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## Taxes and Development: Experience of India vs. China, and Lessons for other Developing Countries

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**Tax**

# Taxes and Development: Experiences of India vs. China, and Lessons for other Developing Countries

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The rapid and sustained growth in India and China, the two most populous countries in the world, during the last fifteen to twenty-five years is probably the most momentous change in the world economy in our lifetimes. Both countries were among the poorest in the world before the start of their economic reforms. The rapid changes since the beginning of these reforms have been breathtaking.

What policy changes in fact were responsible for initiating the sharp improvement in economic performance? What further policy changes have been needed to sustain it?

To what degree are there common lessons from the reforms in these two countries that other countries can use as models for their own economic policies?

In this paper, the focus will be on the reforms in the tax structure. To what degree did tax reforms help in generating the observed economic growth? To what degree did the growth force changes in the tax structure? How similar are the experiences in these two countries?

As described in section I, the two countries had very similar economic positions at the beginning of their economic reforms. While there may be some disagreement about the initial date of these reforms, we compare China in 1979 with India in 1991. Not only was per capita GDP very similar, but also the industrial structure of the economy and the initial role of government in the economy were also very similar.

In fact, the tax policies that were in place during the early years of the reforms were very similar as well, with heavy reliance on excise taxes, corporate income taxes, and tariffs, with sharp variation in effective tax rates by sector. These policies are very typical of those seen in the poorest countries throughout the world, and presumably reflect shared problems in monitoring taxable activity, so that taxes are collected primarily from those few sectors that can be monitored effectively. Having the same tax structure as exists in other poor countries, taxes cannot in themselves explain why China and India grew so rapidly initially during the reform period.

The growth process itself, though, generated serious pressures on these initial tax structures, since with the reforms firms could respond much more aggressively to existing tax distortions. Most poor countries, in contrast, maintain many controls limiting the degree to which resources can leave the highly taxed sectors. Yet the reform process in India and China removed most of these controls, leading to a rapid reallocation and a rapid loss of the tax base.

In addition, because of the initial economic growth, the government was able to develop mechanisms for monitoring taxable activity more effectively, making it feasible to consider a broader range of tax structures. After fifteen years of the reform process, both countries undertook major tax reforms. These reforms were remarkably similar, replacing excise taxes with a value-added tax, reducing corporate tax rates substantially, and also sharply cutting tariff rates.

These tax reforms helped reduce the tax distortions not only for firms but also for the government itself. Unless the tax structure imposes equal tax rates regardless of the allocation of resources, the government has an incentive to choose policies that shift resources towards more heavily taxed sectors. Any such policies not only can generate more revenue but also in the process can improve economic efficiency, by lessening the misallocations induced by differential tax rates. A neutral tax structure, in contrast, creates fiscal incentives on the government to choose policies that increase the size of the economy as a whole. Having now adopted a more neutral tax structure, the forecast given the theory and the experience in China is that India as well will increasingly shift to policies that support market allocations, in the process raising the growth rate yet further.

Both countries continued to face very similar fiscal problems, with low overall tax revenue and poor quality provision of local public services. India in particular faces serious

pressures in the immediate future due to poor infrastructure (water, electricity, transportation, telecommunications, port facilities, etc.) and poor quality education and health services. These problems threaten to undermine the future growth rate for the economy, yet the government lacks the budget to do much to address these problems. Here, the strategies that China adopted to try to alleviate these problems, relying on private provision or else user fees to finance improvements, might be helpful in guiding future discussions in India.

These similarities in tax structure during the reform period are remarkable, particularly given the dramatically different political structures in the two countries. India has had democratic governments since its independence, a free press, an independent judiciary, and many other political institutions borrowed from Great Britain that should support a market economy. China, in contrast, has one party rule, with at best very limited independent roles for the press and the courts. As a result, political pressures and the political decision-making process should be very different in the two countries. There was every reason to expect that the reform process would have taken very different forms in the two countries as a result. That many key decisions were so similar suggests that the shared economic pressures overwhelmed any implications of the differences in the political decision-making process.

The organization of the paper is as follows. Section I lays out the initial conditions at the beginning of each country's reform process. Section II describes the initial reforms, the initial tax

structure, and their implications for government policy more generally. Section III then describes subsequent tax reforms, responding to the pressures created by market reallocations, while section IV lays out the implications of these tax reforms for other government policies. Section V then shifts to a discussion of fiscal pressures at the state/provincial level in the two countries, while section VI assesses why India has run up such a large amount of debt. Finally, section VII draws from these experiences in China and India to lay out broader lessons about fiscal policy and the development process.

## I. Initial Conditions

Both India and China started their respective reform periods from very similar positions. According to the figures from the World Bank, per capita income in China in 1979 (in 2000 US$) was $175, while per capita income in India in 1991 was $215, so very similar.

Prior to the reforms, both governments had maintained a dominant position overseeing economic allocations. State-owned enterprises played a major role in both economies. Both countries focused on building up heavy industries, a surprising choice for poor labor-intensive countries. State-owned banks controlled the allocation of a large fraction of the credit, and these

allocation decisions were subject to direct government monitoring. State-owned firms received subsidized loans. They were also pressed by the government to hire more workers.

One interesting question is why both economies chose to focus on heavy industry, and to favor state-owned enterprises. Here, a variety of potential explanations might be proposed, e.g. heavy industry is needed as support for the military, and government officials can extract rents more easily from state-owned firms. One additional explanation I have explored in Gordon and Li (2005) is that heavy industries are much easier to monitor and tax than other sectors in the economy. If governments as a result rely on heavy industry for tax revenue, then they have a strong fiscal incentive to encourage its growth. Yet if these industries face high tax rates just because they are the only sectors that can be monitored and taxed, then market forces would cause them to be unusually small rather than unusually large. To protect its tax base, governments can provide these firms subsidized inputs. They can impose labor regulations that discourage layoffs. State ownership is yet another mechanism, with its own costs, for inducing these firms to expand even when the resulting after-tax rate of return is low. High prices, so high profits, in these industries can be encouraged through restrictions on entry of smaller nonstate firms.

While state-owned enterprises played a dominant role in both economies prior to their reforms, India at least did have an active nonstate sector. Given the difficulties of taxing these

firms, however, the government faced fiscal pressures to discourage their growth. Certainly, nonstate firms faced many legal restrictions, requiring licenses to enter into business, to invest, to produce new products, to have access to foreign exchange, etc.

Both countries had very little international trade prior to the reforms. What trade that existed was heavily under the control of the government. Since imports competed with the output of domestic heavy industry, trade restrictions protected the government's tax base.

Prior to the reforms, one key difference in policies dealt with the treatment of agriculture. China collectivized agriculture in the 1950's and maintained these controls until 1979. India, in contrast, maintained private agriculture throughout its history. Neither country, though, invested many resources in improving agricultural productivity.

Given the pervasive range of government controls, allocation decisions were largely under the control of the government. As a result, the tax system played only a limited role in affecting allocations. An aphorism in China was that ‘money is neither necessary nor sufficient to buy goods.’ In particular, government controls over the economy went far beyond their control over the use of tax revenue: firms were not free to make use of after-tax profits without government approval. As a result, there was little need to worry about the tax distortions created by existing tax structures. In fact, the controls likely existed just because these tax distortions would otherwise have been extremely costly.

## II. Initial Economic Reforms

### II.1. Nontax Changes

The initial reforms in China in part focused on dismantling controls that India never had. In particular, farmers were allocated land and allowed to grow what they wished and sell the resulting output in newly formed private markets, subject to required crop deliveries to the government. Indian farmers already had such flexibility. In addition, China's controls tightly restricting the creation of nonstate firms were largely eliminated.

Otherwise, the initial reforms were very similar. Both countries initiated the reforms by relaxing the controls that had previously existed on the nonagricultural sector. Firms could now make many decisions without government approval. While state-owned banks remained important, other banks started playing an increasingly important role in the allocation of credit.

With this relaxation of controls, the size of the state-owned sector started to fall. China initially prevented large-scale layoffs by fiat, though the unemployment rate in India quickly grew under the reforms.

Controls over international trade were also eased substantially. For the most part, explicit tariff rates were scaled back. Even when particular tariff rates rose, as with consumer durables in China, this largely reflected a substitution of explicit tariffs for even higher nontariff barriers. In addition, controls on exchange rates were substantially eased. While capital controls remained, current account convertibility was quickly in place in both countries. Firms as a result started to face serious competition from abroad.

Results in both countries were also very similar. After fourteen years of the reforms, China's per capita GDP had grown to $535, while India's was $548. Since China started from a slightly poorer position, this represented an 8.3% growth rate in China and a 6.9% growth rate in India. Given the large informal sectors in both economies, and the resulting substantial measurement errors in these figures, outcomes seem very close.

**II.2. Tax Structure at the Beginning of the Reforms**

Unlike India, China did not have an explicit tax structure at the beginning of the reforms. Prior to the reforms, firms simply transferred all of their profits to the government and received back whatever funds were needed to finance projects that the government authorized. With the reforms, the government quickly set up an explicit tax structure, and chose one that was very

similar to the tax system that India already had in place at the beginning of its reforms. Following the introduction of this tax system in China, the tax structure remained relatively stable until 1994. In India, rates changed some, but the overall tax structure was also very stable during the first fifteen years of the reform period.

The key sources of tax revenue in both countries were various excise, sales, and turnover taxes, with rates varying dramatically by industry. At the beginning of the reform process, China collected 10.6% of GDP in excise tax revenue, compared with 8.4% in India. In China, the national government received the taxes paid by state-owned enterprises, while local governments received the excise taxes paid by nonstate firms. Similarly, in India, the national government received the excise tax revenue from manufacturing firms and the state governments receiving revenue from retail sales of goods.

The other key source of revenue for the national government was corporate income taxes. China introduced a corporate tax at a 55% rate in 1983, with revenue from state-owned firms going to the national government and revenue from non-state firms going to the jurisdiction that oversaw each firm. India started the reforms with a basic corporate rate of 50%, with closely held firms taxed at 55%. Given the more extensive government oversight of firms that survived into the initial years of the reforms, China was able to collect 7.8% of GDP in corporate taxes in 1985, whereas in India revenue was only 1.4% of GDP as of 1996, even though the statutory tax

rates were very close. These differences in revenue may be more apparent than real, however, since China provided large subsidies to state-owned firms, e.g. through grants or very cheap credit for new investment, whereas India provided extensive tax preferences to firms, reducing reported corporate tax revenue in India but not China.

These statutory provisions imply large differences in effective tax rates by type of firm. From the perspective of the national government, for example, excise tax revenue came only from manufacturing, while wholesale and retail trade, services, and agriculture were tax exempt. In China, the national government instead collected taxes only from existing state-owned firms, so in practice again largely from the manufacturing sector. Prior to the reforms, these governments made use of direct controls to protect this tax base, allocating more resources to the highly taxed sectors than these firms would have acquired on their own, and imposing many regulations limiting access to inputs by the nonstate sector. As a result of these controls, the preexisting distortions created by the statutory tax system made little difference.

With the relaxation of economic controls at the beginning of the reform process, however, these tax distortions suddenly started to matter. Resources quickly shifted from sectors facing high tax rates to those facing low tax rates (or evading taxes entirely), resulting in a loss in revenue at least relative to GDP. With the relaxation of controls, the government simultaneously

lost access to various sources of information about firm sales and profits, making it harder to enforce the existing taxes.

In China, for example, corporate tax revenue dropped quickly, so that by fifteen years into the reforms China was collecting only 1.5% of GDP in corporate revenue.[2] Similarly, excise tax revenue fell from 10.6% of GDP in 1985 to 6.4% by 1994.[3]

Tax revenue in India proved to be somewhat less vulnerable to these new opportunities to reallocate resources to save on taxes. For example, excise tax revenue fell only from 8.4% of GDP in 1991 to 7.7% in 2003. Corporate tax revenue in fact grew quite quickly, from 1.4% in 1995 to 2.3% in 2003. The data do suggest an important shift in resources in response to the tax, though. The (initially tax-exempt) service sector for example grew from 42% to 53% of GDP, while Mathur (2003) reports that capital good production shrank from 25% to 7.1% of overall industrial production. According to the figures in Topalova (2004), state-owned firms had 74% of the paid-in capital in 1985, but only 28% by 2002. In spite of this, the fraction of tax revenue coming from state-owned firms grew from 23% in 1991 to 38% in 2002, as reported in Rao and Rao (2005). Increasing effective tax rates on state-owned firms protected the government from enduring a large fall in overall tax revenue.

Another possible explanation why government revenue in India did not fall more in response to these large changes in resource allocation is that the government gradually became

more effective at tax enforcement, for example linking deductions for purchases of inputs by one firm with revenue that should be reported by another firm for sales of these goods. In addition, with the reforms, the financial sector became much more important in India, and generated considerable tax revenue. At the beginning of the reforms, 67% of corporate tax revenues came from manufacturing, even while it represented only 16% of GDP. By 2003, revenue from manufacturing had fallen to only 33% of corporate revenue, a fall in real terms. During the same time period, though, the fraction of corporate revenue coming from the financial sector grew from 12% to 29%.

In spite of any improvements in tax enforcement in India, however, tax evasion remains very high. For example, Chai and Roy (2006) quote the *Economic Survey* from the Government of India as reporting that only 9% of workers are employed in the organized sector, with the rest in the informal economy.

This fall in tax revenue from excise taxes only exacerbated the fiscal problems created in any case by the cut in tariff rates. In India, while tariffs collected 3.6% of GDP in revenue as of the beginning of the reform period, tariff revenue had fallen to only 1.8% of GDP by 2003. The equivalent reported figures for China were 2.3% of GDP in 1985, falling to 0.6% in 1994.[4]

**II.3. Implications of Tax Distortions for Firm and Government Behavior**

With the reforms, the distortions inherent in the tax structure existing at the beginning of the reforms became much more important for firm behavior. Given the sharply different tax rates faced in different sectors, the resulting misallocations could be very costly on efficiency grounds. Firms could find it attractive to undertake quite costly changes in behavior, given the potential tax savings. These costs would be immediately salient to the government, since any tax savings to the firm reflect revenue losses to the government. Given that services and agriculture had effectively been untaxed, at least at the beginning of the reform period in India, high-taxed firms could acquire subsidiaries in these other industries and then use transfer pricing to shift sales and profits to these lightly taxed subsidiaries. Since the tax was on turnover rather than value added, firms could also avoid tax through vertical mergers. Corporate groups may have played an important role in India in part because they are in an effective position to quickly shift sales and profits across sectors in response to differences in tax rates.

Governments continued to face distorted incentives when setting economic policies, since effective tax rates differed by sector, even if the government relaxed many restrictions as part of the reform process. Any policies that induce a shift in resources from a lightly-taxed to a heavily-taxed use to that extent results in both a revenue gain and an efficiency gain.[5] Tariffs, for example, can be used to prevent imports from undermining domestic production in the more

heavily taxed manufacturing sector. Regulations requiring licenses and fees for many decisions made by more lightly-taxed firms hinder the activity of these lightly-taxed firms, shifting resources into sectors facing higher tax rates. Government control over bank loans can be used to direct new investment towards more heavily taxed firms. To make this new investment profitable for these firms, loans may need to be subsidized, with the resulting tax revenue collected on the new investment helping to offset the cost of these subsidies. The government may also impose regulations making it difficult for highly-taxed firms to shed labor. In China, the government even forced state-owned firms to hire more workers than they wanted.

On net, given the offsetting distortions faced by both firms and the government, it is unclear in principle whether the highly-taxed sectors will be smaller or larger than they would be with undistorted market allocations. Due to the tax distortions, highly-taxed firms would like to shift resources elsewhere, whereas the government would like to see more resources allocated to these firms. In fact, Kochhar et al (2006) argue that heavy industry played a more important role in India than it would have with undistorted market allocations, and the same can undoubtedly be said about China. This suggests that high tax rates led on net to *more* activity in the sector.

Even if these remaining controls result in an efficiency gain, by lessening the misallocations otherwise caused by existing statutory tax distortions, they can easily come at a high long-run cost. By hindering the entry and growth of new small firms, the government may

be undermining the testing of new ideas and the training of new entrepreneurs. The favored firms, those with high-tax rates, have little incentive to innovate just because of these high tax rates. Any short-run improvements in efficiency then come at a high long-run cost in anemic growth.

The reform process in both countries seemed to reflect a conscious decision to relax these regulations protecting the government's tax base. The resulting loss in tax revenue would create immediate budgetary problems, but also create a higher growth rate. The immediate budgetary problems, though, can be an important issue and one we return to in section V.

## III. Subsequent Tax Reforms

The efficiency (and revenue) losses resulting from the distortions inherent in the tax system prevailing during the initial years of the economic reforms in the two countries grew quickly as firms took advantage of the relaxation of controls and learned how to rearrange their activities in order to save on taxes. This initial tax system proved to be incompatible with a market economy.

Faced with these pressures, China initially chose to reimpose the types of government controls that had existed prior to the reforms, closing down many nonstate firms and intensifying government controls over the allocation of credit. This policy retrenchment in part precipitated

the Tienanmen student demonstrations in 1989. However, while revenue increased in response, the economic stagnation that resulted proved to be too costly to be sustainable, and the new controls were quickly eliminated. However, the basic incompatibility between tax policy and a market economy remained.

Fifteen years into the reform period, both India and China felt pressed to undertake a major tax reform, responding to these pressures. The specifics of these reforms, as well as their timing, were remarkably similar. To begin with, both countries replaced most of their excise taxes with a value-added tax, in China at a 17% rate and in India at a 16% basic rate. By eliminating the sharp differences in excise tax rates by product, and the possible compounding of tax liabilities as goods were traded between firms, economic incentives became much more neutral.

In addition, both countries tried to broaden the base of these taxes on sales. In China, the key change was to extend the national government's control over tax administration and collection from just state-owned firms to nonstate firms as well. In India, the government is in the process of extending the tax base to include services, which had previously been tax exempt yet comprises 52% of GDP. In addition, India has worked towards a uniform V.A.T. rate in all States.[6] There is still a 4% supplementary tax for all cross-State sales of goods between firms, though there is discussion of phasing this out as well.

In addition, the corporate tax rate has been cut dramatically. In China, the tax rate was reduced to 33% as part of the same tax reform, while India more gradually reduced its corporate rate to just the same 33% rate. With a lower tax rate, tax distortions discouraging capital-intensive sectors are reduced.

An interesting remaining difference, though, is that China has a lower corporate tax rate for foreign-owned firms, whereas India has a higher rate. The lower rate in China may be compensation for contracts that facilitate technology transfer to domestic firms. Perhaps FDI in India is more likely to compete with the most heavily-taxed domestic firms?

Even if the statutory tax rates became much more uniform, however, effective tax rates still varied substantially. The Chinese national government had not previously taxed nonstate firms in part because it did not have the sources of information available to enforce such a tax. India has also faced very high evasion rates, particularly outside of manufacturing. The high tax rates that previously existed reflected the need to rely on a narrow tax base for government revenue, given the inability to monitor and tax activity outside the manufacturing sector.

The immediate response to these tax reforms in China was a drop in tax revenue from 12.6% to 9.3% of GDP, as statutory tax rates fell on the firms that could easily be taxed but effective tax rates did not rise that much on firms that were hard to tax. Partly this also reflected teething problems, e.g. firms filed claims for V.A.T. tax credits for far more in exports than in

fact were recorded at the border. In the case of India, it is too soon to judge the effects of the V.A.T. reform on revenue.[7]

In order to lower tax rates on those firms that are easy to tax while still maintaining government revenue, the key issue is improving the government's ability to monitor and enforce taxes on a broader set of firms. Here, both countries have been actively working to improve tax administration.

China has had a unique source of information on firm performance, through appointing a party representative in each firm whose job in part is to monitor the taxable activity of the firm. Part of the reform extending the V.A.T. to nonstate firms was a decision to have this party representative report to the national government rather than the local government. As financial transactions have become more complicated, though, the ability of this representative to monitor activity becomes increasingly difficult. To improve the financial information available to the Chinese government, the reforms in 1994 also included a major reform in the accounting conventions, shifting from a focus on recording quantities of inputs and outputs (as was needed under planning) to recording monetary transactions in much more detail. With better information from accounting reports, tax administration became easier. By the late 1990's, the government has also focused much more on monitoring each firm's bank transactions, in order to double check the accounting reports on receipts and payments.[8]

India has also focused on reducing tax evasion, in order both to collect more revenue and to 'level the playing field' across sectors. The V.A.T. that was introduced is receipts-based rather than accounting-based, so that firms can claim a credit for V.A.T. paid on input only with a receipt that can then be traced to the selling firm, thereby assuring that V.A.T. was also paid on the sale.[9] Much more use is being made of withholding taxes, eliminating the need to trace payments in order to impose tax. Partly in an attempt to tax profitable activity in the informal sector, the government has become much more aggressive in enforcing the personal income tax, requiring anyone with a house, a telephone, a credit-card, foreign travel, a car, or membership in an exclusive club, to file a personal income tax. By monitoring these big-ticket expenditures, the government is making use of information that is readily available to infer information that is otherwise hard to monitor.

Evasion rates still remain high, however. For example, according to the calculations in Gordon and Li (2005), the average V.A.T. rate among developed economies is 16.2%, while the average statutory corporate tax rate is 29.6%, so at or below the statutory tax rates in India and China. Yet among developed economies these two taxes alone on average collect 17.9% of GDP in revenue, compared with 6.6% in India as of 2005 and 7.4% in China in 1995.

## IV. Implications of These Tax Reforms

These tax reforms have certainly reduced dramatically the differences in statutory tax rates on different uses of resources within the economy. Since tax rates fell on sectors that are easy to tax, effective tax rates must also have become more similar even if effective rates did not rise much among sectors that are hard to tax.

With more equal tax rates by sector, we should see important changes in both firm behavior and government behavior. Firms' allocation decisions are now much less distorted by the tax law, so should be based to an increasing extent on economic payoffs. This implies a reallocation of resources from activities that had been lightly taxed to activities that had been heavily taxed. This behavioral response therefore raises revenue, helping to compensate for the initial loss in revenue caused by the tax reforms.

As importantly, government incentives become less distorted. Only with these more neutral incentives regarding resource allocation do these governments have an economic incentive to focus on policy reforms that eliminate any government interference with market allocations. As a result, these tax reforms seem essential to induce the other types of policy reforms that are essential in establishing a well functioning market economy.

Consistent with this, in China these tax reforms were quickly accompanied by a drop in government oversight over the allocation of bank loans, allowing banks to choose where to lend

simply based on the likelihood of repayment. After these reforms, China quickly opened up discussions about joining the WTO, resulting in a sharp drop in tariff rates. The inference is that there was less concern to protect the heavily-taxed sectors, since tax rates no longer differed much by sector. Remaining controls limiting the entry and growth of private and other nonstate firms were quickly relaxed. The government also sold off many of the smaller state-owned firms, while the layoff rate from the larger state-owned firms has been very high.

In India, it is too soon to see how government policy more broadly will respond to the more neutral incentives the government now faces as a result of the recent tax reforms. Some of the reforms seen in China after 1994 have already occurred in India, however. According to Mathur (2001), for example, government regulations on interest rates on loans to large firms were relaxed as of 1994, and to small firms in 1998. Tariff rates have fallen dramatically, even prior to the recent tax reforms.

Due to the restrictions on tax policy coming from the Indian constitution, however, important distortions to government incentives remain. In particular, the national government still collects V.A.T. solely from the manufacturing sector, with some supplementary taxes now coming from the service sector. As a result, the national government still has an incentive to favor manufacturing when setting other policies. While these distortions to government

incentives remain, it is still the case that fiscal incentives are less distorted than they were prior to these tax reforms.

## V. State/Provincial Fiscal Problems

### V.1. Distortions Created by the Tax System

State and Provincial governments play an important role in India and China. Understanding the fiscal situation of these lower tiers of government is then as important as understanding the situation of the national governments.

In India, among state and local governments, state governments have the dominant role. Until recently, their main source of revenue was excise taxes on intrastate sales of goods, with rates varying dramatically by good. In 2005, most states agreed to shift to a V.A.T. on intrastate sales, with most goods taxed at the same rate. In addition, States collect revenue from sales of goods to other states, though here the rate is constrained by the national government to 4%. State tax revenue has been stable over time at roughly 6% of GDP.

China is more decentralized than India. While provincial governments collected taxes from firms they set up, so did counties, townships, and even villages. While in principle this

revenue was supposed to be shared with the national government, in practice local governments helped firms to hide their profits from the national government. As of 1994, however, the national took over control of assessing and collecting corporate taxes on these nonstate firms. The result was a sharp jump in the amount of revenue going to the national government, from roughly 30% to roughly 50% of overall tax revenue, with local revenue dropping from 9.8% of GDP to only 4.9%.

In China, at least statutory tax provisions were the same across locations. In India, however, statutory excise tax rates varied substantially by location, creating distortions to both firm behavior and government behavior.

These tax structures also distorted the incentives each state and local government faced when setting nontax policies. On fiscal grounds, a government should be indifferent to the entry or exit of a firm if its tax payments just equal the marginal cost of the extra public services required by the firm (and new employees that the firm brings to the location). Statutory tax rates, though, had no link to the cost of these services, creating incentives on governments to favor firms that pay more in taxes than they cost in services.

In India, excise tax rates varied dramatically by good, creating strong incentives to favor one industry over another. In particular, agriculture and services were very lightly taxed relative to sales of goods. Taxes were also higher to the extent that local firms engaged in interstate trade,

since exports were taxable while imports were not tax deductible. Tax competition to attract such firms led to a loss of revenue, to the point that the national government intervened to set a uniform tax rate in all jurisdictions on interstate trade.

Given use of turnover taxes, though, jurisdictions also had an incentive to discourage imports of goods that crowded out sales of locally produced inputs. Final sales to consumers would be taxable regardless. However, sales of locally produced but not imported inputs to the retail firm would also be taxable. In fact, Indian cities made use of a separate tax, called an octroi, on imports of goods from other locations.

In China, local governments seem to have been yet more entrepreneurial. They often imposed controls preventing the imports into the jurisdiction of goods that crowded out highly taxed local goods, as documented in Young (2000). The national government did its best to break down these trade barriers. To encourage more output of highly-taxed goods, local governments would provide these firms cheap inputs and cheap credit. Since agricultural taxes were low relative to the taxes collected from other uses of the same land, local governments often intervened to seize agricultural land, transferring it to nonagricultural firms. This is another example of a low tax rate discouraging rather than encouraging an activity.

Complicating any discussion of the fiscal incentives faced by local governments is the fact that the national government provided substantial transfers to local governments in both

countries. Any action by the local governments that induces a larger transfer from the national government of course is encouraged by this system. For example, China provided low-interest loans to local banks that local governments could then lend out to firms. Local governments found that if they lent out more funds than they had, the national government provided yet more low-interest loans, in effect providing an extra transfer to the jurisdiction. The result was excessive lending and an overheated economy.

For the most part, those jurisdictions that contributed more in taxes got back more revenue from the national government, providing an incentive to encourage revenue-generating activities.

In India, transfers from the national government are based in part on a formula that changes every few years and in part on grants whose allocation is more discretionary. These grants have tended to go to jurisdictions facing the greatest fiscal needs, encouraging jurisdictions to appear needy, e.g. collecting little in taxes and spending a lot. We return to this issue in section VI.

### V.2. Budgetary Limits on State and Local Spending

Even with the transfers from the national government, state and local spending faces tight fiscal constraints in India. While state and local current expenditures, for example, are 12.9% of GDP in the U.S., local government revenue plus transfers from the national government total to only 9.7% of GDP in India.

Perhaps due to this tight budget, the quality of the services provided by state and local governments seem abysmal. While the national constitution for example requires that everyone receive at least eight years of education, which is to be provided without charge, according to Mathur (2003) the average years of education received is only two. The overall literacy rate is only 61%, with sharp differences by gender. Only 84% of children complete primary school, and only 35% are enrolled in secondary school.

Health care is also very poor. As one indicator, around a third of children are born with low birth weight.

The quality of public utilities is also extremely poor, with major problems in the quality of telecommunications, transportation bottlenecks, poor port facilities, poor access to clean water, and frequent power failures. These problems with the current infrastructure are now imposing serious limits on further economic growth.

What can be done to improve the quality of local public services? The easy answer is to provide state and local governments a larger fraction of overall tax revenue. Yet state and local

governments already receive two-thirds of the overall tax revenue, given transfers from the national government. This is about the figure in China as well. The comparable figure in the U.S. for the fraction of overall government consumption expenditures undertaken by state and local governments is 61%. The issue therefore does not seem to be a poor division of revenue between state vs. national governments but instead either too low overall revenue or poor uses of the available funds.

If the problem is simply that overall tax revenue is low, restricting all types of government expenditures, then this problem should gradually solve itself. While at fifteen years into its reform period government revenue in China was only 9.3% of GDP, so much lower than in India, within another ten years this figure has grown to 17.2%. This growth reflects the improved administration of the tax system, as financial records are increasingly available to help provide independent documentation of firm sales and profits. Similar growth in the size of government should be feasible in India as well. However, ten years is a long time to wait. The long-run costs of ten more cohorts of school children with poor education, and ten more years of restricted trade due to poor quality port facilities, for example, can be very high.

Another alternative is for the government to borrow extra funds to finance improved local public services now, aiming to repay these funds in the future out of the resulting economic growth. This is the route that India has in fact been pursuing. According to Mathur (2003), the

combined current fiscal deficits of the national and state governments together come to an astounding 10.3% of GDP, of which 54% is national deficits and 46% is deficits of state and local governments. According to Rajaraman (2006), as of 2003 over 40% of current tax revenue was used to cover interest payments on the accumulated debt. In fact, given this large-scale borrowing, state and local expenditures net of interest payments are already comparable as a fraction of GDP to that seen in the U.S. or China.

Yet even with this massive borrowing, the quality of public services is still very poor. It is hard to see how this level of borrowing can be maintained, let along increased in order to improve the quality of services.

One other strategy, and one that the Chinese have used aggressively, is to introduce user fees to finance local public services such as education or health care. The Chinese have also encouraged private firms to provide infrastructure investments. Contracts have been signed with private firms to build new roads and port facilities in exchange for receiving the resulting tolls for a period of years. Electricity prices have been raised so as to give electric generating firms an incentive to invest to provide the amount of power demanded. Private entry has been encouraged to improve telecommunications.

Pang (2006) recommends that India as well turn to the private sector to invest in improved infrastructure. Is this a good strategy? The arguments against this strategy are in part

distributional and in part constitutional. If those receiving education or health care services need to pay a significant fraction of the marginal cost, then the poor may forego education and health care. If this were the main concern, then the available government budget could be focused on providing full or partial tuition credits for the poorest households, with richer households then paying the required fees themselves.[10] The constitutional problem focuses solely on education, whereby the constitution promises free education up through grade eight. China faces the same problem, and 'solved' it by charging no tuition but instead charging various fees for books, uniforms, and other essential inputs to education.

When user fees are used to finance public services where the marginal cost of an extra user is below the average cost of provision, then these fees inordinately discourage use of the services on efficiency grounds. Alternative sources of revenue also create efficiency costs, however. For those public services where nonpayers can be excluded, user fees do provide an easily enforced source of revenue.

**V.3. Poor incentives to provide local public services**

The other possible direction to pursue in improving the quality of local public services is to improve the incentives faced by state and local governments to provide higher quality services.

Residents can create pressures on local governments to improve the quality of local public services either through voice or through exit. Voice should be a much more effective mechanism in India than in China, given that state and local governments are elected in India but appointed by higher levels of government in China. However, voters face a free-rider problem not only discouraging them from voting but also more importantly discouraging them from becoming informed about any malfeasance by state and local officials.[11]

The other source of pressure on local officials is exit. Residents who are unhappy with the quality of local services and local public utilities can leave. This imposes a fiscal cost on local officials to the extent that the departing residents paid more in taxes than they imposed in marginal costs for extra local public services. With a V.A.T. being the main source of state and local tax revenue, this means that losing higher spending residents is a net fiscal cost, while losing poorer residents could even be a net fiscal gain. The greater the mobility of residents in response to poor quality services, the greater the need for local officials to take account of this threat of exit.

To strengthen incentives, the threat of mobility in response to poor quality of public services would need to be greater, and the fiscal implications of this mobility should be greater. Yet in India at least state governments face very little threat of exit, given the language barriers

to moving within India as well as the substantial cultural differences between different regions within India. How then can incentives be strengthened?

One possible mechanism would be to shift funding and the responsibility to provide local public services to local governments (panchayats). Mobility between panchayats should be much greater than between states, since distances are smaller, languages are shared within an area, and cultural differences can be minimal. Mathur (2001) describes a very successful such shift of funding in Kerala from the state government to local panchayats, with a clear improvement in the quality of local public services.

To strengthen the fiscal incentives created by mobility, the funding from the state government to panchayats should be tied to the number of residents, so that departures have clear fiscal costs on the local government. Since the cost of providing public services to residents varies across people, e.g. only school-aged children require education, the funding could vary as well with the demographic composition of the residents. Otherwise, local governments have an incentive to provide those services that attract residents who bring in more funding than they cost in extra services, and withhold services from those (with school-aged children) who cost more than they bring with them in extra funding.

Local funding for public services could also come from user fees. With user fees, the departure of local residents implies a loss of these user fees. If the user fees cover the full

marginal costs, then local officials have a fiscal incentive to provide these services even without any pressures from voice or exit. This role of user fees in providing incentives on officials to provide a service can be at least as important as their role in helping to finance these services.

While mobility between panchayats should be much greater than between Indian states, there could be means of reducing further these mobility costs. For people to move, they need to sell any local land they own and then find housing elsewhere. To ease this process, land markets and rental markets should operate smoothly. Yet currently, land markets work poorly, given the very high stamp duties paid on sales, and given the high property tax payments due in the future linked to the reported sales price. Reducing these taxes would be helpful in generating a more liquid market for land.[12] Similarly, any regulations on the rental market, e.g. rent controls, make it harder for people to find housing elsewhere, again hindering mobility.

There is also a question about how to induce local officials to provide services to firms. The Chinese reforms were particularly effective here, since they tied local revenue to the profits of local firms. Local governments as a result, got a sizeable share of any extra future profits generated by say improved infrastructure. To the extent that benefits from local public services go to firms as well as households, tying the funding of local governments to the profits of local firms, e.g. through sharing some fraction of corporate tax revenues with local governments, could make sense as well.

This link between future profits and future funding for the local government helps provide incentives on current officials to improve the quality of infrastructure, though, only to the extent that these officials will remain in office in the future when this extra revenue accrues to the local government. In China, there has been little turnover of local officials, so that this link between current expenditures and future revenue can provide strong fiscal incentives. It may be less effective in India, where local officials can quickly be voted out of office.

## VI. Role of Debt Finance

One striking observation regarding the current fiscal situation in India is the large deficits at both the national and the state levels. This debt overhang is growing quickly, and interest charges already require around 40% of current tax revenue. Is this high debt a cause for concern?

One can argue, for example, that tax revenue will grow quickly in the future in India, not only due to the rapid growth in the economy but also due to further improvements in tax enforcement. This certainly has been the experience in China. Anticipating this future growth in revenue, it may be reasonable to borrow against this future revenue, particularly to finance current government expenditures such as education as well as infrastructure projects that help in generating this future growth in revenue.

So the question is not whether any debt should exist but whether there is currently too much debt. The discussion in Heller and Rao (2006) certainly suggests that India currently has too much debt. The question is why both national and local governments have borrowed so heavily.

Alesina and Drazen (1991), for example, argue that the political party currently in power has an incentive to spend not only current tax revenue but also future tax revenue on its own pet projects. Any remaining resources will likely be spent by the opposition party on things that the party currently in power finds of little value. This could easily be the rationale for the run up in debt in the U.S. currently, and may explain some of the run up in debt in India as well. It may be mutually advantageous for the political parties to commit not to run up such debt. The question is how to do this. Restricting the use of debt to capital projects is one device that state and local governments often use. This formula likely is too restrictive at the national level, however.

The run up of state government debt raises other possible concerns. If a state government maintains an unsustainable level of expenditures, what happens? As emphasized in IMF (2006), the national government has simply provided extra transfers to cover the shortfall, generating a soft-budget constraint. With a soft-budget constraint, extra spending simply generates extra transfers, implying a large implicit subsidy rate for this extra spending and a major distortion to the incentives faced by state governments.

To reduce or eliminate this distortion, transfers from the national government should be set based on a formula that does not depend directly or indirectly on state fiscal deficits. Linking transfers to local population or local corporate tax revenue, for example, eliminates any link between extra spending and fiscal transfers.

For this commitment to be credible, however, there must be a workable legal means to deal with defaults by state and local governments. According to IMF (2006), however, there have been no defaults by state or city governments in India, in spite of the large debt overhang, so no experience to fall back on in dealing with such defaults. If there were a clear legal structure in place, the threat of default becomes more plausible, and should help in eliminating these distortions to fiscal incentives.

## VII. Summary and Broader Implications for Taxes and Development

When comparing the history of fiscal policies in India vs. China during their reform periods, what jumps out are the remarkable similarities. Prior to the economic reforms, both countries had tax systems typical of poor countries generally, relying primarily on excise taxes, corporate income taxes, and tariffs for revenue. In practice, revenue was collected primarily from firms in manufacturing, and even within manufacturing primarily from state-owned firms.

With a narrow tax base and high tax rates, both countries had in place many controls protecting this tax base. Tariff and non-tariff barriers protected the domestic tax base from foreign competition. Both countries also used a variety of controls over the allocation of resources within the domestic economy to favor state-owned firms, and heavily-taxed firms more broadly. Among other policies, the government influenced the allocation of credit, in part through state-owned banks, and imposed regulations limiting the activity of firms in lightly-taxed sectors.

The economic reforms relaxed many of these controls on the lightly-taxed sectors, and reduced effective tariff rates. With the relaxation of controls, firms could now more easily respond to economic incentives, leading to a major reallocation of resources and a jump in the rate of economic growth.

Part of this reallocation, however, was a shift in activity away from the most heavily taxed industries, towards services and other more lightly-taxed industries. The result was a drop in tax revenue. In China in particular, tax revenue fell in half during the first few years of the reform process. The large differential tax rates by sector now generated increasingly important efficiency costs, since firms now had more flexibility to respond to these tax distortions.

Fifteen years into their economic reforms both countries undertook major tax reforms, shifting from differential excise taxes to a V.A.T., and reducing corporate tax rates substantially.

While it is easy to cut the high tax rates on sectors that are easy to tax, however, it is harder to raise the effective tax rate on sectors that are hard to tax. The result in China was a further decline in revenue for a few years until the government was able to take advantage of the increasing use of the financial sector to enable it to monitor and tax a broader range of economic activity.

This inevitable fall in government expenditures as a result of the reform process creates a major difficulty, potentially undermining the economic reforms. There are really only two options to deal with this fall in revenue, given the narrow tax base and high rates: cut expenditures or increase government borrowing in an attempt to maintain expenditures.

China largely cut expenditures, shifting to user fees for education and health and contracts with private firms to provide infrastructure. The result has been poor quality education and health care, at least in rural areas. The low resulting quality of education in rural areas will inevitably be a drag on long-run growth in China. While infrastructure investment has been strong, user fees are often far above the marginal cost of provision, leading to insufficient use of this infrastructure on efficiency grounds.

Another problem with cutting government expenditures in response to the fall in tax revenue is a political risk. Many residents may gain enough from the reforms to be willing to accept a drop in government expenditures. For those who lose from the reforms, however, a drop

in government expenditures only exacerbates the economic pressures they face. Poor education in particular can reduce the hope that at least their children can gain from the reforms. The result can be a loss of political support for the reform process. China has certainly experienced a sharp increase in political unrest, mainly in rural areas that have benefited less from the economic reforms. This unrest does not create a serious political threat to the Chinese government. However, in other countries undergoing economic reforms there have been many cases of a change in government in response to such unrest, leading to a reversal of the economic reforms.

India instead has relied heavily on government borrowing to try to maintain public expenditures. At this point, its fiscal deficit is around 10% of GDP. The question is whether this heavy borrowing is sustainable as a means of dealing with the fall in tax revenue.

Tax revenue as a fraction of GDP should eventually grow in India, giving it the resources to repay accumulating debt. We certainly see in the data that tax revenue/GDP is much higher among developed than among developing countries. In practice, tax revenue in China (as a fraction of GDP) did eventually recover to its level prior to the reforms, but this occurred roughly twenty-five years into the reform process. The expectation of this future revenue can encourage foreign and domestic creditors to lend to the government. However, any new doubts about future economic growth and future revenue collection could make lenders reluctant to

extend further credit, generating a financial crisis. Many developing countries have had their reforms undone by such a financial crisis.[13]

At least based on the experiences in China and India, fiscal pressures seem to be an inevitable part of the reform process. Whether countries undergoing economic reforms deal with these fiscal pressures by cutting expenditures or increasing government borrowing, there are risks to the future of the economic reforms. Finding better ways to deal with these fiscal pressures should be a major priority in future academic research on tax policy in developing countries.

**Notes**

[1] This paper was presented at a conference on 'Growth in India and the World,' held in New Delhi. I thank conference participants, and especially Govinda Rao for comments.

[2] This drop would have been even larger had the government not intervened and replaced the initial structure of the corporate tax with contracts between the government and each firm, starting in 1987. Under these contracts, tax payments were based on projections of the firm's

future profits rather than actual reported profits. The aim in part was to reduce effective marginal tax rates on firm profits, by basing taxes on past activity.

[3] This fall in revenue also reflected widespread tax evasion that became easier as controls were relaxed. State-owned firms, for example, would often open up a neighboring nonstate firm and use transfer pricing to shift profits into the nonstate firm, thereby avoiding tax payments at least to the national government.

[4] The figures for China are not really comparable. Government-owned trading firms controlled much of the international trade, so that their profits in part reflected implicit tariff revenue.

[5] When firms are just willing to shift resources in response to a policy change, after-tax profits are largely unaffected. However, tax revenue changes, and this change therefore reflects the overall change in efficiency.

[6] Here, the national government can only recommend changes, since each State ultimately controls its tax policy. Almost all States at this point have agreed to adopt the uniform rates recommended by the national government.

[7] However, corporate tax revenue has increased even while tax rates have fallen, likely due to improved tax enforcement.

[8] A key part of this reform has been a requirement that each firm maintain only one tax number on its bank accounts, so that all bank transactions can be linked to the firm.

[9] Of course, this tracing is not easy, so that the benefits to date have been limited.

[10] These tuition subsidies probably should be paid by the national government, out of funds otherwise transferred to state and local governments. If they were paid by state and local governments, they create an incentive to push poor residents out of the jurisdiction.

[11] See Banerjee et al (2006), for example, for evidence on the limitations of voice in India, given the poor information available to local residents.

[12] A property tax is often argued to be an attractive tax to finance local governments, e.g. see Wilson and Gordon (2003), in part because it links the budget of local officials more closely to their performance. The intuition is that land values quickly reflect any changes in the quality of local public services. Without effective assessments, however, land taxes do not respond to mobility, so create no incentives to retain residents.

[13] At this point, though, India's debt is largely internal so that the country may not be immediately vulnerable to a financial crisis.

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