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RECENT DEVELOPMENTS IN BUS TRANSPORT IN CHINA

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ABSTRACT

China has the largest urban public transport sector in the world. In principle, strategic policy is determined by the central government, and passed down through the organs of state for implementation. In recent years that strategy has included giving priority to public transport and reforming the supply arrangements to secure a more commercial and competitive sector.

In practice, responsibility for implementation is completely decentralized, with municipalities having both complete responsibility for financing urban public transport and substantial freedom to interpret central government guidance at the local level. This paper considers the reforms that have already occurred under this regime, the constraints and limitations on the reform process, and the most recent initiatives being undertaken. It shows that a very wide range of systems are being experimented with simultaneously, with so far no sign that central government would intervene in detail or to provide central government finance specifically for the sector.

THE CHINESE CONTEXT

China is huge. A population estimated at 1.34 billion, including a workforce of 807 million, lives in an area of 9.6 million square kilometers. While, due to the one child policy, the population growth rate is only 0.66% per annum, the population is rapidly aging 43% of the population is already urbanized, and this rate is growing at 2.7% per annum.

With an estimated average income per capita of \$2,300 in 2007 China has already reached the stage of explosive growth in car ownership. By the end of 2007, there were in total 56.97 million cars motorized vehicles on Chinese roads, including 14.68 million three-wheeled vehicles and 35.34 million privately owned vehicles with the rest consisting of government and company cars. China is already the fourth largest car producer in the world, with vehicle sales expected to top 10 million vehicles per year by 2010.

Despite this growth, the private car ownership rate is still only 0.027 per capita, and the majority of the population is captive to non-motorized transport or public transport.

Average bicycle ownership is still well over one per household, and there is a growing market for electric bicycles. But the recent priority of the Chinese central government has been for public transport, certainly in the large and congested cities. It is estimated that there are currently 1.3 million buses on Chinese roads, and that number looks likely to increase.

THE INSTITUTIONAL AND POLITICAL STRUCTURE.

There are four levels of government in China. Below the central government, there are a number of provinces, five minority autonomous regions, four municipalities with the provincial level standing, and two special administrative regions (Hong Kong and Macao). The next level includes municipalities and rural counties. The lowest level comprises villages.

The government structure includes the State Council and ministries at the central level, provincial governments and municipal governments at the local levels. The People's Congress at each level provides oversight to the government at that level, sets local laws, and monitors the policy implementation. The election process at all levels is indirect, with representatives to the People's Congresses elected by the population, and those representatives then electing the holders of the various local government positions (provincial governors and municipal mayors). The objectives with which each level of local government is concerned are passed down to them from the next level up, and those objectives are ultimately the expression of the goals of the Standing Committee of the Political Bureau of the Chinese Communist Party (the top organ of the central government). The cadre which administers this system, including local government, (the equivalent of a western civil service) are chosen and managed by CCP committees, although the cadres are not necessarily CCP members. At the local level the highest ranking cadre is the City Secretary to whom the Mayor answers. In this way the CCP effectively has the mechanisms to control those decisions felt to be critical

Central government has the formal power to set urban transport policy and technical guidelines. However, not until the promulgation of State Council's Opinion No 46 in

2005 did central government body publish a policy document for urban transport, albeit in rather general terms. This happened because urban transport under the increasing pressure of motorization and urbanization was seriously worsening national level issues in land, energy, and environment. However, implementation of urban transport remained everywhere the responsibility of the local government.

Central government also determines which agency will have responsibility for urban transport at lower levels of the government. The decision in 2008 that urban public transport shall be the responsibility of Departments of Communication, rather than Construction Committees, standardizes its location for all levels of government, but creates some new anomalies as the policies, particularly with respect to fares and subsidy levels have historically differed particularly between provinces and municipalities.

The significance of this is that while policy directives come from the highest level of government it is left to the lower levels to interpret those directives and to mobilize and manage resources in support of the strategies adopted. In practice the range of interpretation of national policy has been very wide indeed.

MUNICIPAL GOVERNMENT FINANCE

Despite this strong centralizing potential each level of local government is also, politically, a complete and self contained entity, able, in important ways to act outside the constraints and priorities of the higher levels. This is no accident. The economic reforms instituted by the CCP from the late seventies included devolution of greater freedom and power over local economic activity to local government, associated with a decline in state revenues from 36% of GDP in 1978 to only 14.2% at the end of the millennium. (Saich, 2001) This reflects not so much a decline in the extractive capacity of the state but rather a re-alignment between the Centre and the localities with the localities controlling far greater amounts of revenue than previously. The structure of the fiscal contracting system that was institutionalized in 1994 transformed a province-collecting, centre-spending fiscal regime to an essentially self-financing regime for both the Centre and the provinces.

Government revenue in China is comprised of two major components: the unitary budget and the extra-budgetary funds (EBF) for both the central and the local governments. The first consists of taxes, fees and revenues collected by state financial offices and subject to formal budgeting by the Centre. Local levels of government in China also receive an allotted portion of the central government consolidated budget. The EBF cover officially sanctioned charges such as surcharges from taxes and public utilities, road maintenance fees and incomes from enterprises run by various administrative agencies. The EBF, while reported to higher administrative levels, are only subject to control and oversight by the local authorities (county or township).

This structure has significant consequences for the local government. Naturally the local government units prefer to raise money in EBFs. One way of doing this is through extending the activities of municipal trading companies, which leads to the transportation companies often being conglomerates with a range of non-transport activities to supplement their transport work. It has led to a rise in the power of the regions, and as regions compete with each other for business has tended to increase

regional inequality as an unintended consequence of the general economic reform strategy.

THE HISTORY OF PUBLIC TRANSPORT REFORM IN CHINA

Historically, China's urban public transport sector was characterized by state-owned monopoly operators, providing regular bus services with simple fare structures. These state-owned enterprises (SOEs) exhibited labour intensive operations, low-tech management and simple operating methods, reflecting the use of planning targets rather than efficiency benchmarks for staff scheduling, capital planning and operations. Input costs were regulated under the planned economy. Ridership was stable, or growing slowly. Other than fare revenue, municipal budgets were the only source of financing for public transport, and large subsidies were needed for both capital and operating expenses. Until the mid eighties traditional bus operators held a steady 25% - 35% share of trips in major Chinese cities.

In the mid-1980s, after the beginning of the national economic reforms, the bus sector began losing shares to non-traditional operators and other modes. Increased public investment between 1985 and 1994 improved the bus network and even temporarily increased mode share in some cities such as Guangzhou and Hangzhou. More generally, public transport lost mode share due to the combined effects of increased motorization, congestion and increased operating costs. Only by a major process of reform could these trends be reversed. The subsequent history of public transport reform can be divided into three stages (Gwilliam, 2007).

Phase 1 - Improving efficiency of the SOEs

The first stage of reform lasted through the 1980's and the first half of 1990s. The reform focus was on how to make the state owned public transport enterprises more efficient to meet the increasing demand. With the initial liberalization of the economy, the urban sector grew and population increased fast. However, municipal governments had little resources to sustain the operations of the PT SOEs and finance the needed capital investment. As part of a strategy to improve economic efficiency in ways compatible with the socialist market economic system the Chinese Government required public utilities enterprises, such as those in public transport, to commercialize their operations. As a consequence, a number of reforms were introduced.

First there were a set of **measures to reduce labor inefficiency and redundancy**, including:

- *Spinning off excess staff* to “tertiary enterprises”, in the hopes that these would generate supplemental income for unprofitable bus operations.
- *Moving to one man operation*, which reduces labor costs, but given the lack of modern fare collection equipment, also reduces average speeds.
- *Changing employment conditions* by recruiting staff on 1-3 year basis (Urumqi);, converting staff to suppliers of (mostly mini-bus) services under contract; or introducing skill and performance based wage schemes (Tianjin)
- *Reducing other variable cost items*, such as lowering fuel quality and deferring maintenance.

As a result of these actions, operating efficiencies are much improved. For example, staff to bus ratios were reduced from 10:1 to near or below 5:1 in some cities.

Second, commercialization included actions on pricing and marketing of services, such as:

- *Development of differentiated services*, including premium services and minibus services with matching fare structures.
- *Real fare increases*, which were introduced in some cities with only limited success as emerging competition from minibus and other premium services presented an upper-bound on sustainable fare increases.
- *Abolition of reduced rate fares*, which was adopted as an alternative to general fare increases in some cities. For example, monthly passes, which allowed unlimited travel for a fixed monthly charge, were abandoned in Shanghai in 1995, with disastrous impacts on ridership.
- *Changes in fare structures*. Both flat fares and distance based fares have been used, but no city appears to have used any zonal or time based fare system.
- *Smart cards*, which are being introduced in a number of cities.

Phase 2 - Reforming industry structure

The second stage of reform(second half of 1990s until 2005) focused more on PT industry structure, and contained two major sets of measures.

First, several internal structural reforms were adopted in the SOEs, as a consequence of which many municipal bus companies are now corporatized, and behave in an increasingly commercialized manner. These measures included:

- *Divisionalization* of the SOES has been introduced to enable comparisons to be made between operating efficiency of the units in several cities, led by Shanghai. (see Box 1)
- *Creation of second tier companies with independent legal entity status* (e.g. Tianjin). Sometimes this has been associated with the introduction of a system of differential payments to staff of the subsidiary companies based on the company performance (e.g. Chengdu)
- *Inward investment* has been utilized in a number of cities - e.g. Guangzhou, Xian - where external entities take a shareholding in the SOEs (more typically in the subsidiary layer than in the parent company. In practice, corporate policy and control remains with the state sector
- *Introducing contractual relationships between subsidiaries and parent companies* with incentives for good performance (as in Chongqing)
- *Functional separation* has also occurred with separate companies established for maintenance and bus station operations (as in Tianjin)
- *Sub-contracting to private companies* and other arrangements through which private companies participate in supply. In Qingdao a subsidiary company has been established as an equity joint venture with public transport companies in Shenzhen, Hangzhou and Nanning

These initiatives have met with varied success. The most ambitious, the attempt to completely commercialize public bus transport in Shanghai, is widely regarded by other cities as a failure, demonstrating the inappropriateness of attempting to rely on commercial principles as the basis for the provision of public transport services. What it certainly did show was that the particular form of commercialization adopted – effectively total commercial freedom for company management – must be supplemented and supported by some public involvement in managing the regime if some non-commercial social objectives are also sought. Unfortunately, the fact that such objectives can be achieved by appropriate design of a franchising system appears to have been lost sight of, and many cities have been discouraged from any departure from more traditional supply structures as a consequence.

Box 1. Restructuring Shanghai Public transport:

In 1996, Shanghai disbanded the Public Transport General Company. All sub-companies became financially independent from the government. Since then, the sector attracted foreign investment, private participation, and even capital raised from stock market (through PT companies listed in the stock exchange). With the deepening of commercialization and intensification of market competition, the good markets were crowded with supplies while the thin markets were not well served. That left the social objective of PT under-achieved. The market competition was recently seriously affected by high fuel prices, high labor costs, and the expansion of government financed metro system. When fare subsidies were considered necessary, the government found difficult to determine the level of subsidies to each of PT firms due to the location-specific factors of the markets where they operate. The government also found difficult to provide PT services to the newly developed sections of the city as the markets there were not matured and tested. All these difficulties drove the city to move to emphasize the role of the government and the importance of achieving social objectives. The scheme being consider is one that every sub-market of the city should be served mainly by a state-owned PT company, to ensure the basic services at affordable fares are provided. The privately owned companies that control the PT assets are expected to sell the PT assets back to the government owned PT companies.

Second, a number of cities have taken *steps to open market access to new entrants*, both private and public, domestic and foreign. The main ways in which this has occurred include the following.

- *Establishment of new public transport enterprises.* In recent years, some foreign and domestic investment companies have established new public transport enterprises to compete in the newly emerging public transport market.
- *Establishment of Joint Ventures* between the SOE and private investors (e.g. Beijing, Tianjin). These are usually small in terms of market share and find it difficult to grow since they do not have access to the same support finance as SOEs.
- *Contracted operations by private individuals.* This is common in newly-emerging small cities and it in some large and medium-sized cities on some remote lines, though it is tending to reduce again in the larger cities.
- *Franchising lines.* For example, Guangzhou introduced a comprehensive competitively tendered franchising system (see Box 2)
- *Auctioning lines.* More recently, some newly opened lines have been auctioned as commodities to be exploited without specific controls

Box 2. Franchising public transport in Guangzhou:

Guangzhou's PT sector entered the market in 1994, when a first PT joint venture with foreign investment emerged to provide services. Subsequently, the city adopted a bus franchising system. Up to 2005, 14 bus companies operated in the market. After the State Council Document No 46 was issued, Guangzhou took action to integrate a number of bus companies into three major operators. This allowed the provision of more convenient, integrated services to the public and to the rapidly expanding metro system. On this basis, a number of mini-bus and medium-bus services were also provided. The government is currently implementing a three-year scheme of fare subsidies (approximately 20% of the existing fares). It is uncertain how much the government could subsidize afterwards. When the government held a public hearing on fare subsidies in 2008, the government was questioned the sustainability of the fare subsidy policy.

A National Platform for Reform

The first two stages of reform, though in some cases substantial, were driven as much by the need to husband resources better at the provincial and municipal level as more financial responsibility was passed down to them as by any principled commitment to reform of the transport sector per se. The reforms were heterogeneous, and not always successful.

In an attempt to secure both greater consistency and greater commitment to reform the Central Government has issued three major policy documents since 2003 which are directly relevant to the problems of further development of the urban transport sector. The first relates to the context in which public transport is supplied, and recommends that public transport should be given priority in urban transport development. The second relates specifically to the way in which the municipal public utilities operate and recommends the franchising of operations of municipal enterprises. The third specifies the means through which prioritization of public transport is to be implemented. All would appear to be critical to the establishment of a reform strategy for public transport.

The Opinion of the Ministry of Construction on the Priority Development of Urban Public Transport, 2003

This opinion emphasizes the importance of urban public transport for the avoidance of traffic congestion and the improvement of the urban living environment. It proposes a structured integration of transport modes in mega-cities, with rail services supplying the longer distance trunk services and buses and trolleybuses acting as feeders and supplying shorter distance movement demands. Targets are set network density, maximum travel times and urban public transport shares of the market.

In order to achieve these objectives the opinion emphasizes the guiding role of urban planning. It requires;

- An *Urban Master Plan* which acts as the master plan for urban development.
- A *Comprehensive Urban Transport Plan*, consistent with the Master Plan, which sets the strategy for transport and ensures the allocation of appropriate land resources for its implementation.
- An *Urban Public Transport Plan*, which defines the structure of urban road public transport services and facilities to achieve the objectives of the Comprehensive Urban Transport Plan.
- A *Rail Transport Plan* for cities planning to have rail services.

The people's government in each city was required to conduct a comprehensive inspection of the formulation and implementation of these plans before the end of 2004. In terms of implementation, particular attention is to be given to the facilitating infrastructure, including depots, stops, public transport dedicated roads, and interchange hubs. This involves the development of a city wide urban public transport regulation and standards regime which would include supervision and enforcement of public transport service standards. But it also addresses the problems of financing and requires the establishment of a standardized fiscal subsidy system. It requires collaboration between the competent construction authorities with the public finance and pricing authorities in each city, and specifies that any policy related losses caused by price restrictions should be the subject of direct subsidy.

At the institutional level the opinion requires further efforts to break down monopolies, open up the urban transport market, and introduce a regime of urban public transport franchises. This would involve a deepening of the reform of the state-owned public transport enterprises so that the enterprises can become market players responsible for their own business operations and development.

The Regulation on Administrative Methods in Franchise Operations of Municipal Public Utilities

This regulation, effective from May 1, 2004, requires that the franchising of municipal public utilities shall comply with principles of openness, fairness, equity, and priority of public interest. It applies to all municipal public utility sectors, including public transport, if they are subject to franchise operations according to law. While in principle it *could* apply to urban public transport, it does not currently do so because no law has been passed requiring franchising of urban public transport services.

The regulation deals with a number of procedures to satisfy these requirements:

- Qualification for an enterprise to enter public utilities market. (Article 7)
- Procedures for selection (Article 8)
- Content of a franchise agreement (Article 9)
- Rights and responsibilities of the authority (Articles 10 and 12) and the enterprise awarded the franchise (Article 11)
- Duration of contract (Article 12) and procedures for amendment or termination (Articles 14-19, 23)
- Price regulation (Article 22).
- Avoidance of illegal behavior or breach of agreement (Articles 27-30).

Although the regulation appears to cover most of the major issues which need to be addressed in franchising it does not attempt to reach the level of specification for it to be applied directly as a franchising system to the transport sector. As a consequence cities which have introduced franchising, like Guangzhou, have effectively invented their own rules and procedures.

State Council Opinion 46 on Urban Transport Priority Development, October 2005

This opinion provides extensive guidance on a wide range of measures to prioritize public transport, concentrating on four main issues:

- ***Restructuring the investment and financing mechanisms.*** This was to include measures to encourage domestic and foreign non-state capital to participate in the construction and operation of public transport through joint ventures, co-operatives or trust forms.
- ***Promoting the franchise system.*** This was to involve opening the market to multiple suppliers while avoiding the unconditional and reckless selling of facilities and route operating rights. Individual routes were to be granted as monopoly operations to selected suppliers subject to withdrawal of those rights if performance was inadequate.
- ***Strengthening market regulation.*** This required improved administrative regulation of the operation and service quality of public transport supply enterprises.
- ***Upgrading the service level.*** This required improvements in route planning, vehicle quality and operations and in terminal operations.

INTERPRETING THE REFORM REQUIREMENTS

The initial reactions to the reform requirements have been studied in 12 cities in China in a study which found that municipal progress varied considerably on the four major planks of the recommended development strategy.

Restructuring the investment and financing mechanisms

This is where the energy of the municipalities has been concentrated. Of the 12 Chinese cities studied all have either implemented changes in the ownership of their SOEs or have active plans to do so. The main motivation for this appears to have been that of obtaining new off-budget sources of finance. In most cases this is achieved through the creation of a joint stock company, or joint venture, with the inward investment remaining as capital within the company. In many cases the investors are SOEs from other provinces, though in some cases foreign investors (e.g. from Singapore) are involved. For the most part, however, the deals have been structured to avoid any change of effective management control. Only in two cases, of Fuzhou and Shenyang, was an entity other than the municipality allowed to be the majority shareholder, though the deals under consideration in Urumqi and Wuhan might involve such transfer. Shenyang appears to have made the most dramatic reform. All of the operating assets have been transferred to joint ventures with 4 main foreign investors; the SOE retains

the terminal facilities and the garaging facilities which it leases out to the private operators.

Promoting franchising

Several of the cities have combined the creation of a joint stock company with the award of long term franchises to the new companies. Very lengthy franchises of up to 30 years have been proposed in Fuzhou, Shenzhen and Xi'an. If implemented these may close the markets for a generation, making further reform impossible. That is clearly not the intention of state Council Opinion 46, which advocates other developments which will be pre-empted by the deals currently under development. None of the 12 cities has implemented an open market for the provision of transport services. Nor have they developed transparent means of route award, through which operators of all forms of ownership might gain operating rights. Even cities like Fuzhou, which has previously permitted diverse forms of private participation attempts are being made to merge them into a few small companies in a semi closed market. Guangzhou has started competitive tendering of new routes, but does not appear to intend to extend it to existing routes

Strengthening market regulation

In principle, the SOE bus operating companies were formally units of the municipality whose assets were owned by the State Property Bureau and which were regulated by the passenger transport Management Office of the Construction or Communications Bureau.. In practice the PT regulatory units of the Municipality do not appear to have the capacity to function as transport authorities and the SOEs have been the real executive arm of Government for UPT, managing card schemes and dispatching systems and doing route planning as well as being the sole operator. While Guangzhou Municipality has adopted a more positive stance in its tendering of new routes, it still appears to lack capabilities either for customer-facing services or for integration. One of the problems confronted in reforming the financing of public transport by the creation of joint stock companies has been that such planning and regulatory skills as exist were within the companies. The temptation has therefore been to give the new companies very long term franchises and very substantial freedom to continue to develop the system as an effective monopoly.

Upgrading service level

The main ways in which concern for upgrading service level is being interpreted in the cities studied are through the progressive elimination of minibuses and the concentration of large bus activities in a few large companies, where necessary by amalgamation of existing small units. Neither private sector involvement nor competition for franchises appear to be seen as a particularly relevant characteristic in this respect.

LIMITATIONS TO REFORM AND EMERGING PROBLEMS

The conceptual divide

There is a considerable gulf between the vision of a developing competitive commercial structure embodied in State Council Opinion 46 and the much more conservative, company-centred view of many municipal administrations. In many cases the municipal administrations do see the need for off-budget sources of finance, and hence the need for new structural forms of company organization (Liu Zhi and Smith, 2006). But they do not appear to see any alternative to a structure which bears considerable resemblance to the old situation where the major operator was also the planner and regulator. The SCO 46 exhortation to develop franchising is therefore interpreted as a transfer of responsibility for finance and development to companies (which in many cases remain dominated by municipal ownership) and not as a vehicle for the introduction of competitive pressures.

The practical compromises

Particularly where the introduction of foreign capital is involved the municipalities have been forced to recognize that there must be some degree of security for the investors, as well as some scope for profit from the investments. Long term, non-competed franchises, with the transfer of all the rights traditionally enjoyed by the SOEs, offer both, and tend therefore to be the starting point for bilateral discussions between municipalities and private investors. Hence what appear to be emerging in a number of cities are deals which are actually anti-competitive and if consummated will close the market to reform for many years. These compromises raise a number of other thrusts which appear to be in conflict with the recommendations of SCO46, including the transfer of rights without competitive tendering, and very long term contracts, with tendering limited to new routes or peripheral routes only.

Some municipalities are very well aware, and somewhat wary, of this, and would like to avoid long term commitment to an independent entity. Hence they often opt for joint ventures in which the municipality remains the dominant shareholder. For example the French Veolia group has established a number of joint ventures in the area around Nanjing in Jiangsu province. The uncertainty of the relationships with the local administrations renders such arrangements risky and fragile: it remains to be seen how well they will survive.

Urban-suburban integration and the financing of subsidy.

Current attention is focused on three related problems, namely; (a) the difference between arrangements for urban and suburban transport (b) the lack of financial means for some authorities to support the implementation of low fare policies, and, (c) deficiencies in subsidy administration, arising from the opaque and unfocussed system in which subsidies are currently determined and administered.

The historical origin of the difference in arrangements for urban and suburban transport was the fact that in the municipalities' urban transport was a responsibility of the department of construction while outside the municipalities it was the responsibility of the department of transport (communications). Moreover, the cities have usually been

richer than the counties and districts. The consequence of is that fares differ substantially between urban and suburban services within the same conurbation. For example a flat fare of 40 kwei (US\$0.06) is charged for bus services in Beijing municipality, while suburban fares crossing the boundary are on a graduated scale, but at about ten times the Beijing fare. The recent government decision that all bus transport, whether urban or suburban, should be handled by the Ministry of Communications has created a very obvious anomaly, especially in the light of the unwillingness of central government to subsidize directly.

The lack of financial means is also partly a result of the administrative differences. Services in the inner cities are typically provided by a state owned enterprise, often as a monopoly supplier, with some locally financed planned subsidy as well as the unplanned subsidy arising from deficit financing or cheap money available for the finance of accumulated deficits. Services outside the inner cities are provided by a range of operators, including state-owned enterprises, international joint ventures and local private enterprises, but are viewed as commercial activities and not consistently given the same favourable treatment in respect of tax and subsidy conditions. Additionally, however, as central government encourages priority to public transport development even the municipalities are arguing that they do not have the resources to finance public transport at fare levels substantially below those prevailing at the moment.

The deficiencies in administration include the fact that the current true situation is difficult to ascertain for the municipal transport groups which publish only consolidated accounts at a very low level of detailed breakdown and the fact that the non-municipal companies obtain their subsidy through local administrations essentially through a continuing process of lobbying and persuasion in the absence of any formula for its determination or contract between the local government and the operator on the conditions of its payment. The consequence is uncertainties about both the available level of subsidy finance and the timing of the payment of support, which in turn causes operators to devote excessive efforts to negotiating with the local administrators (creating scope for corruption) and makes commercial operators unwilling to invest in the absence of any security of their revenue flow. The effect of this is twofold. First the implementation of new standards tends to be rather haphazard and not consistently followed. Second, operators' decisions on rational vehicle replacement are substantially distorted by the possibility that a tranche of subsidy money may become available for vehicle replacement.

In the context of a commercialized (though often still publicly owned) bus undertaking there are already a range of specific compensation payments - for reduced and fare exempt passengers (usually generously calculated as the difference between the fare paid and the "full" fare), for government imposed services either for emergency or for area development reasons, and for vehicle purchase to improve vehicle quality. For the most part these go to the main municipal undertakings. In addition these undertakings appear to receive deficit financing through preferential treatment of their debt through the state banking system.

Operators outside the municipal areas, whether publicly or privately owned, are generally expected to be self financing. Even where they are in receipt of subsidies their quantity and timing tends to be arbitrary and unpredictable.

The implementation of a low fares policy on previously financially self-sufficient companies raises new challenges. It is increasingly being recognized that simple deficit financing has very bad incentive properties. In order to overcome this, the multi-operator city of Shenzhen is developing a more incentive compatible system in which the allowed costs are not the actual costs of the company but a calculated standard costs. Basically the formula of the method is as follows:

$$SP = C - R - SS$$

Where SP = General price level subsidy
R = Revenue from passengers
C = Standardized costs
SS = All other specific subsidies

When applied in a specific administrative area like Shenzhen this approach can be used to inform the local administration of the fiscal implications of setting different fare levels. It therefore contributes to a greater degree of realism in local decision making, and can assist the administration in reconciling its desire for lower fares with its fiscal capacity.

It has been suggested that the same approach should be used at the province or national level. In this context, some serious limitations of the method need to be recognized. First, it relies on there being sufficient similarity between the conditions of operation of the units between which subsidy is being distributed for the standardization of costs to be meaningful. If applied to conditions where this homogeneity does not exist it would inevitably channel subsidies predominantly to those operating in favourable circumstances. These might consist of high operating speeds (for example in comparing urban with suburban services) or low input factor prices (for example labour costs in comparisons between coastal and inland regions). Hence, before the method could be applied as a basis for identifying the effects of fare reduction policies for subsidy by central government the standardization of costs would need to have been done satisfactorily.

A further problem of the application of the model at the national level is that the calculated general fare subsidy would depend on the initial level of fare adopted. If this is determined at the local level (by a local Price Bureau) there would be an incentive for setting of low fares as this would attract higher subsidy contributions from central government. This perverse incentive would be reduced if central government were to limit its own commitment to some proportionate counterpart funding, based on the provincial or municipal funding having been calculated according to the agreed formula, and the calculations and data been made available to the Ministry of Finance and Ministry of Communications for auditing and research purposes.

An alternative, and probably better way to control the total burden on central government and to maintain the incentive for operators to reduce costs, would be the use of a national level specification of a reference fare level on which the calculation should be based. (In practice this might also be an attractive way of taking forward the aim of obtaining integration of urban and suburban transport fare structures). The administrative mechanics and political feasibility of such a reference tariff arrangement would need to be explored. Most important, some detailed research would be necessary before the implementation of this kind of method to advise government of the likely

costs to the budget of setting different reference fare levels. It is recommended that CATS direct their research effort in the subsidy field to achieving this, rather than emphasizing the idea of identifying the “correct” level of subsidy from central government.

It is clear from recent discussions in Taiyuan, Wuhan and Nanjing, that there is considerable resistance to the provision of the necessary disaggregate financial and operating data. This arises not so much from the fear of data being available to commercial competitors (in many cases there are none!) but from the desire to maintain the advantage which knowledge of the true situation gives them in negotiations with the political authorities. That applies just as much to the quasi-independent Joint Venture companies as to the wholly state owned companies. The question of access to data needs to be addressed as a matter of urgency, probably at the national ministerial level.

SUMMARY AND CONCLUSIONS

In the initial stage of reform of urban public transport in China the emphasis was very much on increasing the efficiency of the traditional state owned enterprises – driven largely by the need to limit the burden of the enterprises on the municipal and provincial governments. A wide range of actions were taken, with considerable success.

In the second phase of reform, from the mid 1990s, the emphasis shifted to more fundamental restructuring of the supply arrangements. Various devices were used to enhance the commercialization and competitiveness of the sector, including commercial freedom for fragmented public enterprises, competitive franchising, and outright sale of service rights. The private sector, both domestic and foreign, was seen as a source of capital and was often involved in joint venture enterprises. The results were very mixed. Most cities saw some improvement of PT service quality. But increased commercial freedom often resulted in loss of some services deemed socially desirable. Rarely did the new arrangements address the issue of how to reconcile the continued provision of unprofitable services with a market based supply arrangement.

In the most recent phase, during the last four years, national government has entered the arena to encourage cities to give priority to public transport. State Council Opinion 46, 2005, advocated upgrading service levels, and encouraged the expansion of foreign and domestic non-state finance while advocating extended franchising under strengthened market regulation.

In practice, however, given their considerable freedom to interpret the requirements of SCO 46, many cities read the document primarily as a simple justification for increasing subsidies. Beijing was the first to implement heavy fare cuts in a hope to boost PT usage and restrain private cars before and during the Olympic Games, at the cost of an explosion in subsidy level. The apparent success of this strategy in affecting modal choice encouraged other cities to consider following suit. Further pressure to increase subsidies has resulted from the integration of urban and suburban transport under the same departmental responsibility, which many cities interpret as requiring suburban services to be provided at the same highly subsidized fares as the urban services.

In practice, few cities have the financial capacity to copy Beijing, and, despite its advocacy of priority for public transport, national government shows little sign of being

willing to inject substantial financial support from the center. Nor is it able to, as, since the economic reforms of the eighties, which significantly decentralized service responsibilities and financial means, its share of public tax revenues has fallen substantially.

China's PT sector is thus now at the cross roads. The new challenge is how to promote PT without eroding the hard-earned foundation for market competition, but some of the earlier attempts to commercialize – like that in Shanghai – have been discredited. Furthermore, understanding of more successful and better prepared strategies, like that of Guangzhou, is limited and dispersed. And, to date, the Ministry of Communications has not developed the means to give effective operational advice to cities on how to reconcile their service aspirations with their fiscal capability.

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