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**Inter-City and Intra-City Inequity in
Infrastructure Development in Urban China**

Darshini Mahadevia

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School of Planning
CEPT University, Kasturbhai Lalbhai Campus
University Road, Navrangpura, Ahmedabad 380 009

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Darshini Mahadevia¹

1. Context

When I had proposed to study the infrastructure financing in China in 2003, I did not know that it would give me an opportunity to explore many dimensions of China's economy, polity and society. I have maintained for a long time that study of urban areas gives an opportunity to understand a society very well as the cities are concentrated expression of a society. Urban infrastructure financing in any country is related to her administrative system (who is in charge of a city); institutions for development and finance; her governance (who takes decisions, how decisions are taken and what is the local politics that influences local decisions and differentiates one city from the other); national financial system including that of taxation, finance mobilisation, and lending; national level goals and distributive policies; country's integration with global economy and role international development organisations; and local (city level) incomes and their distribution. This research endeavour gave me an opportunity to take a peak inside many of these aspects of China. Hence, at the end of this follow-up programme, which gave me an opportunity to stay in China for nine months altogether, six months in 2004 and three months in 2007, I have begun to understand the complex development system in China and what more specific research needs to be done.

When I first landed in Beijing in 2004 April, I was surprised by the organised airport, metered taxis outside, policemen managing the traffic, a huge many storied parking lot outside the airport, airport bus to the city, and then when on the road neon light advertisements on the roads, traffic moving at a high speed in the freeway, maze of flyovers at some points, large glass buildings, mega stores, many MacDonal'd's on the way, and so on, everything that represents globalisation, while I was prepared for a developing country situation and also a more austere Communist China. And then, the first few weeks were full of many surprises. No doubt, the city was preparing for 2008 Olympics. I was awestruck with the first image of Beijing City. And then over time I realised that entire Beijing city had become a construction site.

And then in 2007 in Tianjin. I reached the University of my Affiliation, Tianjin *Cai Jing Da Xue*, (Tianjin University of Finance Economics - TUFEE), from Beijing airport in a car

¹ This research was carried out as Asia Scholarship Foundation (ASF) Fellow, during 2004 and 2007. The first ASF fellowship was availed in 2004 for six months (affiliation with Tsinghua University, Beijing) and follow-up availed for three months in 2007 (affiliation Tianjin University of Finance Economics - TUFEE, Tianjin). For the follow-up support, wish to acknowledge support of Prof. Zhang Liyan of TUFEE and students at the university, in particularly Zhan Runping for logistical support. The author is grateful to Asian Scholarship Foundation, Bangkok for the financial support for the research.

(that came to pick me up) gliding on one freeway after another, without touching the regular road till we almost reached the university. The next morning, and then every morning, I was woken up early by a loud thunderous sound, like that of a flying airplane, of a passing metro. It is an elevated metro, at almost the level of my room on the third floor in a building of TUFÉ. The structure was completed in 2005 November when I had visited a friend at TUFÉ, who had told me then that this would be operational soon and that it would be very convenient and also cheap to reach TUFÉ from the station. In the first week of arrival in Tianjin, I took a joy ride over it. In the course of my early days here in April 2007, I discovered that now the entire central station area of the city was dug up and under construction to integrate new subway lines under-construction with the central station area. Two new metro lines are under construction and one of them would be linked to the main railway station. Tianjin is to host earlier rounds of football matches during Olympics 2008. In the three months at Tianjin I realised that this city was also entirely under construction. All the old housing areas of the central district of Heiping had been demolished for new real estate projects. Not this district alone, but even the adjoining districts of Nankai and Hexi were under massive construction boom, with new real estate projects coming up. Many expressways are under construction in the city. A fast Light Rail Transit (LRT) is expected to come up by the end of 2007 connecting Tianjin and Beijing to cover the distance in 30 minutes time. Tianjin has already been connected with Binhai New Area with a LRT.

Such large-scale infrastructure projects, roads and sub-ways and large real projects are not restricted to the mega cities alone, Beijing, Tianjin, Shanghai and so on. The fourth national level city, Chongqing, that is expected to be the gateway of central China and is also called the new economic frontier², is also observing massive construction boom. Construction boom and large infrastructure projects can also be found in smaller cities. I went to Dongguan in 2004 and was shocked to see the scale of development. And then went to Yichang in 2007, a small town where the Three Gorges Project is located, and once again was pleasantly surprised at the scale of development, particularly the wide roads, bus lanes, bicycle lanes and large real estate projects.

In all these, any one with experience of researching other developing country cities would wonder where the funds for such massive capital investments in urban infrastructure are coming from and are the local government priorities getting skewed in this race for making of 'competitive' cities? This author's research on Indian cities indicates that when the local government's priorities shift to such economic infrastructure, their attention and hence their funding to social infrastructure such as water supply, sanitation, health care, etc. reduces, which gets passed on to the citizens themselves. Thus, first the pricing of these services increase and then the subsidies begin reducing. At the same time move to privatize these services begin. In India, some efforts at water privatisation have shown undue advantage to the private water companies at the disadvantage of the citizens³. And in most such moves of the city governments, the citizens have objected and

² By Nils Blythe, see <http://news.bbc.co.uk/2/hi/business/6325223.stm>.

³ As per presentation by Darshini Mahadevia 'Drinking Water Privatisation in Cities – The Concerns' at the Workshop on *Right to Shelter and Basic Services in Globalising Mega Cities of India*, held on

refused to accept the new arrangements. It has also been found that much as the local governments are more than eager to undertake massive road projects, construction of flyovers, and expressways to reduce the travel time on the roads, they are not so eager to improve the water supply and sanitation systems, resulting in frequent outbreaks of epidemics, now pre and post monsoon and inundation during the monsoons⁴. While the city governments are more than eager to spend public funds on road construction and flyover construction, they are as eager to privatise water supply and sanitation!

For PRC too, Mahadevia (2006, 2007) has pointed out that the administrative and responsibility allocation system in urban system is such that the city's municipal governments, with larger revenue powers and base have functions such as construction of city level infrastructure, namely expressway construction, etc. whereas the district level governments are in charge of local level infrastructure such as local roads, water supply and sanitation, garbage removal, etc. Further down, the Residents' Committees are responsible for social welfare functions. This has created a situation of institutionalised inequity in urban infrastructure provision. The high level of fiscal decentralisation and passing down the expenditure functions to the local governments has a potential of creating intra-city and inter-city inequalities. On top of this is the *hukou* system that discriminates between the permanent and temporary residents on one hand and both and the floating population on the other in the provision of various services, particularly water supply, sanitation and social welfare activities.

This would mean that the large cities have advantage over the other cities. Also, in the PRC's fiscal system, specific funds are allocated to the cities if they raise their own resources and place their demand to the higher order government for matching support. In case of Tianjin, Beijing Shanghai and Chongqing, the national level government would use its discretion to grant special funds. Beijing has the clear advantage over the rest three national level cities, goes without saying, as it is the capital and now the host of the forthcoming 2008 Olympics – when Olympics moves out to the developing world for the first time. Tianjin does not have any clear advantage in that sense. And that can be seen (Mahadevia 2007).

After some days, when I moved around in Tianjin City, away from the central districts to other districts, I observed a very different situation. The housing areas were very much run down in districts such as Hongqiao of the City. The roads were not in very good condition. Even in parts of Hexi district where I lived, the condition of roads was not so good. There were no or broken footpaths. Water supply had nearly universal coverage but toilets were shared in low income communities and localities. This was also observed in Beijing in my 2004 stay and even in 2007 when I went around. But, road conditions are uniformly good or acceptable in most parts of Beijing, even Hutong areas where the toilets are shared and so is water supply. In national level cities, including Shanghai, and

February 10, 2006 at Ahmedabad, organised by Centre for Development Alternatives, Ahmedabad and Institute of Social Studies, The Hague under the IDPAD project.

⁴ See Mahadevia, Darshini and Jeanne Wolfe (forthcoming).

Tianjin, except some districts and parts of some other districts, the situation of infrastructure such as roads, sanitation and housing require much improvement. While many freeways are being constructed even in Chongqing City, on the whole the city has narrow roads because of its topography, housing is old, narrow lanes are dingy and the entire city requires great attention. The outer districts have new real estate development.

What is common across all the national level cities and even smaller cities, is good airport, well connected through a series of freeways, wide boulevards in central city areas, massive ongoing real estate projects which are high end commercial buildings and high end residential developments in pockets, a pedestrian shopping district, subway (s) wherever the city size is large, wide roads with bicycle lanes and wide footpaths in the main areas. But, the rest of the areas require great attention and investments, something that is not likely to come by in the near future given the fiscal situation of the local governments. This is the story of Urban China, increasing disparities between the national level cities, between large cities and small cities, between coastal cities and non-coastal cities and among the urban districts in a large city. This is the context of this research. This paper provides statistical evidences for the increasing inequalities in Urban China. The statistical evidences are provided within the limitations posed by the Chinese statistical system, the data problems encountered are discussed at length towards the end of the paper.

This paper is on Tianjin City and her comparison with Chongqing, the fourth National level city. It is also about intra-city inequalities in Tianjin City. It introduces Tianjin city and then constructs the situation of intra-city inequalities in the city. Then, it analyses the out of the budget expenditures on urban infrastructure in Tianjin city to explain that the out of budget expenditures can be made only in cities with vibrant land market and high economic growth rate. In such a situation, the less developed districts and the less developed cities are at distinct disadvantage. Lastly, the paper looks at inter-city inequalities between Tianjin and Chongqing, both national level cities, the latter receiving large national government transfers as a part of the national western development strategy.

2. Tianjin – An Introduction

This National level city, Tianjin, has two big advantages; one it is strategically located on Bohai Bay⁵ - where now a large volume of oil has been found and which would give economic push to the city – and has the largest port in northern China and two it is a

⁵ Called Huan-Bohai Region, which has been designated as the third economic growth region after Pearl River Delta and Yangtze River Delta. Binhai New Area in Tianjin is expected to be a growth engine like Pudong in Shanghai as per The National Development and Reform Commission's (NDRC's) Report to the Fifth Session of the Tenth National People's Congress March 5, 2007 on The Implementation Of The 2006 Plan For National Economic And Social Development And On The 2007 Draft Plan For National Economic And Social Development (http://www.chinadaily.com.cn/china/2007-03/19/content_830762.htm)

major manufacturing city of PRC. It was the second largest manufacturing city in the country at the beginning of the 20th century⁶. Tianjin Port possesses the biggest container dock of the country and is connected to more than 300 ports of 170 countries world over. The city has 156 of the 164 categories of industry defined by the government⁷. Besides the traditional industries such as machinery, metallurgy, electronics, textiles and chemicals that have been contributing to the city's economic growth, four key industries of automobile, electronics, petrochemical products and metallurgy have been added in the last decade. The latest news is that Airbus is to locate its manufacturing unit in TEDA⁸, first of the Airbus's manufacturing facility outside the Europe.

Tianjin is the fourth largest city of PRC, with the year-end permanent population of 769.60 *yi wan* (10,000) (7.70 millions) in 2005 and 764.37 *yi wan* in 2004 (Table, 2-3, Tianjin Municipal Bureau of Statistics 2006). In the latter year, the population of the largest city of China, Shanghai was 1289.13 *yi wan*, of Beijing was 1092.85 *yi wan* and of Chongqing was 1017.57 *yi wan*. But, the permanent population of administrative city of Tianjin is 1043.00 *yi wan* in 2005 (Table 1, China Research Society of Urban Development 2005). The city population is the one that is under the administration of City Municipal Government, and this is categorised as the urban population. Of this (of 769.60 *yi wan*), 532.42 *yi wan* (69.2 percent) were classified as non-agricultural population. This means that remaining 30.8 percent in Tianjin urban area were agricultural households. In the entire administrative city of 1043.00 *yi wan* population, 73.8 percent is classified as urban living in the districts under the city administration (Table, 2-3, Tianjin Municipal Bureau of Statistics 2006). The Tianjin Statistical Yearbook, 2006 does not give the estimates of temporary population.

The Table 1 shows the importance of Tianjin in the national economy. While, the total city's population has been just 0.8 percent of the total national population (Table 1), the city's share in economic development is far higher than its population share. Its Gross Domestic Product (GDP) of 3,697.62 million yuan in 2005 was 2.0 percent of the total national GDP. In 2000, the city's share in the total national GDP was less, at 1.7 percent. The city therefore has seen improvement in its economic fortunes in the current decade. Increase in the total permanent population from 2000 to 2005 has been 0.8 percent per annum (p.a.), that of its GDP has been 16.8 percent p.a (in real terms at 15.5 percent p.a.). Evidently, the city's real GDP growth rate has remained far higher than the average of China. That however, does not reflect in employment situation. City's share in total national employment is just 0.7 percent, slightly less than its share in the total national population. But, the total employment has increased at 2.2 percent p.a. from 2000 to 2005, at a higher pace than population growth rate but at much lower pace than the GDP growth rate. This is an encouraging sign.

⁶ As per the Tianjin Economic Development Area (TEDA) website. TEDA is located in Binhai New Area. <http://www.teda.gov.cn/englishnew/local/overview.htm>, accessed on May 9, 2007.

⁷ <http://www.teda.gov.cn/englishnew/local/overview.htm>, accessed on May 9, 2007.

⁸ http://www.chinadaily.com.cn/bizchina/2007-05/16/content_873450.htm.

Table 1: Tianjin in the Nation

	Indicator	2000		2005		G.R. pa. (%) [*]
		Tianjin	% to nation	Tianjin	% to nation	
1	Permanent population (yearend) (10,000 persons)	1001.14	0.8	1043.00	0.8	0.8
2	Total persons employed (10,000 persons)	486.89	0.7	542.52	0.7	2.2
3	GDP (100 million yuan)	1701.88	1.7	3697.62	2.0	16.8
4	GDP in secondary sector (100 million yuan)	863.83	1.8	2050.3	2.4	18.9
5	GDP in tertiary sector (100 million yuan)	764.36	2.0	1504.1	2.0	14.5
6	Gross output of light industry (100 million yuan)	190.61	2.0	346.45	1.7	12.7
7	Gross output of heavy industry (100 million yuan)	439.49	2.8	1489.84	3.3	27.7
8	Total investment in fixed assets (100 million yuan)	608.80	1.9	1516.84	1.7	20.0
9	Freight handled at ports (10,000 tons)	9582	7.6	24,069	8.2	20.2
10	Total value of exports (US\$ 100 million)	86.29	3.5	274.15	3.6	26.0
11	Foreign capital utilized (US\$ 100 million)	28.25	4.8	36.46	5.7	5.2
12	Local general budgetary financial revenue (100 million yuan)**	133.61	1.0	331.9	2.2	20.0
13	General budgetary financial expenditure (100 million yuan)	187.05	1.2	442.1	1.8	18.8
14	No. of hospitals (unit)	488	0.7	461	0.8	-1.1
15	No. of hospital beds (10,000 units)	3.88	1.3	3.95	1.3	0.4
16	No. of students at colleges and universities (10,000 persons)	11.77	2.1	33.16	2.1	23.0
17	Urban Construction and Maintenance Fund (UCMF) (10,000 RMB)	804,145 [@]	2.6	1,855,892	3.4 ⁺	31.8

* The growth rates for monetary values are in current prices.

** Does not include transfers from the central government and

@ In 2002 and not in 2000.

+ The national total of UCMF does not include that of Beijing. Thus, in 2005, Tianjin's share in nation has gone up

Source: (i) All except row no. 25 from Table 1-17, Tianjin Municipal Bureau of Statistics (2006). (ii) Row 25, from China Research Society of Urban Development (2003, 2006).

The lower share in national employment and higher share in National GDP than its population share indicates very high labour productivity labour in the city. And that is possible only through manufacturing sector. This observation gets corroborated by the fact that manufacturing sector GDP of the city is 2.4 percent of the national manufacturing sector GDP, which has increased at 18.9 percent p.a. rate from 2000 to 2005 (Table 1). The city's manufacturing sector has much higher share in national manufacturing sector than the city's total GDP in total national GDP. The converse is true for the tertiary sector. These figures indicate that Tianjin's main economic base is manufacturing sector and not service sector, as would be the case with Shanghai and Beijing. This is inspite the fact that the industries, particularly the polluting ones, were shifted out of the six major urban districts of Tianjin, to the periphery and eastwards, in the 1990s. Further on, the high labour productivity is because of predominance of heavy industry in the city's economy, gross output in which increased at 27.7 percent p.a. in 2000-05 period, and city's share in the gross output from heavy industry in the nation being 3.3 percent, higher than its share in the GDP in the secondary sector.

The growth of heavy industries can be attributed to foreign capital investments, particularly in the TEDA area. Further, the heavy industries are export oriented, the city taking advantage of the port facility. The foreign capital utilised in the city is 5.7 percent of the same in the country in 2005, which is an increase of 5.2 percent p.a in 2000-05 period. But, in this period, the exports from the city increased at 26.0 percent p.a. increasing the city's share in the national exports to 3.6 percent (Table 1). The city's share in national exports is higher than the city's share in the national GDP and city's share in national GDP of the secondary sector. The city's economy therefore is dominated by and upswing in its economic fortunes have been because of export-oriented heavy industries, located in the TEDA area, after 2000.

While Tianjin City has much higher performance in economic indicators of development, it does not have such high performance in social indicators of development. For example, it has only 0.8 percent of the national hospitals (not far from its population share) and 1.3 percent of the total hospital beds in the nation (Table 1). However, it has slightly higher share of students in colleges and universities (2.1 percent of the nation), and this could be because it is a national level city. This means that there is some equalisation policy in place with regards to social development. It also means that inspite of high GDP growth rates, the incomes are not getting translated into investments in social infrastructure.

Another evidence of some equalisation measures in place is that even if the large cities in general may be contributing much higher to the national economic growth than their population share, their local governments do not have disproportionately high share of income and expenditure. For example, Tianjin city had only 2.2 percent of the national local government income and spent only 1.8 percent of the national local government expenditures (Table 1). But, because of high GDP growth rate in 2000-05 as compared to national GDP growth rate, the city's local government's share in national local government income and expenditure have increased in 2005 as compared to 2000 and both these indicators have registered a growth rate of 20.0 percent and 18.8 percent p.a. respectively in 2000-05 period, far higher than the total GDP growth rate p.a. Inequity is building up. Even with regards to investments in Urban Construction and Maintenance Fund (UCMF), the city's share in the total UCMF was just 2.6 percent in 2002 and which increased to 3.4 in 2005. This increase in its share in the UCMF is because of non-reporting of investments in Beijing's UCMF in 2005.

If the following facts are put together: (i) increase in local government income and expenditure does not mean that there is marked improvement in health facilities; (ii) increase in GDP does not mean increase in local government expenditures (iii) increase in GDP means increase in UCMF; one can deduce that increase in income is getting translated into improvement in physical infrastructure such as roads and public spaces rather than improvement in social infrastructure.

3. Regionalisation in Tianjin City

Post-2000, the economic growth in Tianjin City has shifted to the coastal districts and a few districts of the main city (Nankai and Hexi) (Table 2). The GDP growth rates have accelerated in Tanggu (where TEDA is located) and Nankai and improved in Dagang, also a coastal district. The growth rate of Hexi district, which was higher than the city growth rate in 1995-2000 at 18.9 percent p.a. remains nearly the same (18.1 percent) in the latter period. Even in Hedong district, decline in the GDP growth rate in the latter period is low as compared to the previous period. But, in the rest of the districts of the main city, namely Heiping, Hebei and Hongqiao and the suburban districts of Dongli, Xiqing, Jinna, Beichen, Wuqing and Baodi have registered drastic reduction in real GDP growth rates in the 2000-05 period. All these nine districts had lower rates than the city's real GDP growth rates. Of these, Baodi and Wuqing have registered very low overall GDP growth rate in 2000-05 period. Tanggu has registered the highest overall real GDP growth rate in 2000-05 period of 26.6 percent p.a., followed by Nankai (24.7 percent p.a.) and Hexi (18.1 percent p.a.). On the whole, in the last 10 years, Nankai district has registered the highest real GDP growth rate, followed by Tanggu and Hexi.

Table 2: Main Urban Districts' Total GDP and Real Growth Rates

Urban District	Total GDP (10,000 Yuan)			Real GDP growth rate		
	1995	2000	2005	1995-2000	2000-2005	1995-2005
Heping	111,394	308,242	593,900	20.2	12.8	16.4
Hedong	86,317	221,229	507,400	18.4	16.8	17.6
Hexi	96,168	251,558	609,900	18.9	18.1	18.5
Nankai	82,001	194,499	620,400	16.6	24.7	20.6
Hebei	87,543	217,651	413,000	17.7	12.4	15.0
Hongqiao	78,361	215,837	391,100	20.1	11.4	15.7
Tanggu	120,468	260,889	897,900	14.5	26.6	20.4
Hangu	67,236	141,929	240,800	13.9	9.9	11.9
Dagang	136,384	304,109	701,800	15.2	16.9	16.0
Dongli	266,035	640,043	1,022,100	16.9	8.6	12.7
Xiqing	298,998	730,135	1,236,800	17.3	9.9	13.5
Jinnan	242,854	547,840	857,000	15.4	8.2	11.7
Beichen	258,092	715,768	1,351,800	20.3	12.3	16.2
Wuqing	500,501	812,295	1,145,400	8.1	5.9	7.0
Baodi	430,009	699,000	742,600	8.1	0.1	4.0
Total Tianjin				10.6	15.5	13.0

Note: (a) Per capita is calculated using registered population figure.

(b) District GDP figures are from the Tables called Basic Statistics on Districts and Counties. The GDP stated here do not total upto the stated GDP of the whole city⁹.

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

Tanggu, Nankai, Hexi and Dagang districts have also registered high real per capita GDP growth rates of 25.4 percent, 23.9 percent, 16.9 percent and 15.3 percent p.a. respectively in 2000-05 period (Table 3). Even Hedong district is not far behind them in terms of real

⁹ The district totals do not add upto the city total because of methodological problem in calculating GDP at micro level. The GDP calculated at larger geographical units are more accurate than at the smaller geographical units. Hence, the city GDP calculated by the city government is more accurate than the district GDP calculated by the district government. The district GDP data is discussed here only for the purpose of comparison of their economic development.

total and per capita GDP growth rate. But, all the central districts and the coastal districts start with far lower per capita GDP base than the six suburban districts of Dongli, Xiqing, Jinna, Beichen, Wuqing and Baodi. Also, these six suburban districts have far larger total GDP and lower population than the six central and three coastal districts. But, these districts had witnessed high growth rates in the 1995-2000 period whereas the central city districts and coastal districts have witnessed economic growth in the post-2000 period.

Table 3: Main Urban Districts', Registered Population (10,000 persons), Per Capita GDP and Per Capita Real Growth Rates

Urban District	Population		Population growth rate 2000-05 (% p.a.)	Per Capita GDP		Real per capita GDP growth rate 2000-05 (% p.a.)
	2000	2005		2000	2005	
Heping	44.91	43.84	-0.48	6,864	13,547	13.3
Hedong	64.35	69.23	1.47	3,438	7,329	15.1
Hexi	70.37	73.96	1.00	3,575	8,246	16.9
Nankai	77.29	79.73	0.62	2,516	7,781	23.9
Hebei	61.11	62.65	0.50	3,562	6,592	11.9
Hongqiao	56.15	55.16	-0.36	3,844	7,090	11.8
Tangu	46.54	48.85	0.97	5,606	18,381	25.4
Hangu	16.79	16.91	0.14	8,453	14,240	9.8
Dagang	33.07	35.46	1.41	9,196	19,791	15.3
Dongli	30.41	31.82	0.91	21,047	32,121	7.6
Xiqing	30.64	31.48	0.54	23,829	39,288	9.3
Jinnan	36.65	38.07	0.76	14,948	22,511	7.3
Beichen	31.64	33.02	0.86	22,622	40,939	11.3
Wuqing	79.87	81.72	0.46	10,170	14,016	5.4
Baodi	64.88	65.28	0.12	10,774	11,376	0.0
Total Tianjin	1001.14	1043.00	0.82			12.4
CV (%)	39	39		73	66	

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

Does the per capita GDP levels and growth rates get translated into total and per capita district government's per capita budgetary incomes and expenditures? That is the point of investigation in the next section.

4. Municipal Finances of Tianjin

Income

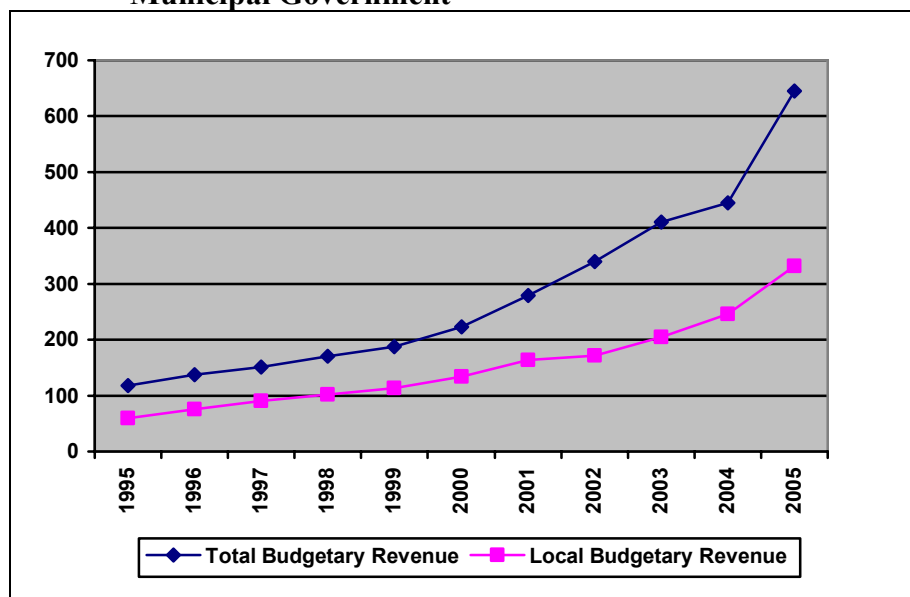
At the aggregate level, the total financial revenue of the Tianjin Municipal Government, whose jurisdiction is over the six central city districts, three Binhai New Area districts and six outer districts, was 725.81 100 million Yuan in 2005 (Table 4). This was an increase of 42.4 percent in real terms over the previous year. But, in 2004, its real growth rate over the previous year was only 8.6 percent only. From 2000 onwards, the total financial revenue of the city has begun to rise rapidly, in real terms (Chart 1). Hence, while the overall real compound annual growth rate (CAGR) in 1995-2005 period has been 18.20 percent, that between 1995-2000 was 13.63 percent and between 2000-2005 22.90 percent.

Table 4: Total Financial Revenue, Its Composition and CAGR, Tianjin City

Year	Total financial revenue (100 million Yuan)	Total general budgetary revenue (%)	Fund revenue (%)
1995	117.34	100.0	0.0
1996	137.45	100.0	0.0
1997	169.12	89.5	10.5
1998	186.55	91.2	8.8
1999	206.89	90.5	9.5
2000	244.81	91.0	9.0
2001	304.52	91.8	8.2
2002	375.92	90.4	9.6
2003	451.74	91.0	9.0
2004	502.17	88.6	11.4
2005	725.81	88.9	11.1
Real Compound Annual Growth Rates (%)			
1995-2005	18.20	16.80	20.40
1995-2000	13.63	11.50	8.35
2000-2005	22.90	22.33	28.13

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

Chart 1: Total Financial and Local Budgetary Revenue, 1995-2005, Tianjin Municipal Government



From 1997 onwards, a special revenue item called Fund Revenue comes into picture. Fund revenue is for specific targeted expenditure, for which a fund is created and to which the revenues are transferred to. It is not stated what consists of the fund except that these are specific expenditures for which funds are kept aside. Share of Fund Revenue has increased slightly over time, from remaining between 8-9.5 percent in 1998-03 period to above 11 percent from 2004 onwards, in the total financial revenue (Table 4). This means that targeted expenditures are increasing and hence fund revenues are also increasing.

Of the total revenue collected in Tianjin City, more than two-fifths to half (48.6 percent in 2005, 44.7 percent in 2004, 40.0 percent in 2000 and so on) is passed on to the central

government (Table 5). It must be mentioned that from 2002 onwards, half of the income tax collected is being passed on to the central government (Tianjin Municipal Bureau of Statistics 2006, 186) and hence the proportion of income generated in the city passed on to the central government has increased from this year (Table 5). Thus, in 2000-05 period, the CAGR of contribution to central government is 27.17 percent in real terms whereas the general budgetary revenue has increased at 22.33 percent and local budgetary revenue at 18.63 percent only. This can be seen clearly in Chart 1. In the immediate period of taxation reform, that is 1994 when central government allocated certain revenue sources to itself, the contribution to central government witnessed CAGR of only 6.73 percent only when the total general budgetary revenue had CAGR of 11.50 percent CAGR. Since we have not looked at pre-1994 data, we do not know the impact of the 1994 taxation reforms on Tianjin's contribution to the central government.

Table 5: Revenue Share between Tianjin Municipal Government and Central Government

Year	General budgetary revenue (%)	Local budgetary revenue (%)	Contribution to central government (%)	Per capita local financial revenue (Yuan)
1995	100.0	50.2	49.8	659
1996	100.0	55.3	44.7	846
1997	100.0	59.4	40.6	1,196
1998	100.0	59.6	40.4	1,302
1999	100.0	60.3	39.7	1,456
2000	100.0	60.0	40.0	1,707
2001	100.0	58.6	41.4	2,065
2002	100.0	50.6	49.4	2,263
2003	100.0	49.8	50.2	2,649
2004	100.0	55.3	44.7	3,251
2005	100.0	51.4	48.6	4,392
Real Compound Annual Growth Rates (%)				
1995-2005	16.8	17.1	16.5	19.10
1995-2000	11.50	15.53	6.73	18.67
2000-2005	22.33	18.63	27.17	19.46

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

Table 6: Revenue Share Between City and District & County Levels, Tianjin City

	Total revenue at city level	Budgetary revenue at city level	Fund revenue at city level	Financial revenue at district & county level	Budgetary revenue at district & county level	Fund revenue at district & county level
	a	a.1	a.2	b	b.1	b.2
2000	-	43.3	-	-	56.7	-
2001	47.9	42.4	83.7	52.1	57.6	16.3
2002	51.9	45.8	81.0	48.1	54.2	19.0
2003	51.2	49.0	62.2	48.8	51.0	37.8
2004	48.7	46.5	57.8	51.3	53.5	42.2
2005	50.2	44.7	72.9	49.8	55.3	27.1

Notes

1 a+b = 100%; a.1+b.1 = 100%; a.2+b.2 = 100%

2 Fund revenue break-up between city and district & county level governments not available for 2000

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

Within the city, the revenues are shared between the Tianjin Municipal Government and the District Governments within the Tianjin Urban Area, for making expenditures to perform their public responsibilities. Mahadevia (2006, 2007) has discussed in details the

functional responsibilities shared between the city and district governments. While the total revenue is shared in nearly equal proportion by the city level and the district and county governments, the fund revenue goes more to the city level government and budgetary revenues are more to the district and county level governments. Only in the recent years, from 2003 onwards, it appears that the city government is passing on increasingly more revenues to the district and county level governments.

Table 7: Local Government Income by Urban Districts, Tianjin

Urban district	2000 (10,000 Yuan)		2005 (10,000 Yuan)		Real growth rate (2000-2005)	
	Total	Per capita	Total	Per capita	Total	Per capita
Heping	38,271	852.17	102,253	2,332.41	20.4	21.0
Hedong	22,015	342.11	77,253	1,115.89	27.1	25.3
Hexi	22,445	318.96	113,046	1,528.47	36.6	35.3
Nankai	21,976	284.33	102,657	1,287.56	34.6	33.8
Hebei	21,442	350.88	49,676	792.91	17.0	16.4
Hongqiao	14,679	261.42	30,382	550.80	14.4	14.8
Tanggu	39,718	853.42	108,465	2,220.37	20.9	19.7
Hangu	9,472	564.15	17,930	1,060.32	12.4	12.2
Dagang	28,815	871.33	50,838	1,433.67	10.8	9.3
Dongli	28,246	928.84	97,988	3,079.45	26.8	25.7
Xiqing	30,957	1,010.35	112,110	3,561.31	27.9	27.2
Jinnan	21,615	589.77	63,602	1,670.66	22.7	21.8
Beichen	32,299	1,020.83	92,430	2,799.21	22.0	21.0
Wuqing	28,769	360.20	77,473	948.03	20.6	20.0
Baodi	15,050	231.97	35,326	541.15	17.3	17.2
CV (%)	34	51	43	56	-	-
City minus districts & counties	578,605	634.44	1,483,171	1,579.00	-	-
Total Tianjin	1,336,069	1,464.99	3,318,507	3,532.92	-	-

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

More important for this paper is the Table 7, which gives the total and per capita income of different urban districts. There is significant inequality among the 15 urban districts in terms of total and per capita local (district) government revenue collected. The highest local government revenue collected in 2005 is in Hexi district (113,046 yi wan Yuan or 1130.46 million Yuan). In 2000 it was in Tanggu district (39,718 wan Yuan or 397 million Yuan). Hexi and Nankai districts of the central city have registered the highest real total revenue growth in 2000-05 period. That is also true for the per capita revenue collected. But, the highest per capita local (district) government in 2005 is in Xiqing (3,561.31 Yuan), followed by Dongli (3079.45 Yuan), Beichen (2799.21 Yuan) and then Tanggu (2220.37 Yuan) and other central city and Binhai area districts. The first three districts have high per capita revenues because of their low population. The inequality among the districts in total and per capita revenues generated has increased in 2005 as compared to 2000. The coefficient of variation (CV) was 0.34 for the total revenue and 0.51 for per capita revenue in 2000, which increased to 0.43 and 0.56 respectively in 2005. Thus, inequality among the districts with regards to their local revenue generating capability has increased over time.

Expenditure

The expenditure responsibilities are with the Tianjin Municipal Government on the whole and part of it is being passed down to the district and county governments through sharing of some revenues and letting district governments and county governments to raise their own resources.. The overall budgetary expenditure at the city level (city level and the district & county levels together), is higher than the local budgetary income (city level and district & county levels together). For example, the total local budgetary expenditure in 2005 was 442.12 100 million Yuan or 44,212 million Yuan and the fund expenditure was 7,816 million Yuan, the local budgetary income was 33,185 million Yuan and the fund revenue was 8,017 million Yuan. While the fund income and expenditure mostly tally over most of the years, the budgetary expenditures are higher than budgetary incomes for nearly all the years of our analysis. This means that the Tianjin city government budgets are running in deficit. This is also the case at the district level and county level observed later on¹⁰.

Table 8: Total Financial Expenditure, Tianjin City

	Total financial expenditure (100 million Yuan)	Local budgetary financial expenditure	Fund expenditure	Per capita general budgetary financial expenditure (Yuan)
1995	90.37	100.0	0.0	1,010
1996	110.19	100.0	0.0	1,226
1997	140.08	87.6	12.4	1,557
1998	155.15	88.9	11.1	1,714
1999	177.62	88.6	11.4	1,952
2000	209.57	89.3	10.7	2,298
2001	259.78	90.3	9.7	2,842
2002	300.07	88.4	11.6	3,265
2003	350.63	89.0	11.0	3,787
2004	431.49	86.9	13.1	4,627
2005	520.28	85.0	15.0	5,539
Real Compound Annual Growth Rates (%)				
1995-2005	18.60	16.60	20.10	18.00
1995-2000	17.87	15.22	8.61	17.42
2000-2005	19.24	18.07	27.50	18.54

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

In the total financial expenditure at the city level, share of fund expenditure has increased over time, from 10-12 percent upto 2003 to 13-15 percent later on (Table 8). And the real growth rate of fund expenditure is much more (20.10 percent CAGR) than the real growth rate of total financial expenditure (18.60 percent CAGR) in the period 1995-05. Also, the CAGRs are higher for 2000-05 period than for 1995-2000 period, in consonance with the pattern of revenue increase. The per capita financial expenditure in Tianjin City is 5,539 Yuan for the year 2005, which includes the fund expenditure also. The per capita expenditure has witnessed a growth rate of 18.00 percent per annum in 1995-05 period, little less than the overall revenue expenditure growth rate.

¹⁰ The deficits are met through borrowings, as per some experts in Tianjin City.

Table 9: Expenditure Responsibilities at City and District Levels, Tianjin City

	Financial expenditure at city level	Budgetary expenditure at city level	Fund expenditure at city level	Financial expenditure at district & county level	Budgetary expenditure at district & county level	Fund expenditure at district & county level
	a	a.1	a.2	b	b.1	b.2
2000	-	51.1	-	-	48.9	-
2001	53.9	49.9	91.7	46.1	50.1	8.3
2002	51.1	46.6	85.4	48.9	53.4	14.6
2003	50.0	48.0	66.4	50.0	52.0	33.6
2004	47.6	45.8	59.4	52.4	54.2	40.6
2005	49.2	45.3	71.6	50.8	54.7	28.4

1 a.1+b.1 = 100%; a+b = 100%; a.2+b.2 = 100%

2 Fund revenue break-up between city and district & county level governments not available for 2000

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

Table 10: Local Government Expenditure by Urban Districts, Tianjin

Urban district	2000 (10,000 Yuan)		2005 (10,000 Yuan)		Real CAGR (2000-2005)	
	Total	Per capita	Total	Per capita	Total	Per capita
Heping	48,892	1088.67	110,159	2,512.75	16.3	16.9
Hedong	34,743	539.91	89,493	1,292.69	19.5	17.8
Hexi	39,809	565.71	98,196	1,327.69	18.5	17.3
Nankai	44,879	580.66	103,337	1,296.09	16.8	16.1
Hebei	32,773	536.30	80,487	1,284.71	18.4	17.8
Hongqiao	29,073	517.77	60,566	1,098.01	14.5	14.9
Tanggu	45,634	980.53	147,046	3,010.15	25.0	23.8
Hangu	14,184	844.79	37,350	2,208.75	20.0	19.9
Dagang	35,596	1,076.38	96,104	2,710.21	20.6	19.0
Dongli	29,377	966.03	104,696	3,290.26	27.5	26.4
Xiqing	37,486	1,223.43	154,484	4,907.37	31.3	30.6
Jinnan	23,745	647.89	100,953	2,651.77	32.1	31.1
Beichen	32,173	1,016.85	113,068	3,424.23	27.2	26.1
Wuqing	36,927	462.34	145,158	1,776.28	30.0	29.4
Baodi	27,779	428.16	74,173	1,136.23	20.4	20.2
CV (%)	26	35	31	49		
City minus districts & counties	956,450	1,048.74	2,000,867	2,130.15		
Total Tianjin	1,870,521	2,051.01	4,421,207	4,706.87		

Source: Based on Data from Tianjin Municipal Bureau of Statistics (2002, 2006).

More than half the total expenditure for 2003, 2004 and 2005 and budgetary expenditures for all the years but 2000 are at the district and county level (Table 9). So was the case with budgetary revenue for these years. But, that is not the case with regards to fund expenditures. This means that special expenditures from specially set up funds are being made at the city level than the district level. These funds can be, for newly allocated responsibilities of the city government such as social security funds etc. The district and county governments have less possibilities of setting up special funds than the city level government.

The highest total public expenditure by any district government in 2000 was by that of the Heping district (48,892 wan Yuan), followed by Tanggu district (45,634 wan Yuan) and Nankai district (44,879 wan Yuan) (Table 10). But, the highest per capita expenditure by a district government in 2000 was in Xiqing district (1,223 Yuan), followed by Heping

(1089 Yuan) and Dagang (1,076 Yuan). The lowest total and per capita district government expenditure was in Baodi district. Wuqing district is next to Baodi with per capita expenditure of 462 Yuan. The five remaining districts of the central city (other than Heping), had nearly the same per capita expenditures by their district governments, the value falling between 500 and 600 Yuan. The two other districts of Binhai new area and the remaining suburban districts fall in between, with per capita revenue expenditures falling between the 600-1000 Yuan range.

The situation changes in 2005. Xiqing district comes at the top to lead in total district level expenditure (1,544.84 million Yuan). Tanggu remain at the second position with expenditure of 1,470.46 million Yuan and in the third position comes-up Wuqing with total expenditure of 1,451.58 million Yuan. In Xiqing district is located Huayuan Hi-tech Economic Development Zone, bringing in high revenues and requiring high investments. Wuqing district falls on the highway connecting Tianjin and Beijing and has in the recent years received investments to improve rail and road connectivity with Beijing. But, this district is third from the bottom in terms of per capita local government expenditure of 1,776 Yuan. In per capita terms, Xiqing district leads with a per capita government expenditure of 4,907 Yuan. It is followed by Beichen (3,424 Yuan) and Dongli (3,290 Yuan). Hongqiao district is at the bottom with per capita local government expenditure of 1,098 Yuan and above it is Baodi district with per capita local government expenditure of 1,136 Yuan.

Table 11: Revenue and Expenditure Differentials, Tianjin Districts

Districts	2000		2005	
	Revenue - Expenditure	Expenditure / Revenue	Revenue - Expenditure	Expenditure / Revenue
Heping	-10,621	1.28	-7,906	1.08
Hedong	-12,728	1.58	-12,240	1.16
Hexi	-17,364	1.77	14,850	0.87
Nankai	-22,903	2.04	-680	1.01
Hebei	-11,331	1.53	-30,811	1.62
Hongqiao	-14,394	1.98	-30,184	1.99
Tanggu	-5,916	1.15	-38,581	1.36
Hangu	-4,712	1.50	-19,420	2.08
Dagang	-6,781	1.24	-45,266	1.89
Dongli	-1,131	1.04	-6,708	1.07
Xiqing	-6,529	1.21	-42,374	1.38
Jinnan	-2,130	1.10	-37,351	1.59
Beichen	126	1.00	-20,638	1.22
Wuqing	-8,158	1.28	-67,685	1.87
Baodi	-12,729	1.85	-38,847	2.10

The total revenue income of Wuqing district is just 774.73 million Yuan, almost half of the total expenditures made by the district, indicating that investments are being supported by debt. While it is the case with most districts (Table 11), wherein the district government expenditures are higher than district government incomes, the difference between income and expenditures are far higher for some districts with low per capita GDP such as Hongqiao and Hebei, or per capita revenue income such as Wuqing and Baodi or special development areas such as Binhai (wherein are Hangu and Dagang). It

appears that the city governments in the peripheral districts are making large public expenditures even when their revenues are far less than their expenditures. According to an expert on Tianjin Construction, all district governments and the city government are under heavy debt. They have borrowed from the banks for infrastructure development. Hence, in this current phase of rapid city development, all the governments are in debt, a situation that may change over time. This indicates that large infrastructure developments are being funded by debt financing. This would be corroborated when we look at UCMF revenues. Also, the peripheral districts and those in Binhai new area are going for large scale infrastructural investments for their future growth. The fact that the districts with low per capita GDP are able to borrow is bringing in a situation of some equity in expenditure distribution.

This gets reflected in the CV values. The CV values of total and per capita expenditure over the districts are lower than the total and per capita revenue incomes over the districts. For example, the CV of per capita income is 0.56; that for per capita expenditure is 0.49, in 2005. This shows that there is some system of transfer built into the system to take care of the equity concerns. However, CV values have increased in 2005 as compared to 2000, for both revenue income and expenditure across the districts, indicating that inequalities are emerging with regards local revenue income generation as well as local expenditures. This observation supports what Mahadevia (2007, 2006) has argued in the earlier papers.

Jinnan (31.1 percent), Xiqing (30.6 percent), Wuqing (29.4 percent), Dongli (26.4 percent), Beichen (26.1 percent) and Tanggu (23.8 percent) are the top six in terms of real per capita district expenditure growth rate during 2000-05 period. Parts of Jinnan and Dongli are now included in the Binhai new area and hence here too expenditures have increased in 2005 though they do not exceed much than their respective incomes.

Table 10 also shows that the much of public expenditures (that is investments) have taken place in the districts outside the central city in Tianjin. The Binhai new area and suburban districts have an advantage of vacant lands, which have been brought under large real estate projects and also special economic development areas. This itself provides large funds for the district government. Once these developments take place, in anticipation of the future incomes from the real estate as well special economic zones, the district governments borrow to make investments in large local infrastructure. The central city districts do not have such large land resources, though, here too large-scale redevelopment projects are underway. For example, barring the old European quarters and some monuments/ buildings of historic importance, all other old buildings have been demolished in Heping district and new real estate projects are on the way. This can be seen even in Hexi and Nankai districts. But, the magnitude is not so large as in the peripheral districts of Xiqing that this author has visited. Once the district government is able to generate its own resources through use of land, it is able to leverage public funds. This is what seems to be happening in the peripheral districts or the Binhai new area.

In short, there are some districts in Tianjin that have higher incomes than the other districts and hence also have higher revenues and expenditures than the other districts. But, some districts on the periphery, that have land as a resource, are utilising it to increase firstly their public expenditures and through that attract new investments to boost their economic growth. Even then, some of the districts, the old industrial districts such Hongqiao, Hebei and Hedong are being left out. When these districts would be developed, and the accepted model of development is infusing investments in real estate development, there would be significant displacements¹¹.

5. Non-Budgetary Income in Urban Construction Fund, Tianjin

This fund is called Urban Construction and Maintenance Fund (UCMF), from which expenditures on urban construction activities such as water supply, sewerage networks, roads, bridges and flyovers, garden development, etc. are made. The total expenditure made from this fund is available. The budget gives a figure of expenditure on capital construction. But, only part of the capital expenditure from the budget is on the urban infrastructure. The rest of the funds for the UCMF are mobilised from other sources. We have three time point data of the UCMF fund.

The UCMF's resources include contribution of the local government to begin with. One part is the Urban Construction and Maintenance Tax (UCMT) that the local government collects and contributes to this fund. Mahadevia (2006, 2007) had shown that the contribution of this source in the total UCMF resources have declined significantly overtime at the national level. So is the case at the local level. Mahadevia (2006, 2007) had also shown that for each of the public utility or infrastructure, a separate company is set up. It can be a public sector company, as in case of a water supply company or can be

¹¹ We visited a community named Qiao Bei Community, Xi Gu Street, Hongqiao District and talked with the representatives of the community in the office of the Resident Committee. The committee represents about 2,000 households or 5,000 population. It is a low income community, with residents formerly employed in State Owned Enterprises (SOEs), which have closed down. They have shifted to tertiary sector employment such as driving taxis (we saw many taxis parked in the lanes), selling fruits and vegetables and other food stuffs, casual labour such in construction, etc. It was a quite afternoon, people possibly in the houses. The streets were nearly clean, garbage collection containers put outside the houses. A large part of the community is to be displaced as a new real estate housing project is expected to come up soon. The displacement would begin within a period of one year. It is not know how long the process would last. It is expected that the resident community would disperse to various locations, depending on their affordability of new houses. The resident committee members stated that the new house would cost about RMB 3,000 to 4,000 per sq meter. A small subsidy would come from the government of RMB 200 to RMB 300 per month. It is expected that for some this would go towards renting a new place. (Possibly, for some this could be used for loan installment. We however did not discuss about the willingness of the people to shift out of the locality. The locality has water supply provided by a water company owned by the Tianjin Municipal Government. There are local level branches of this company that is providing the water. There are common public toilets. Each household is paying RMB 10 per month for water supply and RMB 2 per month for street cleaning and garbage collection. That seems to be the only expenditure towards public services. These expenses would also go up when they would shift to the new housing, whether developed by the public sector or the private sector.

a private company, such as for the metro. Both would get a certain proportion of public funds as a start-up capital. These companies are also allotted public lands, which they can use to raise their capital. Part of the equity invested in the company by the city government is also raised through land lease.

This is normally the case with metro (subway) companies. For example, Annual Report, 2004 of MTR Corporation Limited, is the company that is building Metro Line no 4 in Beijing. The Annual Report states that¹²:

“In April, MTR signed a Memorandum of Understanding with Beijing Infrastructure Investment Co. Ltd. (BIIC) and Beijing Capital Group (BCG), both subsidiaries of the Beijing Municipal People’s Government, with the intention of forming a public-private-partnership for the Beijing Metro Line 4 project. After indepth discussions, in December we entered into an Agreement in Principle with BIIC and BCG to form a PPP company for the investment, construction and operation of the Beijing Metro Line 4. This line will form one of the core transport infrastructure projects for China’s capital.

The Agreement in Principle sets out the framework of the partnership for the investment, construction and operation of the line subject to a Concession Agreement with the Beijing Municipal People’s Government, for a term of 30 years. In February 2005, together with our partners, we initialled the Concession Agreement with the Beijing Municipal People’s Government and now await approval from the National Development and Reform Commission. The total investment for the project is approximately RMB 15.3 billion (HK\$14.4 billion), 70% of which, comprising mainly land acquisition and civil construction works, will be funded by the Beijing Municipal People’s Government. The partnership project company will invest approximately RMB 5 billion (HK\$4.7 billion) to finance the provision of trains and related electrical and mechanical systems, and will be responsible for the operation and management of the new line for a period of 30 years. MTR and BCG will each own 49% of the joint venture company, with BIIC owning the remaining 2%. The joint venture company will seek non-recourse bank loans to finance over 60% of the project with the remainder to be funded by equity capital.”

Cumulatively, for all the urban construction projects, the UCMF size in 2002 was 804,145 *yi wan* (8041.45 million) Yuan, which increased to 1,855,892 *yi wan* (18558.92 million) Yuan in 2005, an increase of 130.8 percent on the whole (Table 12). The UCMF has witnessed much higher growth than the total budgetary resources growth (93.1 percent) in this period. Given that the 2004-05 growth in UCMF and total budget is low, the increase in both has begun from 2004 onwards. The size of UCMF is quite large as compared to the budget. The former was 21 percent of the latter in 2002, but then increased to 35 percent in 2004 and went down to 26 percent in 2005. Nonetheless, there is increase in the size of UCMF in proportion to the total budget in this short period looked at here.

Budget makes allocation to head called capital construction, which has varied from 10 percent to 14 percent in the period. Of this, about 54 percent in 2002, 43 percent in 2004

¹² http://www.mtr.com.hk/eng/investrelation/2004frpt_e/F112.pdf (accessed on July 11, 2007).

and once again 54 percent in 2005 was the contribution to the UCMF. In addition, the UCMT being collected since 1985 (Wu 1999) is also directly transferred to the UCMF account. Like at the national level (Mahadevia 2006, 2007), its share in the total UCMF has come down even in this short period of study, from 8.0 percent in 2002 to 5.1 percent in 2005. Evidently, tax collections are not adequate enough source of fund for large infrastructure investments required for converting Tianjin and also any developing country city into a ‘World Class’ City.

Table 12: Leveraging Funds for Urban Construction, 2002, 2004, 2005, Tianjin

Item	2002	2004	2005	GR. 2002-05	GR 2004-05
Tax	8.0	4.7	5.1	46.6	15.3
Budgetary Allocation	18.5	12.7	16.3	103.9	37.8
Central Government Contribution	2.9	0.1	3.6	180.5	5416.7
Debt Borrowing	25.0	62.9	60.1	455.0	2.2
Capital Market	0.0	0.0	0.0		
Foreign Investment	0.3	4.4	1.4	1179.7	-65.2
Self Raised Funds	27.2	7.4	4.7	-59.9	-31.2
User Charges & Fees	1.0	4.2	4.0	852.3	1.8
Use of Land	0.0	0.0	0.9	15216.8	10650.3
Others	17.2	3.7	3.9	-47.6	11.6
Total	100.0	100.0	100.0	-	-
UCMF Size (10,000 RMB)	804,145	1,734,229	1,855,892	130.8	7.0
Tianjin Budget (10,000 RMB)	3,759,200	5,021,700	7,258,100	93.1	44.5
Expenditure on Capital Construction in Budget (10,000 RMB)	393,600	693,900	732,300	86.1	5.5
UCMF:Budget	0.21	0.35	0.26	-	-
Budgetary Allocation* in UCMF/Capital Construction Exp in Budget	0.54	0.43	0.54	-	-
Government Allocations**: Others	29.4:61.6	17.5:82.5	25:75	-	-

* Includes UCMT

** Includes both local and central government

Source: China Research Society of Urban Development (2003, 2005, 2006).

Nor are budgetary resources adequate to do so. For example, in Tianjin City, the government resources’ contribution, which includes local government contribution, UCMT and central government contribution, are less than 30 percent, coming down from about 30 percent in 2002 to 25 percent in 2005. The period we have captured in our study is the phase of rapid transformation of Tianjin City. However, the central government’s interest in Tianjin City has increased from 2005 onwards. This seems to be because of Olympics location. Also, some spill over effect of Beijing’s development and thinking to consider Beijing-Tianjin as one region

Main source of non-budgetary resources for infrastructure development in Tianjin is debt borrowing. It is the single largest source of UCMF funds, which contributed 62.9 percent of the UCMF in 2004 and 60.1 percent in 2005. Its share in 2002 was just 25 percent. The domestic loans is likely to include loans given by the multilateral agencies, such as the World Bank and the Asian Development Bank, and bilateral agencies (if any) to the

national government, passed on to the local government¹³. Also, in 2002, the largest contribution was self raised funds (27.2 percent), which could be non-systematic ways of raising funds. From 2002, there is streamlining of funds raised, and there is more transparent ways of fund raising for UCMF. This can also be seen in reduction in the share of other sources from 17.2 percent in 2002 to 3.9 percent in 2005. This also indicates that for large investments more transparent and robust approach to resource raising is necessary than leaving it to the local governments to device their own ways of doing so. The latter might work if small expenditures, such as one road here and one road there, or improving water supply system in one place or repair sewerage network in other, as one can see in Indian cities, has to be done.

From 2004 onwards, land has become an important component of raising funds for urban infrastructure purposes. This source has registered 15216.8 percent growth during 2002-05 period. But, its total share in UCMF was less than 1 percent in 2005. Possibly, as the mentioned above, the value of land contributed as equity in the joint ventures set up by the municipal government with a private sector company for say metro project (or even road project) is not being added to the UCMF.

Lastly, given that the investments in the infrastructure projects in Tianjin city are through debt borrowings, their servicing requires cost recovery mechanism introduced in the pricing of the services. It can be seen that cumulatively, the share of user charges and fees have increased from 1.0 percent in 2002 to 4.0 percent in 2005, an increase of 852.3 percent over the period. Water prices have increased by 17 percent for example in Tianjin from December 1, 2005¹⁴. In nominal terms the increase is only very small. Our field work also showed that households are not paying more than 10 Yuan per month on water and which is affordable. With the increase in per capita incomes, Tianjin is moving towards a model of cost recovery from infrastructure projects.

This strategy of moving to borrowings and use of lands for infrastructure projects would help only certain districts of the city as already seen in the previous section. It would also help only certain cities where either there is rapid economic growth or where the central government is trying to infuse investments for regional economic growth. While, Tianjin is trying to bring these investments through process of economic growth, wherein some districts have been left out, Chongqing, the fourth national level city is trying to do so through central government fund infusion. This is what we would see in the next section.

¹³ References of individual project funding from multilateral agencies is available. But, there is no systematic information available at the moment on their total funding in different cities of China.

¹⁴ The price per cubic meter water used by residents will be raised to 3.4 yuan (about US\$0.4) from the current 2.9 yuan, and the price per cubic meter water used by government institutions, industrial, commercial, financing and construction firms will go up to 5.6 yuan from the current 4.4 yuan and 4.6 yuan. (Source: <http://www.china.org.cn/english/government/150089.htm> accessed on July 12, 2007).

6. Non-Budgetary Income in Urban Construction Fund, Chongqing

Chongqing was declared as the fourth national level city in 1997, as a part of the western development strategy of the Government of China. In administrative area, Chongqing is the largest national level city in area and population. But, its urban population is not the largest, it was the third largest city in terms of urban population in 2005, which was 1017.57 yi wan and followed Shanghai 1289.13 yi wan and Beijing 1092.85 yi wan population. Tianjin, the fourth national level city was way behind with urban population of 764.37¹⁵.

Chongqing's economy is 3070.49 million Yuan large in 2005 (Chongqing Municipal Bureau of Statistics 2006), which is slightly less than Tianjin's economy of 3697.62 million Yuan. Since Chongqing's population is larger than that of Tianjin, its per capita income of 9727 Yuan is about 27 percent that of Tianjin's per capita income of 35,783 Yuan in 2005. While Tianjin is largely a manufacturing economy with the secondary sector's contribution to the GDP being 55.5 percent, tertiary sector's 40.7 percent and primary sector only 3.9 percent, Chongqing's economic base is dominated by tertiary sector (43.9 percent), followed by secondary sector (41.0 percent) and then primary sector (15.1 percent) which is still very large. In 1995, while the secondary sector had the same share in Chongqing's total GDP (40.6 percent) as in 2005, the tertiary sector's importance was far less (33.4 percent) and primary sector contributed 26 percent to the GDP. Emphasis and investments by the national government in the city has led to its transition to a tertiary economy. It is becoming gateway to the western region, with it emerging as transportation hub (7.1 percent contribution to the GDP by transport, storage and postal services), trade centre (9.0 percent share in the GDP) and tourism centre in 2005. Tourism has got a boost in Chongqing in wake of Three Gorges Dam project and beginning of cruise on Yangtze river down from the city.

Chongqing was an old industrial base, when, in the early years of Communist rule in China, many heavy industries were shifted inland. Cement and coal were two important industries and then came motorcycle making and car making industries. In recent years, hi-tech industries such as IT, biotech and environmental protection are being promoted in the city, which are ecologically sound economic activities in the fragile ecosystem that Chongqing is. The city also has more than 1000 institutions of scientific research, 29 universities and colleges, and more than 600,000 workers employed in these fields¹⁶.

The focus of central government on Chongqing can be seen from the fact that the UCMF of Chongqing of 22978.05 million Yuan in 2005 (Table 13) was 1.23 times the UCMF of Tianjin, although the latter's budget in the same year was 1.84 times that of the former. Chongqing has been receiving much higher actual contribution from the central government of 1066.94 million Yuan as compared to Tianjin's receipt of 662.00 million Yuan in 2005. Also, central government's contribution to the UCMF was 4.7 percent of

¹⁵ China City Statistical Yearbook, 2006.

¹⁶ <http://www.cq.gov.cn/english/Survey/200508311002.HTM>.

the total in 2005 and was 17.1 percent of the total in 2002. The local government's budgetary allocations have been fluctuating in both the cities. But, there is far higher share of UCMT in the UCMF in Chongqing than in Tianjin. Also, there is much higher share of government contribution to the UCMF in Chongqing than in Tianjin. The latter has been left to raise resources on its own.

Table 13: Leveraging Funds for Urban Construction, 2002, 2004, 2005, Chongqing

Item	2002	2004	2005	GR. 2002-05	GR 2004-05
Tax	16.1	7.8	16.7	517.7	153.5
Budgetary Allocation	10.9	7.7	16.0	774.9	146.8
Central Government Contribution	17.1	3.8	4.7	62.4	44.3
Debt Borrowing	20.3	40.2	29.7	773.0	-12.1
Capital Market	0.0	0.0	1.5		
Foreign Investment	1.1	3.9	5.1	2792.1	57.2
Self Raised Funds	5.5	5.9	12.1	1221.0	144.1
User Charges & Fees	15.7	9.8	6.6	150.8	-19.8
Use of Land	8.3	10.8	5.7	312.2	-37.4
Others	5.1	10.0	2.0	141.2	-75.8
Total	100.0	100.0	100.0	-	-
UCMF Size (10,000 RMB)	383,989	1,927,444	2,297,805	497.2	19.0
Chongqing Budget (10,000 RMB)	-	3,024,439	3,949,624	-	30.6
Expenditure on Capital Construction in Budget (10,000 RMB)	-	529,594	733,446	-	38.5
UCMF:Budget	-	0.64	0.58	-	-
Budgetary Allocation* in UCMF/Capital Construction Exp in Budget	-	0.57	1.02	-	-
Government Allocations**: Others	44.1:55.9	19.4:80.6	37.3:62.7	-	-

* Includes UCMT

** Includes both local and central government

Source: China Research Society of Urban Development (2003, 2005, 2006).

And being a manufacturing centre, it is able to do so, whereas, Chongqing is getting support so that it may be able to generate its own resources in the future. It is possible that given the relatively lower GDP of Chongqing, as compared to Tianjin, the former's ability to borrow from the debt market is low at the moment and the city would wait for increase in economic base to do so. In other words, cities with good economic base only would be able to borrow for its development and others may have to continue to depend on government funding and other sources for the funds for urban construction and maintenance. While Tianjin is depending on debt borrowings for UCMF, the sources of UCMF in Chongqing are varied. While 60 percent of the UCMF in Tianjin was through borrowings in 2005, in Chongqing, in this year, share of this source was only 29.7 percent. In fact, in 2005, as compared to in 2004, the actual contribution of debt borrowing to the UCMF has gone down, registering a negative growth rate.

The other important sources of UCMF in Chongqing is use of land; 5.7 percent in 2005, 10.8 percent in 2004 and 8.3 percent in 2002 of the total UCMF came this way. In Tianjin, use of land for UCMF is very low and contributes less than 1 percent in the total UCMF in 2005. The other important source for Chongqing is self raised funds. Contribution of this source to UCMF has gone down in Tianjin, as already discussed. Compared to Tianjin, Chongqing has also been able to attract much higher amount of

foreign investment. In 2005, the value of foreign investment in Chongqing in urban construction and maintenance was 4.46 times that in Tianjin and in 2002, this ratio was 1.97 times. This source has registered the highest growth (2792.1 percent) in 2002-05 period. The data however does not say which infrastructure has received foreign investment¹⁷.

Other important difference between the two's UCMF composition is that Chongqing has far higher share of user charges than in Tianjin. In 2002, this source's share was 15.7 percent, that went down to 9.8 percent in 2004 and then to 6.6 percent in 2005. In Tianjin, these three figures were 1.0 percent, 4.2 percent and 4.0 percent respectively for the same three years respectively. Although, the share of this source has gone down since 2002, in actual amount, Chongqing's total user charges were 2.05 times that in Tianjin in 2005, 2.61 times in 2004 and 7.82 times in 2002. Thus, at lower per capita income, residents of Chongqing are paying more user charges than that of Tianjin. Thus, although Chongqing is getting central government attention as a western China growth centre, the city, because of still low per capita income, has to recover the cost of investment through partly charging the users of these utilities. Further study on pricing of different public utilities in the two cities is required.

The comparison of these two cities' UCMF and its composition shows the difference between the two based on their different economic base and their trajectory of growth. While development is being induced in Chongqing through infusion of funds by the central government and the commitment of the local government, in Tianjin, it is through market route, mainly through borrowing from the debt market. The central government is also looking for foreign investments for Chongqing. Tianjin, being a city with higher total and per capita income and manufacturing base, is left to its own to raise its UCMF resources. The exception has come since 2005 and most likely is because of Olympics of 2008. To be able to get the central government investments and international funding, given that the city's economic base is still small, Chongqing is using land for raising UCMF funds and also making all out efforts to raise funds through all its internal resources. Also, Chongqing has to recover the costs to maintain financial sustainability whereas Tianjin, because of its borrowings, is beginning to do so. This comparison therefore shows that if the city's economic base is small but the central government declares (or may be provincial government), the city as a growth centre, then it is likely to get transfers from the higher order governments. If not, then, it would not be able to get many investments in UCMF and would have to depend on land and its other innovative mechanisms to raise funds while going for cost recovery model. It is therefore likely that residents of the smaller cities are paying much more than the large cities as a proportion of their income to access public utilities.

¹⁷ The 13.5 km long monorail of Chongqing has been partly financed by The Japanese Bank for International Cooperation (JBIC) (Source: <http://www.monorails.org/tMspages/Chongqing.html>.) Possibly, this is the foreign investment component in UCMF.

7. Quality of Life Differences

Difference in the expenditure patterns of the UCMF is likely to impact the level of infrastructure in both the cities and also the quality of life offered to their residents. This section looks at this data and differences between the two cities. Undoubtedly, Tianjin, which has a much longer history of industrialisation and global integration through the port, has far better indicators of life quality than Chongqing, except one (Table 14); per capita daily water consumption. Chongqing has higher per capita daily water consumption as it is located on the junction of two large rivers, Changjiang and Jialing whereas Tianjin is in the dry northern belt and is awaiting South-north water transfer project to improve its water situation. Chongqing being an undulating city, has more difficulties in providing water networks, sewerage networks and wide roads and hence unless major efforts are made, would have difficulties in reaching a situation of full coverage of water supply and sewerage systems. Further, both cities have to still go a long way in reaching flush latrines to all the population as 14 percent population in Tianjin and 22 percent population in Chongqing do not have access to latrines. Thus, although, the UCMF size of Chongqing is larger than that of Tianjin in the recent years, it is not enough. The central government will have to support the city for many more years to improve the city infrastructure. Lastly, the gap between the two cities is less with regards to basic infrastructure, water supply, availability of flush latrines, sewerage disposal rate, public transport vehicles and doctors per 10,000 population. This is what India needs to learn from Chinese cities.

Table 14: Quality of Life, Tianjin and Chongqing, 2005

	Indicator	Tianjin	Chongqing
1	Daily water consumption per capita (litre)	123.56	163.49
2	Water coverage ratio (%)	100.00	79.38
3	Gas coverage rate (%)	98.50	68.84
4	Motor vehicle for public traffic per 10,000 persons	11.23	8.70
5	Road surface area per capita (m ²)	10.41	6.64
6	Density of road network (km/ square km)	0.74	0.47
7	Density of Sewers (km/ square km)	20.55	7.05
8	% wastewater treated	57.96	34.65
9	% wastewater treated in central facility	57.96	22.20
10	Public green per capita (m ²)	8.38	5.04
11	% of green space to total built-up district	36.40	22.24
12	Sanitary disposal of garbage (%)	80.52	54.78
13	Sewerage disposal rate (%)	100.00	79.85
14	Percentage of households with flush latrine (%)	86.17	78.07
15	Number of doctors per 10,000 population	25.50	18.50
16	Number of theaters and movie houses per million population*	3.25	1.55
17	Per capita space used (sq .m) *	25.80	18.00

Source: (i) China Research Society of Urban Development (2006) for all except those marked in asterix. (ii) Those marked in asterix are from Department of Urban Society and Economic Statistics, National Bureau of Statistics (2006).

8. What Lessons to Draw for India

The development experience of China provides interesting learnings for India, who is embarking on a rapid economic path now. China's experience would make Indian policy

makers know to what extent China's successes could be emulated given the specific conditions of India and what should be avoided from the mistakes that she has made. While attempting to learn from China, the first and foremost aspect that should be remembered is that China's achievements in the economic sphere are based on the release of human potentials during their closed and politically turbulent period of what is called 'Maoist era'. Many scholars have now written about this (see for example, Sen 2005; Nolan 2004). India is embarking on the rapid economic growth on a highly iniquitous base, socially, economically and politically. Would rapid growth take her on to the same path of increased inequalities like in China?

This study shows that decentralisation of financial system has led to increase in inter-city and intra-city inequalities in China. As this study illustrates, there is unequal development across the urban districts in Tianjin, the third largest urban economy and the fourth largest national city of China. Three formerly industrialised districts of Hongqiao, Hebei and Hedong have been left quite behind. All the districts of the city are using real estate development as a growth inducing strategy. This is possible because lands belong to the government in China, a strategy that Indian cities cannot adopt. This study also illustrates the unequal development between two national level cities, Tianjin and Chongqing, primarily because the Chongqing has been opened up for investments and is receiving attention from the central government only since the last decade whereas Tianjin's locational advantage and declaration of Binhai New Area as the third growth region in China has put Tianjin far ahead of Chongqing in terms of economic development. Through central transfers, reflecting in higher amount in UCMF, efforts are being made to improve infrastructure conditions in Chongqing. The city not having as good economic base as Tianjin, has to recover part of the investments through user charges and hence Chongqing's UCMF has far higher share of user charges than Tianjin. Like the peripheral districts of Tianjin, Chongqing is also using land resources for infrastructure investments. This is pricing out a section of population from the housing market and is expected to lead to gentrification¹⁸.

While China and her cities, whose cases I have presented here, have been able to do equity transfers through the national government interventions and existing institutional mechanisms to some extent, would India be able to do so. Nolan (2004) for example states that "China has better record of equity transfer than India." India is moving on capitalist model of globalisation whereas China, like other east Asian countries has taken to the developmental state model wherein the state not just steps in to promote economic growth but also steps in to redistribute.

What India must learn from China in the area of urban infrastructure provision and urbanisation is that basic services must come first in the cities before economic

¹⁸ A Report titled "A Fair Play for Housing Rights' by COHRE, a Geneva based housing rights organisation, after studying impact of Olympics in number of Olympic cities finds a process of Gentrification. In Beijing along, 1.5 million people have been displaced in the process of preparing the city for Olympics. This is true for all other Olympics cities. (Source: <http://www.cohre.org/store/attachments/COHRE%27s%20Olympics%20Report.pdf>)

infrastructure comes in. Health and hygiene are the most important aspects of urban living and they should be the first priority of the municipal governments. Given the situation of fiscal decentralisation in China, as argued by many others (Bahl 1999, Qian 2002, Wong 1998) and also this author (Mahadevia 2006, 2007), Chinese cities are able to take debt-financing route of funding urban infrastructure. Other additional benefit they have is continued high economic growth rates for last two decades, more so after the 1990s. India cannot and should not therefore take this route of infrastructure development. India must also learn from China that the problems that cities would encounter in using land as a resource for infrastructure development. China has an advantage over India that all lands belong to the government, which is not the case in India and that the former can lease or offer land as an equity in any joint venture project. In India, that is not possible and hence the cost of infrastructure project would go up as land has to be acquired from the private owners. India has no option but to aim slow and steady growth that is inclusive as the route that China has taken in the last decade is neither financially viable nor politically feasible in India. Lastly, the positive lesson that India can take from China is “devolution of urban functions to specifically created bodies/agencies that can recover costs to some extent” (Mahadevia 2007: 964) so that public authorities remain financially viable.

The downside of increasing inequality has been acknowledged in China’s highest policy making and government spheres. The current president of the country has therefore put forward a slogan of ‘Harmonious Growth’. First of all, use of land for urban infrastructure and banking on real estate development as engines of growth of urban economies, has pushed up housing prices in the cities and made new housing unaffordable to a very large section of population¹⁹.

In the process of rapid economic growth and economic and financial decentralisation, China has, however, not paid attention to mechanisms of control at the local level with regards to financial matters and government waste. Premier’s speech to the National People’s Congress (NPC) as the head of the State Council also acknowledged the some of the drawbacks of the development process²⁰:

¹⁹ The NDRC’s Report to the Fifth Session of the Tenth National People’s Congress March 5, 2007 on The Implementation Of The 2006 Plan For National Economic And Social Development And On The 2007 Draft Plan For National Economic And Social Development (http://www.chinadaily.com.cn/china/2007-03/19/content_830762.htm) states: (i) “We will accelerate the construction of low-rent housing and low- and medium-priced condominiums of modest size for ordinary people, and improve and standardize the system of affordable housing to improve the housing conditions of low-income families. We must (bring) regulations to curb overheating in housing prices. (ii) We will implement the overall strategy for regional development and promote balanced economic development among regions. (iii) We need to safeguard and promote social stability. We will attach a great deal of importance to solving problems arising from land expropriation and requisition, housing demolition and resident relocation, enterprise restructuring and petitions concerning interpretation and enforcement of the law.”

²⁰ Wen Jiabao, Premier of the State Council Delivered Report on ‘The Work of the Government’ at the Fifth Session of the Tenth National People’s Congress on March 5, 2007. (http://www.chinadaily.com.cn/china/2007-03/17/content_830171.htm).

- (i) "... there are still serious structural problems in the economy. There is a lack of proper balance among primary, secondary and tertiary industry, urban and rural development and development among different regions are not balanced, and the pattern of investment does not reflect consumer demand."
- (ii) "The overall scale of investment in fixed assets is still too large, the problem of excess liquidity in the banking system is serious, and the factors causing overheated investment and excess credit still remain."
- (iii) "...the pattern of economic growth is inefficient. This can be seen most clearly in excessive energy consumption and serious environmental pollution."
- (iv) "... a number of serious problems affecting the people's interests have not been properly addressed. Problems in food and drug safety, medical services, education charges, housing, income distribution, public security and production safety remain a source of public concern."
- (v) "Problems arising in land expropriation and requisition, housing demolition, transformation of enterprises into stock companies and environmental protection that harm the interests of the people have not been fundamentally solved. Life remains difficult for many low-income people."
- (vi) "... the government's efforts to improve its performance still (has more) room ... Expenses related to carrying out official duties have not been standardized, and extravagance and waste are inflating administrative costs. In some local governments and government offices and among a small number of their employees, there are problems of bureaucratism, formalism, isolation from the people, neglect or dereliction of duty and even abuse of power and corruption."

Indian cities need to watch out for the problems that China is going through. The relevant issues for India is to avoid the path of overheating of urban economy, excess and wasteful investments in urban infrastructure, corruption emanating from decentralised decision-making, decline in quality of urban governance in the name of managerialism, inflating administrative costs, and excess debt of the local governments.

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