

# Recent Developments in Air India versus Indian Railways

## A COMPARISON OF PERFORMANCE CHARACTERISTICS, GOOD GOVERNANCE

HANS HUBER

Comparing the performance of the Indian Railways with that of Air India should be an intuitive exercise that allows stressing fundamental issues pertaining to the outlook of two of India's most prominent PSUs. (See **Table 1** for a comparison of the scale of operations) Although a previous paper (Goyal A., 2008) had already applied principles of Transaction Cost Theory (TCE) to a similar topic, its conclusions can appear ambiguous, providing little scope for effective implementation. Other research compared productivity between Air India and other private airlines in India. (Bansal S.C. et al., 2008) Although this approach may be proven, again it failed to make any clear recommendations as to how the strategy of Air India needed to be changed. What is probably more irritating is the fact that both approaches failed to raise a red flag and correctly predict the path to doom that Air India had chosen. In particular, no issues were found regarding the merger activities of the NACIL during 2008, on which the author had voiced serious concerns<sup>1</sup> earlier. (Huber H. and Lawrence C., p. 67) This concern stood in stark contrast to the support from prominent trade associations and lobbyists. (See CAPA, 2009, p. 3)

Bringing the discussion to a factual level that allows the independent observer to take a stand seems imperative. As it is, the public interest that is at stake, not only from the taxpayer's perspective (by capital injection or financing of needless aircraft purchases): the real issue is about the development path of India as a nation, that is, the sustained ability of the government to provide freedom and space to its people through mobility at affordable prices. Such an approach needs to go beyond classic micro-economic analysis, although it would remain deeply economic and political in nature. At this point a strong interdependency between both PSUs becomes clear: losses of one PSU constrain the government's (Gol's) ability to invest in other modes of transport (deficit spending incurring higher interest rates put aside). Or vice versa, the surpluses made by one PSU (for example, through intelligent and responsible management) will tend to subsidise the other loss-making PSU (where poor management or corruption may be the cause). Such inequity becomes all the more scandalous, if it is the common man relying on inexpensive and accessible railway service that eventually has to foot the bill, whereas the subsidised operator is catering to the upper-middle and upper classes. To what extent such win-lose patterns are accurate, of course, depends on the scale of financial surpluses/losses that are involved.

With the author being a transport economist from abroad, political parties in India are not his prime concern. But the political system in India shows that local constituencies, whether in Bihar or Nagpur, may in the end matter for obtaining ever new funds—without any justification on economic grounds. Also, accountability seems non-existent (numerous examples show that near identical problems existed in Western countries as well). In other words, no theory (that is, transaction cost economics) can really explain the tale of the two transport PSUs in India: one which had undergone a spectacular transformation, the other factually left bankrupt but no one willing to admit it.

### Situation before 2004

By the late 1990s, the situation of the Indian Railways (IR) was judged to be critical and unsustainable. In July 2001, the Rakesh Mohan Committee saw the IR as being stuck in a 'debt trap', partly due to important outlays that had been required for infrastructure maintenance and investment. The IR's ability to self-generate funds had been considered as inadequate.

**TABLE 1: Scale of operations**

Indian Railways	2003/04	'04/05	'05/06	'06/07	'07/08	'08/09	'09/10
Pax (m)	5.112	5.361	5.725	6.219	6.524	6.920	7.246
Pax-km (m)	541.208	575.702	615.614	694.794	769.956	838.032	903.063
Net-ton-km (m)	384.074	411.280	441.762	483.422	523.196	551.450	600.550

Working Exp.(cr.)	39.482	42.759	45.574	49.047	54.462	71.839	82.915
Personnel (m)	1,44	1,33	1,41	1,41	1,39	1,39	1,36
Total wages (cr.)	20.928	22.560	23.920	24.355	25.892	39.941	51.237
<b>Air India</b>	<b>2003/04</b>	<b>'04/05</b>	<b>'05/06</b>	<b>'06/07</b>	<b>'07/08</b>	<b>'08/09</b>	<b>'09/10</b>
Pax (m)	3,835	4,447	4,437	4,394	13,32	10,5	11,8
Rev-pax-km (m)	15.549	19.184	20.876	19.615	31.295	26.436	28.965
Rev-ton-km (m)	1.801	2.239	2.397	2.240	3.729	3.235	3.533
Oper. Exp. (cr.)	6.114	7.539	9.233	9.870	17.844	18.896	16.581
Personnel	15.572	15.914	15.884	15.376	32.287	31.106	NA
Total wages (cr.)	1.112	1.182	1.245	1.341	3.225	3.339	3.357

Source: Annual Reports

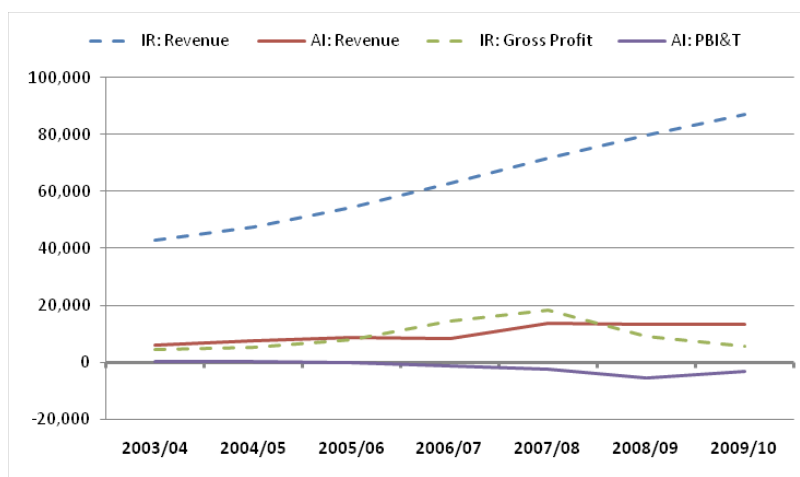
The idea of possible privatisation had met with strong opposition from employees and unions, and thus was abandoned. Issues included 'Universal Service Obligation', improvements in both cost and quality, and measures to curb 'political rent extraction' due to the impact that ticket pricing could have on State elections. The official recommendations that were given could be qualified as following the canonical neo-liberal template: for example, investments should be rationalised on a purely commercial basis, cross-subsidies between freight and passenger service be stopped, and prices be increased to cover costs. It was found that there was 25 per cent excess manpower—layoffs seemed the natural choice to improve productivity. Investment focus should be laid to the 'golden quadrilateral', that is, railways linking Delhi, Mumbai, Chennai and Kolkata, along with other important cities that were en route. Privatisation of the IR should remain an option and the highly integrated concern was suggested to be split into independent entities that could be sold off selectively. The Expert Committee specifically opposed the smaller zones that were eventually implemented. With hindsight, one can say that it had benefited the IR not to have followed these recommendations. It is safe to say that transformation of the IR seemed far from obvious when Laloo Prasad took over as the Minister in 2004.

At the same time, Air India (AI) seemed in a much less critical position. Although the carrier had been hit by the 9/11 events and losses had worsened in fiscal 2002/03 (to reach minus Rs 190 crores from operations), by the following year the company had turned profitable again (Rs 33 crores in operations). Although aviation was known to be cyclical and vulnerable to demand shocks, the overall growth prospects for the industry were favourable and competition with the private carriers seemed well coordinated (unlike intense competition that had unfolded on many routes in Europe or the US after liberalisation).

### On Different Growth Paths

AIR INDIA—despite occasional losses—appeared as a financially manageable entity, whereas the IR seemed an elephant whose health would affect the GoI Budget much more than AI's did. **Exhibit 1** shows how both PSUs have developed in terms of financial results during the tenure of the respective Ministers, that is, between 2004 and 2009 for Laloo Prasad and from 2004 to 2010 for Praful Patel.

#### Exhibit 1: Revenues and Gross Profit (in cr. rupees)



Source: Annual Reports

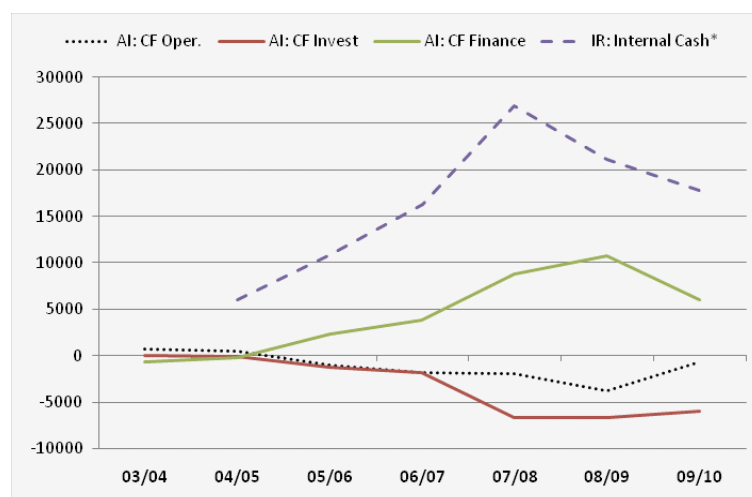
By FY 2009/10 revenue of the IR had grown by 84 per cent, that of AI by 73 per cent (as compared to FY 2004/05 when the new Cabinet had taken office). Considering its higher base effect, the IR's performance was remarkable. Gross Profit with the IR exceeded Revenues of AI for most of the period, dipping below AI's Revenues only in 2008 and thereafter. In turn, AI's results from operations steadily deteriorated, with FY 2008/09 showing losses before interest and taxes of Rs 5417 crores. **Exhibit 2** draws a comparison of each PSU's capacity to self-finance its future investments. AI showed negative cash-flows from operations throughout the entire office of the previous incumbent, amounting to Rs 3803 crores for FY 2008/09 alone. Expensive investments were undertaken, mostly during the later years. The sum of these negative cash-flows needed to be financed by debt and subsidies, which—apart from the amount of money involved—was different from the situation in which the airline was before 2004. (See **Exhibit 2**) By comparison, the IR had managed to steadily increase its internal generation of cash<sup>2</sup> during the office of Laloo Prasad. The situation of the IR therefore had fundamentally changed from the previous years and decades when it had been considered 'stuck in a debt trap'.

Taking on the perspective of the GoI, which repeatedly had to inject new capital into AI, 32 per cent of the IR's capacity to self-generate funds would have been used by AI's investment outlays during FY 2008/09 and 34 per cent the period after. These investments had been largely due to the controversial order of 111 Boeing aircraft, including the appropriately named 'Dreamliner' 787-type.<sup>3</sup> Most impressively, the ratio of cash-flows obtained through borrowing from the government reached 112 per cent of that which had been provided to the IR during FY 2008/09 (not shown in the Exhibit).

### Operational Benchmarks and Productivity

**TABLE 2** compares important cost components as a ratio of operational output for both PSUs. In order to maintain a temporal correlation between the periods when both Ministers held office and the performance measures for both PSUs, certain financial years are de-emphasised and are shaded in grey.

Several comparisons are striking: Operating Expenses per Revenue-Passenger-Kilometre at Air India were about 8.5 times that of the IR during FY 2008/09 (during FY 2004/05, the ratio stood at 5.5 only). Over the same period, operating expenses in terms of Revenue-Tonne-Kilometre (RTK) with AI versus the same ratio for Net-Tonne-Kilometre (NTK) with the IR changed from 32 to 44, thus worsening AI's competitive disadvantage with regard to cargo services. Wages historically had constituted over 50 per cent of the total operating costs with the IR and grew by a moderate 23 per cent per passenger-kilometre during the observation period, as compared to AI's equivalent ratio that had more than doubled. This is a remarkable finding, as increased capital spending (new equipment, new aircraft, merger consulting, route restructuring, etc.) could have been instrumental in slowing the growth pace of this cost component within AI. Also, AI's overall operating expenses per RPK grew by some 45 per cent, of which increases in wages had played only a small part. Changes in the IR's wages tended to have much greater impact on overall productivity. Unlike at the beginning of Laloo Prasad's term, when labour productivity could be kept at a constant level, this ratio started to worsen in FY 2008/09. This negative trend then continued with the new Minister in FY 2009/10, which constituted the bulk of the IR's degrading overall productivity.

**Exhibit 2: Comparative Cash-Flows between AI and IR**

Source: Annual Reports

**TABLE 2: Productivity Ratios for Operational Cost over Output**

	2003/04	'04/05	'05/06	'06/07	'07/08	'08/09	'09/10
<b>Indian Railways</b>							
Op.Exp./Pax-km (Rs.)	0,73	0,74	0,74	0,71	0,71	0,86	0,92
Op.Exp./NTK (Rs.)	1,03	1,04	1,03	1,01	1,04	1,30	1,38
Wage/Pax-km (Rs.)	0,39	0,39	0,39	0,35	0,34	0,48	0,57
Wage/NTK (Rs.)	0,54	0,55	0,54	0,50	0,49	0,72	0,85
<b>Air India</b>							
Op.Exp./Pax-km (Rs.)	3,93	3,93	4,42	5,03	5,70	7,15	5,72
Op.Exp./RTK (Rs.)	33,94	33,67	38,52	44,07	47,85	58,41	46,93
Wage/Pax-km (Rs.)	0,72	0,62	0,60	0,68	1,03	1,26	1,16
Wage/RTK (Rs.)	6,18	5,28	5,19	5,99	8,65	10,32	9,50

Source: Annual Reports

If it had not been for international operations with higher load factors and longer distances flown, AI's deteriorating ratios would have been even more catastrophic. In other words, AI has stopped performing domestically, despite of mega-investments undertaken in favour of Boeing Corporation, whereas the IR has shown over extended periods that labour-intensive operations within India were economically viable while productivity could be increased. As a consequence, both PSUs—which represent by all means public service interests—inverted their respective roles as vectors for India's development largely due to changes in their productivity, a situation nobody would have expected in FY 2003/04.

### Internalising Competition by Strategic Transformation

ACCORDING to the author, a great deal of the IR's success can be explained by its capability to internalise competition within its organisation.<sup>4</sup> This internalisation was made possible through a restructuring of the existing nine zones into 16 new ones, which were to be divided into 67 divisions in 2002. It is interesting to look at this policy measure—which had initially been opposed by many experts—to find the positive externalities that it created both within the IR, but also with regard to other stakeholders (GoI, passengers and freight, suppliers, etc.). Several effects stand out, with many of them resembling very closely the welfare effects that are being promised through market competition.

### Semi-autonomous zones of operation

One obvious feature of each zone is its focus on decentralised activities and a local provision of near complete value chains relating to railway operations (with separate departments for Accounts, Civil Engineering, Commercial, Electrical Engineering, Mechanical Engineering, Medical, Personnel,

Operations, Safety, Security, Signal and Telecom, Stores). A General Manager in each zone supervises the Principal Heads of each Department. As a consequence of the increase in the number of zones, the number of interchange points for given routes increased too. However, the often decried complexity and inoperability due to the reorganisation has not materialised.

The following advantages can be observed:

- **Comparability of cost structures and performance:**  
This re-partition into smaller zones allowed for a better comparability of incurred costs and corresponding output, that is, operational performance. *Ceteris paribus*, the more the zones that were comparable, the lower the likeliness for manipulation and the easier it was to establish reliable benchmarks. In the case of inefficiencies, both the locus and root-causes of such became more traceable more easily.
- **Preventing collusion among General Managers:**  
Increasing the number of zones from nine to 16 made it significantly more difficult to form a nexus of relationships and mutual influences outside of organisational control. The allocation of zonal responsibilities to a wider base of General Managers also created a pool of new candidates for replacing under-performers.
- **Transparency and improved incentives:**  
The IR Annual Reports are extremely detailed with regard to operational performance along numerous benchmarks. It can be assumed that the same data exists for each zone and that it is disseminated openly among them. This provides for a constructive stimulus to improve operations, along with the possibility to actually influence the outcome locally (due to a high degree of zonal operational autonomy).<sup>5</sup>

### **Geographic segmentation of operations**

The other criterion that is usually missing from economic analysis (be it institutional, micro-economic or organisational) but is significantly impacting on positive externalities is that of spatial separation. If there was a geographic overlap between the zones, issues of transfer pricing, cross-subsidies and blurred transparency would arise. And the effectiveness of the outlined measures could be seriously compromised. Thus, clear regulation and understanding of the interfaces between the various zones (that is, clearly defined inter-change points for each route) are required.

One of the fundamental hypotheses for market competition being free entry/exit and fluidity among firms, the IR could hardly claim such conditions to prevail. However, as the IR has proven that zones (or divisions) could undergo important restructuring, many of the welfare effects, that are usually being attributed to market competition, were obtained. This, of course, raises fundamental questions about the legitimacy of liberalisation and privatisation of the PSUs in India (as well as abroad).

### **Why Transaction Cost Economics has not helped to govern Air India**

THE example of the IR has shown that public ownership was able to create significant incentives throughout an organisation with 1.4 million employees, whereas any privatisation effort for AI has repeatedly been put on hold because of lack of interest from investors (even before massive losses had occurred). Apparently, high-powered incentives through privatisation and market competition were not reckoned to suffice to get the company back on track.

The industry structure for the IR (a monopoly) per se has never assured balanced accounts for the PSU in the past. With regard to AI, very close coordination between all major carriers in India has been a top priority during the previous Minister's tenure. The market structure was (and still is) much closer to oligopoly than competition. This observation was confirmed by the quasi-simultaneous merger of six major airlines into three during spring 2008. Again, the inability to operate efficiently and profitably in such a favourable context is noteworthy, but escapes any clear prediction from TCE.

The nature of transactions that are prevalent in aviation could be interpreted in the light of their asset specificity, frequency or uncertainty. Depending on these criteria, contracts that are incomplete would show higher or lower transaction costs, depending on the organisational form (markets versus hierarchies) through which they are being performed. In reality, it becomes near impossible to determine whether assets being used with AI were any more specific, transactions more frequent or uncertain as compared to those with the IR. For example, one may say that the acquisition of a new and more sophisticated aircraft would impact on asset specificity and thus favour organisational integration through hierarchies. Such an assertion, however, fails to identify

the key transactions that need to be analysed and also ignores the fact that the management does not need to buy such aircraft,<sup>6</sup> but could lease it. Appropriate technology choices, of course, must be made; but it is the effective utilisation of technology more than transaction costs which will assure the PSU's performance. In practice, one may say that both in terms of asset specificity as well as frequency of transactions, it is the airline-airport nexus that mostly would require organisational integration, that is, hierarchy. However, such an intuitive arrangement can hardly be found with today's globalised air traffic system. The IR, in contrast, has laid more emphasis on such clearly hierarchical, yet localised, 'transactions' in its organisational format with 16 zones. From a theoretical perspective, the spatial (geographic) component, that seems quintessential for structuring and planning in transport, has never been integrated into TCE. The real issue seems to be more about decentralised allocation of control over technology rather than expensive technology investments that would yield 'high-powered incentives' which in turn could substitute for administrative control.

At this point, particularly when comparing AI with the IR, it becomes clear that outsourcing of operations (another management spin-off from TCE) will not address the fundamental operational problems in the context of Indian aviation.

In our analysis, the most relevant application of TCE probably pertains to 'Separation of Powers', although the original term dates back to Frenchman Montesquieu. TCE postulates that conflict of interest of an agent may actually make him over-spend on expenditures if he is to gain from them (through himself or related third parties). It suggests that 'spending would be lower if members who do not represent special interests are given special powers... This hierarchical process strengthens collective interests...' (Goyal A., 2008, p. 125) Although it is difficult to see how the position of the former Minister responsible for AI was structurally any different from that of the IR, their actual handling of budget matters has been considerably asymmetric. It is true that independent control over budgetary processes and monitoring can make incentives low-powered. However, the case of AI shows that repeated critical notes from the CAG, COPA, etc. failed to have any noteworthy impact on the highly contestable decisions taken by the MoCA. In contrast, the exemplary transformation of the IR including its relatively sovereign planning of investments, continue to serve as a case study worldwide.

A potential conflict of interest might also permeate inside the Gol as many Ministers heading PSUs are coalition partners with control over electoral bases in their home constituencies. This may make it near impossible for a coalition Gol to effectively discipline inadequate agents. However, as our comparison shows, TCE fails to explain the differences in budget allocation between both Ministries. In the end, it might be 18<sup>th</sup>-century Montesquieu with his principles on the separation of political powers into a strong and independent Executive, Legislative and Judiciary that would prevail. The future development of India to a great extent will depend on the independence of these branches and the control powers granted to several of its national agencies (that is, Comptroller and Auditor General, Competition Commission of India, Committee on Public Undertakings, etc.).



#### REFERENCES

- Bansal, S.C., Khan, M.N., Dutt, V.R. (2008), 'Economic Liberalisation and Civil Aviation Industry', *Economic and Political Weekly*, August 23, pp. 71-76.
- CAPA (2007), 'Aviation consolidation looming in India', *Outlook*, 2007.
- CAPA (2009), 'An aviation agenda for the next Indian government', *Perspectives*, May, pp. 1-16.
- Goyal, Ashima (2008), 'Governance in India's public transport systems: comparing Indian Railways and Airlines', *Economic and Political Weekly*, July 12, pp. 119-127.
- Goyal, Ashima (2003), 'Budgetary processes: a political economy perspective', chapter 2.2. in S. Morris (ed.), *India Infrastructure Report 2003, Public Expenditure Allocation and Accountability*, 3i Network and Oxford University Press, New Delhi.
- Huber, Hans (2009), 'Strategic Flexible Planning and Real Options for Airport Development in India', *Economic and Political Weekly*, February 21, pp. 43-50.
- Huber, Hans (2009), 'Planning for balanced growth in Chinese air traffic: a case for statistical mechanics', *Journal of Air Transport Management*, 16, pp. 178-184.
- Huber, H., Lawrence, C. (2009), 'Corporate Strategy' (Interview), *The Analyst*, ICAFI Press, 9, pp. 66-67.
- Mohan, Rakesh et al. (2001), *The Indian Railways Report on Policy Imperatives for Reinvention and Growth (Vol. I and II)* by Expert Group on Indian Railways, Ministry of Railways, Government of India, New Delhi.
- Wikipedia (2011), <http://en.wikipedia.org/wiki/Montesquieu>, accessed on February 10.
- Williamson, Oliver (1999), 'Public and private bureaucracies: a transaction cost economics perspective', *Journal of Law, Economics and Organisation*, 15, 1, pp. 306-342.

#### FOOTNOTES

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1. A parliamentary enquiry (COPU) was undertaken some months after the interview. Findings supported many of the author's arguments.
2. The term 'Internal Resources Generation' included contributions from revenues and capital and—to a lesser extent—borrowing from General Revenues.
3. Controversy had arisen as AI had a long history and experience in leasing aircraft.
4. None of the case studies written on the IR actually discusses the fundamental role of zonal transformation.
5. This is another example of creating significant incentives within a hierarchy.
6. Similarly, it remains the decision of the IR to decide if, where and when asset-specific high-speed railway corridors would be launched.

Dr Hans Huber is a Senior Researcher; he is a Marie-Curie Fellow, CESUR, Instituto Superior Técnico, Lisbon (Portugal). He has been working at the Shailesh J. Mehta School of Management, Indian Institute of Technology-Bombay, Mumbai. He can be contacted at e-mail: [hhuber@iitb.ac.in](mailto:hhuber@iitb.ac.in)

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