WORKING PAPER | EXECUTIVE SUMMARY

Riding the Tracks of Time

Indian Railways – An Unfinished Revolution

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The paper tracks the construction of India's railways lines starting from the first half of the 19th century. Initially railway lines in India belonged mostly to UK headquartered privately owned firms. These companies received a guaranteed return on their loans to Indian railway companies. The second half of this paper covers the improvements in Indian Railways post-Indian independence till the 2020s and compares the extent to which the current state of Indian Railways lags behind railway systems in higher per capita income countries and China.

The development of India's railway networks could and should have contributed more to the industrialisation of pre-independent India. In this context, an oft-quoted Karl Marx remark about Indian railways was, "…the railway system will, therefore become, in India, truly the forerunner of modern industry." (Marx, 1853). Even though the British developed extensive railway networks in India, this did not lead to anywhere near the levels of industrialisation achieved in Europe and the US. This paper discusses the underlying causal reasons which were mostly driven by the UK's colonial self-interest considerations.

British sources of financing for the laying of railway tracks in India were readily forthcoming post-1857 after the British Indian government started providing a minimum guaranteed return on loan funds of about 5 per cent. However, by the mid-1880s, this rate of return was deemed excessive as railway track construction expenditure mounted to wastefully high levels. For the financiers, costs were not a concern, since the return on capital invested in railway line construction was guaranteed by the British Indian government. As compared to the 5 per cent return guaranteed for railway track construction, the long-term fixed rates of return on the three forms of gilts (British government debt securities) prevalent at that time was about 3 per cent, varying at most up to 3.5 per cent per annum between 1845–1888.

Initially, the expectation in Britain was that equity funding would be a major component of financing for railways within Britain. However, over subsequent decades, debt funding increasingly took precedence. The holders of common shares in British Railways had suffered substantial losses, which explains the shift towards debenture bonds. In the context of funding and development of railways in India, which closely followed similar financing in Britain, debt funding was preferred from the start. This approach meant that the shareholders of Indian railway companies faced little market risk in their corresponding investment portfolios.

On a related note, the insurance industry in the City of London grew richer by insuring shipments of railways' machinery and other items from Britain to India. To that extent, the financial sector in London widened and deepened as trade and investment related to railways grew in India. For example, the Bengal-Nagpur railway was funded by the Rothschild family by issuing bonds. Several privately owned companies which were headquartered in London owned railway lines in India. And, there was a sharp rise in the numbers of passengers over time, and while there were 19 million passengers in 1871, this number rose to 190 million by 1900.

Prior to Indian independence in 1947 there were periodic highly distressing widespread famines. To an extent, the British Indian government neglected the welfare of the poorest in India in comparison to the interests of those who financed the construction of railway lines or were passengers and traders moving goods. In this context, it is relevant that during the British colonial era in India the expenditure on railways was significantly higher than on irrigation systems.

The revenues of Indian Railway lines were estimated at 2.6, 3.2, and 4.9 per cent of Indian gross national income in 1901, 1919, and 1939, respectively. Among several other recommendations made by the Sir William Acworth committee, there was a pointed recommendation for greater clarity about the finances of Indian Railways. This committee argued that Railways' accounts should be distinct from that of the government. After a separation of the railway budget from the finances of the government in 1921, this budget was regrettably remerged with the union budget in 2017. It is ironic that a separation from government accounts and transparency in the accounting of all operations of Indian Railways has not happened even as of end 2024.

Although Acworth was earlier known to favour private management of railways, he recommended government ownership and management of Indian railways. Individual railway companies, which were partly or fully-owned by individual Britishers, Indians/Princely States or privately owned companies, were gradually taken over by the British Indian government. This was to be expected given the large number of employees, strategic importance of the railway system and for further centralisation of British control over India. However, a few relatively short distance railway lines continued to be owned by princely states till 1947.

Mahatma Gandhi's negative experience while travelling by train are encapsulated in his short write-up titled "Third Class in Indian Railways." The following was Gandhi's comment about the difference between travelling 1st class as compared to 3rd class: "it is a known fact that the third-class traffic pays for the ever-increasing luxuries of first and second-class travelling… and (third-class passengers) squat on dirty floors and eat dirty food." Yet, trains were useful for Gandhi to meet with the economically weaker sections through the length and breadth of India.

At its pre-independence peak Indian railways had a million workers, of whom about 12,300 were Eurasians and Anglo-Indians. After Indian independence in 1947, almost all British railway and management professionals employed at senior management and technical levels left India. Consequently, there was a sense of foreboding that Indian railways would splinter and collapse with the departure of the British much as perhaps Winston Churchill had suggested that British India would break-up into multiple countries. Instead Indians took over as British senior technical staff and engineers left post-1947.

Although Indian Railways did not disintegrate, an implied finding of this paper is that Indian railways should have added at least another 20,000 kilometres of track length between 1947 and 2024. The funding for this could have been sourced from private domestic and international sources if passenger fares had been rationalised on a cost-plus basis. This would have also made the movement of goods via railways cost-competitive versus transportation by road. On the plus side, in 74 years from 1947 to 2021, India added 13,410 kilometres of railway tracks. And, to its credit, Indian Railways has converted most metre-gauge and narrow-gauge lines to broad-gauge.

Indian Railways carries a substantial fraction of the passenger traffic across the length and breadth of India. However, even as of 2024, a higher fraction of the goods traffic was moved by road rather than by rail. This is likely to be corrected when dedicated freight tracks are fully operational. The construction work on separate freight lines has been delayed for long and the Indian government, as the sole owner of Indian Railways, needs to move faster to complete construction of the much-anticipated freight corridors.

Additionally, it is crucial to bring greater transparency and independence from the central government in the financial statements of Indian Railways. In this context, this paper highlights both the: (a) significant achievements post-Indian independence in building broad-gauge railway tracks, achieving high levels of electrification, on-going construction of dedicated freight corridors (DFCs); and at the same time; (b) the many unimplemented recommendations of Indian government-appointed committees.

In the context of (b) above, since Indian independence, several committees headed by subject experts and economists have examined the working of Indian Railways. The recommendations of these committees were aimed at improving the efficiency with which passengers and goods are transported and to make Indian Railways financially self-sufficient. Committees led by Wanchoo (1968), Kunzru (1978), and Sarin (1981–1985) made specific recommendations to improve operational performance. More recently, committees headed by Nanjudappa (1993), Prakash Tandon (1994), Rakesh Mohan (2001), Sam Pitroda (2012), Rakesh Mohan again in 2014, and Bibek Debroy (2015) made wide ranging recommendations. Indian Railways has made useful improvements in ticketing for passengers and the air conditioning of railway coaches. However, it has steadfastly resisted professional third-party auditing of its accounts.

Lower passenger fares make rail travel viable for those who have limited incomes. However, combining the objective of social welfare with running railways makes it difficult to assess whether this highly significant segment of Indian's transportation sector is being run cost-efficiently or not. Indian Railways should have been corporatised by now, as recommended by more than one government appointed committee. Further, the construction of dedicated freight corridors could have progressed much further than what has been achieved as of 2024. There are economic and social welfare opportunity costs of not getting freight and passenger trains to run faster.

All pluses and minuses considered, in 2024, Indian Railways represents India's ability to manage a large, complex, and unwieldy organisation that has served the country well in the 77 years post-independence. The credit for starting the construction of railway lines should go to British India even though it was intended to serve British colonial interests. Currently, Indian Railways employs close to 1.5 million people, making it one of the largest employers in India. Yet, the expected benefits of the railways sector on India's economy, ease of passenger travel, and societal upliftment remain to be adequately realised. India needs to move much faster down the tracks to improve safety features and increase the coverage of cost-efficient and efficient railway networks for passengers and freight around the country.

Key Takeaways

Indian Railways literally gathered steam from colonial-era financing that guaranteed high returns for British investors but did little to industrialise India. Post-independence efforts have concentrated on electrification and conversion to broad gauge. However, track length has increased relatively slowly, and roads are often the preferred mode of transportation of goods. Railway freight rates are high to subsidise passenger fares, and the merger of the railways budget with the union budget has further obscured financial clarity-accountability. Expert committees have advocated the corporatisation of Indian Railways, enhanced transparency in accounting, and the rapid completion of dedicated freight corridors. Corporatisation of Indian Railways does not mean privatisation. It could initially continue as a 100 per cent government owned public sector undertaking. Subsequently, the government's stake could be brought down as in the case of SBI. Implementing such reforms is essential for Indian railways to provide efficient, and financially self-supporting service for the forseeable future.

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