Railway price regulation in China: time for a rethink?

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The system of price setting and regulation in China Rail (CR) has evolved since the 1950s from one of uniform prices controlled to low levels, to one aimed at recovery of aggregate costs, with some limited price differentiation. State regulation of tariff structures and levels remains. In the last thirty years, economic development has brought about four structural changes in the economic circumstances of the railway sector: active competition from other transport mode has diminished the market power of railways; extensive rail network development is helping address the earlier capacity shortage responsible for rationed services, by significantly broadening service options and increasing network capacity; CR needs to generate additional revenue to service its growing debt in a context where price stability is paramount; and the growth in average income and reduction of poverty means that passenger fare regulation undertaken for social reasons could now be more targeted, keeping in mind that affordability remains a major policy objective. So should State regulation of railway tariffs be further relaxed? This paper suggests some alternative approaches to railway price setting and regulation that might be usefully explored by the Government of China to stimulate internal economic vitality, to optimize the use and economic impact of new capacity, to increase railway revenues, to boost consumer demand, to make transport system more convenient and affordable, while keeping price stable.

RAILWAY PRICES IN CHINA?

The freight tariffs and passenger fares charged to China’s industries and travellers for using public railways in China must be approved by the State Council. This responsibility is administered by the National Development and Reform Commission (NDRC), the State Council’s macro-economic management agency. NDRC regulates all China Rail (CR) tariffs as well as those of inter-Provincial joint venture and local railways.

Central control of prices was adopted when China’s railway system was consolidated as a unified system after 1949. In 1955, uniform tariff rates were imposed for freight (based on a single rate per tonne-km) and for passenger-km (based on a single rate per passenger-km) across the whole country. This uniform system, with some reductions in actual tariff levels imposed on CR to support other sectors, and to counter inflation, was maintained until 1982.

Beginning in 1982, in concert with overall national economic reforms, and recognizing a need for revenue to fund system expansion, a new price system was permitted with a more diversified structure. Nine freight tariff categories were adopted based on product type. A national railway construction surcharge was later introduced and levied on all freight to help fund infrastructure capital investment. In railway passenger transport, fares were adjusted and the principle of higher fares for higher quality classes of travel was adopted.

The balance of responsibility for price formation was also changed after the new Railway Law of 1991. Since then, the Ministry of Railways (MOR) has initiated price formation by developing a government-guided price scheme, which it then submits to the NDRC (and before 2003 to its predecessor, the State Planning Commission or SPC). After NDRC has modified and approved the scheme, MOR instructs the 18 Regional Rail Administrations (RRAs) to implement the new tariffs.

Transparency was increased when a public hearing system was introduced into price decision-making more widely in China through a 1998 Price Law. As a result of policies adopted after public hearings hosted by SPC in 2002, MOR could adjust CR’s passenger fares in special periods (such as holidays and Chinese New Year) within a certain range. With more intense transportation market competition, railway freight tariffs also came to be adjusted annually and special
pricing policies were adopted for certain train categories.

The system of freight tariffs and passenger fares on China Rail has therefore evolved gradually from one of almost total uniformity and artificially low prices to one based on the need to recover aggregate railway costs while providing a limited measure of product differentiation and flexibility. While the ‘price planning’ role of the Ministry of Railways has been strengthened, strong State oversight and regulation of the actual tariff levels and structures adopted has endured.

INTERNATIONAL PRACTICE

The governments of all the leading railway countries of the world regulated railway tariffs quite heavily in earlier stages of their development. Most have subsequently modified their approach and given railway operators much more freedom to set prices. Residual government regulation is usually targeted at misuse of that freedom in the case of freight tariffs, or targeted at specific social protections in the case of passenger fares. For example, freight tariff formation and regulation in North America, which has the largest comparable freight rail system to China’s, has led to a much wider range of tariffs and the frequent use of directly negotiated contracts between shippers and rail operators; they are tailored not just to broad commodity types but to specific customers, industries and routes with the aim of retaining traffic and winning new customers from road transport. In another example, the railways of the European Union which, like China, has a very large inter-city passenger rail network, offer a wide and flexible range of ticket types and price, to try to attract more of the people who want to travel between cities, whether for business, personal or holiday reasons, similar to the practice in the airline industry.

THE CASE FOR THE CURRENT SYSTEM

The origins of China’s railway pricing system reflected its political priorities at that time but it is also instructive to explore some of the reasons why China might not wish to retain such a strong role for the State in railway pricing, (with a correspondingly smaller role for MOR and an almost negligible role for the RRAs). The question is important especially as the State does not choose to play such a strong role in the pricing of other transport services like airlines, road haulage and inland shipping services. We believe there are a number of factors that may have been influential in maintaining stricter control of railway tariffs.

The first is that CR has a near-monopoly in the supply of railway transport services in China. When a single organization has such a dominant position in supply of a socially important transport service it is natural that government should satisfy itself that the prices set by the organization are reasonable.

A second factor may have been that, for a long period in the past, the railway industry itself has not needed the greater pricing flexibility to attract new traffic that a less heavily regulated pricing system would allow. China rail has by far the most densely trafficked railway network in the world. On many routes demand has consistently outstripped supply. It has not always needed to try to develop new services and win new customers because it may not have been able to handle the extra traffic anyway. Of course, price freedom could have been used to ‘choke off’ excess demand, but government has preferred to ration capacity by imposing wider priorities (such as for coal trains to fire power stations, or passenger trains during holiday peaks) while encouraging China Rail to invest in the long-term capacity that it needs.

Thirdly, the regulated prices system has until the last few years provided adequate revenue. Until around 2003, a mixture of tariffs and the railway construction surcharge provided sufficient revenue, with some other emerging sources, to fund China’s railway development program with only limited support from the national budget for specific lines.

Fourthly, and of particular relevance to passenger fares, there has been a concern for the affordability of rail transport by the poorer sections of the community and the large population of migrant workers and students who must travel large distances from time to time between their home towns and villages and the regions and cities where they work and study.

Taken together, these issues constitute a seemingly persuasive barrier against change. Indeed, the redesign of tariff regulation does not appear to have been a major policy issue. Or if it has been, the case for
redesign has not been able to overcome either the concerns of policy-makers or the inertia that resides in an established and working system.

However, we believe that railway price reform is becoming a more urgent issue and that market forces are giving increasing weight to the case for change.

THE CASE FOR CHANGE

Let us consider each issue in turn. First, some consider CR to be a monopoly, but it is now a monopoly of rail transport not of inland transport as a whole. In 1982 railway transport did indeed have a dominating share of both freight and inter-city passenger travel markets in China. Since then, but particularly in the last ten years, highway transport, inland shipping and airline services have all improved and expanded their services by leaps and bounds. Railways’ modal share in China has greatly declined and far from having a general monopoly power it must now compete in most transport markets that it serves. Of course, there are some specific markets (depending on commodity and route) where CR still has significant market power. This justifies regulatory oversight of those cases, but does not imply a need for the State to approve and regulate all railway prices.

In terms of capacity utilization, the progressive implementation of the Mid- and Long-Term Railway Development Plan, now well under way, will more than double the total capacity of China’s railway network in the busiest corridors. The public rail network is planned to be increased from around 75,000 km in 2005 to 120,000 km in 2020. By 2020 half of the network will be double-tracked or electrified or both. The dedicated high-speed passenger network will contain more high speed rail line than in the rest of the world put together and it will free capacity on existing lines to meet freight demand. Three new regional intercity systems will serve the main conurbations. Highcapacity coal transport corridors based on China’s ten major coalfields will provide an annual coal transport capacity of 2 billion tonnes in 2020. The plan will herald an era in which, for the first time, CR managers will be faced with a situation in which they must actively seek to sell capacity rather than to ration it, including spare freight train paths and unsold seats on passenger trains. Global experience indicates that control over the pricing function and the flexibility to

match tariffs to specific market segments will be essential to compete for traffic with other modes.

Revenue adequacy may also be re-emerging as a crucial issue. One of the main roles of a well-functioning pricing system is to earn the revenue needed to sustain the activity. The plan represents perhaps the biggest single and integrated program of rail investment there has ever been in one country. It will undoubtedly bring long-term economic benefit to China. But infrastructure investments that will serve society for decades, if not centuries, rarely have short-term payback periods. In the interim they will generate a significant burden of debt. To reduce the risk that MOR will need to call upon the central budget for support, it would need to generate additional revenue primarily by attracting new customers, given the current emphasis on overall price stability in China. To that end, MOR will need to be granted more freedom over its own pricing, not so that MOR increases the general level of tariff, but so that it can flexibly tailor its product, pricing and packaging to match different customer needs. Indeed application of these principles in railways in North America and Europe overseas has typically led to lower average prices, higher utilisation of assets, better services and higher revenue.

The affordability of rail passenger fares is naturally an important concern when the railway system plays such an important role in regional and social cohesion as in China. However, the present regulatory framework for passenger fares was established in 1982 when nominal GDP per person in China was less than one-sixteenth of what it is now (around one 10th in constant prices); the poverty rate was then just over 50 percent, compared to about 10 percent now. Arguably, what was a general regulatory imperative in 1982, could now be a more targeted intervention, supplemented by low-cost off-peak fares.

Different countries have found different ways of handling this challenge. Some provide specific concession fares to particular social groups, some allow a certain number of trips per year at discount fares, some regulate the prices of basic ticket types while allowing freedom of railway enterprises to charge market prices for other services like premium services, restricted ticket types or tickets for peak travel times, and some offer a set of market-based deeply discounted fares during periods with lower demand.
Price differentiation by user group, type of service, restrictiveness of ticket conditions, time of day, or day of week typically requires a more sophisticated ticket retailing system than is currently used by CR. CR is developing new ticketing systems but can only reap the full benefits of investment in ticketing systems if they are used to implement much more sophisticated pricing systems. For this, MOR needs more freedom over the pricing function.

The changes described together represent a dramatic shift in the dynamics of China’s transport industry and in the economic paradigm within which CR must operate. It is a shift which, in the view of the authors, justifies a government examination of alternative models by which railway tariffs are set and regulated.

**SOME OPTIONS FOR REDESIGN**

While there is in our view a clear case for greater pricing freedom, it is for China’s policy makers to determine how new tariff regulations might best be modified. Some options for consideration include:

- a step-by-step reduction of the scope of passenger tariffs regulated by the State, applying regulation only to average tariffs or to a few specific tariffs with defined terms and conditions. Aside from those specific tariffs, CR would be allowed to introduce higher and lower tariffs with modified terms and conditions (for example lower rate for advance purchase of seats during off-peak period) based on market demand, without seeking regulatory consent.

- piloting of a market-based pricing solution for a percentage of tickets available on an existing passenger line facing excess capacity. Market based pricing flexibly matches supply and demand for different market segments resulting in a wider range of fares both below and above the current rates, while the average fare can be kept stable.

- more diversified freight tariffs matched to specific “terms and conditions” (these might include minimum volumes, types of train services, guarantee of freight cars for loading, maximum loading and unloading times, etc).

- no regulation on tariff for freight routes and freight traffic types with high competition between transport modes (such as routes with parallel river, expressway and railway transport or freight type like international containers), while retaining some form of appeals procedure and dispute resolution for customers in case of misuse of market power.

- creating a “zone of flexibility” (i.e. a percentage range around the approved freight tariff rate) to allow CR marketing staff to better respond to individual shipper needs.

- directly negotiated railway-customer contracts (including prices) in cases where MOR monitors and certifies the legitimacy of any tariff discount offered and the authorities find no negative competitive impact in such agreements. Such negotiations may also lead to customers choosing higher service level for a higher price.

These options could be a starting point. Some greater flexibility has already been granted on specific lines. There is no doubt that, working together NDRC and MOR could develop a new regulatory framework for railway pricing and regulation in China that could work better for customers, for CR and for the economic benefit of all of China.

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*This note is part of the China Transport Note Series to share experience about the transformation of the Chinese transport sector. For comments, please contact John Scales (jscales@worldbank.org) or Gerald Ollivier (gollivier@worldbank.org).*

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