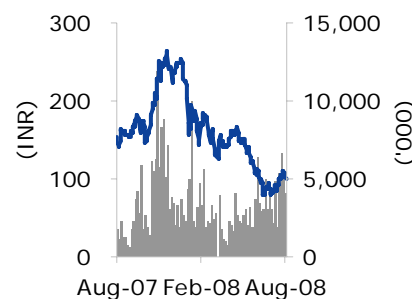
52-week range (INR) : 269 / 77
Share in issue (mn) : 364.1
M cap (INR bn/USD mn) : 36.8 / 850.7
Avg. Daily Vol. BSE ('000) : 12,781.9

Share Holding Pattern (%)

Promoters : 73.3
MFs, FIs & Banks : 7.5
FIIs : 9.0
Others : 10.3

Relative Performance (%)

| | Sensex | Stock | Stock over Sensex |
|-----------|--------|--------|----------------------|
| 1 month | 11.7 | 22.4 | 10.7 |
| 3 months | (16.0) | (33.6) | (17.6) |
| 12 months | 1.5 | (34.0) | 35.5 |

**Financials**

| Year to March | FY07 | FY08 | FY09E | FY10E |
|-------------------------|--------|--------|--------|--------|
| Revenue (INR mn) | 16,967 | 22,948 | 29,078 | 40,535 |
| Rev. growth (%) | 0.6 | 0.4 | 0.3 | 0.4 |
| EBITDA (INR mn) | 5,437 | 5,985 | 9,552 | 15,493 |
| Net profit (INR mn) | 2,418 | 2,627 | 5,436 | 6,931 |
| Shares outstanding (mn) | 1,570 | 1,705 | 1,820 | 1,820 |
| EPS (INR) | 1.1 | 1.2 | 2.1 | 2.7 |
| EPS growth (%) | 1.1 | 0.1 | 0.7 | 0.3 |
| P/E (x) | 94.0 | 84.7 | 49.7 | 38.8 |
| EV/ EBITDA (x) | 35.1 | 35.2 | 30.9 | 24.2 |
| ROAE (%) | 13.6 | 5.2 | 6.1 | 7.3 |
| ROACE (%) | 8.5 | 5.2 | 4.6 | 4.7 |

Investment Rationale

Diverse infrastructure player: A pioneer in airport development

GMR has grown in a short span of time from a pure power generator into a multi-asset infrastructure developer with airport, road, and SEZ projects in its kitty. It has graduated from being a domestic pioneer in airport development PPP projects to a global specialist and lead player in airport development. Its entry into the airport sector began when its consortium, in partnership with Malaysian Airports, bagged the contract to develop the greenfield Hyderabad airport. It is one of the largest airports in India in terms of area and provides the GMR-led consortium enormous scope to develop it as a major aviation hub for South India, and, over a period of time, a major aviation center for South Asia. The first phase commenced operations in March 2008.

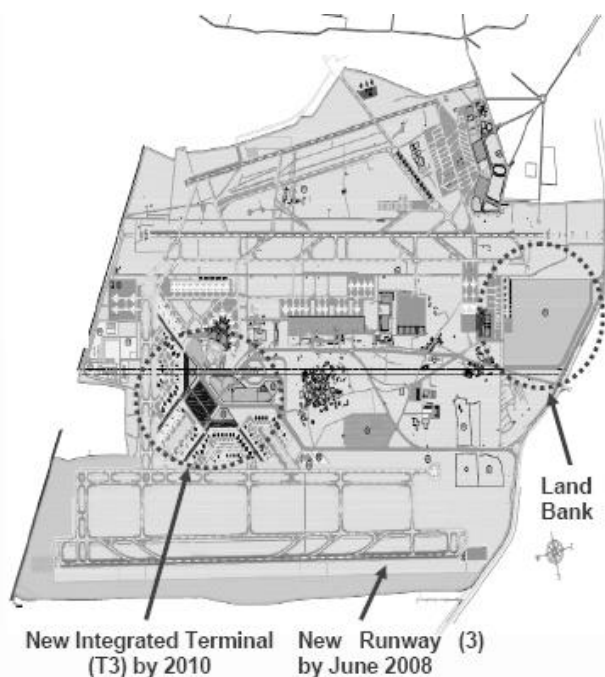
Table 1: Hyderabad airport—Phase-wise expansion schedule

| Key Work | Phase | Pax (mppa) | ATM per hr | Cargo Cap ('000 mt) | Term Area (sq.mt) | Commencement of Operations |
|--|-------|------------|------------|---------------------|-------------------|----------------------------|
| Terminal 1, first runway, 308 room hotel | 1 | 12 | 55 | 100 | 105,300 | Mar-2008 |
| Terminal 2 | 2 | 21 | 55 | 170 | 210,600 | Jan-2013 |
| Second runway | 3 | 30 | 110 | 240 | 315,900 | Jan-2024 |
| Expansion of terminal 2 | 4 | 40 | 110 | 300 | 430,000 | Jan-2030 |

Source: Company reports, Edelweiss research

In 2006, GMR also bagged the Delhi Airport modernisation and expansion project in consortium with Fraport and Malaysian Airports. The development will be over several phases and take the airport's ultimate capacity to 100 mppa on saturation in 2035. As one of the largest airports in the country, Delhi Airport expansion work will involve an investment of over INR 89 bn in the first phase alone. The first phase is a prestigious showpiece project for the Government of India before the Commonwealth Games to be held in Delhi in 2010 and hence, the timeline for the project is immutable. This fact makes the project a high visibility high risk project for GMR.

Fig. 1: Delhi International Airport expansion—Phase I master plan



Source: Company reports

Table 2: Delhi International Airport—Phase-wise expansion schedule

| Key Work | Phase | Pax (mppa) | ATM per hr | Cargo Cap ('000 mt) | Term Area (sq.mt) | Commencement of operations |
|--|------------|---------------|---------------|------------------------|----------------------|-------------------------------|
| New runway, new departure terminal T1B | 1A | 26 | 110 | 539 | 110,973 | Mar-2008 |
| New terminal T3 | 1B | 60 | 110 | 638 | 515,075 | Mar-2010 |
| Cargo expansion: T1 to cargo terminal | 2 | 60 | 110 | 900 | 515,075 | Mar-2012 |
| New T4, T3 extended with T2 demolition | 3 | 66 | 165 | 1,400 | 976,017 | Mar-2016 |
| New T6, new cargo complex | 4 | 80 | 220 | 2,100 | 1,268,244 | Mar-2021 |
| New T5 | Saturation | 100 | 220 | 3,600 | 1,719,844 | Mar-2026 |

Source: Company reports, Edelweiss research

Thus, GMR has bagged two of the four airport PPP projects that have been awarded in India so far. Being a pioneer has had several advantages for the company—both Hyderabad and Delhi airports have a high demand growth potential and also the current location that has been assigned to GMR has sufficient land and other resource potential to cater to this growth. Additionally, at this stage of the airport privatisation programme, most terms and conditions have been based largely on negotiations between the government and the players, giving GMR more room to negotiate favourable terms for the projects.

Significant upsides from commercial development linked to airports

Apart from revenues from airport operations, GMR has managed to win significant amount of development rights for the land adjoining the airports in both Delhi and Hyderabad of 250 acres and 1,100 acres, respectively. GMR has also been the quck off the block in moving to develop these, starting with the Delhi Aerotropolis project.

However, a part of the Delhi project is under contention and the upside will take time to materialise in both the cities. The principal bone of contention, especially in Delhi Airport, revolves around GMR's proposal to use advance deposits for the property development to finance the project. The company had proposed collection of advance deposits from lessees for the 47 acres of hospitality district that it is planning to develop as part of the project's first phase, which would be of INR 27 bn. This proposal had been objected to from within the government as the move deprives Airports Authority of India (AAI) of its share of revenues from the project which would be less than 46% GMR had bid for. While GMR argues that the proposal is in line with the original state support agreement (SSA), it is willing to negotiate with the government in this regard.

Table 3: Delhi Airport—Project financing options (INR mn)

| | As proposed | Part deposits | All equity |
|---------------------------------|-------------|---------------|------------|
| Total project cost | 89,760 | 89,760 | 89,760 |
| Loans from Fis/ Banks | 49,880 | 49,880 | 49,880 |
| Trade and lease deposit/ equity | 27,400 | 18,808 | 0 |
| Equity | 12,480 | 21,072 | 39,880 |
| GMR contribution | 6,252 | 10,557 | 19,980 |
| AAI contribution | 3,245 | 5,479 | 10,369 |

Source: Company reports, Edelweiss research

We believe the following three options could be looked at:

- All equity partners, including AAI, be asked to bring in extra equity and all the advances collected as rentals rather than deposit. This structure will be worst case for GMR.
- The government allows deposits of three years of lease rentals as deposits over and above an infrastructure development charge of INR 150 mn. This solution may be the most acceptable to all parties.

The upside on the land side for the new Hyderabad Airport is significantly higher. Also, unlike the Delhi Airport contract, the land side development is not restricted to passenger facilities. Instead, the government has already notified two special economic zones within the airport complex.

Power project expansion pipeline at nascent stage

GMR has several power projects on the drawing board. The company has about 5,040 MW of generation units in various stages of development, which include 2,100 MW of coal-fired generation units and 1,190 MW of hydro power units and an additional 700 MW unit at the existing Vemagiri plant. The company plans to use a majority of the new generation capacity for merchant sale instead of PPAs. But, as things stand, most of the plants have not achieved financial closure, and it remains to be seen if the projects receive fund commitments in absence of PPAs. The coal plants, which include two 1,050 MW plants in Orissa and Chattisgarh, have partly managed to secure fuel supplies through a coal block and linkages. These plants will come on stream earliest by mid-FY12. As a part of its efforts to expand its coal-fired generation capacity, GMR bought stake in a South African coal mining company Homeland Energy. The investment puts total mineable reserve of approximately 452 MT at the company's disposal which will support generation capacity of about 1,500- 2,000 MW. But, the mines are yet in the development stage and only once the plan for the mines is approved, will the company be able to begin commercial exploitation. Also, GMR will need to put in more funds to make the mine operational. Hence, while this acquisition fits into GMR's long term ambition, it is still some way away from making any significant impact on its earnings.

SEZs: Medium term visible growth area

GMR is developing the 3,300 acre Krishnagiri SEZ in Tamil Nadu near Bangalore in partnership with Tamil Nadu Industrial Development Corporation (TIDCO). It will be a multi-product SEZ focusing on housing IT, ITES electronics, and engineering companies. In addition, the company will be developing SEZs in Delhi and Hyderabad airports.

Table 4: SEZ and property development summary

| | Krishnagiri | Hyderabad - aviation | Hyderabad - multiproduct | Hyderabad other | Delhi Aerotropolis |
|-----------------------------------|---|-------------------------------|--|-----------------|---|
| Size (in acres) | 3300 | 250 | 250 | 600 | 250 |
| Project type | Multiproduct - predominantly automobile | Aviation - MRO, manufacturing | Multiproduct - IT, textile, biotech, electronics | No plans yet | Airport related - commercial and retail |
| Timeline - startup | FY09 | FY09 | FY09 | NA | FY09 |
| Timeline - completion | FY16 | FY15 | NA | NA | |
| Status | Land acquisition on | Early stages | Early stages | NA | Market study and strategic plan under preparation by JLL and Lehman Bros. for first phase- hospitality district |
| Saleable/ Leasable area (approx.) | | | | NA | 750 |
| Project cost (INR mn) | 113,000 | 4,250 | 4,250 | NA | NA |

Source: Company reports, Edelweiss research

In terms of impact on revenues, we believe that Krishnagiri and the Hyderabad SEZs have near term earnings visibility with revenues likely to accrue in FY10. Delhi Aerotropolis is a complete airport district, a first of its kind in India. While the long-term earnings potential of this project is high, only the first phase, consisting of the hospitality district, has been taken up. We do not expect the remaining phases to be taken up before clarity emerges on the revenue sharing arrangement of this project with AAI. Similarly, the 600-acres available in the Hyderabad Airport project for commercial purpose is unlikely to be taken up in the near future. As the new Hyderabad Airport is far from the existing city center, further urban development around this will take some time to materialise and hence, we expect the value to be unlocked gradually over the next 10-15 years.

International ventures: Taking baby steps

While GMR's current business focus is on capturing emerging business opportunities in India, the company is also scouting for international infrastructure development opportunities. It is already involved in the development of the Sabiha Gokcen Airport in Turkey and is looking forward to gain a foothold in the country and exploit other opportunities in the region. It has also acquired Intergen, a Netherlands-based generation company which has about 7,000 MW of power assets across the world. As things stand, most of these ventures are too scattered to have any synergy benefits with GMR's existing business. Besides, the group is still low down on the learning curve across all these regions. But, a foothold in these regions and the experience will help GMR expand its business abroad and could provide future growth momentum.

Current war chest sufficient to fund projects on hand

GMR has been skillfully negotiating its funding requirements and has managed to grow its business even while maintaining leverage at manageable levels. The company currently has a cash and liquid war chest of close to INR 57 bn, which can sufficiently fund the immediate capex requirements of airport and power projects. However, once the transaction to acquire Intergen is complete, it will call for an additional equity capital expenditure of over INR 46 bn. Further, GMR will need additional capital in any of the following events:

- If Ministry of civil aviation (MoCA) asks the GMR consortium to switch the funding of Delhi International Airport (DIAL) from deposits to full equity, it could add INR 12 bn to capex requirements.
- Acceleration in the later phases of GMR Hyderabad International airport (GHIAL), which are currently slated to commence only in FY13.
- Expansion of the power project portfolio beyond the current plans of 3,800 MW.
- Acquisition of the balance stake in the coal mining company, Homeland Energy, will need another USD 135 mn capital.

GMR could raise funds for these projects either through dilution of the parent company or at the subsidiary level. There have been proposals to list the power subsidiary, GMR Energy, but there is no clarity on when this could happen.

Valuation

We value GMR using the sum-of-the-parts (SOTP) methodology. We have used a discounted cash flow to equity holders (DCF) method to value the airport concessions, using cash flows from current to the date of expiry of the concession. However, the DCF model will include only aeronautical and non-aeronautical revenues. The real estate sweeteners for the project have been valued using the net asset value (NAV) method. We have taken a 25% discount to our NAV values for all the SEZs for our SOTP valuation. For power projects, we have used the DCF for individual projects for cash flows from current to the expiry of the PPAs or life of the asset, with no terminal value. We have used the DCF method to value the road concessions, discounting all the cash flows to equity holders for the length of the concession. Pending the outcome of the dispute, we use the pessimistic alternative to value the concession and hence, account for higher equity investment. We have used different cost of equities for various projects based on their risk profiles. The cost of equities and the cost of debt for each project is summarised in the table below:

| Table 5: GMR Infrastructure: Base case SOTP valuation | | | | | (INR mn) |
|---|---------------------|---------------|---------------|------------------|------------------------|
| | Methodology | Equity value | GMR stake (%) | GMR equity value | Per share contribution |
| DIAL | | | | | |
| Airport concession | DCF - base case | 54,479 | 0.5 | 27,294 | 15 |
| Aerotropolis | 25% discount to NAV | 25,776 | 0.5 | 12,914 | 7 |
| Total DIAL | | 80,255 | 0.5 | 40,208 | 22 |
| HIAL | | | | | |
| Airport concession | DCF | 28,740 | 0.6 | 18,106 | 10 |
| SEZ | NAV | 24,117 | 0.6 | 15,194 | 8 |
| Additional land | Market Value | 30,000 | 0.6 | 18,900 | 10 |
| Total HIAL | | 82,857 | 0.6 | 52,200 | 29 |
| Sabiha Gokcen | DCF | 10,054 | 0.4 | 4,022 | 2 |
| Roads | DCF | | | 10,751 | 6 |
| Power | DCF | | | | |
| Vemagiri power plant (388 MW) | | 8,438 | 1.0 | 8,438 | |
| Chennai power plant (200 MW) | | 3,091 | 0.5 | 1,577 | |
| Mangalore barge based power plant (220 MW) | | 2,910 | 1.0 | 2,910 | |
| Total existing | | | | 12,925 | 7 |
| Power proposed | | | | | |
| Proposed hydro projects | DCF | | | 15,038 | |
| Proposed coal-fired projects | DCF | | | 17,069 | |
| Total proposed power projects | | | | 32,108 | 18 |
| Krishnagiri SEZ | NAV | | | 17,086 | 9 |
| Add cash outstanding less corporate debt | | | | 57,941 | 32 |
| Total GMR SoTP value | | | | 227,239 | 125 |

Source: Edelweiss research

Airports: Concessions and property valued independently

Delhi Airport

We have valued the airport concessions and the property sweeteners separately. The revenue model for the Delhi Airport is based on the CPI-X model. But for the first two years, i.e., FY08 and FY09, revenues are based on actual charges. In FY08 and FY09 revenues were based on AAI-based charges. The table below summarises the operational and revenue data at various points of the concession period. It must be noted that airport expansion will reach saturation in FY28. FY36 is the last year of concession barring extension, but we have assumed that the concession will be extended.

Table 6: Delhi International Airport (DIAL) concession—Key model assumptions and valuations

| (INR mn except stated otherwise) | 2008E | 2009E | 2010E | 2011E | 2012E | 2016E | 2020E | 2024E | 2028E | 2036E | 2066E |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|------------------|
| Operational parameters | | | | | | | | | | | |
| Airport capacity (mn.) | 26 | 26 | 26 | 60 | 60 | 60 | 66 | 80 | 100 | 100 | 100 |
| Domestic passenger traffic (mn.) | 17 | 17 | 18 | 20 | 23 | 36 | 45 | 56 | 65 | 72 | 72 |
| International passenger traffic (mn.) | 7 | 7 | 8 | 11 | 12 | 19 | 30 | 38 | 43 | 48 | 48 |
| Domestic cargo ('000 mt) | 139 | 153 | 175 | 202 | 232 | 375 | 558 | 705 | 890 | 1,418 | 8,146 |
| International cargo ('000 mt) | 334 | 368 | 423 | 486 | 559 | 903 | 1,345 | 1,698 | 2,144 | 3,417 | 19,628 |
| Domestic ATMs | 151 | 172 | 196 | 217 | 240 | 305 | 379 | 478 | 547 | 608 | 608 |
| International ATMs | 58 | 64 | 71 | 82 | 87 | 108 | 128 | 159 | 181 | 200 | 200 |
| Revenue model | | | | | | | | | | | |
| User charges revenue (FY08-09) | 6,193 | 7,581 | | | | | | | | | |
| CPI-X Model | | | | | | | | | | | |
| Return on base | 20 | 19 | 3,115 | 5,453 | 5,144 | 6,015 | 11,067 | 13,207 | 12,600 | 6,332 | - |
| Efficient operation & maintenance cost | 1,448 | 3,076 | 4,021 | 4,564 | 4,856 | 6,799 | 10,383 | 14,318 | 18,491 | 28,242 | 122,059 |
| Depreciation | 4 | 8 | 622 | 622 | 2,399 | 2,646 | 3,928 | 5,243 | 6,079 | 6,079 | - |
| Corporate tax | 107 | 107 | 302 | 214 | 321 | 369 | 3,221 | 6,216 | 8,894 | 18,815 | 309,657 |
| Less - 30% of non-aero revenue | 1,110 | 1,646 | 1,683 | 2,298 | 3,950 | 6,689 | 13,373 | 21,139 | 31,904 | 58,269 | 702,303 |
| Target revenues | 469 | 1,564 | 6,377 | 8,555 | 8,770 | 9,140 | 15,228 | 17,844 | 14,161 | 1,199 | - |
| Total aeronautical revenues | 6,193 | 7,581 | 6,377 | 8,555 | 8,770 | 9,140 | 15,228 | 17,844 | 14,161 | 1,199 | - |
| Key non-aero components | | | | | | | | | | | |
| Cargo handling | 2,040 | 2,346 | 2,832 | 3,420 | 4,130 | 8,110 | 14,680 | 22,528 | 34,570 | 81,407 | 2,020,774 |
| Other aero related revenues | - | 2,130 | 2,925 | 5,207 | 5,978 | 10,607 | 21,499 | 33,197 | 48,814 | 77,037 | 332,949 |
| Revenues | 5,487 | 5,610 | 7,659 | 13,166 | 15,083 | 25,692 | 49,656 | 76,931 | 115,944 | 208,549 | 2,572,444 |
| Gross revenues | 11,680 | 13,191 | 14,037 | 21,721 | 23,853 | 34,832 | 64,884 | 94,775 | 130,105 | 209,747 | 2,572,444 |
| Revenue sharing | 5,361 | 6,055 | 7,442 | 10,069 | 10,588 | 15,722 | 30,980 | 43,810 | 59,392 | 95,724 | 1,180,752 |
| Net revenues | 6,319 | 7,136 | 8,772 | 11,868 | 12,480 | 18,531 | 36,514 | 51,637 | 70,003 | 112,825 | 1,391,692 |
| Valuation assumptions | | | | | | | | | | | |
| Return on capital employed (%) | 11.6 | | | | | | | | | | |
| Valuation summary | | | | | | | | | | | |
| Cost of equity (%) | 14.0 | | | | | | | | | | |
| DCFV | 54,479 | | | | | | | | | | |
| GMR share | 50.1 | | | | | | | | | | |
| GMR value | 27,294 | | | | | | | | | | |

Source: Edelweiss research

Sensitivity of valuations

For DIAL, we have assessed the sensitivity of valuations to traffic growth and financing options. The table below summarises the description of the cases and valuations accordingly.

Table 7: Sensitivity analysis for DIAL valuations

(INR mn)

| DIAL DCFV: sensitivity | | Lease | Part Deposits | Full Deposits | | |
|-------------------------------|--------------------------|--------------|----------------------|----------------------|-----------------|------------------|
| Pessimistic | | 28,141 | 37,644 | 54,428 | | |
| Base | | 44,976 | 54,479 | 71,262 | | |
| Optimistic | | 70,797 | 80,299 | 97,083 | | |
| DIAL: Valuation cases | | | | | | |
| | | FY09 | FY10 | FY11-FY13 | Y14-FY18 | Long term |
| Pessimistic | Passenger traffic growth | (10.0) | 5.0 | 12.0 | 8.0 | 5.0 |
| | Cargo volume growth | 0.0 | 10.0 | 15.0 | 8.0 | 5.0 |
| Base | Passenger traffic growth | 0.0 | 10.0 | 16.0 | 10.0 | 6.0 |
| | Cargo volume growth | 10.0 | 15.0 | 15.0 | 12.0 | 6.0 |
| Optimistic | Passenger traffic growth | 10.0 | 15.0 | 20.0 | 12.0 | 7.0 |
| | Cargo volume growth | 15.0 | 20.0 | 20.0 | 15.0 | 7.0 |

Source: Edelweiss research

The issue of using advance deposits from commercial properties for funding the airport project is still hanging in balance. While GMR's position has been that the company can legally collect the entire price of the DIAL property as deposits and hence, no sharing is

required, the government may force it to accept a solution where the company can collect only a part of the price of land as deposit and collect the balance in the form of annual rentals which forms a part of DIAL revenues which will be shared with AAI. We have assumed that one third revenues will be paid in the form of deposits and the balance will be collected in the form of lease rentals. The rental assumptions will represent a discount to the going market rates for commercial property in Delhi to factor in deposits.

Table 8: Delhi Aerotropolis—Assumptions and NAV valuations (INR mn)

| Phase | 1 -Hospitality | 2 -Commercial |
|---|----------------|---------------|
| Area under development (in acres) | 47 | 203 |
| Time frame | FY09-12E | FY12-20E |
| FSI | 2 | 2 |
| First year lease rentals in INR/ sq ft | 75 | 100 |
| Implied inflation in rentals (%) | 6.5 | 6.5 |
| Rate of discounting (%) | 16 | 16 |
| Period of lease | 30 | 30 |
| Interest-free non-refundable deposit (INR mn/ acre) | 400.2 | 483.6 |
| PV of the rental income (INR mn/ acre) | 882.4 | 1,176.6 |
| Equivalent sale value in INRmn/acre | 1,282.6 | 1,660.1 |
| Revenue sharing (%) | 46.0 | 46.0 |
| Development cost in INR/sq ft | 2000.0 | 2500.0 |
| Development debt to equity (%) | 60.0 | 60.0 |
| NAV of aerotropolis | 34,368 | |
| Discount to NAV (%) | 25.0 | |
| Impact on DIAL valuation | 25,776 | |
| GMR stake in DIAL (%) | 50.1 | |
| GMR share | 12,914 | |

Source: Edelweiss research

Hyderabad Airport

As in the case of Delhi Airport, we have valued the airport concession and the real estate sweetener separately. Hyderabad Airport's revenue model differs from that of Delhi Airport, as has been explained earlier. But, the DCFE model of the airport concession is in line with that of Delhi Airport. All charges are used in accordance with AAI charges as defined (in Appendix 1). While modeling revenues, we have taken a user development fee (UDF) of INR 1000/international departing passenger and INR 375/ passenger for the domestic passenger. UDF will be available only for 15 years after the launch of the airport i.e. till FY 2023

Table 9: Hyderabad Airport (GHIAL) concession—Key model assumptions and valuations

| (fig in INR mn except if stated otherwise) | 2009E | 2010E | 2011E | 2012E | 2016E | 2020E | 2024E | 2028E | 2036E | 2066E |
|---|------------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Operational parameters | | | | | | | | | | |
| Airport capacity (mn.) | 12 | 12 | 12 | 12 | 21 | 21 | 30 | 30 | 40 | 40 |
| Domestic passenger traffic (mn.) | 6 | 7 | 7 | 8 | 13 | 18 | 20 | 25 | 34 | 34 |
| International passenger traffic (mn.) | 2 | 2 | 3 | 4 | 6 | 8 | 8 | 11 | 14 | 14 |
| Domestic cargo ('000 mt) | 26 | 30 | 36 | 44 | 80 | 129 | 163 | 205 | 327 | 1,878 |
| International cargo ('000 mt) | 27 | 31 | 37 | 45 | 81 | 131 | 166 | 209 | 334 | 1,916 |
| Domestic ATMs | 40 | 44 | 50 | 55 | 88 | 118 | 132 | 167 | 224 | 224 |
| International ATMs | 6 | 7 | 9 | 12 | 19 | 25 | 28 | 36 | 48 | 48 |
| Charges | | | | | | | | | | |
| UDF - domestic | 375 | 375 | 375 | 375 | 375 | 375 | - | - | - | - |
| UDF - international | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | - | - | - | - |
| Revenue model | | | | | | | | | | |
| Regular AAI charges | 1,285 | 1,553 | 1,876 | 2,280 | 4,277 | 6,622 | 8,657 | 12,725 | 23,208 | 74,200 |
| User Development fee (per departing passenger hence 50% of pax) | 1,997 | 2,352 | 2,769 | 3,294 | 5,321 | 7,088 | - | - | - | - |
| Total aeronautical revenues | 3,677 | 4,300 | 5,040 | 5,968 | 10,290 | 14,401 | 8,657 | 12,725 | 23,208 | 74,200 |
| Key non-aero components | | | | | | | | | | |
| Cargo handling | 124 | 141 | 164 | 191 | 331 | 552 | 811 | 1,209 | 2,788 | 80,611 |
| Hotel revenues | 399 | 481 | 580 | 695 | 1,417 | 2,382 | 2,525 | 2,525 | 2,525 | 2,525 |
| Other aero-related revenues | 1,998 | 2,861 | 3,346 | 4,115 | 8,622 | 14,420 | 20,281 | 26,291 | 45,477 | 206,586 |
| Total Non-Aeronautical Revenues | 2,641 | 4,061 | 4,652 | 5,633 | 10,743 | 17,520 | 24,361 | 31,626 | 54,841 | 324,969 |
| Gross revenues | 6,318 | 8,361 | 9,692 | 11,601 | 21,033 | 31,920 | 33,017 | 44,351 | 78,049 | 399,170 |
| Revenue sharing | 253 | 334 | 388 | 464 | 841 | 1,277 | 1,321 | 1,774 | 3,122 | 15,967 |
| Net Revenues | 6,066 | 8,026 | 9,304 | 11,137 | 20,192 | 30,644 | 31,697 | 42,577 | 74,927 | 383,203 |
| Valuation assumptions | | | | | | | | | | |
| User charges | AAI - regulated | | | | | | | | | |
| Valuation summary | | | | | | | | | | |
| Cost of equity (%) | 14 | | | | | | | | | |
| DCF value | 28,740 | | | | | | | | | |
| GMR share (%) | 63 | | | | | | | | | |
| GMR share of value | 18,106 | | | | | | | | | |

Source: Edelweiss research

Sensitivity of valuations

We have addressed the sensitivity of HIAL valuations for the traffic forecasts. Valuations under various cases are shown in the table below:

Table 10: Sensitivity for GHIAL valuations

(INR mn)

| Case | DCF valuations | | | | | |
|--|--------------------------|--------------|--------------|----------------|----------------|------------------|
| Pessimistic | 14,914 | | | | | |
| Base | 31,090 | | | | | |
| Optimistic | 41,296 | | | | | |
| GHIAL valuation cases (growth in %) | | | | | | |
| | | FY09E | FY10E | FY11-13 | FY14-18 | Long term |
| Pessimistic | Passenger traffic growth | 0.0 | 12.0 | 12.0 | 10.0 | 5.0 |
| | Cargo volume growth | 10.0 | 12.0 | 15.0 | 12.0 | 5.0 |
| Base | Passenger traffic growth | 10.0 | 15.0 | 15.0 | 12.0 | 6.0 |
| | Cargo volume growth | 15.0 | 15.0 | 20.0 | 15.0 | 6.0 |
| Optimistic | Passenger traffic growth | 15.0 | 20.0 | 20.0 | 12.0 | 7.0 |
| | Cargo volume growth | 20.0 | 20.0 | 25.0 | 15.0 | 7.0 |

Source: Edelweiss research

Hyderabad Airport has been allotted a total of 5,500 acres. Unlike the Mumbai and Delhi airports there is no cap on the extent of land that can be utilised for commercial purpose. But, as per GMR's assessment, the airport will utilise about 4,000-4,400 acres on saturation. This means that GMR will be left with 1,100-1500 acres for commercial development. The real estate component of the concession can be divided into two different buckets. First bucket consists of the two SEZs which have been notified and the plan for which have been developed. We have valued this bucket using the NAV method as per assumptions mentioned in the table below.

| Key Details | Aviation SEZ | MP SEZ |
|--|---------------|--------|
| Total area in acres | 250 | 250 |
| Development area in acres | 250 | 625 |
| FSI | 1.0 | 2.5 |
| Total saleable area in mn sq ft | 10.9 | 68.1 |
| Development cost in INR mn | 4,250 | 4,250 |
| Debt | 3,188 | 3,188 |
| Equity | 1,063 | 1,063 |
| Sale price: industrial (INR mn/ acre) | 120 | 120 |
| Sale price: residential (INR mn/ acre) | | 100 |
| Cost of construction for residential | | 5.0 |
| Cost of equity (%) | 16 | |
| NAV of SEZ | 32,156 | |
| Discount to NAV (%) | 25 | |
| Valuation to HIAL | 24,117 | |
| GMR stake in HIAL (%) | 63 | |
| Valuation to GMR | 15,194 | |

Source: Edelweiss research

The other bucket consists of 600 acre of land that can be utilised for commercial purpose in the future. We have valued it at a discount to the market price of the land.

Table 12: Land available for future use in GHIAL

| | |
|---|--------|
| Land available (in acres) | 600 |
| Estimated value of the land in (INR mn/ acre) | 100 |
| Discount to the value of the land (%) | 50 |
| Valuation of the land (INR mn) | 30,000 |

Source: Edelweiss research

Sabiha Gokcen Airport summary

The project does not have any significant land-side potential. Hence, we value the airport concession using DCFE methodology. While working on the DCFE, we treat the concession fee of EUR1.93 bn as an expense amortised at pre-decided rate over the period of the concession.

Table 13: Sabiha Gokcen Airport—Key model assumptions and valuations

| (EUR mn except as state otherwise) | 2008E | 2009E | 2010E | 2011E | 2012E | 2016E | 2020E | 2028E |
|--------------------------------------|-----------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| Operational parameters | | | | | | | | |
| Airport capacity (mn.) | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Domestic passenger traffic (mn) | 2.6 | 3.1 | 3.6 | 3.5 | 4.0 | 6.5 | 6.6 | 9.7 |
| International passenger traffic (mn) | 2.1 | 2.5 | 3.0 | 4.3 | 4.9 | 7.9 | 12.2 | 18.1 |
| Domestic cargo ('000 mt) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| International cargo ('000 mt) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Domestic ATMs | 17 | 21 | 24 | 23 | 26 | 43 | 44 | 65 |
| International ATMs | 7 | 8 | 10 | 14 | 16 | 26 | 41 | 60 |
| Key revenue assumptions | | | | | | | | |
| Domestic (EUR/pax) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| International (EUR/pax) | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Revenue model | | | | | | | | |
| Passenger service fees | 0.0 | 19.8 | 23.3 | 31.0 | 35.1 | 57.2 | 83.3 | 123.1 |
| Other aero revenues | 0.0 | 13.6 | 17.4 | 22.3 | 25.7 | 47.2 | 77.1 | 159.4 |
| Total aeronautical revenues | 0.0 | 33.3 | 40.7 | 53.3 | 60.7 | 104.4 | 160.4 | 282.4 |
| Non-aeronautical revenues | 20.4 | 24.1 | 37.4 | 44.5 | 56.1 | 109.6 | 199.9 | 476.0 |
| Total revenues | 20.4 | 57.4 | 78.2 | 97.8 | 116.8 | 213.9 | 360.4 | 758.4 |
| Valuation assumptions | | | | | | | | |
| O&M as a % of gross Block (%) | 8.5 | | | | | | | |
| Total concession fee | 1930 | | | | | | | |
| Concession fee moratorium (yrs) | 4 | | | | | | | |
| Total gross block | 400 | | | | | | | |
| Debt | 320 | | | | | | | |
| Interest cost | Euribor + 290bp | | | | | | | |
| Euro/ INR | 60 | | | | | | | |
| Valuation summary | | | | | | | | |
| Cost of equity (%) | 14 | | | | | | | |
| DCFV | 168 | | | | | | | |
| GMR share (%) | 40 | | | | | | | |
| GMR value | 67 | | | | | | | |
| GMR Value (INR mn) | 4,022 | | | | | | | |

Source: Edelweiss research

Existing power business: Fuel issues necessitate restructuring

We have valued Vemagiri and Chennai power plants using DCFE methodology to the life of their PPAs. For valuing Vemagiri, we have assumed that the plant will secure natural gas supplies for the remaining life of the PPA from Reliance post July 2008. The Mangalore plant will be shipped to the East coast and be relocated at Kakinada and get re-configured to work on natural gas. Our DCFE for the plants factors in a capex of INR 1,600 mn for this purpose. Post the re-configuration, the plant will sell its power through the merchant route. Hence, we are assuming a life of 15 years for the plant post 2009. We expect the plant's tariff to be at an average of INR2.5/unit.

Table 14: Existing power plants—Assumptions and valuations (INR mn)

| | Vemagiri | Chennai | Mangalore | |
|-----------------------------|---|--------------|--------------|--------------|
| Capacity (MW) | | 388.5 | 200 | 220 |
| Fuel | Natural gas | HDSL | Natural gas* | |
| Sustainable PLF | | 65 | 45 | 80 |
| Tariff formula | 2-part fixed plus variable pass through | CERC norms | Merchant | |
| Fixed tariff (INR/ unit) | | 0.9 | 1.9 | NA |
| Merchant tariff (INR/ unit) | | 2.5 | NA | 2.5 |
| Fuel price (INR/ unit) | | 1.7 | 6.0 | 1.8 |
| Capex needed | | 0 | 0 | 1568 |
| Cost of Equity (%) | | 12 | 12 | 16 |
| GMR stake (%) | | 100 | 51 | 100 |
| DCFE value | | 8,438 | 1,577 | 2,910 |

Source: Edelweiss research

Power business expansion: Premium on progress

GMR is planning an expansion of its power business. Coal-fired projects are in early stages of conception. We use the DCFE model with a higher cost of equity than the established power plants as they have two key risks in their profile—execution risk and the risk on account of lack of PPAs.

Table 15: Coal-fired plant—Assumptions and valuations (INR mn)

| | Kamal ganga -1 | Chattisgarh TPS |
|------------------------------|-------------------------|-----------------|
| Capacity (MW) | 1050 | 1050 |
| Sustainable PLF (%) | 90 | 90 |
| Tariff formula | 58% CERC, rest merchant | Merchant |
| Levelized tariff (INR/ unit) | 2.4 | NA |
| Merchant tariff (INR/ unit) | 2.5 | 2.5 |
| Fuel price (INR/ mt) | 450.0 | 1100.0 |
| Cost of equity (%) | 16 | 16 |
| GMR stake (%) | 80 | 100 |
| DCFE value | 13,314 | 3,755 |

Source: Edelweiss research

The company's hydro-fired plants are also in early stages of conception and face the same risks as coal-fired plants. In addition, the long timelines add a further element of risk to valuations. We use the DCFE methodology with a 16% cost of equity to value these plants.

Table 16: Hydro plants—Assumptions and valuations (INR mn)

| | Alakhnanda | Bajoli Holi | Talong | Upper Karnali | Marsyandi |
|-------------------------------|--------------|--------------|------------|---------------|--------------|
| Capacity (MW) | 300 | 180 | 160 | 300 | 250 |
| Design PLF | 43 | 43 | 43 | 60 | 60 |
| Tariff (INR/ unit) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Off-take | Merchant | Merchant | Merchant | Merchant | Merchant |
| Free power to the state | 12 | 12 | 14 | 12 | 0 |
| Energy Royalty (%) | Nil | Nil | Nil | 7.5 | 7.5 |
| Capacity Royalty (INR/kW/ yr) | Nil | Nil | Nil | 250 | 250 |
| Cost of equity (%) | 16 | 16 | 16 | 16 | 16 |
| DCFE value | 4,719 | 1,064 | 233 | 4,549 | 7,202 |
| GMR stake (%) | 100 | 100 | 88 | 51 | 95 |
| GMR share Valuation | 4,719 | 1,064 | 205 | 2,309 | 6,842 |

Source: Edelweiss research

Roads: Concessions offer stable income model

GMR has securitised the annuity income streams from the two operational road projects. We value these at the book value of the securitised revenue streams. Of the four projects under construction, three are toll road projects and one is annuity based. We have valued all the projects using DCFE for the period of concession. The table below summarises the traffic, toll, growth, revenue, and cost assumptions for the toll and annuity projects.

Table 17: GMR—Road projects

| Project | Tuni- Anakapalli | Tambaram - Tindivanam | Adloor Yella Reddy | Ambala- Chandigarh | Faruknagar - Jadcherla | Tindivanam- Ulunderpet road |
|-----------------------------------|---------------------|--------------------------|-----------------------|-----------------------|---------------------------|--------------------------------|
| Traffic forecasts pcu/ day | | | | | | |
| Cars | NA | NA | NA | 11,845 | 4,079 | 2,478 |
| LCVs/ Minibuses | NA | NA | NA | 1,366 | 408 | 1,321 |
| Bus/ 2-axle trucks | NA | NA | NA | 6,587 | 4,420 | 6,331 |
| 3-axle trucks | NA | NA | NA | 2,629 | 2,177 | 2,936 |
| Estimated traffic growth rate (%) | | | | 6.0 | 7.0 | 5.0 |
| Toll charges INR/ pcu/km | | | | | | |
| Cars | NA | NA | NA | 0.9 | 0.65 | 0.65 |
| LCVs/ Minibuses | NA | NA | NA | 1.5 | 1.14 | 1.14 |
| Bus/ 2-axle trucks | NA | NA | NA | 3.1 | 2.28 | 2.28 |
| 3-axle trucks | NA | NA | NA | 4.9 | 3.67 | 3.67 |
| Annuity (INR mn) | 295 | 418.6 | 544.5 | NA | NA | NA |
| GMR stake (%) | 74 | 74 | 100 | 100 | 100 | 100 |
| Estimated NPV (INR mn) | 1,044 | 1,659 | 43 | 0 | 3,567 | 521 |

Source: Edelweiss research

Krishnagiri SEZ

The Krishnagiri SEZ has not been notified by the government's board of approvals nor is the project plan ready. Therefore, we have conservatively valued the SEZ at a discount to our current valuations. As and when commercialisation of the SEZ happens, it could provide future upside potential to our valuations.

Table 18: Krishnagiri SEZ—Valuation details (INR mn)

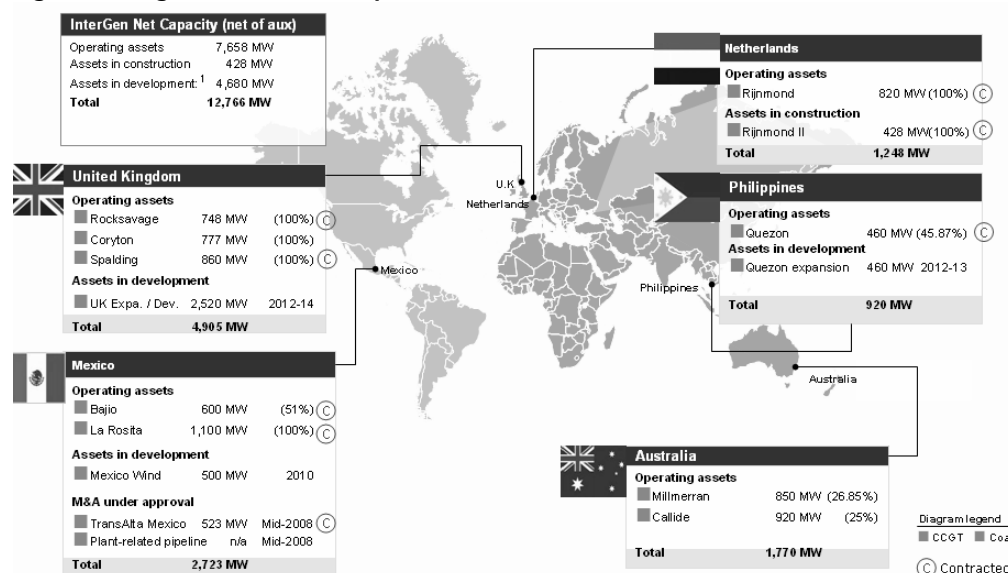
| | |
|---|---------------|
| Total area in acres | 3300 |
| Developable area | 70 |
| Development area in acres | 2310.0 |
| Development cost in INR mn | 113,000 |
| Debt | 84,750 |
| Equity | 28,250 |
| Sale price: industrial (INR mn/ acre) | 70.0 |
| Sale price: residential (INR mn/ acre) | 100 |
| Advance lease deposit as a % of total price | 0.75 |
| Lease deposit period (yrs) | 30 |
| Infrastructure charge (INR mn/ acre) | 5 |
| Cost of construction for residential (INR mn) | 33 |
| SG&A as % of sales | 10 |
| Interest cost (%) | 12 |
| Depreciation as a % of gross block (%) | 5 |
| Tax rate (%) | 33.6 |
| Cost of equity (%) | 16 |
| NAV of SEZ | 34,172 |
| Discount to NAV (%) | 50 |
| Valuation of SEZ | 17,086 |
| GMR stake (%) | 95 |
| GMR value in SEZ | 16,231 |

Source: Edelweiss research

International ambitions: Intergen

GMR is investing to acquire energy assets abroad, partly to augment its Indian energy business and partly as standalone operations. The company has signed an agreement to acquire 50% stake in Intergen NV, a global power generation company based out of Netherlands, from AIG Highstar Capital; Ontario Teachers Pension Plan owns the remaining 50% stake in the company. The transaction has been valued at USD 1.1 bn and is expected to close in Q3CY08. Intergen was established in 1995 as a JV between Shell and Bechtel and has been a power generation developer with a portfolio of coal and gas-fired plants. Intergen has a gross generation capacity of 6,231MW (adjusted for its equity stake). About 85% of the company's installed capacity is gas based and the balance is coal fired; the average age of power assets is low at 5.5 years. The figure below summarises the details of Intergen's power assets.

Fig. 2: Intergen—Global asset portfolio



Source: Company reports

Power from these units is sold through a mix of tolling agreements, PPAs, and merchant sales. Close to 85% of the total capacity is under contracts which allow the company to insulate itself against fuel costs escalations. The company has fuel supply agreements for all its operational power plants, but since details of either the PPAs or the fuel supply agreements are not available. We see two tangible rationales behind the acquisition:

- The acquisition gives GMR a toehold in several geographies and energy markets in a single stroke.
- It gives GMR access to a team experienced in power project development which can help it while bidding for projects in India and elsewhere, especially for UMPPs. All of Intergen's plants are less than 10 years old and they have been executed by a team that is currently in charge of the company. This expertise could benefit GMR in its projects going forward.

As per the deal structure, Intergen has been acquired through a holding company which is currently at an arms-length to GMR Infra. Intergen will be consolidated into the parent company over a period of two years. We are therefore not factoring the valuation of Intergen into GMR's SOTP valuation.

Key Risks

Airport regulatory scenario calls for strong negotiation skills

Currently, aviation ministry regulations prevent any greenfield international airport from coming up in competition to an existing airport for a period of 25 years from signing the agreement for the modernisation of the existing airport. The government is considering amendments to this rule, allowing for competitor airports in Noida (near Delhi). Also, there is pressure on the government to allow the existing airports in Hyderabad and Bangalore to continue post completion of the new greenfield ones (including GMR's Hyderabad Airport). Both these factors are a risk to the success of GMR's airport projects. The existing agreement for revenue sharing for the development of the Delhi International Airport does not include revenues from the 250 acres of land demarcated for SEZ called Delhi Aerotropolis. This part of the agreement is controversial and there were reports that the government had asked GMR not to go ahead with its development plans for Aerotropolis. There is no clarity on the outcome of this issue.

Execution risk for power generation projects

GMR does not have the equipment and EPC tie-ups for its coal power projects in Chattisgarh and Orissa. Currently, there is a significant rush for development of coal-fired units in India and most EPC services companies have huge order books pending with most equipment providers. The key to speedy execution lies in adequate tie ups for equipment, which GMR does not have as of now. These projects may also face land acquisition issues which will increase the execution time for the projects.

Lack of concrete agreement with Reliance for gas from KG-basin

Fuel security issues for GMR's Vemagiri gas-fired plant have been resolved temporarily. But, in the long run, the plant will be run on gas from the KG-basin fields of Reliance. PPA for the Mangalore barge mounted plant expires in 2008. In the event of inability to secure a new PPA from KPTCL, GMR plans to run this plant on gas. Thus, the company's earnings from power in the near term (FY09-10) depends entirely on the KG-basin gas. This supply is currently locked in a dispute between Reliance Industries and Reliance Natural Resources. In absence of any resolution, Reliance cannot sign any supply agreement with power plants. GMR's total gas requirement for three plants is expected to be 4 mmscmd if all the expansion plans, including the new Vemagiri unit, go through. The requirement is small compared to the estimated supply from Reliance gas fields which is expected to be ~80 mmscmd, so supply should not be an issue. However, the cost of gas will be a risk that GMR will have to bear as the company has a PPA for only the Vemagiri plant.

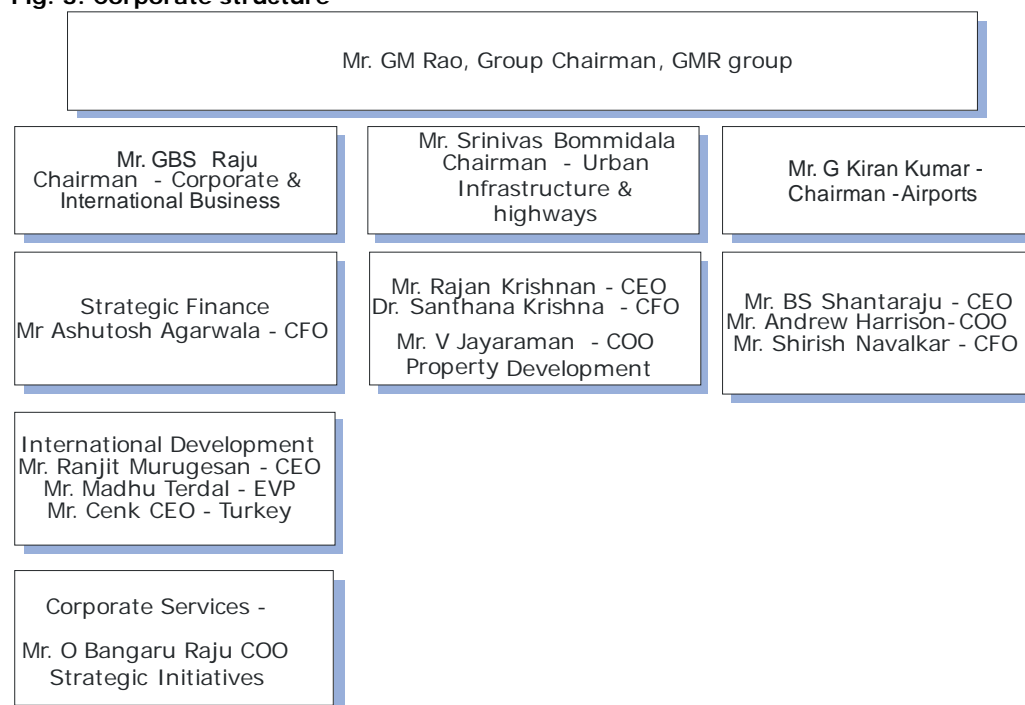
Multiple geographical and fuel risks arising from acquisition of Intergen

GMR's plan to acquire Intergen exposes it to the risk of operating power plants in several geographies, each of which will expose it to unique political and regulatory risks. More importantly, the principal fuel of Intergen's generation portfolio is natural gas and supplies of this commodity are tight in North America as well as Europe.

Company Description

GMR is the flagship company of the GMR Group promoted by Mr. G. M. Rao. The promoter group was initially active in the agri business and banking sector and controlled the Vysya Bank, the largest private sector bank in India, before banking sector reforms and subsequent sale to ING. GMR follows the developer model for infrastructure projects across different verticals—power, roads, airports, and urban infrastructure. The group is headed by Mr. G.M. Rao, who also heads the promoter group, which holds 73%. The promoter group is closely involved with the management with each of the different verticals in the company. Each business head is supported by a strong group of professionals.

Fig. 3: Corporate structure



Source: Company reports, Edelweiss research

Business Description

Existing generation

Vemagiri

Construction for the 388.5 MW Vemagiri gas-fired plant in AP was completed in April 2006, but it commenced operations only in February 2008 after the company was awarded gas on a temporary basis from GAIL. In the long run, this plant will run on gas from the KG gas fields, mainly Reliance fields. To compensate for the losses that GMR has sustained on fixed costs on account of delayed commencement of operations of the plants, the PPA with AP Discom has been extended from 15 to 23 years and will last till September 2029 against 2021 planned earlier. GMR is planning to expand the capacity of this plant by 700 MW at the existing location by FY11. We believe, however, that this will be subject to supply of gas commencing and hence, not concrete at this point of time.

Chennai power plant

200 MW plant in Chennai operates on low sulphur diesel (LSDL). The plant has a PPA under the standard CERC norms and has a 15 year PPA with TN Electricity Board for off-take of power. The plant has been operational since February 1999 and the PPA is till February 2014 with an option to extend it under mutual agreement.

GEL Power: Mangalore barge mounted plant

This 220 MW naphtha- fired plant is the only barge mounted generation unit in India. It commenced operations in 2001 with a seven-year PPA with KPTCL, which will expire in 2008. GMR is trying to get the PPA for the plant renewed with KPTCL. However, this may not happen as the utilisation of this plant has been low in FY08. Therefore, as a contingency, GMR is planning to move the plant via sea to Kakinada and reconfigure it to function on natural gas. However, we believe this plan will be contingent on availability of gas from the gas fields in the K-G basin. The total cost in moving the plant and reconfiguration is estimated at INR 1,568 mn, post which the plant will operate through the merchant route..

Generation projects under execution

Hydro power projects: For the long haul

Currently, there are five hydro power units under execution with a total capacity of 1,190 MW. All the five projects across India and Nepal are in the detailed project report (DPR) stage and will achieve financial closure between FY09 and FY11. Infrastructure work for the Alaknanda project has commenced in April 2008.

Table below summarises the progress made by GMR in executing the hydro power pipeline.

Table 19: Hydro plants—Development status

| | Alakhnanda | Bajoli Holi | Talong | Upper Karnali | Marsyandi |
|--------------------|-------------|-------------|-------------------|---------------|-----------|
| Location | Uttaranchal | Uttaranchal | Arunachal Pradesh | Nepal | Nepal |
| Capacity (MW) | 300 | 180 | 160 | 300 | 250 |
| Expected FC date | Dec-08 | Mar-11 | Mar-10 | Jun-11 | Mar-11 |
| Expected CoD | Dec-13 | Jul-15 | Jun-14 | Sep-15 | Jun-15 |
| Off-take | Merchant | Merchant | Merchant | Merchant | Merchant |
| Capex (INR mn) | 14,567 | 11,310 | 9,191 | 18,362 | 16,257 |
| Debt to equity (%) | 70 | 80 | 80 | 70 | 70 |

Source: Edelweiss research

Coal-fired generation: Nascent stage; marginal progress

GMR is in the process of setting up two domestic coal-fired plants of 1,050 MW each in Kamalanga (Orissa) and another 1,050 MW plant at an undisclosed location in Chattisgarh.

The table summarises the development status for the coal fired pipeline.

Table 20: Coal-fired plants—Development status

| | (INR mn) | |
|------------------------------|-------------------------|-----------------|
| | Kamalganga -1 | Chattisgarh TPS |
| Capacity (in MW) | 1050 | 1050 |
| Sustainable PLF (%) | 90 | 90 |
| Tariff formula | 58% CERC, rest merchant | Merchant |
| Levelized tariff (INR/ unit) | 2.4 | NA |
| Merchant tariff (INR/ unit) | 2.5 | 2.5 |
| Fuel price (INR/ mt) | 0.0 | 0.0 |
| Cost of equity (%) | 16 | 16 |
| GMR stake (%) | 80 | 100 |
| DCFE value | 13,314 | 3,755 |

Source: Edelweiss research

Kamalanga Power project (Orissa)

In September 2007, GMR was allotted a coal block in Orissa jointly with five other parties. GMR's share is sufficient to fire 1,000 MW of coal-fired plant. Based on this, the company is setting up a 1,000 MW coal-fired plant in Kamalanga (Orissa).

Chattisgarh Power Project

The company is executing a 1,050 MW coal-fired plant in Chattisgarh. It has finalised off-take for only 30% of the output and the fuel and water linkages are still to be awarded. Given this, execution of the plant will take some time to materialise. The plant's output will be sold through the merchant route as per current plans but this will become clear only once the plant comes closer to execution in April 2009.

Coastal power prospects to be fueled on coal from mining company in South Africa

While GMR is actively exploring the option of setting up a coastal coal-fired power unit, it has been trying to secure its fuel supply before going ahead with these plans. Recently, the company purchased 5% stake in a South African coal mining company, Homeland Mining and Energy SA, for a cash payment of USD 15 mn. The deal gave GMR an option to acquire an additional 45% of Homeland South Africa's stake which will cost an additional USD 140 mn if exercised before September 2008 or USD 150 mn before December 2008. Homeland South Africa has two thermal coal mines and one coking coal mine which are currently under development and three mining prospecting licenses.

Table 21: Homeland energy mine details

| | Kendall | Elioff (1&2) |
|--|----------|--------------|
| Estimated resource (in MT) | 34 | 510 |
| Mineable reserves (measured + indicated) (in MT) | 34 | 452 |
| 2010 Production (MTPA) | 1.8 | 12.0 |
| Commencement of operation date | Q2 CY 08 | Q1/Q4 CY 10 |
| Calorific value (kcal/ kg) | 6,220 | 5,981 |
| GMR share of mines (post option exercise) (%) | 37 | 37 |
| GMR's share of mine output at market prices (%) | 100 | 100 |

Source: Edelweiss research

GMR will exercise its option of acquiring the balance stake. Post this, the company will have an economic interest of 50% in Homeland's mines, but 100% off-take rights at market prices. We have currently not valued these mines, but we believe this is a critical investment in its effort to expand its coastal coal-fired generation plants in India.

Airports

Delhi International Airport

GMR, in consortium with Fraport and Malaysia Airport and IDFC, won the bid for development of the Delhi International airport. The consortium took up 74% in Delhi International Airport (DIAL) which took over the existing Indira Gandhi International Airport. The first phase of the project is to be completed by 2010, in time for the Commonwealth Games to be held in Delhi. The concession period for the project is 30 years starting 2006, extendable by another 30 years at the consortium's discretion. The INR 89 bn airport expansion and modernisation project has been taken up which involves modernisation of the two existing terminals and adding a third terminal to increase the airport's total capacity to 40 mppa (million passengers per annum). The airport's capacity will be gradually increased to 100 mppa by 2028.

GMR Hyderabad International Airport

GMR, in a consortium with Malaysian Airports, won the bid in 2006 to build a greenfield airport at Shamshabad in Hyderabad, some 26 km from the existing airport. The new airport, with an initial capacity of 12 mppa, has a total area of 5,500 acres. The first phase of the airport commenced operations in March 2008 and has not faced any major hiccups in operations. At saturation, GHIAL will have a capacity to handle 40 mppa. The terms of development are very favorable to the developers. The consortium has to share only 4% of revenues with AAI for the Hyderabad Airport, against 46% in the Delhi Airport project. Also, the returns for this airport have not been linked to a regulatory return on assets unlike the Delhi Airport where the returns have been capped at 11.6%. Table below provides details of the project.

Sabiha Gokcen International Airport

Sabiha Gokcen International Airport in Istanbul is the second largest airport in Turkey after the Ataturk Airport. GMR won a bid in a consortium with a local partner Limark and Malaysian Airports Group for the modernisation and capacity expansion of the airport. The airport's current capacity is 4 mppa and the project is for expanding it to 14 mppa by 2010. The company plans to increase the capacity of the airport to 20 mppa in anticipation of growth in traffic from the tourism sector in Turkey. The bid involves a relatively short concession period of 20 years and a steep concession fee of EUR 1.93 bn to be paid over the life of the concession. The project does not have any significant landside gain. But, GMR is treating this project as a gateway to the country and seeks to be in a position to exploit future opportunities that may arise in the region.

SEZ/Property developments

Delhi Aerotropolis

As per the agreement for the Delhi Airport, 5% of the airport land of 5,100 acres (250 acres) can be used for real estate development. GMR is planning to develop Delhi Aerotropolis which will be in six parcels and include airport related facilities such as hospitality, commercial, and retail facilities. The initial part of the project includes a 46 acre hospitality district. Further, plans for this space include premium office spaces, a convention center, and a free trade zone. Jones Lang LaSalle and Lehman Brothers have been appointed for the market study and strategic plan preparation. Revenues from this venture are currently not included within the revenue sharing that DIAL has to do with AAI and the proposal is controversial. The final outcome of this controversy hangs in balance.

Hyderabad International Airport SEZ

About 1,500 acres of the land from the total 5,500 acres allotted to the Hyderabad Airport has been fixed for non-aeronautical commercial activities. The plans for the land include:

- 250 acres aviation based SEZ for aircraft maintenance, manufacturing, assembling, or repair of avionic components.
- 250 acres for a multi-product SEZ for IT, ITES, bio-technology, textile, and electronics industry.
- 1,000 acres for other commercial activities including non-SEZ offices, hospitality, malls, etc.

Krishnagiri SEZ

GMR recently won the bid for development of 3,300 acres multi-product SEZ at Krishnagiri in Tamil Nadu. The location of this SEZ is close to Bangalore on the Hosur road stretch of NH7. GMR has won this project through competitive bidding and plans to develop it in a JV with TIDCO. The SEZ will focus on biotechnology, IT, ITES, and engineering and electronics. The SEZ will commence operations in 2009 and achieve completion by 2014. The cost of development is expected to be approximately INR113 bn (USD 2.75 bn).

Road infrastructure

GMR currently has six road development projects on build operate transfer (BOT) basis. Of these, two projects have been completed, while four others are currently under construction. Three of these projects are toll-based while the balance are annuity, representing a good mix of fixed and traffic-based revenues. Currently, GMR is trying to bid for the longer stretches of road projects that are likely to come up for bidding soon. Details of the projects are as given below:

Table 22: Road projects

| Project | Tuni- Anakapalli | Tambaram - Tindivanam | Adloor Yella Reddy | Ambala- Chandigarh | Faruknagar - Jadcherla | Tindivanam- Ulunderpet road |
|----------------------------------|---------------------|--------------------------|-----------------------|-----------------------|---------------------------|--------------------------------|
| Length (in km) | 59 | 93 | 86 | 35 | 46 | 73 |
| Financial closure | May-02 | May-02 | Oct-06 | May-06 | Aug-06 | Oct-06 |
| Exp. date of comp | Nov-19 | Nov-19 | Oct-26 | May-26 | Aug-26 | Oct-26 |
| Type | Annuity | Annuity | Annuity | Toll based | Toll based | Toll based |
| Concession period (yrs) | 17.5 | 17.5 | 20 | 20 | 20 | 20 |
| Construction period in mnths | 30 | 30 | 30 | 30 | 30 | 30 |
| Toll period (yrs) | 15 | 15 | 17.5 | 17.5 | 17.5 | 17.5 |
| Project cost (INR mn) | 2,900 | 3,600 | 6,900 | 3,900 | 4,700 | 7,200 |
| Debt to equity (%) | 100 | 100 | 80 | 71 | 75 | 75 |
| Debt outstanding | 3,800 | 4,800 | 5,520 | 2,786 | 3,525 | 5,400 |
| Interest rate (%) | 7.5 | 7.5 | 9.25 | 8.5 | 9.25 | 9.25 |
| Equity portion (INR mn) | 778 | 1,060 | 1,380 | 1,114 | 1,175 | 1,800 |
| Grant +ve/ (-ve) INR mn | | | | (1,748) | (827) | 0 |
| Additional O&M sweetner (in km) | NA | NA | 17 | NA | 12 | 12 |

Source: Company reports, Edelweiss research

Financial Outlook

Multiple growth streams to contribute to revenue and margins

Currently, GMR's revenue and margin come from operations of the Delhi Airport, Chennai and Mangalore power plants, and the annuity from the road projects, in the respective order of importance. In FY09, incremental revenue contributions will come from the new Hyderabad Airport and operation of the Vemagiri plant which will be partly offset by lack of production at the Mangalore plant. GMR will commence work on the Krishnagiri and Hyderabad SEZs in FY09 and could conclude lease arrangements for the first tranche of plots in FY09. But, we believe, a major impact of these will be seen only in FY10.

To summarise the financial visibility: We see following items contributing to revenues and earnings in various years:

- **FY09E:** Revenues from HIAL and Sabiha Gokcen airport
- **FY11-16E:** Revenues from sale of Krishnagiri SEZ to come in this period.
- **FY11-15E:** Revenues from the HIAL SEZ and Delhi Aerotropolis to start trickling in and sale to be completed, respectively.
- **FY12 and beyond:** Development of the remaining 1,000 acres of the commercial property in HIAL to be taken up.

Table 23: Divisional revenue breakup (INR mn)

| Revenues | 2007A | 2008A | 2009E | 2010E |
|---------------------------------|---------------|---------------|---------------|---------------|
| Delhi Airport | 4,405 | 6,319 | 7,136 | 8,772 |
| Hyderabad Airport | NA | NA | 6,066 | 8,026 |
| Sabiha Gokcen | NA | NA | 1,377 | 1,876 |
| Energy | 11,734 | 11,773 | 13,072 | 18,191 |
| Roads | 1,427 | 1,427 | 1,427 | 3,670 |
| Krishnagiri SEZ | 0 | 0 | 0 | 0 |
| Total operating revenues | 17,566 | 19,519 | 29,078 | 40,535 |

Source: Edelweiss research

We expect Sabiha Gokcen airport to report loss at the PAT level for FY09 and FY10 on account of amortization of the concession fee. This will partially offset the higher profits from the Hyderabad and Delhi Airport.

Table 24: Divisional adjusted PAT breakup (INR mn)

| PAT - post minorities | 2007A | 2008A | 2009E | 2010E |
|---|-----------|-----------|--------------|--------------|
| Delhi Airport | NA | NA | 906 | 1,363 |
| Hyderabad Airport | NA | NA | 847 | 791 |
| Sabiha Gokcen | NA | NA | (1,293) | (1,215) |
| Energy | NA | NA | 0 | 0 |
| Roads | NA | NA | 826 | 1,097 |
| Krishnagiri SEZ | NA | NA | 226 | 905 |
| PAT (excluding other income post-minority) | NA | NA | 1,512 | 2,941 |

Source: Edelweiss research

Financial Statements

| Income statement | | (INR mn) | | | | |
|---------------------------------|-------------|-----------------|-------------|--------------|--------------|--|
| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E | |
| Income from operations | 10,617 | 16,967 | 22,948 | 29,078 | 40,535 | |
| Direct costs | 4,086 | 6,988 | 12,297 | 8,829 | 12,089 | |
| Employee costs | 322 | 1,382 | 2,092 | 10,697 | 12,953 | |
| Other expenses | 1,730 | 3,161 | 2,574 | - | - | |
| Total operating expenses | 6,138 | 11,531 | 16,963 | 19,526 | 25,042 | |
| EBITDA | 4,479 | 5,437 | 5,985 | 9,552 | 15,493 | |
| Depreciation and amortisation | 2,200 | 1,346 | 1,785 | 3,309 | 5,503 | |
| EBIT | 2,279 | 4,091 | 4,200 | 6,243 | 9,990 | |
| Interest expenses | 1,303 | 1,441 | 1,687 | 2,729 | 4,394 | |
| Other income | 85 | 183 | 698 | 2,308 | 1,952 | |
| Profit before tax | 1,061 | 2,833 | 3,210 | 5,822 | 7,548 | |
| Provision for tax | 125 | 415 | 584 | 386 | 617 | |
| Core Profit | 936 | 2,418 | 2,627 | 5,436 | 6,931 | |
| Extraordinary items | (16) | - | - | - | - | |
| Profit before minority interest | 921 | 2,418 | 2,627 | 5,436 | 6,931 | |
| Minority Interest | 231 | 673 | 526 | 1,616 | 2,038 | |
| Profit after minority interest | 706 | 1,744 | 2,101 | 3,821 | 4,893 | |
| Shares outstanding | 1,322 | 1,570 | 1,705 | 1,820 | 1,820 | |
| EPS (INR) basic | 0.5 | 1.1 | 1.2 | 2.1 | 2.7 | |
| Diluted shares (mn) | 1322 | 1570 | 1705 | 1820 | 1820 | |
| EPS (INR) fully diluted | 0.5 | 1.1 | 1.2 | 2.1 | 2.7 | |
| Dividend payout (%) | 10.4 | 1.3 | - | - | - | |

Common size metrics- as % of net revenues

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|-------------------------------|-------------|-------------|-------------|--------------|--------------|
| Operating expenses | 57.81 | 67.96 | 73.92 | 67.15 | 61.78 |
| Depreciation and amortization | 20.72 | 7.93 | 7.78 | 11.38 | 13.58 |
| Interest expenditure | 12.27 | 8.50 | 7.35 | 9.38 | 10.84 |
| EBITDA margins | 42.19 | 32.04 | 26.08 | 32.85 | 38.22 |
| Net profit margins | 8.82 | 14.25 | 11.45 | 18.69 | 17.10 |

Growth metrics (%)

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|----------------------|-------------|-------------|-------------|--------------|--------------|
| Revenues | 6.9 | 59.8 | 35.2 | 26.7 | 39.4 |
| EBITDA | 14.3 | 21.4 | 10.1 | 59.6 | 62.2 |
| PBT | (0.1) | 1.7 | 0.1 | 0.8 | 0.3 |
| Net profit | 83.7 | 258.2 | 108.6 | 207.0 | 127.5 |
| EPS | (0.4) | 1.1 | 0.1 | 0.7 | 0.3 |

| Balance sheet | | | | | |
|--------------------------------|---------------|---------------|----------------|----------------|----------------|
| (INR mn) | | | | | |
| As on 31st March | FY06 | FY07 | FY08 | FY09E | FY10E |
| Equity capital | 2,644 | 3,311 | 3,641 | 3,641 | 3,641 |
| Reserves & surplus | 3,060 | 16,612 | 57,531 | 61,351 | 66,244 |
| Shareholders funds | 5,704 | 19,923 | 61,172 | 64,993 | 69,886 |
| Minority interest | 4,243 | 5,261 | 11,126 | 12,742 | 14,779 |
| Secured loans | 25,925 | 30,220 | 68,438 | - | - |
| Unsecured loans | 3,778 | 6,837 | 11,331 | - | - |
| Borrowings | 29,703 | 37,057 | 79,769 | 141,327 | 218,969 |
| Sources of funds | 39,651 | 62,241 | 152,067 | 219,061 | 303,634 |
| Gross block | 24,559 | 41,406 | 66,917 | 106,541 | 151,579 |
| Depreciation | 11,051 | 12,407 | 14,218 | 17,527 | 23,030 |
| Net block | 13,508 | 29,000 | 52,699 | 89,014 | 128,549 |
| Capital work in progress | 16,318 | 19,060 | 45,227 | 84,851 | 129,889 |
| Total fixed assets | 29,826 | 48,059 | 97,927 | 173,865 | 258,438 |
| Investments | 2,557 | 2,625 | 48,996 | 48,996 | 48,996 |
| Inventories | 359 | 304 | 380 | 380 | 380 |
| Sundry debtors | 2,369 | 3,860 | 4,116 | 4,116 | 4,116 |
| Cash and equivalents | 6,758 | 13,000 | 8,945 | - | - |
| Loans and advances | 1,893 | 2,007 | 5,789 | 5,789 | 5,789 |
| Total current assets | 11,378 | 19,172 | 19,230 | 10,286 | 10,286 |
| Sundry creditors and others | 3,376 | 6,627 | 12,779 | 12,779 | 12,779 |
| Provisions | 732 | 845 | 882 | 882 | 882 |
| Total CL & provisions | 4,108 | 7,471 | 13,661 | 13,661 | 13,661 |
| Net current assets | 7,269 | 11,701 | 5,570 | (3,375) | (3,375) |
| Net deferred tax | (2) | (145) | (425) | (425) | (425) |
| Uses of funds | 39,651 | 62,241 | 152,067 | 219,061 | 303,634 |
| Book value per share (BV)(INR) | 4 | 13 | 36 | 36 | 38 |

| Free cash flow | | | | | |
|------------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| (INR mn) | | | | | |
| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
| Net profit | 706 | 1,744 | 2,101 | 3,821 | 4,893 |
| Depreciation | 2,200 | 1,346 | 1,785 | 3,309 | 5,503 |
| Deferred tax | 1 | (143) | (281) | - | - |
| Others | 1,336 | 715 | 4,615 | 1,616 | 2,038 |
| Gross cash flow | 4,242 | 3,662 | 8,220 | 8,745 | 12,434 |
| Less: Changes in W. C. | 2,883 | (1,811) | (2,076) | - | - |
| Operating cash flow | 1,358 | 5,474 | 10,296 | 8,745 | 12,434 |
| Less: Capex | 8,664 | 19,588 | 51,679 | 79,248 | 90,076 |
| Free cash flow | (7,306) | (14,115) | (41,383) | (70,503) | (77,642) |

| Cash flow metrics | | | | | |
|--------------------------|-------------|-------------|-------------|--------------|--------------|
| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
| Operating cash flow | 1,358 | 5,474 | 10,296 | 8,745 | 12,434 |
| Financing cash flow | 10,014 | 20,172 | 81,163 | 59,249 | 75,690 |
| Investing cash flow | (9,124) | (19,402) | (98,050) | (76,939) | (88,124) |
| NET CASH FLOW | 2,248 | 6,243 | (6,591) | (8,945) | - |
| Capex | (8,664) | (19,588) | (51,679) | (79,248) | (90,076) |
| Dividends paid | (73) | (23) | - | - | - |

Profitability & Liquidity ratios

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|----------------------------------|--------|--------|-------|-------|--------|
| ROAE (%) | 14.0 | 13.6 | 5.2 | 6.1 | 7.3 |
| ROACE (%) | 7.3 | 8.5 | 5.2 | 4.6 | 4.7 |
| Current ratio | 2.8 | 2.6 | 1.4 | 0.8 | 0.8 |
| Debtors (days) | 72 | 67 | 63 | 52 | 37 |
| Average fixed assets t/o (x) | 0.7 | 0.8 | 0.6 | 0.4 | 0.4 |
| Average working capital t/o (x) | (11.4) | (43.1) | (9.8) | (8.6) | (12.0) |
| Average capital employed t/o (x) | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 |
| Debt / Equity | 5.2 | 1.9 | 1.3 | 2.2 | 3.1 |
| Debt/EBITDA | 6.6 | 6.8 | 13.3 | 14.8 | 14.1 |
| Adjusted Debt/Equity | 5.2 | 1.9 | 1.3 | 2.2 | 3.1 |

Operating ratios

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|------------------------------|------|------|------|-------|-------|
| Total asset turnover | 0.32 | 0.33 | 0.21 | 0.16 | 0.16 |
| Average fixed assets t/o (x) | 0.40 | 0.44 | 0.31 | 0.21 | 0.19 |
| Equity turnover | 2.10 | 1.32 | 0.57 | 0.46 | 0.60 |

Du pont analysis

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|-----------------------|------|------|------|-------|-------|
| NP margin (%) | 6.6 | 10.3 | 9.2 | 13.1 | 12.1 |
| Total assets turnover | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 |
| Leverage multiplier | 6.63 | 3.98 | 2.64 | 2.94 | 3.88 |
| ROE (%) | 14.0 | 13.6 | 5.2 | 6.1 | 7.3 |

Valuation parameters

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|--------------------|-------|------|------|-------|-------|
| Diluted EPS (INR) | 0.5 | 1.1 | 1.2 | 2.1 | 2.7 |
| Y-o-Y growth (%) | (0.4) | 1.1 | 0.1 | 0.7 | 0.3 |
| CEPS (INR) | 2.2 | 2.1 | 2.4 | 3.9 | 5.7 |
| Diluted P/E (x) | 200.1 | 94.0 | 84.7 | 49.7 | 38.8 |
| Price/BV(x) | 24.2 | 8.2 | 2.9 | 2.9 | 2.7 |
| EV/Sales (x) | 15.3 | 11.2 | 9.2 | 10.1 | 9.2 |
| EV/EBITDA (x) | 36.3 | 35.1 | 35.2 | 30.9 | 24.2 |
| Dividend yield (%) | 0 | 0.0 | - | - | - |

GVK POWER AND INFRASTRUCTURE**INR 42****Tough job on hand, but prospects good****ACCUMULATE**

August 20, 2008

Redeveloping India's largest and busiest airport

GVK Power and Infrastructure (GVK) is leading the consortium appointed for modernising and expanding the Mumbai International Airport (MIAL). MIAL is India's largest, handling over 26 mppa and has seen extremely high rates of traffic growth. The monopoly status of MIAL is assured at least till 2012, and it could see peak utilisation ahead of the projected period. However, the crossed position of the existing runways and slum encroachment limit land available for further expansion.

Gas from Reliance fields could rejuvenate stranded power projects

GVK had an early start as a power developer with the commercialisation of its Jegurupadu (phase I) gas-fired project in 1997. The company's next two projects have, however, failed to commence operations, despite completion, on account of failure to secure gas. GVK is trying to secure gas from Reliance Industries' (Reliance) Krishna Godawari KG basin gas fields; generation from gas plants could boost GVK's earnings substantially.

Real estate from MIAL & ROFR for Navi Mumbai airport could provide upsides

GVK has the right to use for commercial purposes about 10% of the 2,000 acres allotted for the Mumbai Airport. However, a substantial portion of this land is encroached by slum dwellers. Given the land's prime location, even a modest success in clearing the encroachments could provide significant upside to the company. GVK also has a right of first refusal (ROFR) for the Navi Mumbai airport, which is being actively considered by both the central and state governments.

Outlook and valuations: Downside protected; initiating with 'ACCUMULATE'

Our sum-of-the-parts (SOTP) valuation for the company is INR 43 per share with 47% of the value represented by Mumbai Airport. At the CMP of INR 42, the stock is trading at P/E of 23x to FY09E earnings and P/B of 2.4x to FY09E book. Our current valuations factor in the value of operational businesses of airport, power projects, and roads; upsides from these levels will take time to materialise, and have some uncertainty attached. We, therefore, initiate coverage on the stock with an 'ACCUMULATE' recommendation.

Shankar.K

+91-22-4040 7412
shankar.k@edelcap.com

Shashikiran Rao

+91-22-4040 7581
shashikiran.rao@edelcap.com

Abhishek Bhandari

+91-22-4063 5496
abhishek.bhandari@edelcap.com

Reuters : GVKP.BO
Bloomberg : GVKP IN

Market Data

52-week range (INR) : 94 / 29
Share in issue (mn) : 140.6
M cap (INR bn/USD mn) : 5.8 / 134.3
Avg. Daily Vol. BSE ('000) : 3,091.4

Share Holding Pattern (%)

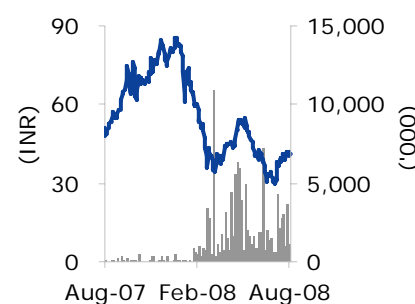
Promoters : 60.9
MFs, FIs & Banks : 5.0
FIIs : 24.8
Others : 9.3

Relative Performance (%)

| | Sensex | Stock | Stock over Sensex |
|-----------|--------|--------|----------------------|
| 1 month | 11.7 | 36.8 | 25.1 |
| 3 months | (16.0) | (21.6) | (5.6) |
| 12 months | 1.5 | (18.8) | (20.3) |

Financials

| Year to March | FY07 | FY08 | FY09E | FY10E |
|-------------------------|-------|-------|--------|--------|
| Revenue (INR mn) | 4,091 | 5,322 | 10,897 | 19,695 |
| Rev. growth (%) | 1.6 | 0.3 | 1.0 | 0.8 |
| EBITDA (INR mn) | 2,119 | 2,483 | 5,228 | 9,681 |
| Net profit (INR mn) | 433 | 1,055 | 1,940 | 3,195 |
| Shares outstanding (mn) | 940 | 1,405 | 1,405 | 1,405 |
| EPS (INR) | 0.4 | 1.0 | 1.8 | 2.6 |
| EPS growth (%) | (0.8) | 1.3 | 0.9 | 0.4 |
| P/E (x) | 100.8 | 43.9 | 23.3 | 16.1 |
| EV/ EBITDA (x) | 25.7 | 25.7 | 19.8 | 15.0 |
| ROAE (%) | 7.0 | 9.8 | 11.1 | 14.1 |
| ROACE (%) | 7.0 | 6.5 | 7.3 | 7.3 |



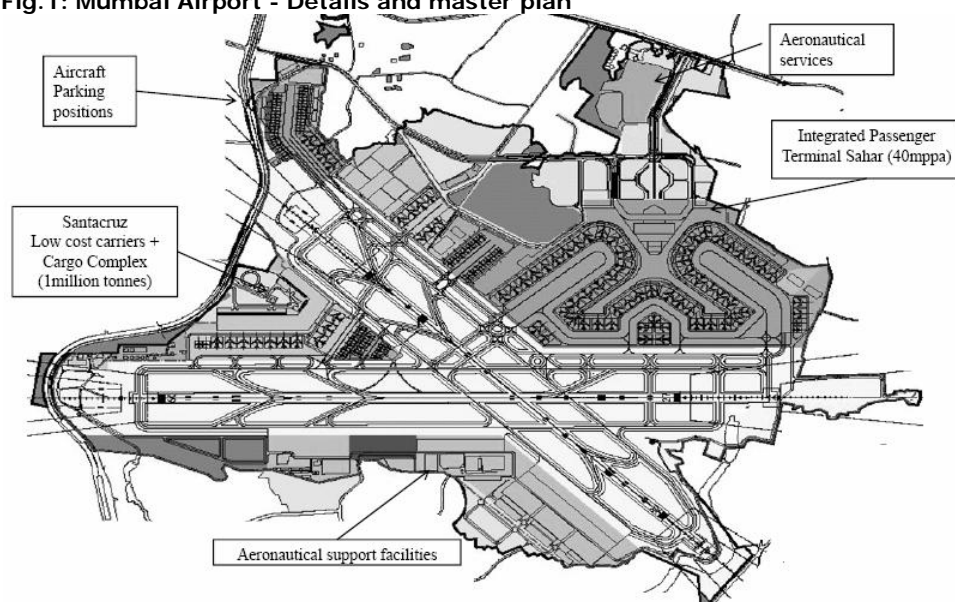
Investment Rationale

Redeveloping India's largest and busiest airport

GVK, together with Airports Company South Africa (ACSA), bagged the project for modernisation of the Mumbai International Airport (MIAL). The renovation project, though highly prestigious and visible, is one of the most complicated projects in terms of scope and size. It involves renovation and modernisation of the existing domestic terminals 1A and 1B, followed by modernisation of international terminals 2A and 2B. The project will culminate with integration of all the terminals into a single 4-level passenger terminal. The scope of expansion, will however, be limited on account of the position of the two runways; both cross each other and there is no additional land in the vicinity, which could be used to straighten them. Given the position of the two runways, only one of them can be used at any given point of time for take-off or landing, and this places a fundamental limitation on the extent to which air-side capacity can be expanded.

Further, this project has limited scope for air-side improvement, which means there could be only marginal growth in the airport capacity, going forward. This air-side work will comprise developing new rapid exit taxiways and additional parking bays for aircrafts, as shown in the master plan below.

Fig.1: Mumbai Airport - Details and master plan



Source: MIAL

The total capacity at the end of the expansion phase in 2012 is likely to be 40 mppa and about 1,100 air traffic movements (ATMs) against the current actual traffic of 26 mppa and 841 ATMs.

The revenue model that MIAL follows limits returns on aeronautical revenues, though non-aeronautical revenues are unlimited. The non-aeronautical revenues however are in a way function of passenger traffic and limitation on traffic growth will cap the growth potential from the airport project.

The cost for the first and only phase is estimated to be INR 900 bn, and will be funded through debt: equity of 80:20. GVK and ACSA hold 37% each in MIAL. GVK has an option to buy out ACSA's stake in MIAL piecemeal or in entirety.

The table 1 summarises the key project details:

Table 1: MIAL - Project highlights

| | |
|---------------------------------|---------|
| Estimated project cost (INR bn) | 900 |
| Debt (INR bn) | 675 |
| Equity (INR bn) | 225 |
| AAI share of revenues (%) | 38.7 |
| Share of GVK in the consortium | 37.0 |
| Date of completion | 2012 |
| Project details | |
| Passenger capacity (mn) | 40 |
| ATMs per day | 1,100 |
| Cargo handled (MT) | 1,000 |
| Terminal area (sq mt) | 500,000 |

Source: Edelweiss research

Gas from Reliance fields could rejuvenate stranded power projects

GVK had an early start as a power developer with the commercialisation of its Jegurupadu (phase I) gas-fired project in 1997. The company's next two projects (Jegurupadu phase II and Gautami power projects) have, however, failed to commence operations, despite completion, on account of failure to secure gas. Moreover, the operation of Jegurupadu phase I has been erratic due to irregular gas supply from Gas Authority of India (GAIL). The plant, so far, has been running partly on naphtha; all the three plants are technically configured to run on both natural gas and naphtha. All the three plants, however, have a power purchase agreement (PPA) with Andhra Pradesh Power Distribution Company (APDISCOM); hence, the offtake from these projects is secured.

However, GVK has been unable to negotiate with the Andhra Pradesh government to allow it to run the plant on naphtha. Hence, the Jegurupadu phase II and Gautami power projects have not been able to commence operations yet. The company is facing an additional problem with Jegurupadu phase II project, as it had funded the project by leveraging the balance sheet of the special purpose vehicle (SPV) used to construct Jegurupadu phase I; this means, there is no moratorium on the interest payment for this phase. Thus, GVK has been paying interest on Jegurupadu phase II, even though the project has not become operational. This is poised to reduce returns on the project, once it is operational.

The company is in discussion with Reliance Industries for gas supply from the latter's Krishna Godavari gas fields, once they begin production in July 2008. If it materialises, generation at Jegurupadu phase II and Gautami power plants could commence in FY09, after a delay of almost two years since project completion. This delay has added to the company's interest during construction (IDC), increasing its capital costs. To compensate for these losses, APDISCOM has allowed 20% of its committed capacity to be sold through the merchant route, to give GVK better profitability. In return, GVK is giving up the option to run these plants on dual fuel i.e., naphtha.

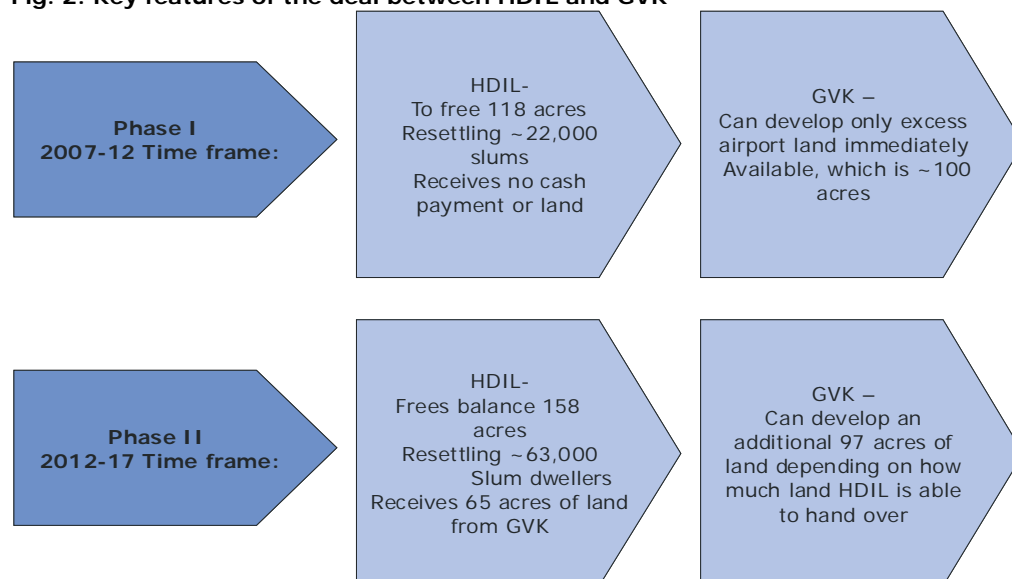
Diversifying power project pipeline: Hydro and pit-head power projects on track

In addition to gas-based projects, the company has a diversified portfolio of power projects under construction and development. This portfolio consists of two hydro projects in Uttaranchal and a coal-fired plant in Punjab. Of the two hydro plants, construction work on the Alaknanda project has already commenced; here, the company has already achieved the milestone of diverting the river. The Detailed Project Report (DPR) for the Goriganga project is still under preparation. The company is also developing a 550 MW Goindwal Sahib coal-fired project in Punjab for the state distribution company. The company has been allotted a coal mine of 55 mn tonnes in Tokisud, Jharkhand, which will be linked to the Goindwal Sahib project.

Real estate from MIAL and ROFR for Navi Mumbai airport could provide upsides

Under Operating and Management Agreement (OMDA) for MIAL, GVK is allowed to commercially exploit ~10% (197 acres) of the total airport land. However, a substantial portion of this land is encroached by slum dwellers. Given the land's prime location, even a modest success in clearing the encroachments could provide significant upside to the company. GVK has entered into an arrangement with the real estate company Housing Development and Infrastructure (HDIL) for clearing the entire encroachment, which the latter will undertake as follows:

Fig. 2: Key features of the deal between HDIL and GVK



Source: Edelweiss research

Note: HDIL has already started work on phase I of the deal. It has acquired 53 acres of land in Kurla for INR 19 bn, to rehabilitate the slum dwellers from the encroached land.

Given the complications involved in the above-mentioned process, we see following scenarios on land availability:

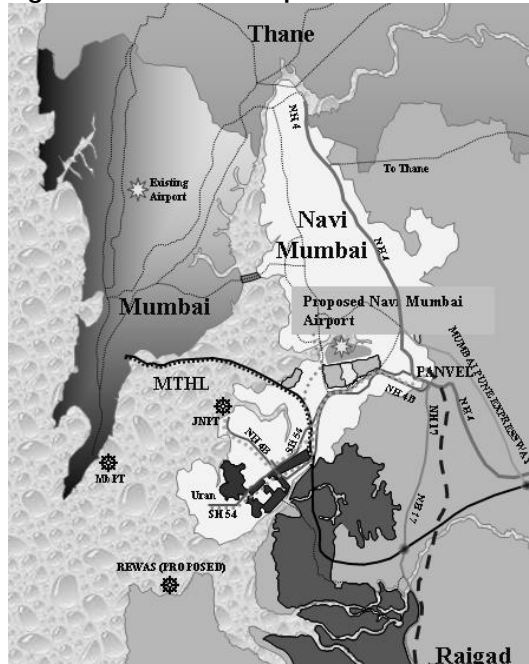
Table 2: Scenarios on availability of land for commercial development in MIAL

| Scenario | Details | Impact/Outcome |
|--------------|--|--|
| Worst case | Only encroachment-free land is available for development | 100 acres are developed commercially |
| Average case | Optimised location of airport facilities to lead to additional free land for development | 152 acres are developed commercially in MIAL |
| Best case | HDIL succeeds in clearing encroachments from whole 276 acres of airport land | HDIL gets 65 acres to develop, 197 acres are developed commercially in MIAL (due to cap on maximum of 10% of total airport land area allowed for commercial development) |

Source: Edelweiss research

Further, GVK has a right of first refusal (ROFR) for any airport that is to come up within 150 km of MIAL. This also applies to the proposed new airport at Panvel, in Navi Mumbai, which both central and state governments are pursuing with great commitment. Under ROFR, GVK gets the right to match the winning bid for developing the new airport as long as its bid is within 10% of the winning bid. Given the project's strategic location, bagging it could give GVK significant upsides, going forward. On the flip side, losing this project could skim the cream off GVK's existing airport business, in our view.

Fig. 3: Navi Mumbai airport details



| | | |
|-----------------------|---|------------|
| Total project cost | : | USD 2.4 bn |
| Phase 1 project cost | : | USD 1.0 bn |
| Targeted operation by | : | 2012-13 |
| Design capacity | : | 40 MPPA |

Source: Ministry of Civil Aviation

Valuation

We value GVK using the SOTP method. We have used a discounted cash flow to equity holders (DCF) method to value the airport concessions, using cash flows from current to the date of expiry of the concession. However, the DCF model will include only the aeronautical and non-aeronautical revenues. The real estate sweeteners for the project have been valued using the net asset value (NAV) method. We have taken a 25% discount to our NAV values for SEZs for our SOTP valuation. For power projects, we use the DCF for individual projects for cash flows from current to the expiry of the PPAs or the life of the asset, with no terminal value. We have used DCF to value the road concessions, discounting all the cashflows to equity holders for the length of the concession. The table below summarises the SOTP valuation for the company.

Table 3: GVK Power and Infra - SOTP valuation

| (fig in INR mn) | Methodology | Value | GVK stake | Equity contribution | Per share contribution |
|--|--|---------------|--------------|---------------------|------------------------|
| MIAL | | | | | |
| Airport concession | DCF - base case 50% discount to NAV; 152 acre availability | 29,381 | | | |
| Real estate | | 50,435 | | | |
| Total MIAL | | 79,816 | 37.0% | 29,532 | 21 |
| Roads | DCF | 4,558 | 100% | 4,558 | 3 |
| Power | DCF | | | | |
| Jegurupadu phase 1 | | 4,163 | 100% | 4,163 | |
| Jegurupadu phase 2 | | 2,880 | 100% | 2,880 | |
| Gautami Power | | 3,822 | 51% | 1,949 | |
| Total Existing | | | | 8,992 | 6 |
| Power proposed | | | | | |
| Proposed hydro projects | DCF | 4,412 | 100% | 4,412 | |
| Proposed coal-fired projects | DCF | 1,946 | 100% | 1,946 | |
| Total proposed power projects | | | | 6,359 | 5 |
| Perambalur SEZ | 25% discount to NAV | 5,591 | 100% | 5,591 | 4 |
| Add cash outstanding less corporate debt | | | | 5,487 | 4 |
| Total GVK SoTP value | | | | 60,518 | 43 |

Source: Company reports, Edelweiss research

MIAL: Conservative approach to factor in uncertainties

We have used the DCF method to value the airport concession, which includes the aeronautical and non-aeronautical revenues from the airport facility. The airport is likely to reach a point of saturation by FY12E, and we can see only up to 25% overloading being allowed into the airport. Like the Delhi Airport, MIAL will have revenues based on actual charges until FY09 and on CPI-X thereafter. Revenues under this model will be dependant on the capex phasing in the expansion stage. Our model assumes that the capex for the project will be INR 15 bn, INR 18 bn, INR 19 bn, INR 17 bn, INR 12.5 bn, INR 10 bn, and INR 4 bn during FY08-14E. As there is likely to be very little capex beyond FY14E, the aeronautical revenues are likely to plateau, and then start declining. Growth in non-aeronautical revenues is also expected to be limited as the airport reaches saturation.

Table 4: MIAL - Assumptions and valuations

(INR mn except stated otherwise)

| | 2008E | 2009E | 2010E | 2011E | 2012E | 2016E | 2020E | 2024E | 2028E | 2036E | 2066E |
|---|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|------------------|
| Operational parameters | | | | | | | | | | | |
| Airport capacity (mn.) | 26 | 26 | 26 | 36 | 36 | 40 | 40 | 40 | 40 | 40 | 40 |
| Domestic passenger traffic (mn.) | 17.0 | 17.0 | 18.7 | 21.5 | 24.8 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| International passenger traffic (mn.) | 9.2 | 9.2 | 10.1 | 11.6 | 13.3 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| Domestic cargo ('000 mt) | 138.7 | 145.6 | 167.5 | 194.3 | 225.4 | 347.2 | 455.1 | 596.5 | 781.9 | 1343.5 | 10227.1 |
| International cargo ('000 mt) | 334.2 | 350.9 | 403.5 | 468.1 | 543.0 | 836.6 | 1096.5 | 1437.4 | 1884.1 | 3237.2 | 24642.3 |
| Domestic ATMs | 151 | 192 | 176 | 187 | 215 | 260 | 256 | 256 | 256 | 256 | 256 |
| International ATMs | 58 | 58 | 59 | 68 | 76 | 113 | 103 | 103 | 103 | 103 | 103 |
| Revenue model | | | | | | | | | | | |
| User charges revenue (FY08-09) | 5,713.3 | 6,197.5 | | | | | | | | | |
| CPI-X model | | | | | | | | | | | |
| Return on base | 903 | 1,793 | 3,458 | 5,633 | 7,948 | 8,293 | 6,629 | 4,965 | 3,301 | 0 | 0 |
| OM - Efficient operation & maintenance cost | 2,764 | 3,223 | 3,868 | 4,446 | 5,109 | 7,948 | 10,563 | 12,357 | 14,456 | 19,784 | 64,166 |
| Depreciation | 229 | 294 | 582 | 1,122 | 1,842 | 3,228 | 3,228 | 3,228 | 3,228 | 3,021 | 0 |
| Corporate tax | 426 | 567 | 899 | 901 | 1,262 | 7 | 1,274 | 3,276 | 5,191 | 12,285 | 452,160 |
| revenue | 1,463 | 1,814 | 2,206 | 2,595 | 3,098 | 5,324 | 7,528 | 10,838 | 15,786 | 34,575 | 855,563 |
| Target revenues | 2,858 | 4,062 | 6,601 | 9,507 | 13,063 | 14,153 | 14,165 | 12,987 | 10,390 | 513 | 0 |
| Total aeronautical revenues | 5,713 | 6,197 | 6,601 | 9,507 | 13,063 | 14,153 | 14,165 | 12,987 | 10,390 | 513 | 0 |
| Key non-aero components | | | | | | | | | | | |
| Cargo handling | 1,731 | 2,239 | 2,704 | 3,293 | 4,011 | 7,511 | 11,966 | 19,066 | 30,377 | 77,114 | 2,537,029 |
| Other aero related revenues | 3,383 | 3,809 | 4,648 | 5,356 | 6,315 | 10,236 | 13,127 | 17,062 | 22,244 | 38,138 | 314,847 |
| Revenues | 4,878 | 6,048 | 7,352 | 8,649 | 10,325 | 17,747 | 25,094 | 36,128 | 52,621 | 115,252 | 2,851,877 |
| Gross revenues | 8,568 | 12,245 | 13,953 | 18,156 | 23,388 | 31,899 | 39,259 | 49,116 | 63,011 | 115,765 | 2,851,877 |
| Revenue sharing | 3,316 | 4,739 | 5,400 | 7,027 | 9,051 | 12,345 | 15,193 | 19,008 | 24,385 | 44,801 | 1,103,676 |
| Net revenues | 5,252 | 7,506 | 8,553 | 11,130 | 14,337 | 19,554 | 24,066 | 30,108 | 38,626 | 70,964 | 1,748,201 |
| Valuation assumptions | | | | | | | | | | | |
| Return on capital employed (| 11.6 | | | | | | | | | | |
| Valuation summary | | | | | | | | | | | |
| Cost of equity (%) | 14.0 | | | | | | | | | | |
| DCFV | 29,381 | | | | | | | | | | |
| GVK share (%) | 37.0 | | | | | | | | | | |
| GVK value | 10,871 | | | | | | | | | | |

Source: Company reports, Edelweiss research

Valuation sensitivity

We have drawn of three different scenarios for the valuation of airport based on traffic projections.

Table 5: MIAL valuation summary

(INR mn)

| Case | DCFV valuation |
|-------------|----------------|
| Pessimistic | 13,312 |
| Base | 29,413 |
| Optimistic | 52,705 |

Source: Company reports, Edelweiss research

| Assumptions | | FY10E (%) | | | |
|-------------|--------------------------|-----------|-------|----------|-----------|
| | | FY09E | FY10E | FY11-14E | Long term |
| Pessimistic | Passenger traffic growth | (10.0) | 5.0 | 10.0 | 6.0 |
| | Cargo volume growth | 0.0 | 10.0 | 12.0 | 6.0 |
| Base | Passenger traffic growth | 0.0 | 10.0 | 15.0 | 7.0 |
| | Cargo volume growth | 5.0 | 15.0 | 16.0 | 7.0 |
| Optimistic | Passenger traffic growth | 10.0 | 15.0 | 20.0 | 8.0 |
| | Cargo volume growth | 10.0 | 20.0 | 20.0 | 8.0 |

Source: Company reports, Edelweiss research

Real estate: Evaluation of multiple scenarios

We have used NAV valuation to value the real estate potential of GVK's airport project. We see several different scenarios that could emerge for GVK in developing the Mumbai Airport real estate. We have shown the valuation for GVK in all the three scenarios that we had considered earlier, in table 6. In this table, we have also considered the different FSI that GVK could avail. The global FSI for development in the area is 1; if the company intends to raise it to 2, it needs to purchase TDRs, priced at ~INR 4,000/ sq ft, according to the prevailing ready reckoner rates.

Table 6: MIAL – Land valuation sensitivity

| | (INR mn) | | | | | |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total area (acres) | 197 | 152 | 100 | 197 | 152 | 100 |
| FSI | 1 | 1 | 1 | 2 | 2 | 2 |
| Total developable area in mn. sq ft | 8.6 | 6.6 | 4.4 | 17.2 | 13.2 | 8.7 |
| Loading (%) | 25 | 25 | 25 | 25 | 25 | 25 |
| Total saleable area in mn. sq ft | 11 | 8 | 5 | 21 | 17 | 11 |
| Sale Price in INR/ sq ft | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| AAI revenue sharing | 7,175 | 7,175 | 7,175 | 7,175 | 7,175 | 7,175 |
| CoC INR/ sq ft | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| Other cost INR/ sq ft | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| PBT INR/ sq ft | 14,325 | 14,325 | 14,325 | 14,325 | 14,325 | 14,325 |
| Tax | 4,813 | 4,813 | 4,813 | 4,813 | 4,813 | 4,813 |
| PAT | 9,512 | 9,512 | 9,512 | 9,512 | 9,512 | 9,512 |
| Total PAT | 102,030 | 78,723 | 51,792 | 204,059 | 157,447 | 103,584 |
| Cash flow duration (yrs) | 3 | 3 | 3 | 3 | 3 | 3 |
| Cost of equity (%) | 16 | 16 | 16 | 16 | 16 | 16 |
| NAV | 65,366 | 50,435 | 33,181 | 130,732 | 100,870 | 66,362 |
| Discount to NAV (%) | 50 | 50 | 50 | 50 | 50 | 50 |
| Valuation to GVK | 32,683 | 25,217 | 16,590 | 65,366 | 50,435 | 33,181 |

Source: Edelweiss research

The valuation of this land portion is sensitive to the price of land, the portion of land that can be ultimately cleared from encroachment and also the timeframe over which the development can take place. We have assumed cash flow duration of three for the project because we expect the real estate development to take place over a period of next six years.

Power generation: Timely gas supply key to growth

Table 7 highlights GVK's power projects that have either started operation or are at least complete. Currently, only the Jegurupadu phase I is operational, and hence, we have valued it with a lower cost of equity of 12%. The other two projects are still awaiting gas supplies; hence, we have assigned a higher risk weightage to these projects. It must be noted that Jegurupadu phase II has been funded by leveraging the balance sheet of the subsidiary that owns the Jegurupadu project. We have estimated a debt:equity of 80:20 for the project, though the project has been funded entirely through debt.

Table 7: Existing power plants – Assumptions and valuations (INR mn)

| | Jegurupadu phase 1 | Jegurupadu phase 2 | Gautami Power |
|-----------------------------|-----------------------|---|---|
| Capacity (MW) | 217 | 220 | 464 |
| Fuel | Natural gas | Natural gas | Natural gas |
| Sustainable PLF (%) | 60 | 60 | 60 |
| Tariff formula | PPA as per CERC norms | 2-part fixed plus variable pass through | 2-part fixed plus variable pass through |
| Fixed tariff (INR/ unit) | 1.7 | 0.9 | 0.9 |
| Merchant tariff (INR/ unit) | NA | NA | NA |
| Fuel price (INR/ unit) | 4.7 | 5.0 | 6.0 |
| Cost of equity (%) | 12 | 14 | 14 |
| DCF value | 4,163 | 2,880 | 3,822 |
| GVK stake (%) | 100 | 100 | 51 |
| GVK share | 4,163 | 2,880 | 1,949 |

Source: Company reports, Edelweiss research

Power generation: New units still to get off ground

GVK's power expansion consists of two medium-sized hydro projects, one each in Alaknanda and Goriganga (both in Uttaranchal), and a coal-fired plant in Tokisud (Punjab). Of these projects, construction work on the Alaknanda plant has already begun, and the plant has secured all the necessary clearances and entered into a PPA. Therefore, we have used DCFE to value this project. The Goriganga project has, however, neither achieved financial closure nor has initial construction work commenced on it; hence, we have used a higher cost of equity to value it.

Table 8: GVK Hydro - Portfolio details

| | (INR mn) | |
|---------------------|--|------------------|
| | Alaknanda | Goriganga |
| Location | Uttaranchal | Uttaranchal |
| Capacity (in MW) | 330 | 370 |
| Type | Run of the river | Run of the river |
| Expected FC date | Aug-08 | Mar-09 |
| Expected CoD | Jul-11 | Dec-12 |
| Royalty (%) | 12 | 12 |
| PLF assumptions (%) | 50.0 | 43.0 |
| Offtake | PPA with UPPCL for 30+20 years under CERC norms: 14% roE | Merchant |
| Capex | 20,690 | 22,500 |
| Debt to equity | 70:30 | 70:30 |
| Cost of equity (%) | 16 | 16 |
| DCF E | 3,996 | 416 |

Source: Company reports, Edelweiss research

The Tokisud coal-fired project in Punjab has secured coal linkage from a captive mine in Jharkhand, and has also signed a PPA with Punjab State Electricity Board (PSEB). Therefore, though the project has achieved financial closure, we have valued the project using DCFE. The captive coal block in Jharkhand for this project will be developed by January 2009, while the slated date for completion of the power project is March 2011. In the interim, the coal from this mine can be sold to PSEB. The price for sale of coal would be at 10-15% discount to Coal India prices. While we have factored this in our earnings forecasts, we do not provide for this in the valuations, as sales will not be on a sustainable basis.

Table 9: Goindwal Sahib power plant and Tokisud coal mines

| | (INR mn) | |
|--|--------------------------------|--|
| Power plant location | Goindwal Sahib Punjab | |
| Capacity (in MW) | 540 | |
| Expected FC date | | |
| Expected CoD | Mar-11 | |
| Offtake | PPA with PSEB under CERC norms | |
| PLF assumptions (%) | 85 | |
| Capex | 29800 | |
| Debt to equity (%) | 80 | |
| Mine location | Tokisud, Jharkhand | |
| Expected mine development date | Jan-09 | |
| Total reserves (MT) | 55 | |
| Mine capacity (mmtpa) | 2 | |
| Cost of mining and transportation (INR/MT) | 900 | |
| Mine development cost | 1,800 | |
| Calorific value expected (kcal/kg) | 3,700 | |
| Cost of equity (%) | 16 | |
| DCF E | 1,946 | |

Source: Company reports, Edelweiss research

Roads: Secured income from tolls; upsides from traffic growth remain

The Jaipur-Kishengarh Expressway has been operational, generating steady earnings for the past three years. Except for a force majeure, we do not see any significant risk to the project's earnings; we expect it to match at least the current profit levels for the period of concession. Therefore, to value the project, we have used DCFE for the period of concession with a lower cost of equity of 12%

| | |
|------------------------------|--------------|
| Length (km) | 90.35 |
| Concession period start date | Apr-03 |
| Commencement of operations | May-05 |
| Concession period (years) | 20 |
| End of concession | Mar-23 |
| 2007 Traffic (pcu) | 50,000 |
| Estimated growth rates (%) | 7 |
| Toll rates (INR/ pcu) | 60 |
| Estimated toll growth (%) | 5 |
| Capital cost | 6,812 |
| Grant | 1,876 |
| Debt outstanding | 2,893 |
| Revenues (FY08E) | 1,397 |
| PAT (FY08E) | 637.3 |
| Cost of equity (%) | 12 |
| DCF value | 4,558 |

Source: Company reports, Edelweiss research

Perambalur SEZ: Early stages of development

GVK has an MoU with Tamil Nadu Industrial Development Corporation (TIDCO) to develop a multiproduct industrial SEZ at Perambalur, near Trichy. The company is in the process of land acquisition for this project; so far, it has managed to acquire 1,800 acres of land at ~INR 0.33 mn/acre. It has applied for notification of SEZ by board of approvals. There is not much detail about how this project will be developed, its quantum, and rates. Hence, we have taken a discount of 50% to our NAV for this project. Table 11 below summarises our assumptions and valuations for this project.

| | |
|---|--------------|
| Total area (acres) | 3018 |
| Developable area (%) | 70 |
| Development Area in acres | 2,113 |
| Development cost/ acre (INR mn) | 50 |
| Development cost (INR mn) | 105,630 |
| Debt (INR mn) | 79,223 |
| Equity (INR mn) | 26,408 |
| Sale price: industrial (INR mn/ acre) | 40 |
| Sale price: residential (INR mn/ acre) | 50 |
| Advance Lease deposit as a % of total price (%) | 75 |
| Lease deposit period | 30 |
| Infrastructure charge in INR mn/ acre | 5 |
| Cost of construction for residential | 33.0 |
| SG&A as % of sales | 10 |
| Interest cost (%) | 12 |
| Depreciation as a % of gross block | 5 |
| Cost of equity (%) | 16 |
| NAV of SEZ (INR mn) | 11,181.3 |
| Discount to NAV (%) | 50 |
| Valuation of SEZ (INR mn) | 5,591 |
| GVK stake (%) | 100 |
| GMR Value in SEZ (INR mn) | 5,591 |

Source: Company reports, Edelweiss research

Key Risks

Natural gas security for existing power plants

GVK's current power plants are running short of gas. Currently, the company has only signed a MOU with Reliance for the supply of gas from the KG gas fields from July. This has legal sanctity only in the event of a favourable ruling on the Reliance dispute. Since the company has given up the dual fuel (naphtha) option for its Jegurupadu II and Gautami projects, timely availability of gas is crucial for the company.

MIAL: Securing land from encroachments

A part of the mandatory projects that GVK has to execute under the terms of agreement depends on the land that will be acquired by clearing sum encroachments on it. A significant part of the commercial real estate development from the project also depends on clearing of the encroached land. The company's valuation, hence, depends on the ability of HDIL to fulfill its obligation. However, the risk for GVK in this deal is not as significant as is the risk for HDIL, as the latter has already commenced investment in the project and will not receive any benefits from it until achieving certain targets of freeing the land of encroachments.

Competition from second airport in Mumbai

The central government has already approved the plan to construct the second airport in Navi Mumbai, and the government of Maharashtra is trying to acquire land for it. The airport bidding offers an opportunity to GVK on account of the ROFR clause. However, if GVK loses the bid, the new airport could compete with the existing airport, hampering the latter's profitability. Moreover, as MIAL has relatively lesser leeway to modernise the airport vis-à-vis the new airport on account of space constraints, the new airport could end up eating into the juicier bits of MIAL's business such as cargo traffic and international traffic. For instance, while MIAL will continue to effectively have only one usable runway, the new airport will have two parallel runways as a part of the original design.

Company Description

GVK was promoted by Mr. GV Krishna Reddy, and is a part of the GVK Group that has interests in infrastructure, bioscience, and hospitality. The company is the flagship of the group and holds its infrastructure assets under it. GVK entered the infrastructure segment by building the 216MW Jegurupadu phase I power project in Andhra Pradesh. The company has since then expanded across different infrastructure verticals with presence in airports, power, roads, and urban infrastructure. Winning the bid for developing the Mumbai Airport has been a major milestone for the company. It is also bidding for deep sea gas blocks under the National Exploration Licensing Plan (NELP –VII) in partnership with BHP Billiton.

Management overview

Mr. GV Krishna Reddy: This first generation entrepreneur has over 40 years experience in various lines of business. He founded Novopan Industries in 1979 (manufacturer of pre-laminated particle board), followed by GVK Petrochemicals and GVK America.

Mr. GV Sanjay Reddy: He has been involved with various lines of business, including the setting up of the Jegurupadu units. Currently, he manages the MIAL project in addition to other group businesses.

Mr. Somanadri Bhupal: He is the managing director of GVK Industries - the holding company for the Jegurupadu power project. He was also instrumental in executing the Jaipur-Kishengarh project and is also involved with various other initiatives of the group. Prior to joining GVK, Mr. Bhupal was the joint managing director of Novopan India, managing the hotel business.

Mr. Issac George: Has been the CFO of the company since its inception, and has garnered over 25 years of experience with the GVK Group.

Business Description

Mumbai International Airport

GVK, in a 50-50 consortium with Airports Company South Africa (ACSA), won a bid to pick up 74% stake in the Mumbai International Airport (MIAL). The company now has a concession to modernise, expand, and operate the airport for a concession period of 30 years, which is extendable by another 30 years at the option of the consortium.

The first phase, comprising renovation and modernisation of terminal 1B, is already complete. The financial closure for the entire project is also over. The total project cost is INR 60 bn, which will be funded through 73:27 debt-equity.

The total development potential of the site is ~20 mn sq ft across land development phases, which can be developed over a period of 5-8 years, according to company estimates. The first task as things stand today is in freeing the land from encroachment. Table 12 shows schedule of freeing encroachment.

Table 12: MIAL land status

| Phase | Time frame | Land freed (acres) |
|-----------------|--------------|--------------------|
| 1 | 6-36 mths | 158 |
| 1(i) | 6-18 mths | 78 |
| 1(ii) | 18-24 mths | 20 |
| 1(iii) | 24-36 mths | 60 |
| 2 | 36-48 mths | 118 |
| Total | Upto 48 mths | 276 |
| Less HDIL share | | 65 |
| Net GVK share | | 211 |

Source: Company reports, Edelweiss research

The maximum global FSI that can be secured for construction in the Mumbai suburban district is 1. However, the company will not get any free TDR. In addition, the company can purchase additional TDRs, which can increase the global FSI to 2. The company estimates the total city side development potential associated with the airport to be ~20 mn sq ft, incorporating FSI of 2.

Existing power projects

The company was an early entrant in private power generation in India by setting up the 216 MW Jegurupadu phase I power project in Andhra Pradesh, in 1997. It expanded its generation capacity by adding the 220 MW Jegurupadu phase II and 464 MW Gautami power project in the same region.

Proposed power projects

GVK is currently in the process of developing two hydro projects with a total generation capacity of 700 MW, and one coal-fired plant with a capacity of 540 MW at Goindwal Sahib, in Punjab. All these plants are being built with PPAs and secure fuel linkages, and are likely become operational by 2012.

Alaknanda: The first one is the 330 MW Alaknanda power project in Uttaranchal. This project is under construction and is likely to commence operations in July 2011. This project has a PPA with Uttar Pradesh Power Corporation (UPPCL) under the conventional 2-part tariff plan that guarantees the company 14% RoE plus incentives. The financial closure was achieved in July 2007. Civil works for the project is being carried out and the key work of diversion of the river has been successfully completed.

Goriganga: The other hydro project is the 370 MW Goriganga project in Uttaranchal, which the company won through a process of competitive bidding. The company is planning to develop the project as a merchant power plant with no long-term PPA. The project has not yet achieved financial closure and is slated to begin commercial production in 2012.

Goindwal Sahib: The third power project under development is the 540 MW coal-fired Goindwal Sahib power project in Punjab, which was also won through a process of competitive bidding. To fuel this project, GVK has been allotted 55 MT coal block in Tokisud, Jharkhand. The development of this mine is on, and is expected to cost INR 1.8 bn; it is likely to be completed by January 2009. The mine development plan has been approved by the Government of India (GoI). The mine output will be ~2 MTPA, which falls slightly short of requirement. To make up for the shortfall, the company is also in the process of developing the Saregraha mine in Jharkhand, jointly with Mittal group. This gives it access to another 1 MTPA of coal.

Road/ Urban infrastructure

Jaipur Kishengarh road project: GVK was awarded the contract to build the 90 km Jaipur-Kishengarh stretch on the Mumbai Delhi highway on a BOT basis with a concession period of 20 years, including the construction date starting March 28, 2003. The project involved 30-month construction period and toll collection for the remaining concession period. GVK executed the project ahead of schedule in April 2005. The road stretch has seen a total traffic of 6.8 mn passenger car units (pcus) in FY08, which is a growth of 8% over last year. Toll revenues for this project are not capped; however, there is a provision for sharing revenues in excess of INR1.11 bn with the National Highway Authority of India (NHAI).

Perambalur SEZ: GVK is in the process of developing a 3,018 acre multi-product SEZ at Perambalur, Tamil Nadu, under an MoU with Tamil Nadu Industrial Development Corporation (TIDCO). The location of this SEZ is about 225 km away from Chennai, along NH7. The company is in the process of acquiring land for the project and has acquired 2,600 acres of land at ~INR 0.33 mn/acre; it is awaiting a formal SEZ notification, once the process of land acquisition is complete. Currently, ~2,600 acres of land has been acquired. The composition of industries to be housed in the SEZ is not yet decided; Mahindra Consulting has been appointed as consultant to the project. The options being explored are auto and auto ancillaries and chemicals.

Financial Outlook

Gas availability to provide medium-term push to earnings

In FY08, power contributed ~INR 3.5 bn to GVK's revenues, and road projects INR 1.4 bn. FY09 could witness great spurt in revenues, if the Jegurupadu phase II and Gautami Power projects commence operations. We estimate production from these projects to commence in the second half of FY09, contributing INR 5 bn to revenues. In the first full year of operations (FY10), their contribution to revenues is likely to be INR 10.9 bn. Also, we expect GVK to get revenues of INR 630 mn and INR 2.5 bn in FY09E and FY10E, respectively, from the sale of coal from its Tokisud mines. Collectively, revenues are expected to rise to INR 11.4 bn in FY09E, and INR 20 bn in FY10E.

Table 13: Revenue break-up for GVK

| (INR mn) | 2007A | 2008A | 2009E | 2010E |
|-----------------------|--------------|--------------|---------------|---------------|
| Roads | 1,164 | 1,397 | 1,233 | 1,331 |
| Power | 2,912 | 3,205 | 8,413 | 15,222 |
| Coal mine | 0 | 0 | 630 | 2,520 |
| Total revenues | 4,077 | 4,602 | 10,276 | 19,073 |

Source: Edelweiss research

Bottom-line to increase faster than top-line, powered by MIAL's growth

Barring a buyout of ACSA's stake in MIAL by GVK, revenues from MIAL will not be consolidated into the top-line. MIAL contributed INR 336 mn and INR 414 mn to the bottom-line in FY07 and FY08, respectively, and will contribute INR 883 mn to profit after tax in FY09E. GVK's total revenues are likely to, thus, expand to INR 11.4 bn and INR 20 bn in FY09E and FY10E, respectively. The power division will be another major contributor to revenues, where we expect PAT (post minority interest) to increase to INR 258 mn in FY09E and to INR 373 mn in FY10E. Overall, we expect the adjusted PAT to be INR 2.59 bn and INR 3.7 bn in FY09E and FY10E, respectively. Note that our estimates do not incorporate earnings from Perambalur SEZ, as the company has not spelt out the timeframe when the earnings from this project will come about. This could give a further upside to our earnings estimates, going forward.

Table 14: GVK PAT adjusted for minorities

| (INR mn) | 2007A | 2008A | 2009E | 2010E |
|--------------|------------|--------------|--------------|--------------|
| Airports | 336 | 414 | 871 | 875 |
| Roads | (110) | 637 | 353 | 430 |
| Power | 238 | 101 | 248 | 355 |
| Coal mine | - | - | 76 | 682 |
| Total | 464 | 1,152 | 1,548 | 2,341 |

Source: Edelweiss research

Financial Statements

| Income statement | | | | | (INR mn) |
|----------------------------------|-------------|-------------|-------------|--------------|-----------------|
| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
| Income from operations | 1,547 | 4,091 | 5,322 | 10,897 | 19,695 |
| Direct costs | 717 | 1,228 | 1,736 | 4,214 | 6,981 |
| Employee costs | 41 | 134 | 146 | - | - |
| Other expenses | - | 611 | 957 | 1,455 | 3,032 |
| Total operating expenses | 757 | 1,973 | 2,839 | 5,669 | 10,013 |
| EBITDA | 790 | 2,119 | 2,483 | 5,228 | 9,681 |
| Depreciation and amortisation | 269 | 806 | 776 | 1,598 | 2,890 |
| EBIT | 520 | 1,313 | 1,707 | 3,631 | 6,791 |
| Interest expenses | 143 | 631 | 414 | 1,046 | 2,553 |
| Profit before tax | 378 | 683 | 1,293 | 2,585 | 4,238 |
| Provision for tax | 10 | 250 | 239 | 645 | 1,043 |
| Core profit | 368 | 433 | 1,055 | 1,940 | 3,195 |
| Extraordinary items | (0) | (1) | - | - | - |
| Profit before minority interest | 368 | 432 | 1,055 | 1,940 | 3,195 |
| Minority interest | 140 | 373 | 101 | 248 | 355 |
| Share of profit in associate co. | - | 336 | 407 | 871 | 875 |
| Profit after minority interest | 228 | 397 | 1,361 | 2,563 | 3,715 |
| Shares outstanding | 109 | 940 | 1,405 | 1,405 | 1,405 |
| EPS (INR) basic | 2.1 | 0.4 | 1.0 | 1.8 | 2.6 |
| Diluted shares (mn) | 109 | 940 | 1405 | 1405 | 1405 |
| EPS (INR) fully diluted | 2.1 | 0.4 | 1.0 | 1.8 | 2.6 |
| Dividend per share | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Dividend payout (%) | - | 56 | - | - | - |

Common size metrics- as % of net revenues

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|-------------------------------|-------------|-------------|-------------|--------------|--------------|
| Operating expenses | 48.9 | 48.2 | 53.3 | 52.0 | 50.8 |
| Depreciation and amortization | 17.4 | 19.7 | 14.6 | 14.7 | 14.7 |
| Interest expenditure | 9.2 | 15.4 | 7.8 | 9.6 | 13.0 |
| EBITDA margins | 51.1 | 51.8 | 46.7 | 48.0 | 49.2 |
| Net profit margins | 23.8 | 10.6 | 19.8 | 17.8 | 16.2 |

Growth metrics (%)

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|----------------------|-------------|-------------|-------------|--------------|--------------|
| Revenues | 1,975.6 | 164.5 | 30.1 | 104.8 | 80.7 |
| EBITDA | 1,838.0 | 168.3 | 17.2 | 110.6 | 85.2 |
| PBT | 10.8 | 0.8 | 0.9 | 1.0 | 0.6 |
| Net profit | 2,084.4 | 117.8 | 243.6 | 183.9 | 164.7 |
| EPS | 5.3 | (0.8) | 1.3 | 0.9 | 0.4 |

| Balance sheet | | (INR mn) | | | | |
|--------------------------------|---------------|-----------------|---------------|---------------|----------------|--|
| As on 31st March | FY06 | FY07 | FY08 | FY09E | FY10E | |
| Equity capital | 236 | 236 | 1,406 | 1,406 | 1,406 | |
| Reserves & surplus | 5,102 | 5,719 | 20,460 | 23,023 | 26,738 | |
| Shareholders funds | 5,339 | 5,956 | 21,866 | 24,429 | 28,144 | |
| Minority interest | 2,621 | 2,729 | 6 | 254 | 608 | |
| Secured loans | 7,401 | 11,353 | 12,639 | - | - | |
| Unsecured loans | 565 | 4,093 | 271 | - | - | |
| Borrowings | 7,966 | 15,446 | 12,910 | 50,656 | 92,060 | |
| Deferred Revenue | - | 1,876 | 1,758 | 1,758 | 1,758 | |
| Sources of funds | 15,926 | 26,006 | 36,540 | 77,098 | 122,571 | |
| Gross block | 10,112 | 18,890 | 19,044 | 34,044 | 53,844 | |
| Depreciation | 4,603 | 5,874 | 6,769 | 8,367 | 11,257 | |
| Net block | 5,509 | 13,016 | 12,275 | 25,677 | 42,587 | |
| Capital work in progress | 7,092 | 8,211 | 13,501 | 42,300 | 70,864 | |
| Total fixed assets | 12,601 | 21,227 | 25,776 | 67,977 | 113,451 | |
| Investments | 1,322 | 2,974 | 7,068 | 7,068 | 7,068 | |
| Inventories | 231 | 285 | 227 | 227 | 227 | |
| Sundry debtors | 769 | 828 | 652 | 652 | 652 | |
| Cash and equivalents | 580 | 631 | 1,643 | 0 | 0 | |
| Loans and advances | 2,242 | 1,648 | 2,356 | 2,356 | 2,356 | |
| Total current assets | 3,821 | 3,392 | 4,879 | 3,236 | 3,236 | |
| Sundry creditors and others | 589 | 638 | 269 | 269 | 269 | |
| Provisions | 36 | 59 | 28 | 28 | 28 | |
| Total CL & provisions | 625 | 696 | 297 | 297 | 297 | |
| Net current assets | 3,197 | 2,696 | 4,582 | 2,939 | 2,939 | |
| Net deferred tax | (1,193) | (891) | (886) | (886) | (886) | |
| Uses of funds | 15,926 | 26,006 | 36,540 | 77,098 | 122,571 | |
| Book value per share (BV)(INR) | 49 | 6 | 16 | 17 | 20 | |

| Free cash flow | | (INR mn) | | | | |
|------------------------|----------------|-----------------|-----------------|-----------------|-----------------|--|
| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E | |
| Net profit | 228 | 397 | 1,361 | 2,563 | 3,715 | |
| Depreciation | 269 | 806 | 776 | 1,598 | 2,890 | |
| Deferred tax | (1,194) | 303 | 4 | - | - | |
| Others | 3,042 | -2,372 | -879 | -3,039 | 355 | |
| Gross cash flow | 2,345 | (867) | 1,262 | 1,122 | 6,960 | |
| Less: Changes in W. C. | 2,612 | (1,712) | (389) | (3,287) | (0) | |
| Operating cash flow | (268) | 845 | 1,650 | 4,409 | 6,960 | |
| Less: Capex | 5,934 | 27,703 | 66,932 | 92,163 | 75,824 | |
| Free cash flow | (6,201) | (26,857) | (65,281) | (87,754) | (68,864) | |

| Cash flow metrics | | | | | | |
|--------------------------|-------------|-------------|-------------|--------------|--------------|--|
| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E | |
| Operating cash flow | (268) | 845 | 1,650 | 4,409 | 6,960 | |
| Financing cash flow | 3,440 | 3,734 | 15,280 | 37,747 | 41,404 | |
| Investing cash flow | (2,594) | (4,528) | (23,133) | (43,799) | (48,364) | |
| NET CASH FLOW | 578 | 51 | (6,202) | (1,643) | - | |
| Capex | (5,934) | (27,703) | (66,932) | (92,163) | (75,824) | |
| Dividends paid | - | (222) | - | - | - | |
| Share issuance/(buyback) | 4077.6 | -1.0 | 0.0 | 0.0 | 0.0 | |

Profitability & Liquidity ratios

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|----------------------------------|------|------|------|-------|-------|
| ROAE (%) | 8.4 | 7.0 | 9.8 | 11.1 | 14.1 |
| ROACE (%) | 7.1 | 7.0 | 6.5 | 7.3 | 7.3 |
| Current ratio | 6.1 | 4.9 | 16.4 | 10.9 | 10.9 |
| Debtors (days) | 91 | 71 | 51 | 22 | 12 |
| Average fixed assets t/o (x) | 0.6 | 0.4 | 0.4 | 0.6 | 0.6 |
| Average working capital t/o (x) | 1.2 | 1.7 | 2.1 | 3.7 | 6.7 |
| Average capital employed t/o (x) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Debt / Equity | 1.5 | 2.6 | 0.6 | 2.1 | 3.3 |
| Debt/EBITDA | 10.1 | 7.3 | 5.2 | 9.7 | 9.5 |
| Adjusted Debt/Equity | 1.5 | 2.6 | 0.6 | 2.1 | 3.3 |

Operating ratios

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|------------------------------|------|------|------|-------|-------|
| Total asset turnover | 0.18 | 0.20 | 0.17 | 0.19 | 0.20 |
| Average fixed assets t/o (x) | 0.56 | 0.44 | 0.42 | 0.57 | 0.58 |
| Equity turnover | 0.57 | 0.72 | 0.38 | 0.47 | 0.75 |

Du pont analysis

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|-----------------------|------|------|------|-------|-------|
| NP margin (%) | 14.7 | 9.7 | 25.6 | 23.5 | 18.9 |
| Total assets turnover | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Leverage multiplier | 3.1 | 3.7 | 2.2 | 2.5 | 3.8 |
| ROE (%) | 8.4 | 7.0 | 9.8 | 11.1 | 14.1 |

Valuation parameters

| Year to March | FY06 | FY07 | FY08 | FY09E | FY10E |
|--------------------|------|-------|------|-------|-------|
| Diluted EPS (INR) | 2.1 | 0.4 | 1.0 | 1.8 | 2.6 |
| Y-o-Y growth (%) | 5.3 | (0.8) | 1.3 | 0.9 | 0.4 |
| CEPS (INR) | 15.6 | 1.0 | 1.5 | 3.0 | 4.7 |
| Diluted P/E (x) | 20.3 | 100.8 | 43.9 | 23.3 | 16.1 |
| Price/BV(x) | 0.9 | 6.7 | 2.7 | 2.4 | 2.1 |
| EV/Sales (x) | 8.6 | 13.3 | 12.0 | 9.5 | 7.4 |
| EV/EBITDA (x) | 16.8 | 25.7 | 25.7 | 19.8 | 15.0 |
| Dividend yield (%) | - | 0.01 | - | - | - |

Appendix 1

Airports: spread across various classes

Currently airports are classified across several categories

- International airports: Currently five- Delhi, Mumbai, Kolkata, Chennai and Cochin: Hyderabad is the latest addition, Bangalore will open in May.
- Custom enclaves: These have limited international flight handling facilities including custom and immigration facilities - 13 airports including the old Bangalore airport
- Model airports: These are domestic airports that meet international standards on landing facilities and can handle an international aircraft once in a while
- Other domestic airports
- Civil enclaves within defense establishments.

Currently the focus is on upgrading the custom enclaves to international standards as also modernising and upgrading the international terminals.

Appendix 2

Revenues for airports: Tentative fee structures

Broadly revenues for the airport business is categorized into three main streams –

- **Aeronautical revenues:** These comprise of charges that the airlines use for using the airline facilities. All the aeronautical charges are currently designated by AAI and fixed across the country. This will however change going forward as will be discussed later.
 - **Landing charges:** This fixed charge per aircraft for one landing and one take off from the airport facility (commonly called air traffic movement or ATM)
 - **Parking charges:** This is the charge per hour of parking for an aircraft – also calculated on a per ATM per hour basis
 - **Passenger service fees:** Charged on a per passenger landing basis, this charge is shared to the extent of 65% with the Central Industrial Security Force (CISF) which is charge of security of all airports in the country
 - **X-ray and baggage charges (XBIS):** Charges for x-ray and baggage handling
 - There are some other charges that airlines pay such as route navigation charges, which do not form part of airport revenues, as they will accrue to AAI. The details of the charges are included in Appendix 1. Going forward, these charges will be worked out by the airport regulator as and when it is formed.

- **Aero-related revenues:** These revenues from airport operation that is related to aviation. The charges here are not AAI-mandated and hence the airports have some control over them. Principal categories in this are
 - **Cargo handling operations:** This would include the ground-handling for cargo operations. This includes bonded warehouse, destuffing and demurrage facilities, transportation etc. This is normally the largest component of aero-related revenues.
 - **Aviation fuel farm:** Typically airports get a concession fee from the oil companies that offer re-fuelling facilities for aircrafts at the airport.
 - Maintenance repair and overhauling (MRO) operations for aircrafts as discussed earlier.

- **Non-aeronautical revenues:** In some revenue models, aero-related revenues are clubbed with non-aeronautical revenues. The non-aeronautical revenues as so defined typically constitute 60-70% of the airport revenues would over of which cargo constitutes 20-25% and other non-aeronautical constitute between 40-45%. But in Indian airports traditionally, this constitutes only 25% of the total revenues. Principal sources of non-aeronautical revenues are
 - Duty free shops/ Other retail facilities in airport premises: Rentals for concessions and revenue shares are the typical sources of revenues.
 - Airport village/ airport hotel operations.
 - Food and beverages.
 - Car parking.
 - In-flight kitchen.
 - Advertising
 - Other airport facilities.

Appendix 3

– AAI regulated fees for international airports

Airlines pay the following charges to the airports

- Route navigation facilities charges (RNFC)
- Landing parking and housing charges (LPH)
- Terminal navigational landing charges (TNLC)
- X-ray baggage and handling charges (XBIS)

Of these, RNFC and TNLC goes to AAI directly. Rest of the charges are distributed as follows

Aviation charges and entities that receive these charges

| Airports | RNFC | LPH | TNLC | XBIS |
|-----------------------------------|------|---------|------|-------------|
| (A) International Airports | | | | |
| 1) Delhi (DIAL) | AAI | DIAL | AAI | DIAL/IAL/AI |
| 2) Mumbai (MIAL) | AAI | MIAL | AAI | MIAL/IAL/AI |
| 3) Chennai, Trivandrum, Kolkata | AAI | AAI | AAI | AAI |
| 4) Bangalore | AAI | HAL | AAI | AAI |
| 5) Goa | AAI | Defence | AAI | AAI |
| 6) Cochin Int'l Airport (CIAL) | AAI | CIAL | AAI | CIAL |
| B) Domestic Airports | AAI | AAI | - | AAI |
| C) Civil enclaves | AAI | Defence | AAI | AAI |

Source: AAI

Note – the new airports in Bangalore and Hyderabad follow the pattern of DIAL and MIAL

Landing charges per single landing

| Weight of Aircraft | Rate per landing - International Flight | Rate per Landing - Other than International Flight |
|--------------------|---|--|
| Upto 100 MT | INR 227.70 per MT | INR 170.80 per MT |
| Above 100 MT | INR 22,770/- + INR 306 per MT in excess of 100 MT | INR 17,080/- + INR 229.50 per MT in excess of 100 MT |

Source: AAI

Parking and Housing Charges

| Total Weight - charges in Rate per Hour | Housing Charges | Parking Charges |
|--|--|--|
| Upto 100 MT | INR 7.40 per hour per MT | INR 3.70 per hour per MT |
| Above 100 MT | INR 740/- + INR 9.80 per MT per hour in excess of 100 MT | INR 370/- + INR 4.90 per MT per hour in excess of 100 MT |

Source: AAI

Passenger service fee

| Per Passenger | |
|-----------------------------------|--------------|
| Domestic departing passenger | INR 200/ pax |
| International departing passenger | USD 5/ pax |

Source: AAI

NOTES:

NOTES:

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|----------------|--------------------------------|--|------------------|
| Naresh Kothari | Co-Head Institutional Equities | naresh.kothari@edelcap.com | +91 22 2286 4246 |
| Vikas Khemani | Co-Head Institutional Equities | vikas.khemani@edelcap.com | +91 22 2286 4206 |
| Shriram Iyer | Head Research | shriram.iyer@edelcap.com | +91 22 2286 4256 |

Coverage group(s) of stocks by primary analyst(s): Power:

CESC, GIPCL, NTPC, Power Grid Corporation, Reliance Infrastructure and Tata Power

GMR Infrastructure



GVK Power and Infrastructure



Recent Research

| Date | Company | Title | Price (INR) | Recos |
|-----------|-------------------------|--|-------------|--------|
| 31-Jul-08 | Power Grid Corp. | Uphill task; <i>Result Update</i> | 95 | Accum. |
| 30-Jul-08 | CESC | In line performance; attractive valuations; <i>Result Update</i> | 350 | Buy |
| 29-Jul-08 | NTPC | Muted growth; <i>Result Update</i> | 178 | Accum. |
| 25-Jul-08 | Reliance Infra. | EPC and other income enhance earnings; <i>Result Update</i> | 985 | Accum. |

Distribution of Ratings / Market Cap

Edelweiss Research Coverage Universe

| | Buy | Accumulate | Reduce | Sell | Total |
|--|--------|------------------------|--------|------|-------|
| Rating Distribution* | 101 | 56 | 14 | 7 | 189 |
| * 10 stocks under review / 1 rating withheld | | | | | |
| | > 50bn | Between 10bn and 50 bn | < 10bn | | |
| Market Cap (INR) | 82 | 71 | 36 | | |

Rating Interpretation

| Rating | Expected to |
|-------------------|---|
| Buy | appreciate more than 20% over a 12-month period |
| Accumulate | appreciate up to 20% over a 12-month period |
| Reduce | depreciate up to 10% over a 12-month period |
| Sell | depreciate more than 10% over a 12-month period |

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Edelweiss Securities Limited, 14th Floor, Express Towers, Nariman Point, Mumbai 400 021
Tel: +91 22 2286 4400. Email: research@edelcap.com