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BASIC STATISTICS OF INDIA

THE LAND

Area (thousand km^2)	2 973
Agricultural area, 2008 (thousand km^2)	1 581
Forests, 2010 (thousand km^2)	684

THE PEOPLE

Population, 2010-11 (million)	1 210	Literacy rate, 2010 (%)	74
Annual rate of change, 2010-11 (%)	1.37	Life expectancy, 2009 (years at birth)	65
Density per sq. km, 2010-11	407	Maternal mortality, 2008, per 1 000 live births	2.5
Total employment, 2007-08 (million)	461	Infant mortality and still births, 2008, per 1 000 live births	34.9
Distribution by sector, 2007-08 (%):			
Agriculture, forestry and fishing	55		
Manufacturing, mining, utilities and construction	19		
Services	25		

PRODUCTION

GDP per head (2009-10, USD)	1 068	Gross fixed capital formation (2009-10):	
GDP per head (2009, USD PPP)	3 296	Per cent of GDP at market prices	30.8
Origin of GDP, 2009-10 (per cent of total computed at factor cost):		Per head (USD)	351
Agriculture, forestry, fishing	17.8		
Manufacturing, mining, utilities and construction	27.0		
Services	55.3		

THE GOVERNMENT

General government, per cent of GDP (SNA basis, 2008-09)

Expenditure	30.3	Revenue	22.0

FOREIGN TRADE

Exports of goods and services (2009-10, per cent of GDP)	19.8	Imports of goods and services (2009-10, per cent of GDP)	25.0
Main exports (per cent of total exports of goods, 2008-09):		Main imports (per cent of total imports of goods, 2008-09):	
Engineering goods	25.8	Petroleum and crude products	30.8
Gems and jewellery	15.1	Electronics goods	7.7
Petroleum and crude products	14.9	Gold and silver	7.5
Chemicals and related products	12.3	Non-electrical machinery	7.1

THE CURRENCY

Monetary unit: rupee	Currency unit per USD, average of daily figures:	
	2009-10	47.4
	2010-11	45.6

Nota bene: Fiscal years run from April to March (*i.e.* 2009-10 refers to the period April 2009 to March 2010).

Executive summary

The Indian economy has been catching up quickly in the past two decades, and weathered the global recession well, with only a limited and short-lived slowdown. In just over 11 years, income per capita has doubled. Wide-ranging reforms and increased investment have lifted potential growth to almost 9%, the highest in Indian history, helped by improvements in infrastructure. Inclusive growth of 10% per year is feasible given that demographic developments are set to push up saving, but will only be achieved if the administrative and regulatory barriers facing companies are reduced. In addition, the government should step up efforts to restructure public expenditure; reduce the fiscal deficit; relax some of the constraints facing the financial sector and further promote international integration. In the near term, the authorities need to remain vigilant against the risks of high inflation and volatile capital flows.

Sustaining higher growth. *Administrative burdens have held back the expansion of private firms and these impediments need to be eased. Public-sector governance should be made more transparent and accountable by separating operational and regulatory functions in the provision of public services and by strengthening the anti-corruption agency through an independent appointment mechanism for its head. Further reductions in trade and foreign direct investment barriers are also needed. Infrastructure is showing good progress in those sectors that benefit from private sector involvement, but serious bottlenecks persist elsewhere. To provide greater clarity for infrastructure investors, a better framework for land transactions should be put in place.*

Improving fiscal policy and outcomes. *The length and depth of the downturn were limited by the fiscal easing made possible by the consolidation achieved in earlier years. Continuing large deficits, however, would be a major drain on national saving and thus a drag on investment and growth. Therefore, the government resumed fiscal consolidation in 2010 and more is planned for 2011. The government needs to ensure subsidies stemming from higher world oil prices do not throw these plans off course. A binding medium-term framework is also needed, presenting the budget on a rolling three-year basis and with rules to limit deficit spending. An independent fiscal monitoring agency, reporting to the legislature, might strengthen fiscal discipline. The government is pushing ahead with reforms to direct taxation, broadening the base and reducing the rates, which should improve compliance. The proposed goods and services tax is an important reform, and its coverage should be as broad as possible to minimise distortions.*

Making growth more inclusive. *Poverty rates continue to fall but remain high in spite of strong growth: making growth more inclusive is, therefore, a top government priority. The introduction of the national rural employment guarantee has helped. However, only seven governments in the world spend less on health than India (as a per cent of GDP). As well as resulting in poor health outcomes, this low level of spending is a major cause of poverty. Government spending is higher in other areas aimed at lowering poverty, such as subsidisation of kerosene, liquefied petroleum gas and fertilisers. However, a large part of such outlays do not reach the poor. The challenge is thus to make overall public spending far more focused on inclusion. Reforms are scheduled to be introduced in this respect, notably concerning the introduction of cash transfers to the*

poor to replace the above subsidies, relying on the forthcoming Universal Identity Card to reduce leakages. This reform could be extended to replace other subsidies. Moreover, more widespread use of cash transfers conditional on participation in health and education programmes could boost outcomes in these areas.

Continuing with financial sector reform. *India's financial sector proved resilient in the face of the global crisis. Most banks should be able to meet Basel III regulations, although a small number of state-owned banks will continue to need capital injections, which could be best done via sales of shares. The government is committed to further financial reforms to deepen the financial system and improve access. The entry of new privately-owned banks has heightened competition in the sector and yielded efficiency gains. Granting more banking licences would help in this regard. Reforms are called for to ease wide-ranging and highly prescriptive operating constraints faced by the financial sector for lending, portfolio management and branch location. Regulation needs to be unified for asset managers and strengthened in the case of the very weak co-operative banks.*

Improving education access and quality. *Enrolment and literacy are improving and the 2009 Right to Education Act should help to speed up progress towards universal elementary education. However, high drop-out rates, low student attendance and teacher absence remain severe problems, holding back educational achievements. Greater local participation and accountability are part of the solution. The private sector accounts for a rising share of enrolment and policies are needed to ensure better access for the poor. Teacher effectiveness in the public sector ought to be enhanced through better accountability, incentives and development pathways. Increasing teacher resources can help lift quality but should be done in the most cost-effective manner. The strength of India's growth also depends on improving higher education. Some Indian tertiary education institutions compare favourably in international rankings but on the whole many graduates are inadequately trained for the workforce. Regulation is often ineffective, restricting choice and hampering entry and innovation. Institutions ought to be granted greater autonomy, quality assessment should be strengthened and a higher proportion of funding tied to outcomes. Faculty shortages highlight the need to ensure sufficient growth in the academic workforce.*

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Assessment and recommendations

Macroeconomic performance has been strong

In recent years, the Indian economy has been catching up very quickly. Prior to the global recession, annual growth exceeded 9%, an unprecedented step up from already high growth rates in the early 2000s. The Indian share of global output has continued to rise and the productivity gap with OECD countries has shrunk, though it remains large. Private investment is a key driving force. It is supported by buoyant corporate sector profitability and a rising national saving rate, which has reached the levels East Asian economies achieved during their periods of rapid growth. Growth has been broad-based but large regional disparities endure.

The slowdown in the wake of the global recession was short-lived, despite a severe drought that held back the agricultural sector in 2009. Propelled by vigorous domestic demand, India was among the first economies to recover. Growth is set to remain strong in the near term, underpinned by the momentum of private consumption and investment. However, sustaining high growth hinges on sound monetary and fiscal policies. The drought led to a surge in food prices and double-digit inflation and, although agricultural output has recovered, inflation has remained stubbornly high. The exit from crisis-induced monetary policy settings was timely: the repo rate was raised by 250 basis points to 7.25% by May 2011. Nonetheless, rates were, then, still below the inflation rate. With the economy now back on a high-growth trajectory with limited slack, further incremental tightening is needed to ensure inflation moderates.

With continued structural reforms, the share of private investment in GDP could well rise further, widening a current account deficit that is already large by Indian standards. Sustainability of growth would then depend on increased capital inflows and higher domestic saving. The latter can be facilitated by ensuring that there is no bias against saving in the tax code. Longer-term capital inflows can be increased by eliminating remaining controls over direct investment and allowing foreigners to purchase government bonds. In a scenario of capital inflows financing higher investment, action to prevent currency appreciation over the long run could lead to overheating and higher inflation. At most, intervention to smooth the speed of adjustment might be warranted. Capital flows can be volatile, however, especially when the underlying macro-economic situation becomes unstable. This risk would be minimised by strict adherence to an explicit fiscal consolidation path, which would reduce the need for capital inflows in the first place, and continued focus on macro-prudential measures that have, so far, helped to avoid asset price bubbles or the build-up of bad debt.

Even faster growth requires renewed reforms to promote private investment

Over the medium term, growth could rise to as much as 10% if the increase in saving stemming from the fall in the number of children relative to the size of the working population is deployed into higher investment. Stimulating capital formation will require renewed efforts to improve the business environment for private firms, which remains challenging in international comparison, including by lowering administrative burdens. State-owned enterprises often enjoy soft budget constraints and continue to inhibit competition in a number of sectors. Although trade barriers have fallen considerably since the 1980s, they remain high in agriculture and some manufacturing sectors. Barriers to foreign direct investment in some large service sectors, notably retail, also remain high. Further reducing barriers to trade and investment would benefit the business sector and households alike.

The economy is now beginning to benefit from better infrastructure. Reforms have improved incentives for private infrastructure investment, now making for good progress in some sectors. Parts of the economy where problems once seemed intractable – such as telecommunications and airports – are being transformed, while the highway system is in the throes of a major expansion and upgrading. These improvements have been achieved in partnership with the private sector. Going forward, ensuring that the infrastructure needs of a rapidly developing economy are met requires further reforms in this area to encourage private investment which the government expects to triple in the course of the new five year plan. Electricity distribution is still predominantly in the hands of the state governments, which have shown little desire to apply national laws. This impedes reductions in technical losses and theft of electricity, which hampers private involvement in the sector. Coal production is another area that could benefit from private competition. Land acquisition is a major source of delay and dispute, and a land registry system is urgently needed to give clear title to property. The compensation system for land required for road building should also be made more generous. The government has tried to lessen the impact of these problems by creating Special Economic Zones (SEZs) where developers provide basic infrastructure and public administration services. Even though they are a second-best policy option, compared to more thorough economy-wide structural reforms, SEZs are providing an important and expanding platform for industrial development and now account for a sizeable share of exports. However, in all areas of the economy, and especially those that depend on government licensing and regulation, it is crucial that private sector involvement takes place transparently and on a level playing field in order to avoid high-level corruption. In the meantime, a stronger anti-corruption authority is needed, headed by an independently-appointed person.

Fiscal consolidation has resumed and new frameworks may help

Prior to 2008, good progress had been made in reducing large fiscal deficits at the central and state levels under targets set out in the 2003 Fiscal Responsibility and Budget Management Act (FRBMA) and in state laws. However, since then, government finances have deteriorated sharply, mainly on account of increased central government spending decided before the contraction in world trade in 2008. This included a ten-yearly hike in public-sector salaries; debt write-offs for small farmers; subsidies for oil-related products financed

off-budget, and the expansion of a rural workfare scheme, the National Rural Employment Guarantee Scheme (NREGS). Tax cuts introduced in response to the economic slowdown also contributed to a higher deficit. Although large deficits have not resulted in an increase in the debt-to-GDP ratio thanks to high nominal GDP growth, they represent a major drain on national saving, tend to crowd out the private investment that is required to drive continued rapid growth or lead to increased capital inflows and a wider current account deficit.

In 2010, some progress was made in reducing the deficit, although this was aided by a one-off revenue windfall from the sale of licences for the use of new frequencies by telecommunication operators. More recently, in its latest budget, the central government announced plans to reduce its deficit by a further ½ per cent of GDP in 2011. With increased spending on oil subsidies likely, given the increase in oil prices, the reduction in the deficit may be less than planned. In the absence of further large one-off revenue windfalls, much of the planned medium-term consolidation is projected to take place through a very large fall in expenditure relative to GDP. Outlays are projected to fall to a level one percentage point of GDP lower than the lowest level seen in the past two decades. Tight control will need to be exercised over spending, given that in the past few years there have been consistent over-runs in budgeted outlays. Hence, a steadfast commitment to spending restraint will be essential for the government to meet its target.

The FRBMA currently prescribes that the government sets out its fiscal targets annually but these targets no longer have the force of law. The act needs to be amended to set binding targets for the medium term. Presenting the whole budget on a rolling three-year basis would make it clearer how medium-term fiscal targets are to be met. Any revised legislation should provide for multi-year budgets, rather than just a statement of future expected revenue and expenditure. The FRBMA had dual targets: a balance between current expenditure and revenues and a cap on the overall fiscal deficit. In theory, this implied limiting the deficit to capital expenditure. However, as the accounts are not produced on an accruals basis, the budget makes no allowance for capital consumption. This results in an understatement of current expenditure, and hence leads to a tendency to run down government assets. Moreover, there are mis-classifications of current and capital expenditure. Against this backdrop, it would be useful to have just one target that limits deficit spending to the level of net investment. This would ensure that increases in debt are matched by increases in government assets, thereby improving intergenerational equity, while providing flexibility to meet growing demands for public infrastructure spending. Such a rule, however, should be accompanied by careful *ex ante* evaluation of investment projects. Compliance would make for a challenging target over the next five years, as net public investment is estimated to have amounted to slightly under 4% of GDP in 2008, against a combined fiscal deficit of 8½ per cent in the same year. In addition, adopting such a rule would require more timely information on the economic and functional breakdown of revenue and expenditure.

To strengthen fiscal discipline, particularly compliance with rules, new institutional arrangements also need to be introduced. One option would be to have an institution that monitors progress in implementing medium-term fiscal targets and reports directly to parliament. This institution could build on the expertise of the Finance Commission which currently reports once every five years on revenue sharing between the centre and the states and other fiscal concerns of the government.

Reducing poverty and raising wellbeing requires more effective welfare and social service delivery

Sustained high growth has ensured continued progress in reducing chronic poverty. Nonetheless, the improvement has not been as quick as might have been expected and hundreds of millions of people still live below the official poverty line. Malnutrition is widespread and vast swathes of the population suffer from poor health, underscoring the importance of strengthening the welfare system and improving access to health care. Experience in Brazil and Mexico, amongst others, suggests that conditional cash transfers can be an effective way to assist the neediest. In general these are little used in India and the government should consider ways to employ such instruments to achieve better health and education outcomes. The NREGS workfare scheme, which provides the right to 100 days of government-funded work per annum to all rural residents, reaches a large share of the rural population. Its effectiveness in alleviating poverty would be improved by restricting participation to the poorest and ensuring that infrastructure funded under the scheme provides genuine benefits to local communities. Moreover, current wages in the scheme are high relative to average wages for unskilled rural workers, which could undermine local labour markets and generate inequalities if access to the scheme had to be limited for cost reasons.

Government spending on health, which is an important element in reducing poverty, has been rising after being accorded a low priority. Nevertheless, it still amounts to around only 1% of GDP (only seven countries in the world have lower public outlays on health care relative to GDP). Coverage of even essential services, such as immunisation for children, is low. Lack of access to public sector health facilities, and dissatisfaction with the quality of care provided, has increased demand for private care, which now accounts for a large share of the sector. However, private health care varies in quality and is unaffordable for many, while others are pushed into poverty by high medical costs. Higher government spending on health care needs to be complemented by reforms to improve accountability in service delivery. Better regulation and oversight of private providers is also needed. The government is rolling out a system of health insurance which should improve access over time.

Rationalising subsidies would help meet spending targets and other objectives

Inclusive growth requires using tax resources effectively to reduce long-term poverty. One area where spending could be trimmed substantially without hurting the poor is subsidies. The total cost of subsidies for food, fertilisers, irrigation, electricity and fossil fuels can be estimated at around 9% of GDP, although outlays vary from year to year. Just under two-thirds of these subsidies (5.7% of GDP in 2008) are a direct cost to the budget of either the centre or the states. A significant part of the burden is funded through forcing domestic public-sector oil and gas producers to sell their output to refiners at below-world-market prices. Another method of financing subsidies is to hold the rate of return of state-owned enterprises below their cost of capital. This lowers the dividends that the enterprises can pay to the government but the loss of revenue does not appear in the budget.

While subsidies are intended to help the poor, a very high proportion of them actually accrues to households well above the poverty line. Fossil fuel and electricity subsidies are

poorly targeted, with the better-off, who consume the most energy, typically being the largest beneficiaries. Liquefied petroleum gas (LPG) and kerosene are both heavily subsidised. Consumption of LPG, primarily for cooking, is much greater amongst higher-income urban families. Few of the rural poor use LPG, despite specific additional programmes to encourage its use. As to kerosene, over one-third is diverted to uses other than providing lighting for poor households. The food subsidy system is also highly inefficient, with large amounts of grain finding their way into parallel distribution systems. Subsidies have become entrenched and undermine economic efficiency, and their misuse generates significant corruption and other illegal activities.

Reducing fossil fuel subsidies, which are amongst the largest among all fuel-importing countries and cost 3½ per cent of GDP in 2008, would also result in significant environmental benefits. These subsidies help ingrain detrimental consumption habits and work against efforts to reduce the growth of carbon dioxide emissions (though current emissions are comparatively low relative to incomes). Some progress has recently been made in rationalising petroleum subsidies. Gasoline prices are now allowed to move more closely in line with world prices, a reform the government intends to broaden to diesel. Reductions in all forms of subsidies will require building a consensus that change is needed and providing clear evidence that the poor will not suffer as a result.

The government recently announced its intention to replace subsidies for kerosene, LPG and fertiliser with direct cash transfers to households. Plans for pilot studies are to be announced by the end of 2011. Such a move has the potential to reap considerable savings and to improve targeting. The government should go further by moving to a system of cash transfers or coupons for other subsidised goods, notably food and electricity. The identification of the targeted households needs to be done on the basis of transparent, verifiable criteria, to avoid illegal manipulation of entitlements. This might require moving away from the concept of a household being below the poverty line to one based on attributes of the household that make it likely to be below the poverty line. At the same time, entitlements should be checked at least every five years, rather than once a decade as at present. Technological progress is making targeting easier: coupons and smart cards have been successfully used in neighbouring countries to reduce fraud. The forthcoming Universal Identity Card should help to ensure that benefits accrue only to those who are entitled to receive them.

The government is pushing ahead with tax reform

In conjunction with the states, the central government is to implement a nation-wide goods and services tax (GST), which would be a major achievement. This tax will be designed on the basis of a classic value-added tax, but adapted to India's federal structure. The current indirect taxation system is complicated and involves cascading taxes that bias production decisions and hinder inter-state trade. A national GST, coupled with a state GST, would enable the rationalisation of theses taxes and preserve states' financial autonomy. A single tax rate in each state would be the ideal, as multiple-rate systems distort consumption patterns and will inevitably lead to strong lobbying to apply the lower rate ever more widely. Most states already have a standard and a low tax rate and so the ideal solution will not be implemented. In this case, it will be important to keep the differential as low as possible and to a limited range of products. Distributional concerns should be addressed using the reformed better targeted cash transfer system that the central government intends to introduce. In order to keep the overall rate low, the base should be as wide as possible. In this

context, the decision not to include residential construction in the tax base will cause significant loss of revenue and consideration should be given to gradually bringing this form of expenditure into the tax base. Agreement on rates and coverage has proved difficult and a major effort is now required to finalise all aspects of the tax.

Resales of existing property are subject to sizeable transactions taxes on the full value of the property. They hinder the fluidity of the market and give rise to parallel cash payments. A better solution would be to develop recurrent property taxation. Progress has also been made in reducing customs duties during the past decade, although the crisis set back plans to implement a standard tariff of 5% for manufactured goods by 2010. The government should now set a clear timetable for achieving this objective.

The government has tabled a bill to introduce a new Direct Tax Code that is expected to come into force in 2012. The tax-free income threshold is being raised broadly in line with inflation since the last increase in 2010. As a result, many low-income tax payers will be removed from the tax net, thereby reducing administration costs. However, the proportion of households that pay any income tax is already low. Moreover, just 4% of the taxpayers account for 70% of total tax payments. Given India's level of development, there is a case for moving the income tax system further towards a consumption tax, so encouraging saving. However, proposals to reduce the tax on savings even more, notably by making contributions to pension schemes and both lump-sum withdrawals and pensions themselves tax free, are too generous. In addition, the decision not to lower the tax rate on short-term capital gains and not to introduce a tax on long-term capital gains is a step backwards and will perpetuate tax-avoidance via the transformation of income into long-term capital gains.

The proposed new Direct Tax Code lowers the corporate tax rate to 30% in 2012 from almost 34% in 2009 and attempts to widen the corporate tax base. At present, a number of tax expenditures (accelerated depreciation, R&D allowances and area-specific allowances) considerably reduce tax yields. All area-based tax allowances and holidays are to be ended, including those for SEZs approved after 2014. The allowances are to be replaced by a 100% depreciation rate in the year the investment is made in specified sectors of the economy. However, this will tend to favour capital-intensive operations relative to the previous tax regime which allowed tax holidays, so reinforcing the bias away from labour-intensive projects created by employment protection legislation. At the same time, the minimum effective corporate tax rate payable in a given year has been increased to act as a check on incentives to make very large investments in relation to current profits. This adds a further bias to the tax system by favouring large established companies, with a large profit base to offset additional depreciation, against start-ups with no existing profits. Looking ahead, a better approach would be to eliminate special allowances such as accelerated depreciation and to reduce the basic corporate tax rate further.

The banking sector has benefited from new entrants and is generally well capitalised

Competition in the banking sector has intensified as new private banks have been allowed to enter and interest rates have been liberalised. Although state-owned banks continue to dominate, their market share has fallen rapidly. These reforms have yielded efficiency improvements and compressed intermediation margins. In general, bank balance

sheets look strong and stress tests suggest that the sector could withstand a significant deterioration in loan performance. Moreover, the system as a whole seems to be well placed to meet Basel III banking regulations, as the core common equity of banks is high and leverage ratios are below those in many other countries. As a result, India is well placed to implement its national framework for Basel III capital requirements and is changing its accounting systems to converge with the International Financial Reporting Standards. However, a small number of state-owned banks, many of which received state capital injections in the 1990s, will once again require extra equity capital. There is a need to end the cycle of bail-outs by raising limits on private ownership and further selling off government stakes in public-sector banks, lest they continue to benefit from an implicit guarantee that restricts competition. To the extent that they remain in the public sector, restrictions on the voting rights of large shareholders need to be lifted. Working conditions need to be more closely aligned to those in the private sector to overcome bureaucratic inertia. Greater competition can be expected when draft guidelines on entry of new private sector banks are implemented and the framework for the entry of new foreign bank is improved.

Beyond the large commercial banks, credit is also provided by rural banks and co-operatives, both of which are generally controlled by state governments and have in many cases been very badly managed over the years. Non-performing loans have been widespread amongst these institutions, necessitating repeated substantial government assistance. Reforms, including better oversight by regulators, have recently been implemented in this sector but are yet to yield improvements. The domination of these institutions by state governments has adversely affected their performance, which points to the need for a major effort to transform them into new, smaller privately-owned banks free of governmental shareholding. In addition, the regulatory oversight of the co-operatives needs to be modernised, not least to ensure a clear separation between management and regulators.

Private-sector micro-finance institutions have recently started to increase lending to poor people in rural areas, alongside bank-financed self-help groups, thereby improving financial inclusion. In contrast, banks have failed to reach the poor directly, be they in urban or rural settings, despite central bank insistence that the opening of new branches in urban areas be matched by new branches in rural areas. Although these micro-finance institutions may not reduce poverty as much as is often believed, non-performing loans are low, returns on portfolios are healthy and there is strong client demand, despite the absence of a central database covering borrowers and their creditworthiness. However, in response to political pressure, some state governments are moving to regulate interest rates and loan repayment schedules. Moreover, a report from the Reserve Bank of India recommends a national cap on interest rates and restricting a person to having just one loan. Such measures nearly always work against those they are intended to help and should be avoided. It would be better to guard against the risk of over-borrowing by improving databases on creditworthiness.

Further liberalisation is needed to lift the performance of the banks and other lenders

Further reforms are also called for to ease wide-ranging and highly prescriptive operating constraints faced by the financial sector, in particular the requirement imposed on banks to lend a fixed proportion of their funds to selected sectors of the economy. In agriculture, targets for lending to this sector could lead to over-borrowing, since incomes in

this sector are expanding much less rapidly than bank assets, resulting in periodic debt write-offs. So far, the scope of priority lending has been reviewed periodically, with new sectors of emerging importance to the government being added. More freedom for the banks could lead to an improved allocation of capital, but experience in advanced economies suggests that removing such restrictions has to be a gradual process, in order to avoid the negative impact of sudden surges in credit to the private sector. Even so, the vastly improved strength of the economy since this system was introduced suggests that a rethink of the priority lending system that directs bank credit to government-selected areas is needed.

In addition, banks and insurance companies are obliged to invest a significant portion of their assets in government securities. This restriction leads to a thin market in government bonds with few derivative products. By implication, the corporate bond market is little developed, in stark contrast to vibrant cash and derivative equity markets. The government has issued guidelines on the introduction of credit default swaps for corporate bonds which should facilitate the development of a corporate bond market. The experience of the take-off of the Indian equity market shows that institutions created by public-sector bodies can become extremely dynamic world-class institutions when placed in a suitably regulated private-sector environment. This example suggests that the government bond market could be transformed if its ownership were moved out of the public sector.

When considering the appropriate regulatory environment for the financial sector in India, it should be borne in mind that in advanced economies no one model of regulation has performed better than others. In India, though, there has been evidence of regulatory arbitrage within the financial industry. This suggests that there is a need to streamline arrangements amongst the key regulators to reduce overlapping responsibilities. The various regulators that currently cover the asset management industry (life insurance, mutual funds and pension funds) could be merged. In any case, the manager and operator of the National Pension Scheme should not also be its regulator. Finally, there is a need to modernise and codify sometimes antiquated laws that govern the financial sector.

Education is expanding rapidly but policies need to promote higher enrolment and attendance

Government spending on education has been relatively stable as a share of GDP. Against the background of sustained fast growth, the increase in absolute public and private spending has ensured a marked expansion in the number of teachers and education infrastructure. Considerable progress has been made in lifting enrolment and reducing gender disparities, especially at the primary level. The government's goal of universal enrolment at the elementary level, which includes up to grade eight, is moving closer to fruition. However, high drop-out rates and low student attendance continue to be a problem. Moreover, enrolment rates at secondary and tertiary levels compare poorly internationally and are much lower for females than males, though the gap is declining. Large disparities in enrolment across states persist and some official minority groups continue to be disadvantaged. For the first time, the 2009 Right to Education Act enshrines the right of all children to free and compulsory elementary education. This should provide a renewed impetus to raising enrolments. It is complemented by other initiatives to encourage attendance, notably a national Midday Meal Scheme for elementary school students. Introducing other targeted programmes, including those designed to improve the health of children, would also help boost education outcomes.

The private sector accounts for a rising share of enrolment, particularly in higher education. This expansion is likely to continue and policies need to ensure access across all segments of the population. The government has implemented reforms that require private schools to allocate one quarter of places to government-funded students. Ideally, these places should be allocated to the most economically disadvantaged students. Tuition fees for some tertiary courses, particularly in private institutions, are high. Government policies ensure preferential access, including via lower fees, for officially-disadvantaged minority groups. However, there is evidence that affluence still has a strong bearing on whether students progress to higher education. To help alleviate credit constraints, a student loan scheme is provided through the commercial banks. However, the scheme is more commercially oriented than in many other countries and access for vocational education is less assured. To promote access, governmental loan guarantees should be provided for eligible students. It may even be advisable to introduce a government loans scheme for all or some students, with an income-contingent repayment system where feasible. This would provide greater flexibility for the government to determine eligibility for access to loans as well as the terms of repayment.

Raising the quality of schooling remains a major challenge

Literacy rates have improved markedly and are now close to universal for younger cohorts. However, test results for school children point to widespread shortcomings in educational achievement. Teacher effectiveness needs to be enhanced by strengthening accountability and incentives. Teacher absence has long been a severe problem in India. Although there are signs of improvement, public school teachers still display lower attendance and activity than private school teachers or contract teachers, despite vastly superior remuneration. Employment arrangements for public school teachers need to be reformed by strengthening dismissal provisions for teachers who are not performing satisfactorily. Local communities should also be empowered to have a greater say in the recruitment process. Two Indian states, Himachal Pradesh and Tamil Nadu, are participating in PISA (the Programme for International Student Assessment), which will provide valuable internationally comparable information on student progress to policymakers and other stakeholders. Given India's size and diversity, student testing using international frameworks should be extended to other states.

Increasing teacher resources and improving teacher development can help lift instructional quality. Student-teacher ratios are high, and teachers are often required to teach children in different grades simultaneously. This tends to reduce the teaching time available to each student. The government aims to reduce student-teacher ratios considerably, which should help lift instructional quality. Where appropriate contract teachers should be employed to complement regular teachers so as to ensure cost effectiveness. Teacher development pathways need to be made more accessible and effective. A large proportion of teachers are ill-prepared for the challenges they face in the classroom and lack any post-secondary qualification. The quality of teacher training varies widely, as many training institutions are poorly resourced and use outdated curricula. Broad reforms to higher education would go some way to improving quality and access to pre-service teacher training programmes. However, there is also a need to increase access and the quality of in-service training.

Regulatory and funding reform in higher education is needed to promote quality and expansion

Some Indian tertiary education institutions compare favourably in international rankings but on the whole many graduates appear to be inadequately trained for the workforce. Regulation is often ineffective, restricting choice and hampering entry and innovation. Several recent reform proposals could help in this regard. A proposed new umbrella regulator – the National Council for Higher Education and Research – could reduce overlap between regulatory agencies. However it would need to adopt a lighter regulatory touch and allow universities and colleges more autonomy. Vocational training institutions also need to be granted more managerial autonomy while linkages with industry need to be further strengthened to ensure quality improvements and ensure programme relevance. Separate reforms could simplify procedures for foreign educational institutions to operate in India but other requirements and restrictions may deter some providers. The regulations governing programmes offered jointly by Indian and foreign institutions also have to be clarified. The need for effective quality assurance mechanisms is particularly strong in India given the rapid expansion of private providers. The government is moving to a mandatory accreditation system and opening the market to new accreditation agencies, which should improve coverage.

A greater proportion of public funding should be linked to the outcomes from quality assurance assessments in order to strengthen incentives for higher performance. This could be complemented by more project-based funding, allocated on a competitive basis, to encourage stronger research performance. The government also needs to do more to ensure sufficient growth in the academic workforce. Widespread faculty shortages already exist and there is a heavy reliance on contract teaching to fill teaching vacancies. As research and post-graduate training capacity in many institutions is weak, there is a risk that the supply of young academics will continue to be inadequate. Remuneration is competitive by local standards but not so internationally and avenues for recruiting and retaining top-performing academics should be explored. The current focus on experience, particularly years of service, as a criterion for promotion may discourage capable young faculty and needs to be reconsidered.

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Chapter 1

Sustaining growth and improving living standards

India has enjoyed one of the highest growth rates in the world in recent years, propelled by strong business investment. India was not immune from the global financial crisis but experienced a relatively mild slowdown, despite a severe drought which hit agricultural production. The recovery was driven by strong domestic demand, supported by expansionary fiscal and monetary policy, and growth has returned to a high trajectory. Prudent macroeconomic policies will be critical to prolonging the current expansion, given risks surrounding inflation, which has been high, and volatile capital flows. A steadfast commitment to fiscal consolidation is needed to continue to reduce the large deficit that emerged in the aftermath of the slowdown. Continued structural reforms will also be necessary to maintain high growth over the longer term. The operating environment for private business remains challenging compared with many other countries. While infrastructure is improving in key sectors, partly thanks to greater private investment, bottlenecks threaten to constrain the economy and efforts to intensify competition and ensure continued strong investment are required. Rapid economic development has boosted living standards and reduced poverty but the number of Indians living in poverty remains high. There is a need to strengthen social welfare systems and access to health and education to ensure widespread benefits from continued high growth. Labour market reforms are also required to promote job creation.

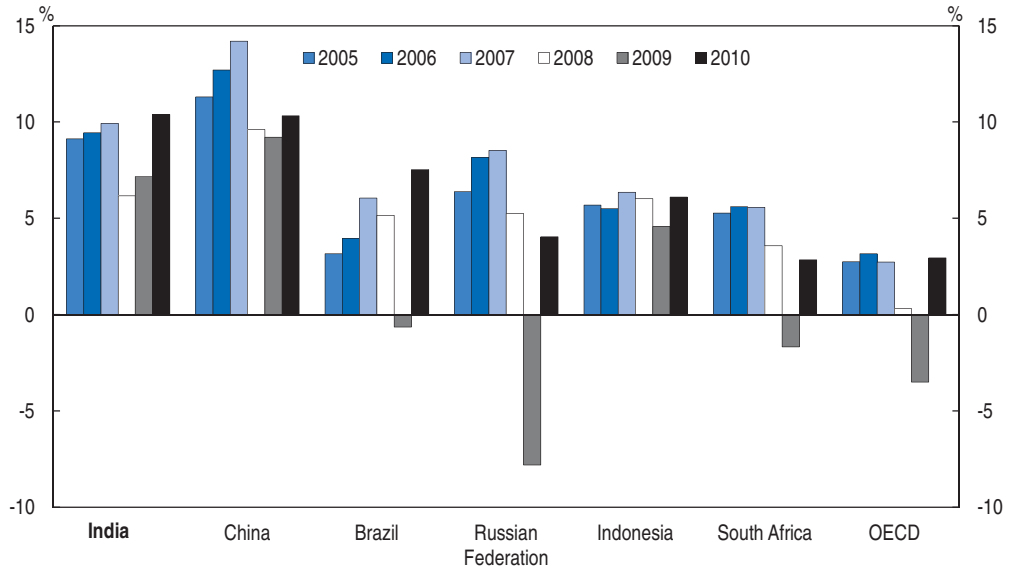
Growth has been strong and prospects are favourable

Prior to the downturn conditions were buoyant

In recent years the Indian economy has been one of the strongest performers in the world. Between 2005 and the onset of the global downturn, Indian economic growth averaged around 9% a year, an unprecedented step up from already high growth in the early 2000s and second only to China amongst large emerging economies (Figure 1.1). During this period the integration of India into the world economy continued apace with exports expanding robustly, especially of manufactured goods, software and business services (Table 1.1). However, in contrast to many emerging economies, where growth was largely export led, Indian growth was driven by domestic demand. Indeed in the years leading up to the global recession net exports subtracted from growth. Private investment, which benefitted from ongoing liberalisation and high private saving (see below), was a key source of growth. Private consumption too expanded rapidly, though it did not keep pace with investment, whose share in GDP continued the rise started in the late 1990s. In comparison, the contribution from government consumption was modest, as central and state governments made considerable progress in reducing large fiscal deficits.

Figure 1.1. **GDP growth in India, other large emerging economies and the OECD**

In per cent



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Growth was also broadly based across sectors. Agriculture benefited from above-average monsoonal rainfall. Elsewhere, high profitability propelled growth. Manufacturing continued to out-perform. So too did select service sectors, including business services and the

Table 1.1. **Macroeconomic indicators**

	% share in GDP 2004-09	Average 1998-2004	2005	2006	2007	2008	2009	2010
GDP								First three quarters
Real GDP, factor cost		6.1	9.5	9.6	9.3	6.8	8.0	8.6
Agriculture, forestry and fishing	18.2	1.8	5.1	4.2	5.8	–0.1	0.4	5.7
Non-agriculture	81.8	7.3	10.5	10.8	10.1	8.2	9.4	9.1
Industry	19.9	5.5	8.5	12.9	9.2	4.0	8.3	8.8
Construction	8.2	9.0	12.8	10.3	10.7	5.4	7.0	9.0
Services	53.7	7.9	11.0	10.1	10.3	10.1	10.1	9.3
Real GDP, market prices		6.2	9.3	9.3	9.8	4.9	9.1	10.1
Private consumption	58.6	4.9	8.5	8.3	9.3	7.7	7.3	8.3
Public consumption	10.8	3.6	8.9	3.7	9.5	10.7	16.4	4.7
Fixed capital formation	31.7	9.5	16.2	13.8	16.2	1.5	7.3	16.1
Exports	20.9	16.1	25.8	20.0	5.9	14.4	–5.5	14.7
Imports	25.8	10.2	32.5	21.3	10.2	22.7	–1.8	5.7
Real GDP per capita (factor cost)		4.3	7.8	8.0	7.8	5.3	6.5	7.2
General government finances (% of GDP)								Annual
Current receipts		17.5	19.1	20.4	21.3	19.9	19.1	18.4
Current expenditures		23.3	21.8	21.7	21.5	24.3	24.8	22.2
Current expenditures less receipts		–5.8	–2.7	–1.3	–0.2	–4.3	–5.8	–3.8
Capital expenditures		3.7	4.2	4.1	4.9	4.3	4.4	4.1
Other expenditure items less revenue		–0.9	–0.4	0.0	–1.0	–0.2	–0.6	–0.6
Fiscal deficit		–8.6	–6.5	–5.4	–4.1	–8.5	–9.5	–7.3
Gross debt (end period)		74.1	78.5	74.7	70.1	72.7	70.8	66.3
Balance of payments								First three quarters
Current account balance (bn USD)		1.4	–9.9	–9.6	–15.7	–27.9	–38.4	–38.9
Current account balance (% of GDP)		0.2	–1.2	–1.0	–1.3	–2.4	–2.7	–2.7
Goods balance (% of GDP)		–3.0	–6.2	–6.5	–7.4	–9.8	–8.6	–
Goods exports		17.6	22.0	25.1	14.6	28.4	0.5	27.0
Goods imports		17.8	30.3	24.1	20.0	35.7	1.3	21.1
Services balance (% of GDP)		1.1	2.8	3.1	3.1	4.4	2.6	–
Services exports		23.2	32.0	30.3	9.0	34.4	–7.1	34.5
Business service and software exports		44.9	42.5	41.9	10.8	29.8	–3.0	32.3
Services imports		17.9	22.6	30.7	3.4	15.9	18.3	44.6
External debt (% of GDP), end period		21.2	16.8	17.5	18.0	20.5	18.0	16.9
International reserves (bn USD), end period		71.1	151.6	199.2	309.7	252.0	279.1	304.8[1]
International reserves (% of GDP)		12.6	18.2	21.0	25.0	20.8	20.2	17.5[1]

Note: Unless otherwise indicated, the data are presented in rupee growth rate terms and on an Indian fiscal year basis (*e.g.* 2009 stands for the 2009-10 fiscal year, which runs from April 2009 to March 2010). General government finance figures for 2010 are based on data from the RBI and OECD projections for GDP. The current account deficit as a percentage of GDP is calculated from seasonally adjusted data.

1. End of fiscal year.

Source: CEIC, Ministry of Finance, RBI and OECD estimates.

liberalised telecommunications and air transport sectors. The expansion was also widespread, with growth picking up from the early 2000s in all but one of the larger states, Rajasthan. However, the extent of gains varied considerably. Some states which had previously been growing relatively slowly started to catch up, notably Bihar, Maharashtra and Orissa, while other earlier strong performers such as Haryana in the north and Kerala in the south continued to lead. In contrast, growth in Madhya Pradesh, Uttar Pradesh and West Bengal, three of the most populous and least developed states, remained below the national average.

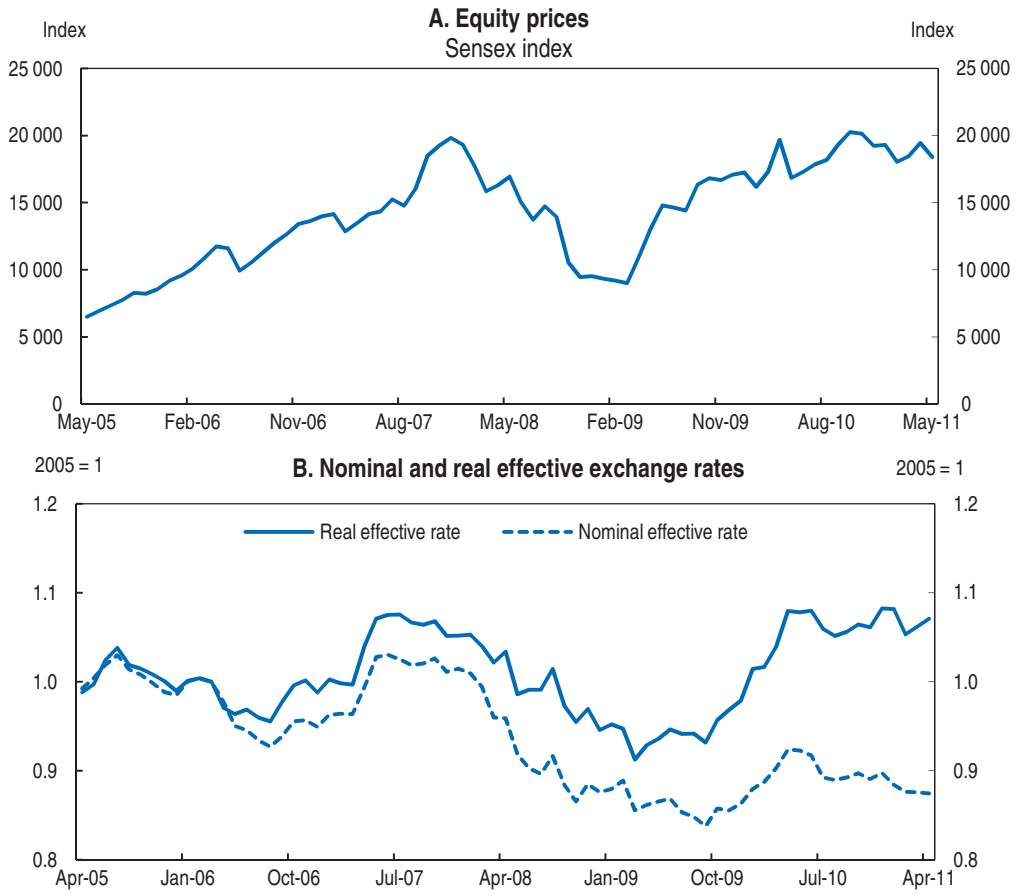
The pre-crisis period was also characterised by a high degree of macro-economic stability, mirroring generally benign economic conditions in advanced economies. Though inflation rose somewhat in late 2008, partly on account of surging international commodity prices, it never exceeded the notional 4 to 5% target range of the Reserve Bank of India (RBI) by much. With domestic demand and imports strong, the current account balance fell into negative territory in the mid 2000s. However, the deficit stayed below 2% of GDP and capital inflow was strong. Equity prices rose sharply, with the Sensex index more than doubling between 2005 and 2007; although the price-earnings ratio rose markedly, it did so from below the long-term average and in early 2008 remained well below previous peaks. During this period significant further progress in strengthening government finances was also made, aided by the central government's 2003 Fiscal Responsibility and Budget Management (FRBM) Act and similar legislation at state level which specified targets for fiscal deficit reductions (Chapter 2). Between 2003-04 and 2007-08 the general government gross fiscal deficit declined from around 8 to 4% of GDP.

India weathered the global downturn well

India was not immune from the global downturn but continued to be a standout performer. Growth declined but troughed around 5% and bounced back vigorously. The Indian economy has become more susceptible to global business cycles, and as in many other emerging economies, international trade was one of the main transmission mechanisms of the global slowdown. Though India is still relatively closed by international standards, the export share in GDP had been rising rapidly prior to the global downturn, approximately doubling in the decade to 2008, to 24%. Moreover, the value added content in Indian exports is relatively high, particularly by the standards of many export-intensive economies in Asia where export industries are often one of many links in an international supply chain. Also, although Indian trade has continued to shift towards emerging economies, notably China, many of the most successful export sectors are reliant on the corporate sectors of advanced economies. In mid-2008, as world trade began to falter, Indian exports weakened, with imports soon following suit. In volume terms, exports declined by around 5½ per cent in 2009. While services trade is generally less susceptible to business cycles, they held up less well than goods exports. Business service and software exports fared better than other service exports, possibly reflecting new demand from global firms seeking cost savings. One offsetting factor from the collapse in world demand was the sharp fall in oil prices, which lowered the value of fuel-related imports and helped cool inflation.

Just as the rising importance of exports increased the exposure of the real sector to the collapse in world trade, greater international financial integration amplified the initial shock of the global downturn through financial channels. The Indian banking system had little direct exposure to foreign subprime mortgage markets (Mohanty, 2009). Further, the market share of foreign banks in India is still relatively small. However, the corporate sector is reliant on external capital (Subbarao, 2009). Like other emerging economies, India suffered as liquidity-constrained firms and banks in advanced economies reduced foreign asset holdings to shore up their balance sheets. In early 2008, as global stock markets and business confidence began to turn and concerns surrounding the strength of international banks intensified, India, like many emerging economies, experienced sharp capital outflows. External commercial borrowing slowed sharply, and briefly contracted in early 2009. The Sensex index fell by more than half from its late 2007 peak (Figure 1.2a) while the effective exchange rate weakened by around 13% over the course of 2008

Figure 1.2. **Equity prices and effective exchange rates**



Note: Real effective exchange rate based on CPI measures of prices.

Source: CEIC and BIS.

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(Figure 1.2b). With foreign sources of capital drying up, firms turned to local credit markets, which came under severe pressure, and the overnight interbank rose above 20% in October 2008. Brief spells of tightness in short-term credit markets are not uncommon in India. For example, in mid-2007 and early 2008 overnight rates spiked at even higher levels due to temporary surges in payments, including for tax liabilities. However, in late 2008 rates remained well above the policy target for an unusually long time. In contrast to portfolio investment, foreign direct investment (FDI) was resilient throughout the downturn, with net inward flows remaining positive, testifying to investors' confidence in the long-term prospects of the Indian economy.

Remittances remain a significant source of external finance and household income. Just prior to the downturn net receipts of private transfers, which comprise mainly remittances, were expanding at an annual rate of around 30%. These inflows slowed sharply in 2008 but soon bounced back. In fact, India fared better than most other emerging economies where remittances play a prominent role (Mohapatra and Ratha, 2010). This may be due in part to the greater diversity of Indian migrant destinations. Whereas migrants from some emerging economies are heavily concentrated in particular regions or countries, notably the United States, about two fifths of Indian migrants are located in the Gulf states, one fifth in North America and the remainder in Australia, Europe and other

countries. With the Gulf region suffering a less pronounced downturn than many advanced economies, particularly prior to 2010, most Indian workers in that region were likely able to maintain jobs with steady income flows through the worst phase of the global recession. Moreover, rupee depreciation may have prompted non-resident Indians to liquidate assets and repatriate the proceeds.

In the second half of 2008, as exports weakened and financial conditions deteriorated, industrial output growth, which had already been moderating, experienced a steep, broad-based slowdown. Business investment also slowed, even briefly contracting. The reliance on external borrowing to fund purchases of capital equipment and reduced lending by foreign banks in late 2008 held back investment in some sectors. Nevertheless, investment weakened far less than in most advanced economies. Private consumption growth softened in tandem with the downturn in trade and weakening remittances, and as the formal sector shed jobs (Ministry of Labour and Employment, 2009). In contrast, public consumption contributed substantially to growth through the downturn, on account of fiscal stimulus measures as well as large spending initiatives predating the crisis (see below).

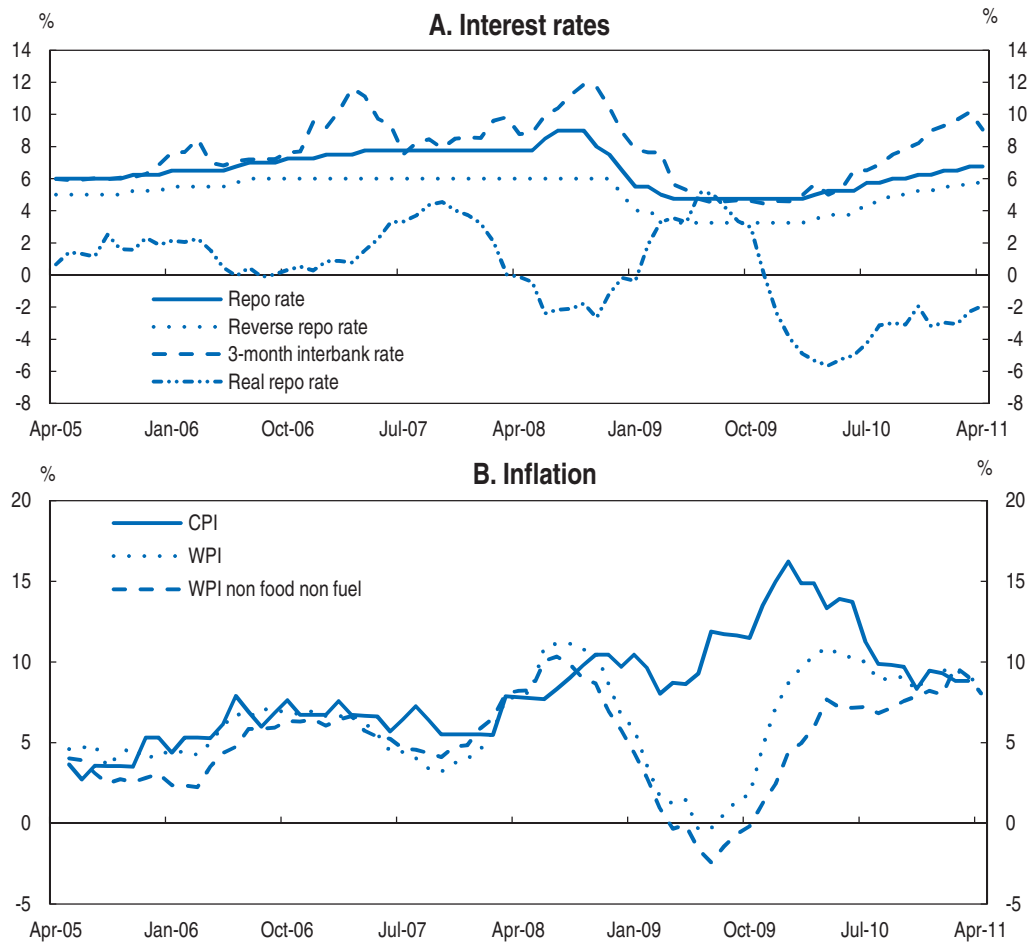
The resilience of GDP growth through the global downturn is all the more impressive as external weakness coincided with one of the worst droughts in recent history, which depressed agricultural output. Although the importance of agriculture has steadily declined in recent decades, it still accounts for around 15% of GDP and remains an important source of household income in rural areas. The monsoon, which falls between June and September, is critical for the *kharif* (summer) crop of many food products. In 2009, the monsoon was around 22% below the long-term average (the worst shortfall since 1972) following a relatively dry winter and spring. This caused sharp declines in the production of a number of important food staples and the summer food grain crop was down 12% compared with the previous year. Overall, the agriculture sector grew by less than 1% in 2009, compared to a trend rate of around 3½ per cent, reducing GDP growth by about half a percentage point.

Expansionary macroeconomic policies cushioned the downturn and domestic demand led the recovery

Fiscal consolidation achieved in the years leading up to the downturn gave some space to implement discretionary measures to support demand. Between late 2008 and the delivery of an interim budget in February 2009, the central government announced a number of tax and spending initiatives, notably cuts in central excise duties (except on petroleum products) and in the central service tax. At the same time limits on state government borrowing were raised. These measures came on top of several large spending commitments announced earlier that were scheduled for rollout through 2008 and beyond (Chapter 2). For 2008-09, the period coinciding with the worst of the global crisis, underlying spending increased by around 2.2% of GDP. Over 2008-12, expenditure on education, health and rural infrastructure was set to rise substantially, as was funding for the National Rural Employment Guarantee Scheme (NREGS), which provides guaranteed short-term employment to rural inhabitants and thus supported rural incomes during the downturn (Chapter 2). Between 2007-08 and 2008-09, the general government deficit rose sharply, from around 4% to 8½ per cent of GDP. As automatic stabilisers are weak in India, most of this widening in the deficit was due to stimulus measures and the earlier planned spending increases.

The RBI responded forcefully to the deteriorating global environment. As capital outflows accelerated it intervened in the foreign exchange market. After accumulating at a rapid pace in the years leading up to the crisis, reserves fell by around USD 66 billion between May 2008 and January 2009, only partly reflecting valuation changes. Through mid-2008 monetary policy had been tightened to damp emerging inflationary pressures caused by a strong rise in commodity prices and rapid domestic growth. This was rapidly unwound and monetary policy quickly shifted to a highly accommodative stance as the repo rate was cut 425 basis points to 4.75%, between October 2008 and April 2009 (Figure 1.3a). To discourage banks from parking money with the RBI, the reverse repo rate (the short-term RBI borrowing rate) was also cut, by 275 basis points. Other steps were taken to relieve pressure in credit markets. The cash reserve ratio was reduced from 9% to 5%, thereby injecting substantial liquidity into the banking system. The statutory reserve ratio, which defines the minimum share of deposits commercial banks must hold in cash, gold or government bonds, was also reduced by 100 basis points to 24%. In 2004, the RBI established a new mechanism, the Market Stabilisation Scheme, to aid liquidity management in the face of rapid capital inflows, as well as to smooth government borrowing through the

Figure 1.3. **Interest rates and inflation**



Note: Real interest rate deflated by WPI.

Source: CEIC.

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commercial banking system. Under the scheme, the RBI issued Treasury bills and bonds on behalf of the government and retained the cash proceeds. To further boost liquidity the scheme was partially unwound, as the RBI began repurchasing securities. Finally, restrictions on external commercial borrowing were eased. Ceilings on maximum borrowing costs were raised, while the permissible areas for borrowing through the automatic route were widened and loan limits increased.

These measures eased financial pressures and helped avoid a credit crunch during the peak of the global financial crisis. After spiking sharply, overnight bank rates moved back within the policy rate corridor defined by the repo and reverse repo rates and then continued to decline in line with the monetary policy easing. The government continued to repurchase Monetary Stabilisation bonds, adding liquidity, until they had all been absorbed in March 2009. However, bank lending rates adjusted only partially and with a significant lag, limiting the effectiveness of policy change. By April 2009, the sharp cuts in policy rates had reached the bottom of the cycle but average prime lending rates of the major state-owned commercial banks, which account for most lending, had declined by less than 100 basis points. Even when banks were lending at below prime rates, they failed to pass on the full reduction (Islam and Rajan, 2009). Moreover, the decline in lending rates appears to have been largest amongst the state-owned banks, with smaller reductions by the private and foreign banks, possibly owing to the RBI exerting more effective moral suasion over the former. Despite these relatively modest reductions in lending costs, bank lending continued to expand throughout the crisis at a solid, if somewhat lower, rate.

The recovery in India began earlier than in most other major economies, led by domestic demand. The slowdown in the industrial sector turned out to be relatively brief, with output accelerating by mid-2009. Good rainfall in late 2009 ensured that the damage to the agricultural sector from the poor monsoon was contained and the *rabi* (winter) crop was close to normal, prompting a sharp rebound in farm output. This recovery was consolidated by good monsoonal rainfall in 2010 (Ministry of Finance, 2011). As conditions in the global economy began to improve, Indian exports also began to recover, though hesitantly at first. With domestic demand and imports strong the current account deficit widened to over 3% of GDP in the second half of 2010. Against this backdrop, the focus shifted to inflation, which in wholesale price terms reached double digits by early 2010 (Figure 1.3b). Despite the strong recovery in the farm sector, food prices surged as a delayed consequence of the poor 2009 summer crop. With the recovery gaining momentum and inflation rising the RBI began to unwind crisis-related stimulus in early 2010 by raising the cash reserve ratio. This was later followed by a series of incremental increases in policy rates. As risk appetite amongst global investors returned and spreads between interest rates in India and most advanced economies widened, short-term capital inflows regained momentum.

Prudent macroeconomic policies will be essential for maintaining the expansion

With the economy now back on a solid growth trajectory, the challenge is to ensure sound macroeconomic policies to maximise the duration of the expansion, further reduce poverty and lift living standards more generally. Ongoing changes in the structure of the Indian economy, and in particular a shift from public to private investment, heralds the emergence of a more pronounced Indian business cycle. Managing the upswing of the new cycle will therefore be challenging. The near-term outlook is for continued solid growth, underpinned by buoyant business investment and solid household consumption (Table 1.2). Following a strong rebound from the crisis which saw growth near or above

Table 1.2. **Recent developments and short-term economic projections**

	2008	2009	2010	2011	2012
Real GDP	4.9	9.1	9.6	8.5	8.6
Export volumes	14.4	–5.5	12.5	12.9	13.0
Import volumes	22.7	–1.8	9.1	9.1	12.6
Wholesale price index	8.0	3.6	9.4	8.8	6.2
Consumer price index	9.1	12.4	10.3	8.9	6.6
Current account (% of GDP)	–2.4	–2.7	–2.7	–2.9	–3.0
Fiscal balance (% of GDP)	–8.5	–9.5	–7.3	–6.8	–6.3

Note: Unless otherwise indicated, the data are presented in growth rate terms and on an Indian fiscal year basis. Real GDP is measured at market prices. The consumer price index is the industrial workers index and the wholesale price index the all commodities index. The fiscal balance is the gross fiscal balance for the central and state governments.
Source: CEIC and OECD (2011).

potential through much of 2010, spare capacity is likely to be limited. This, together with a surge in oil prices and a renewed acceleration in food prices, has caused stubbornly high inflation.[1] Recently, there have been welcome signs that growth may be moderating to a more sustainable pace and further fiscal consolidation and monetary policy tightening should promote balanced growth going forward. This, along with a stabilisation in international commodity prices should lead to a gradual decline in inflation over the course of 2011. However, resurgent demand poses a risk of inflationary pressures being stoked. This risk is heightened by a possible positive external demand impulse as advanced economies continue to shake off the side-effects from the worst recession in decades (OECD, 2011). Further increases in world energy prices and food prices would work in the same direction.

The RBI's exit from crisis-related measures, ahead of most other central banks, was timely and largely complete by late 2010. More recently, the RBI has focused on the task of cooling high inflation. By May 2011 the repo rate had risen to 7.25%, a cumulative increase of 250 basis points from the low point during the crisis. Nevertheless, *ex post* real interest rates were still negative. The RBI also responded to short bouts of credit market tightness. In late 2010, for example, interbank rates rose sharply, partly on account of tax payments falling due, prompting the RBI to reduce the statutory reserve ratio in order to improve liquidity. Notwithstanding occasional spells of credit market pressure further incremental monetary policy tightening is advisable to ensure inflation moderates and to prevent inflationary expectations becoming unanchored.

The extent of the monetary tightening that is required will depend, in the short term, on the outlook for fiscal policy. In 2008 and 2009, fiscal policy had been very expansionary (Chapter 2), with the gross fiscal deficit rising by 5½ per cent of GDP. However, the 2010 Budget set out an initial path for substantially reducing the central government component of this deficit. More recently, the 2011 Budget confirmed that fiscal consolidation was underway and planned for a reduction in the deficit from 5.1% of GDP in 2010-11 to around 4.6% of GDP in 2011-12. The government is also targeting deficit reductions of a similar magnitude in the following two years. Much of the planned consolidation in the current fiscal year depends on a sharp slowing in government spending, with current expenditure budgeted to rise by only 4% in 2011-12, compared with a 15% increase in the previous year. However, high inflation has created pressure to increase spending on subsidies. Following the delivery of the budget the government lifted prices for subsidised fertiliser. In addition, it decided to prevent the full pass through of higher international oil prices to domestic petroleum product prices. This will likely

result in higher than budgeted spending on subsidies as well as higher losses for oil marketing companies and oil producers. A steadfast commitment to spending restraint will be important to minimise fiscal slippage and ensure continued consolidation needed to help promote macroeconomic stability.

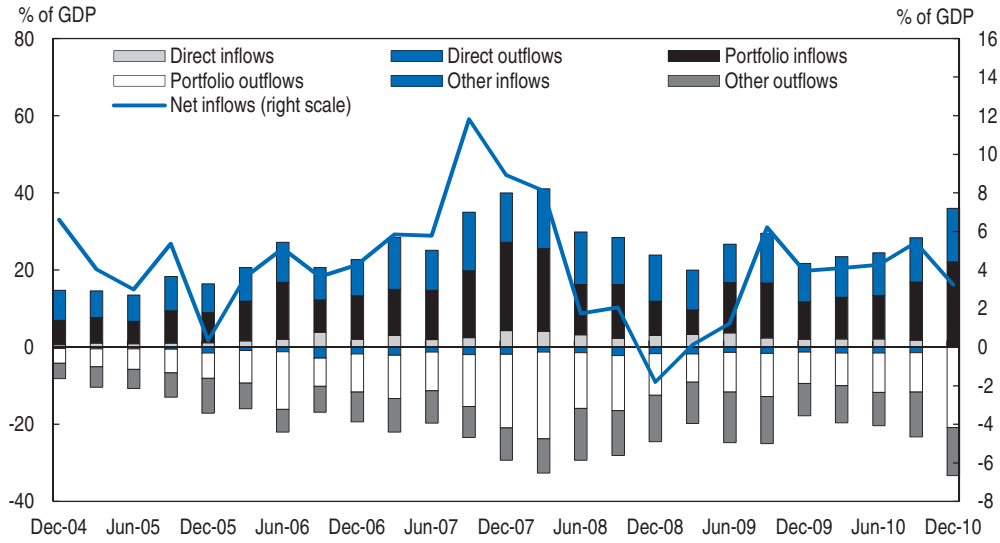
The RBI has further been promoting counter-cyclical macro-prudential policies, such as discouraging high loan-to-value ratios and encouraging greater provisioning against higher-risk lending. This should aid financial system stability over the medium term. A weakness of Indian macroeconomic statistics, which complicates the conduct of monetary policy, particularly in the current context, is the lack of a comprehensive price index. The RBI has until now relied on a variety of indicators, especially the wholesale price index, which does not include any information on the prices of services, despite the importance of this sector (Patnaik *et al*., 2010). In early 2011, the government introduced new consumer price indices for rural and urban areas, as well as a national series, based on 2004 weights. As data from these new measures becomes available over a longer time span they should help provide a clearer picture of price movements. It will be important, though, that the authorities update weights at regular intervals to capture changes in consumption patterns.

One set of risks in the current context pertains to the return of large capital inflows that could give rise to instability. In many advanced economies interest rates remain near historical lows (OECD, 2011). Many emerging economies, including India, are likely to remain an attractive destination for internationally mobile capital given the outlook for continued economic buoyancy and relatively high interest rates. Strong capital inflows could put upward pressure on the rupee, raising the prospect of worsening competitiveness and a further widening in the current account deficit, which is already high by historical standards. A shock to the global economy could lead to a sudden change in investor appetite for risk which could trigger a sudden reversal in capital flows, as witnessed during the downturn. There is also a risk that large inflows, of short-term capital in particular, could fuel asset price inflation.

Strong inflows are, however, needed to finance the current account deficit. Appreciation also helps to contain inflationary pressures in the near term (Bhattacharya *et al*., 2011). Substantial deficits, and hence the capacity of the economy to absorb capital inflows, are likely to persist for some time. The composition of capital inflows has shifted towards portfolio investment in recent quarters but not in an unprecedented manner and relative to GDP these flows have not exceeded pre-crisis levels (Figure 1.4). Moreover, to date there is scant evidence that the risks associated with strong inflows are materialising. Equity prices bounced back from crisis lows and briefly exceeded pre-crisis highs towards the end of 2010. However, more recently they have shown little clear tendency to rise or fall while price-earnings ratios have remained below the highs of late 2007. To guard against possible asset price bubbles and bad debts the authorities should continue to focus on strengthening macro-prudential policies. Since mid-2010, the nominal effective exchange rate has gradually depreciated but with relatively high inflation the real effective exchange rate has been relatively stable.

The exchange rate policy has evolved and the capital account has continued to open up gradually, even though progress has been uneven and it remains relatively closed (Prasad, 2009). After the Asian crisis in 1997, the rupee was linked closely to the dollar. The RBI sterilised inflows until it had exhausted its stock of government debt holdings by the end of 2003 but the establishment of the Market Stabilisation Scheme enabled sterilised

Figure 1.4. **External capital flows**



Source: CEIC.

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intervention to continue. As is often the case with a partially open capital account, subsequent sterilisation served to generate expectations of further appreciation. Just prior to the global financial crisis, as net capital inflows were rising rapidly, the RBI tried to tighten capital controls as an alternative to intervention. Given India's complex web of capital controls it is not clear that this had the intended effect, as investors quickly found ways of overcoming new regulations (Patnaik and Shah, 2011). During 2008, capital inflows eased and the government reversed policy. In the recovery phase, foreign exchange reserves have been fairly stable, suggesting the absence of heavy intervention in foreign exchange markets and a move towards a more freely floating rupee.

As noted, a complicated exchange control regime remains in place. There is no single codification of exchange controls. Restrictions vary according to the type of institution that wishes to invest in India (or borrow from abroad) and the use to which the funds are to be put. Investors face an ad-hoc system of sometimes overlapping, sometimes contradictory and sometimes non-existent rules for different categories of players that, in turn, has created problems of regulatory arbitrage and lack of transparency and created onerous transaction costs (Ministry of Finance, 2010a). In early 2011, the government raised the ceiling on foreign institutional investment in Indian corporate debt and the policy of gradual capital account liberalisation should continue, including for FDI (see below). In tandem a coherent structure for controls should be introduced to replace the current spider's web of controls, with the possibility of appeal against administrative decisions.

The current account deficit has recently widened beyond estimates of its equilibrium value (IMF, 2011), but not greatly. Moreover, the deficit would normally be expected to be relatively large, given strong growth in India and still weak conditions in some major trading partners. Nevertheless, the authorities need to remain vigilant to the risks associated with external imbalances. Fiscal consolidation can help reduce pressure by limiting the need for higher interest rates and reducing the reliance on foreign savings to finance domestic investment. Should inflows surge and pressure for much faster appreciation mount, foreign exchange intervention to slow the pace of adjustment to the new equilibrium may be

justified. Given the strength of growth and the lack of spare capacity, sterilisation to prevent an undue expansion in the domestic money supply would then be appropriate. However, intervention that seeks to durably keep the exchange rate below the market equilibrium should be avoided. Indeed, it would encourage speculative flows driven by expectations of future appreciation while stoking inflation and unbalanced growth. Even in the short term interventions are likely to be costly. Notwithstanding the decline during the crisis, the stock of foreign exchange reserves is high. Given the spread between interest rates in India and advanced economies, notably the United States, the financial cost of holding reserves is sizeable and would rise with further reserve accumulation.

Improving living standards further remains a priority

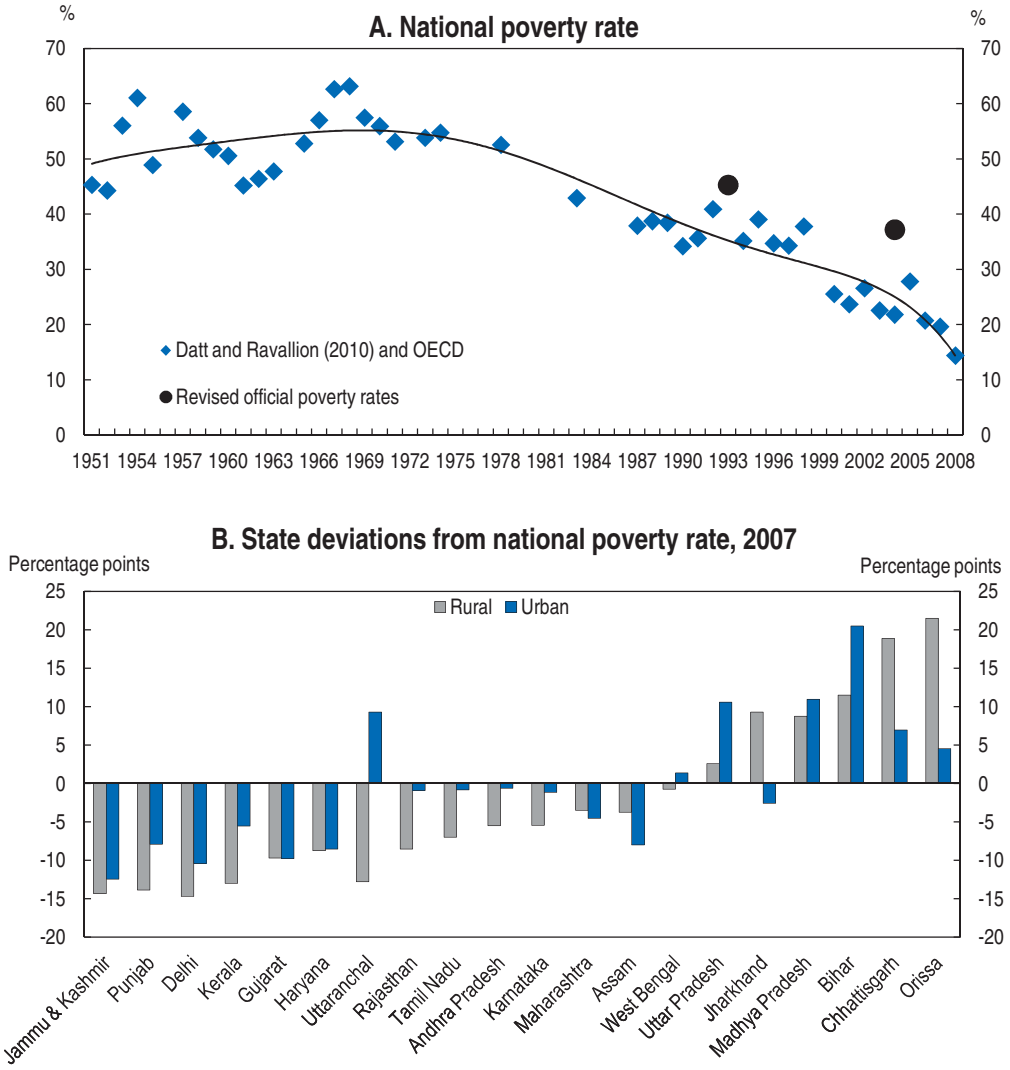
Rapid economic growth has reduced the incidence of poverty

Notwithstanding relatively high population growth, sustained rapid economic growth has delivered strong gains in average per-capita incomes (Table 1.1) and helped lower poverty. In India, poverty is generally measured in absolute terms, as the percentage of the population living below the poverty line. It is assessed using household-level National Sample Survey (NSS) data. Until recently, the official poverty lines for rural and urban areas were based on a poverty line basket (PLB) which reflected the consumption patterns of those with a daily intake of 2 100 calories in urban areas and 2 400 calories in rural areas in 1973-74. This PLB, however, failed to reflect changing consumption patterns, notably the falling share of food and rising importance of services such as health and education. In 2009 a new PLB was introduced (Planning Commission, 2009), based on the typical consumption bundle of urban residents living on the poverty line, as defined by the old methodology, in 2004-05. This revision had no impact on the poverty rate in urban areas, which remained at 25.7% in 2004-05, but substantially raised the rural poverty rate for that year, from 28.3% to 41.8%.

In India, household consumption measured on a national accounts basis has been growing faster than measured by household surveys (Panagariya, 2008; Mazundar, 2010). Poverty may therefore not have declined as fast as suggested by sustained high GDP growth. Moreover, how quickly poverty falls in response to high growth depends on changes in the income distribution. Official poverty estimates using the new PLB shows that the national poverty rate has indeed declined significantly, from 45.3% in 1993-94 to 37.2% in 2004-05, with the improvement slightly larger in rural areas (Planning Commission, 2009). A longer time series, starting in the 1950s, was constructed by Datt and Ravallion (2010) using the old PLB. It also shows a sharp drop in poverty since the early 1990s (Figure 1.5a), when major economic reforms were undertaken. However, there is considerable variation in poverty rates across the largest states (Figure 1.5b). While the absolute number of people living in poverty has declined since the early 1990s, hundreds of millions of Indians still live in poverty.

Significant progress has been made in reducing malnutrition, with the incidence of severe child undernourishment halving over the past three decades (Deaton and Drèze, 2009). Nevertheless, it remains high by international standards. A large proportion of children have low weight relative to their height, reflecting low nutrition intake. The prevalence of stunted growth, which reflects cumulative nutritional deprivation, is also high. The adult population too suffers from widespread malnutrition with the body mass index of over one third of all women below the threshold associated with chronic energy deprivation.

Figure 1.5. **Poverty rates nationally and by state**



Note: The top panel shows the national poverty rate based on the new official national poverty line for 1993-94 and 2004-05 as well as higher frequency estimates using the old poverty line by Datt and Ravallion (2010) and extended for the last two observations using the latest available NSS data. The bottom panel shows state-level deviations from the national poverty rate for rural and urban areas using 2007-08 NSS data.

Source: Datt and Ravallion (2010); Planning Commission (2009); and OECD calculations.

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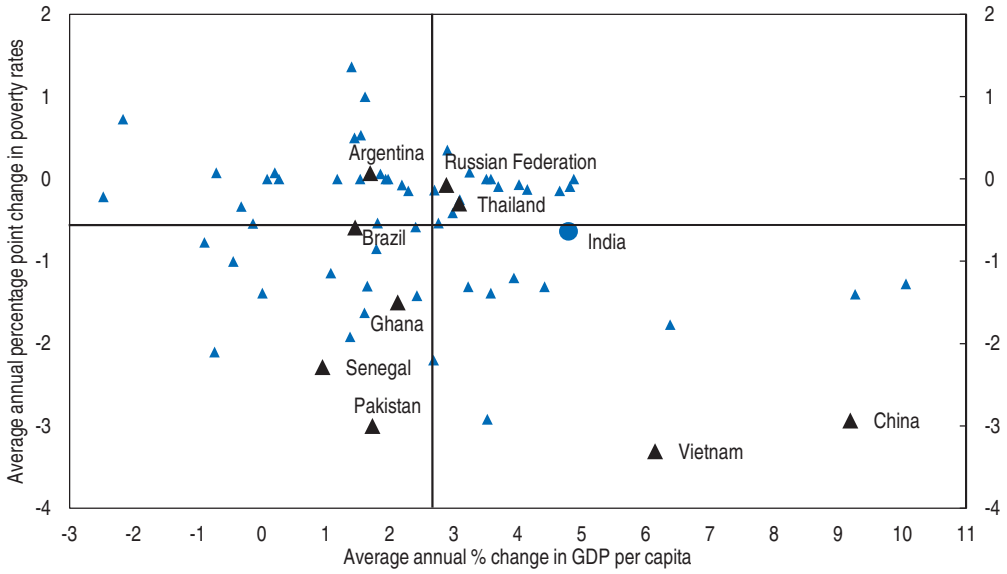
A stronger welfare system and improved social service provision are needed

While broad poverty rates have declined, international evidence suggests that this improvement could have been greater given sustained high economic growth (Figure 1.6). The comparison with another large emerging economy, Brazil, over the 1990s and 2000s is particularly striking. Measured in terms of the absolute reduction in poverty rates, the average pace of reduction there was similar to India, despite considerably slower economic growth. Measured in proportionate terms the rate of poverty reduction in Brazil was faster (Ravallion, 2011). This reflected falling inequality in Brazil underpinned by a comprehensive social security system with sizeable direct cash transfers to the poor (OECD, 2005). The

Figure 1.6. **International comparison of changes in GDP per capita and poverty incidence**



Note: GDP per capita is measured at purchasing power parity (PPP) exchange rates and poverty by the headcount index of the proportion of the population living below USD 1.25 in PPP terms. Changes in GDP per capita and poverty represent average annual changes occurring between the 1990s and 2000s. The two comparator points vary across countries depending on the availability of poverty headcount data. Where more than two observations for poverty rates are available for the 1990s and 2000s, the earliest observation in the 1990s and the latest in the 2000s has been selected. Only those countries where it is possible to compare poverty rates over a period of at least a decade are included. Dissecting horizontal and vertical lines reflect average changes in poverty and GDP per capita for the reported sample.

Source: World Bank, *World Development Indicators*.

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relative under-performance in poverty reduction in India therefore calls into question the effectiveness of existing welfare safety nets and the provision of essential social services.

Spending on social welfare is relatively high but the system is fragmented and coverage is often poor (Dutta *et al.*, 2010; OECD, 2010a). The lack of a comprehensive safety net leaves the poor vulnerable to economic shocks and reliant on family and other networks. It also limits the effectiveness of government interventions to assist the poor during severe economic downturns as scaling up existing programmes quickly can be difficult. Spending on social programmes is skewed towards food and other subsidies, and towards employment in public works schemes. The single largest initiative is the Public Distribution Scheme (PDS) which provides subsidised food and other items. The scheme is intended to help the neediest but there is considerable evidence of poor targeting and major delivery inefficiencies (Chapter 2). A major recent initiative is the NREGS, a workfare scheme that provides a guarantee of a minimum 100 days of employment to rural inhabitants at a minimum wage (Chapter 2).

While the NREGS represents a major step in providing more systematic support to the needy, there is no national equivalent for urban residents. Although poverty rates are lower in urban areas, they remain high and urbanisation will continue to draw poor unskilled workers into the cities. Moreover, workfare schemes are ineffective as an instrument for aiding the elderly and incapacitated. The use of conditional cash transfers (CCT) in India is generally limited, despite their growing popularity in other emerging economies and mounting evidence concerning their effectiveness (Box 1.1). Some CCT schemes operate at

Box 1.1. **Conditional cash transfers**

Conditional cash transfer (CCT) schemes, under which welfare payments are made directly to households provided they undertake specific activities, have expanded over the past two decades. Large-scale CCT schemes now operate in most Latin American countries, as well as an increasing number of countries in Asia, Africa and elsewhere. While providing the usual benefits associated with welfare programmes that involve cash payments, including redistributing wealth and supplementing the incomes of the poor, CCT schemes aim to reduce longer-term poverty by addressing under-investment in health and education. Such under-investment may occur, for example, if parents believe that the prospective earnings of their children are less sensitive to the level of education they receive than is actually the case.

Typically, CCT scheme conditions for payment focus on school enrolment and attendance for school-aged children, as well as regular health checks for younger children and pregnant women. Given the nature of these conditions, and the propensity for women to allocate a higher share of benefit payments on children and other household expenditures, payments are often made exclusively to mothers. One potential downside of CCTs is that they give rise to additional costs compared with non-conditional transfers. Administrative costs for CCTs are likely to be larger given the need to verify beneficiaries have met prescribed conditions. Such costs can vary depending on how strictly conditions are enforced, including the frequency of checks. In many countries, administrative costs have been minimised through the use of automatic payment to beneficiary bank or postal accounts.

The scale and coverage of CCT schemes varies considerably. In some cases they cover a large proportion of the population and are integrated within a broader social welfare system. Elsewhere, they have been introduced to aid specific groups, including extremely poor households, which may be relatively small in number. Participation in most CCT schemes is restricted to the poor, thereby minimising outlays. However, as with other forms of targeted assistance, inclusion and exclusion errors vary and targeting can undermine effectiveness where the poor are inadvertently excluded. This underscores the importance of effective identification systems, such as identity cards, as well as the authorities having access to information that allows the target population to be readily identified. Eligibility is determined by means testing, often based on proxies of household income, though in some cases on the basis of declared income. Where proxies for income are not readily available geographic-based targeting is also used. Two of the largest and most mature schemes which target poor households but have a broad coverage are the *Bolsa Familia* in Brazil and the *Oportunidades* in Mexico. Under each scheme around 20% of all households participate, representing nearly 13 million households in the case of the *Bolsa Familia* (Castro and Modesto, 2010; OECD, 2010a). Nevertheless, outlays are relatively small at around ½ per cent of GDP. Over time these schemes have evolved and been augmented to help achieve specific objectives. For example a new initiative was introduced alongside the *Oportunidades* to help boost secondary school completion rates (Schwellnus, 2009).

The empirical evidence on the impact of CCTs continues to mount, with many initiatives having been evaluated using a variety of methods. As many schemes have been in place for a number of years, evidence is also beginning to emerge on their longer-term impact. A common finding is that CCTs are effective in raising incomes of poor households and reducing the incidence of immediate poverty. The weight of evidence also indicates that CCTs have a positive impact on school enrolment and lower the incidence of child labour. Further, visits to health clinics have been found to rise with the introduction of CCTs. All of these findings point to beneficial longer-term effects. However, assessments of improvements

Box 1.1. **Conditional cash transfers** *(cont.)*

in outcomes, measured in terms of health status or learning are sometimes less conclusive. One explanation for this possible divergence is that in some cases the quality of services may be so poor that greater use does not lead to material improvements in outcomes. In the case of health services this could include inadequate provision of information needed by households to bring about longer-term changes in lifestyle that are needed to promote good health. This underscores the importance of access to quality essential services for CCTs to be most effective in reducing longer-term poverty.

Source: Grosh *et al.* (2008); Fiszbein and Schady (2009); Schwellnus (2009); Castro and Modesto (2010); and OECD (2010a).

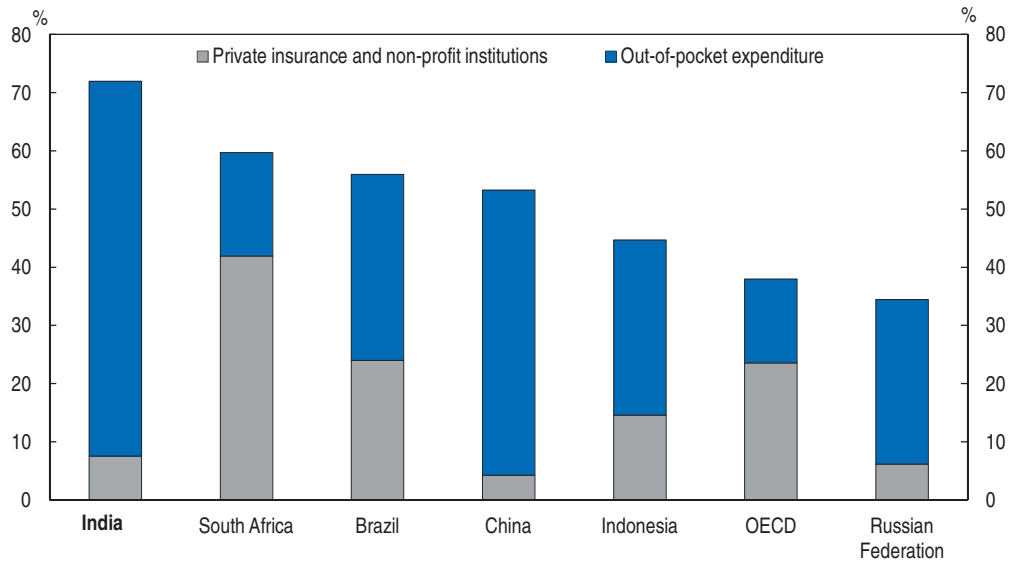
the state level, including the *Apni Beti Apna Dhan* initiative, which aims to encourage girls to stay in school longer. At the national level, the *Janani Suraksha Yojana* aims to reduce the number of maternal and neonatal deaths by encouraging women to give birth in a health facility. Since its introduction in 2005, the number of women benefiting from this initiative has expanded rapidly, reaching around 10 million by 2009 compared with 275 million live births (Ministry of Health and Family Welfare, 2010). An evaluation of the scheme by Lim *et al.* (2010) found that it increased the proportion of births in health facilities considerably, highlighting the potential benefit of expanding CCTs in India. There is also evidence from some Indian states that the old-age pension, an unconditional cash transfer, has been effective in supporting intended recipients (Dutta *et al.*, 2010). In addition to a renewed effort to reform subsidies (Chapter 2), greater experimentation with new CCT schemes would be advisable. As with schemes operating in other emerging economies these should focus on helping to achieve key health and education objectives and focus on BPL households (Mehrotra, 2010). Administering such schemes will become easier with the introduction of a new identification system, the Unique Identity Number, which is currently being rolled out on a voluntary basis.

Reducing absolute poverty and promoting inclusive growth also requires further improvements in education and health. Wage inequality has increased, driven by rising returns to education (Azam, 2009), and differences in education attainment account for a sizeable portion of earnings variation (Bhaumik and Chakrabarty, 2009). Higher levels of education amongst parents is associated with lower infant mortality (Bhalotra, 2010). The presence of better educated adults, particularly women, in the household also reduces the incidence of child labour (Basu *et al.*, 2010). Significant progress in improving basic education outcomes has been achieved, underscored by provisional results from the 2011 census. These show 74% of Indians are now literate, around 10 percentage points higher compared with a decade earlier. Enrolment rates continue to rise, expanding opportunities for younger cohorts to exit poverty. However, significant challenges remain to ensure that all children receive at least a basic education (Chapter 5). High dropout rates and absenteeism endure and learning outcomes are often weak. A national CCT scheme to encourage children from disadvantaged backgrounds to attend more frequently and stay in school longer could help and should be considered. Enrolments at secondary and tertiary levels also remain low by international standards, which may present a challenge to reducing inequality in the future.

Improvements in health status have a direct impact on welfare and can also boost economic growth through higher worker productivity and by supporting capital formation

(Bloom *et al.*, 2010). Vast swathes of the population suffer from poor health and although average life expectancy has risen, at 63.5 years it remains more than five years below the average for middle-income countries. Public spending on health care has increased but remains low and a chronic shortage of infrastructure limits access to essential health care (Chapter 2). This, together with dissatisfaction concerning the quality of publicly-provided care and rising incomes, has driven strong demand for private health care. The share of private spending on health care in India is high by international standards at over 70% (Figure 1.7). Moreover, private facilities account for around 60% of in-patient and 80% of out-patient care (Ministry of Health and Family Welfare, 2010). Though often better than the public alternative, private health care can be unreliable, particularly in rural areas, and providers are often poorly trained (Kumar *et al.*, 2011). A lack of effective regulation and oversight has also given rise to problems of over-supply, particularly with regard to diagnostic testing and unnecessary procedures. Given the importance of the private sector, there is a pressing need for more comprehensive regulation of providers and for better public information disclosure.

Figure 1.7. **Private expenditure as a share of total health expenditure**



Source: WHO, *Health Accounts Database*.

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Large out-of-pocket expenses associated with hospital stays present a barrier to the poor and raise the risk of pushing the non-poor below the poverty line. Another major issue is access to affordable medicines which account for a high share of household health-care costs (Grover and Citro, 2011). Historically, strong competition between generic pharmaceutical manufactures in India has kept the cost of drugs low by international standards. In 2005, intellectual property laws were modified to ensure conformity with international standards laid out under the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement. This has increased the pressure on the government to strike a balance between meeting its international obligations while ensuring continued access to cheap generic drugs. Continuing to promote competition within the large domestic pharmaceutical industry will go some way to helping the government meet this objective.

The health insurance system is fragmented and only a small minority of households, generally those which include an employee of the government or a large firm, have comprehensive insurance (Kumar *et al.*, 2011). Part of the problem is that the high degree of labour market informality precludes widespread access to employment-based schemes. A further challenge for poor households is meeting regular payments when incomes are erratic. Insurers face a potentially high cost of collecting small funds on a regular basis. In 2007 the government launched a new national insurance system, *Rashtriya Swasthya Bima Yojana*, providing free coverage, up to an annual limit, to households below the poverty line. The scheme is still being rolled out and so far covers around 23 million families. It is also being expanded to those above the poverty line and the government could consider introducing a contribution payment for more affluent households. In addition, there is a need to step up efforts to improve spending efficiency (Chapter 2).

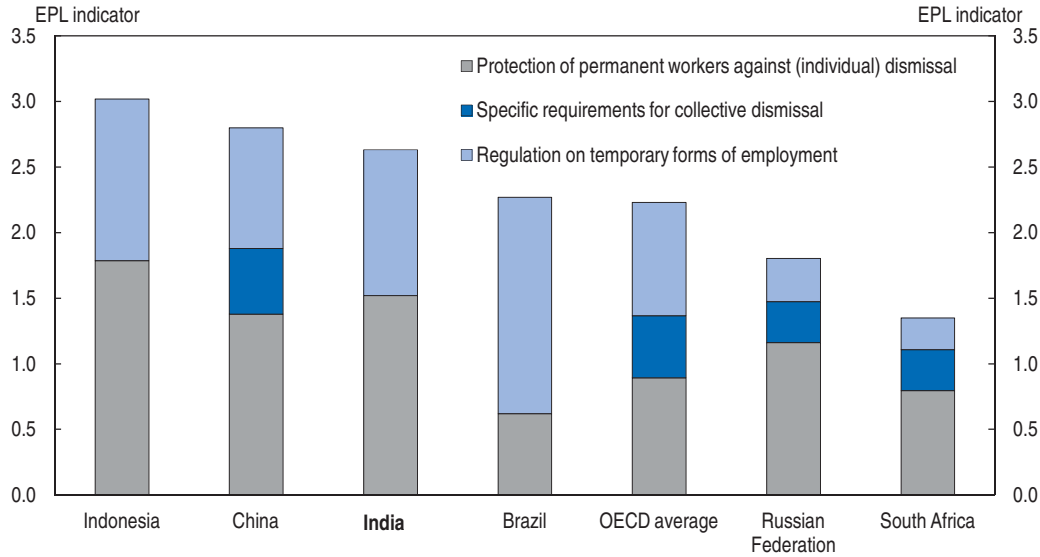
Labour market reforms would help boost employment creation

Firms confront a number of challenges when starting up and expanding, including gaining access to land and reliable electricity supply (see below). They also face a range of labour market regulations administered by the state and central governments. More restrictive state level employment regulations have been shown to reduce labour market dynamism and reforms to ease regulations tend to increase the creation of regular jobs (OECD, 2007; Goldar and Aggarwal, 2010). At the central level, an important regulation that likely restricts job creation in large manufacturing firms, especially compared to smaller firms in the informal sector, is dismissal laws under the Industrial Disputes Act (OECD, 2007). Manufacturing firms with more than 100 employees must gain permission from the Ministry of Labour and Employment to dismiss just one worker, regardless of whether there are sound economic grounds for dismissal. While there is no additional requirement for collective dismissal, the need to gain permission to dismiss any worker means that India has amongst the strictest rules for dismissal of any OECD or emerging economy, as measured by the OECD employment protection legislation indicator (Figure 1.8). In 2009-10, under the Industrial Disputes Act, only 12 firms were officially granted permission to dismiss workers, with 2 146 workers dismissed in total (Ministry of Labour and Employment, 2010). Given the size of India's labour force, it is clear that many firms are avoiding their legal obligations.

The fact that employment protection rules, and the Industrial Disputes Act more generally, apply only to firms with more than 100 employees provides incentives for firms to stay small or to hide the full extent of their employment. As a result, compared with other large emerging economies, India's employment is dominated by small firms; Hasan and Jandoc (2010) report that 84% of manufacturing employment in India is in firms with less than 50 employees, compared with 25% in China. As well as providing less protection and training to workers, smaller firms often have greater difficulties gaining access to credit and tend to be less productive, which ultimately reduces the scope for higher wages. To promote job creation and poverty reduction, the government should reduce the administrative burden for dismissal faced by larger firms.

Restrictive labour market policies also encourage informal employment, which can impose significant costs on both firms and workers. Informal firms are less productive, smaller and so less likely to be able to take advantage of economies of scale and tend to have limited access to credit (Perry *et al.*, 2007). Informal workers tend to be paid less than their formal counterparts, are less likely to receive training and more likely to lose their jobs in the event of an economic downturn (OECD, 2008). Few are covered by social

Figure 1.8. **OECD employment protection legislation indicator**



Note: The indicator score is for 2008 and runs from 0 to 6, representing the least to most restrictive.

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protection schemes, such as unemployment insurance and pension schemes. Over a lifetime, this disadvantage can dramatically increase the risk of poverty, particularly in retirement. India's very high rate of informality also creates additional problems when trying to implement a comprehensive social insurance scheme.

In India, the scope to reform labour market laws at the level of the central government is limited due to the absence of consensus amongst the social partners. Nevertheless, a number of states have made reforms to the extent allowed by federal laws and the Constitution. These reforms have varied considerably across states (OECD, 2007). There is evidence that those states with the greatest reforms, as defined in the 2007 *Economic Survey*, have seen the fastest growth of manufacturing employment (Goldar, 2011). In order to boost the growth of employment in manufacturing further, the Department of Industrial Promotion issued a discussion paper suggesting a framework for National Manufacturing and Investment Zones where the business environment would be improved (Box 1.2). The government is considering whether such zones could be created.

Box 1.2. **National Manufacturing and Investment Zones**

Citing concerns that the manufacturing sector is not achieving its full potential, the government released a discussion paper with suggestions for the elements of a National Manufacturing Policy (NMP) that would address major bottlenecks. The Policy would create a framework for states to set up National Manufacturing and Investment Zones (NMIZs) that would go beyond provisions for existing Special Economic Zones (SEZs). In contrast to the existing SEZ framework, NMIZs would not involve tax concessions or have export requirements, but would rather focus on providing a more supportive policy environment for business than is presently available. States, however, would be able to offer low-interest loans to fund land purchases.

Box 1.2. **National Manufacturing and Investment Zones** *(cont.)*

The key elements of the suggested NMIZs include:

- Giving dedicated power plants full authority over pricing and distribution.
- Allowing state governments to facilitate the provision of infrastructure.
- Reviewing labour laws to make them more flexible. If they are made more flexible then a dedicated social security scheme would need to be provided to take care of the interests of labour in the zone.
- Creating an expedited approval and clearance system that would minimise delays in obtaining government approvals, and subjecting reviews to automatic approval after a certain amount of delay. Self-certification would be used to the extent possible, and a one-stop-shop approach would be used for necessary procedures.
- Offering promotional policies in selected areas in order to encourage "green" investment.
- The minimum size of the NMIZs is set at 2 000 ha, still relatively small by the standard of similar zones in China.

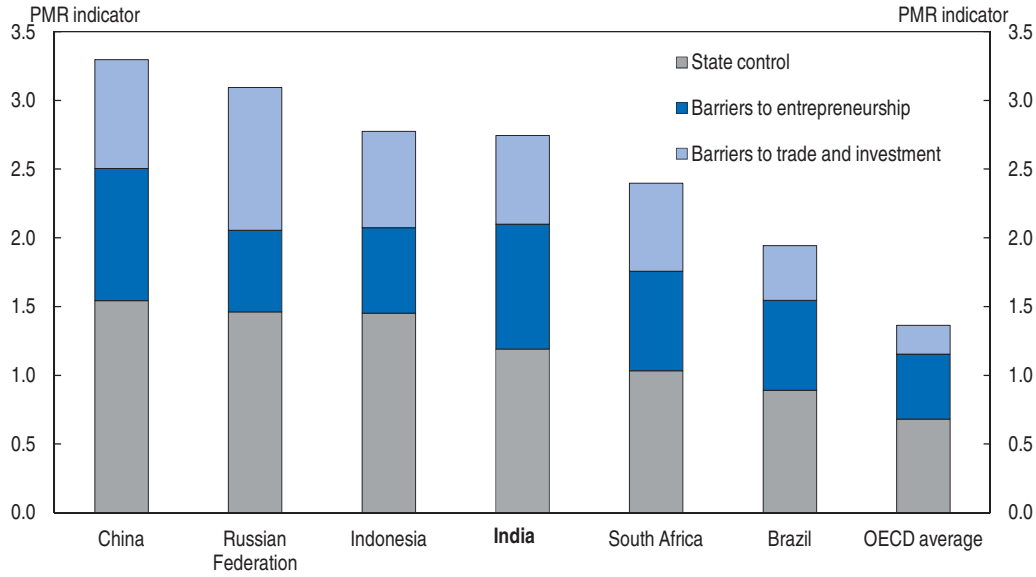
Source: Ministry of Commerce and Industry (2010).

Product market reform is needed to keep up rapid and inclusive growth

The extent to which the laws and regulations governing economic activity encourage competitive markets is a key determinant of economic growth in advanced and emerging economies. Although the effects of product market regulation (PMR) may depend on how close a country is to the global efficiency frontier (Aghion and Howitt, 2006), there is a clear link between regulation and economic performance (Arnold *et al.*, 2008). Broadly speaking, promoting competition by lowering (domestic and border) barriers to entry and levelling the playing field for different firm types encourages the movement of capital from low to high productivity firms and sectors, thereby improving resource allocation. For example, using micro data on manufacturing firms, Hsieh and Klenow (2009) find that reallocating capital and labour to equalise marginal products to US levels would boost manufacturing total factor productivity by 40 to 60% in India and 30 to 50% in China. There is also evidence that more liberal PMR speeds up the international diffusion of new technologies and production techniques, with more open economies growing faster as a result of higher physical and human capital investment and sustained productivity improvements (Arnold *et al.*, 2008; Wacziarg, 2001; Aghion and Griffith, 2005). This is particularly relevant to India given the still large labour productivity gap with OECD countries.

A revised and updated PMR indicator is used to benchmark India's regulatory environment against other countries.[2] While good progress has been made in liberalising extremely interventionist policies since the mid-1980s, the overall regulatory environment in India is still distinctly less favourable to competition than in the average OECD country and some non-member countries (Figure 1.9). This reflects relatively restrictive regulation across all three of the broad regulatory domains assessed in the PMR framework – state control, barriers to entrepreneurship and obstacles to trade and investment. Notwithstanding extensive policy and institutional reforms, further efforts are therefore needed to improve India's investment climate and deliver sustained and inclusive growth and rapid economic convergence going forward (Conway *et al.*, 2010).

Figure 1.9. **OECD product market regulation indicator**



Note: The indicator score is for 2008 and runs from 0 to 6, representing the least to most restrictive.

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High state control in India *vis-à-vis* OECD countries reflects relatively activist industrial policies that entail widespread government control over business enterprises and a prevalence of coercive instead of incentive-based regulations. Although important steps have recently been taken to lessen government involvement in product markets – notably by stepping up privatisation – public sector units (PSUs) still operate across most sectors of the economy and the line between the public and private sectors remains somewhat blurred. While public ownership does not need to be at the expense of competition, PSUs are, in practice, often granted "national champion" status and enjoy some degree of monopoly power and soft budget constraints. Also, the strategic decisions of some of the PSUs can still reflect the government's intentions, implying that improvements in governance would help PSUs operate on commercial grounds and maintain an arm's length relationship between the state and market. Building on current efforts to create an "enabling ethos" within government, more complete implementation of the OECD Principles of Corporate Governance would be helpful in this regard. Continued reductions in the size and scope of the state enterprise sector would help reduce implicit barriers to entry and spur competition in a number of sectors.

Administrative reforms have generally made the Indian government less reliant on microeconomic interventions and more focused on framework conditions with an improved capacity to oversee a market-based economy. In addition, by OECD standards, formal legal barriers to entry are low in India. However, barriers to entrepreneurship remain high in international comparison, deterring private sector entry and competition. These barriers primarily reflect heavy administrative burdens for setting up enterprises, which may also be indicative of more widespread transaction costs and excessive bureaucracy in government administration.[3] This suggests that recent initiatives to improve government bureaucracy and cut red tape have made less headway in practice than expected and need to be reinvigorated. At the same time efforts need to be stepped up to increase transparency in public sector governance, including in dealings with the private

sector, and to reduce corruption. The Central Vigilance Commission, the key anti-corruption authority, needs to be strengthened, including by making the process for appointment of its head more independent.

Barriers to trade and investment, as measured by the PMR indicators, also remain high in India. In particular, despite some improvements, restrictions on FDI remain onerous, especially in the services and network sectors. In practice, the regulations governing FDI are also relatively opaque, though the government has made some progress in clarifying policies for investors by consolidating regulations. Barriers to FDI are reflected in moderate rates of foreign investment into India, consistent with cross-country evidence (Golub, 2009). Although FDI inflows have been steadily increasing since the 1990s, they remain low as a share of investment in international comparison. Tariffs are also relatively high in India, particularly bound rates, and leave ample scope for selective policy intervention. For example, in 2008-09 only 45% of notional customs duties were collected as a result of numerous exemptions primarily designed to encourage exports (Ministry of Finance, 2010b). Peak tariffs need to be progressively lowered and the various customs duty exemptions need to be reduced and rationalised.

Previous OECD work has found that the degree to which PMR is supportive of competition varies considerably across Indian states, affecting both labour and total factor productivity at state level (Conway *et al.*, 2008). This implies that inappropriate regulatory settings impinge on the ability of the state economies to reap the full benefits of economic reforms undertaken at the national level. As such, ongoing reform of anti-competitive regulations in the less productive states would help reduce gaps in economic performance and ensure that the benefits of India's economic transformation spread throughout the national economy, which is important to further reduce poverty (OECD, 2007). In the relatively more liberal states and at the centre, the challenge is to further improve business framework conditions towards those in the OECD area so as to hasten the international diffusion of more efficient production techniques.

Ensuring adequate investment in infrastructure is critical

Infrastructure bottlenecks can be a major impediment to sustained growth, as documented in the previous *Economic Survey* (OECD, 2007). India's problems in this area, epitomised by poor roads, recurrent power cuts and outdated airports, have long been acknowledged, and progress has been achieved in recent years. A series of reforms have given price signals a greater role in orienting investment flows through the involvement of the private sector. Such framework conditions were first put in place for telecommunications, airlines and ports. More recently, headway has been made in other sectors, such as highways, electricity and airports and the benefits are now evident. Relative to GDP, investment in the private-sector dominated areas almost doubled between the 10th and 11th Plan periods (2002-07 and 2007-12) (Table 1.3). In contrast, where the private sector is absent, the increase was less than one third, with an abysmal performance in the provision of water and sanitation.

Highways

The previous OECD *Economic Survey* highlighted the benefits that could flow from well-designed public-private partnerships (PPP) set up to modernise the highway network (OECD, 2007). Initially there were doubts over the attractiveness of PPP contracts and the private sector only took on projects in high-income and good-governance states (Anant and

Table 1.3. **Infrastructure investment**

	10th Plan	11th Plan						Projected change in share of GDP from 10th to 11th Plan
	Total	2008	2009	2010	2011	2012	Projected outcome for 11th Plan	
	% of GDP at 2006-07 prices							%
Private-sector dominated	0.78	0.93	1.36	1.50	1.75	2.09	1.56	100
Telecommunications	0.61	0.68	1.06	1.21	1.46	1.80	1.28	111
Airports	0.04	0.15	0.15	0.13	0.12	0.12	0.13	253
Ports	0.14	0.11	0.14	0.16	0.16	0.17	0.15	10
o/w private sector	0.44	0.69	1.05	1.17	1.43	1.76	1.26	184
public sector	0.34	0.24	0.31	0.33	0.32	0.32	0.31	–10
Public-sector dominated								
Transition sectors	2.78	3.28	3.35	3.40	3.61	3.67	3.47	25
Roads	0.76	0.91	0.97	1.03	1.10	1.12	1.03	37
Electricity	2.03	2.37	2.37	2.37	2.51	2.55	2.44	21
o/w private sector	0.87	1.31	1.17	1.21	1.23	1.26	1.24	42
public sector	4.70	5.24	5.52	5.59	5.99	6.08	5.71	22
Private sector absent	1.60	1.90	2.10	2.14	2.06	2.12	2.07	29
Railways	0.61	0.66	0.79	0.81	0.71	0.75	0.74	22
Irrigation	0.64	0.83	0.91	0.92	0.94	0.95	0.91	44
Water and sanitation	0.36	0.41	0.40	0.41	0.42	0.42	0.41	16

Note: Data presented on an Indian fiscal year basis.
Source: Planning Commission (2010).

Singh, 2009). The PPP system was completely overhauled in 2006-07, however. A standardised PPP contract was introduced allowing for a degree of risk sharing between the concessionaire and the government. As a result, the length of four-lane highways constructed under the build, operate and transfer regime has grown very quickly and the proportion financed by the private sector soared from one tenth in 2006-07 to close to 100% now.

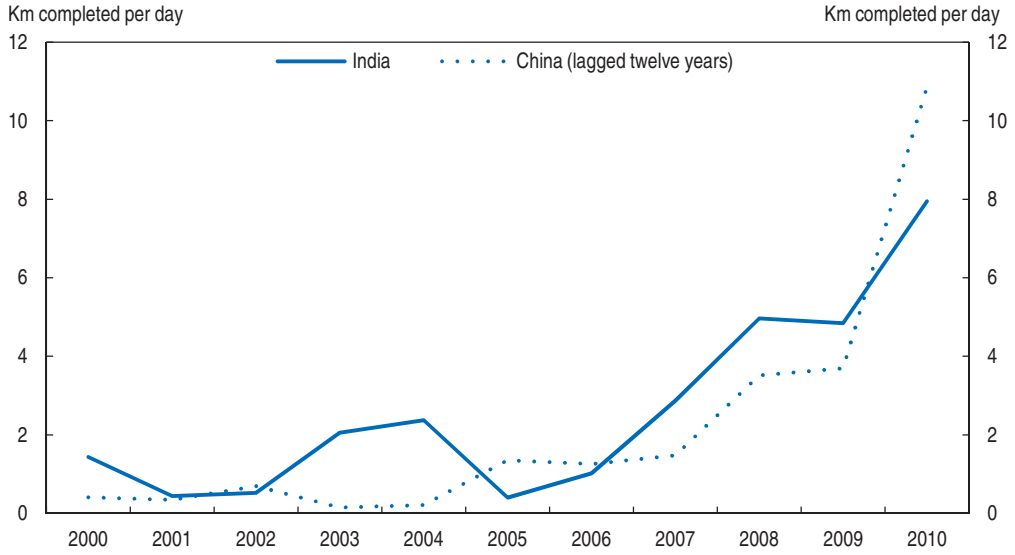
During the initial stages of the National Highway Development Programme, there were frequent delays between expected and actual completion dates, reflecting the absence of standardised contracts, the need for civil engineering companies to gain experience and, perhaps most importantly, difficulties in land acquisition. In 2008 and 2009, completions were swelled by delayed projects being finished. Since then delays have shortened and the increase in completions now reflects a much higher level of new projects (Figure 1.10).

Land as a barrier to infrastructure development

The land acquisition process for roads differs from that followed by normal eminent domain land purchases. The former is governed by the 1956 Highways Act and the latter by the 1895 Land Acquisition Act, which is more generous than the newer law in that it provides for a *solatium* payment of 30% as well as a 12% annual compensation from the date at which acquisition is authorised to when it becomes effective. The Land Acquisition Act thus offers more generous compensation for compulsory purchases as it covers psychological as well as monetary loss. Moreover, this Act compensates owners for the delay between the date of valuation of a property and the usually delayed date at which compensation is actually paid. Expectations over compensation have been set by the Acquisition Act and so disputes over valuation are common under the Highways Act. These have to be settled in the court system which results in significant delays. Moreover,

Figure 1.10. **Highway completion in India and China**

Four-lane highways in India, expressways in China



Note: Indian data is presented on an Indian fiscal year basis starting in April. The observation for 2010 reflects actual completions up to September and the expectation of the National Highways Authority for the remaining six months of the fiscal year. Chinese data is on a calendar year basis.

Source: NHAI and *China Statistical Yearbook*.

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the National Highway Authority of India (NHAI) does not control the acquisition process: this is delegated to the state government revenue departments. Often, the process is not at the top of the local officials' agenda. Staff turnover amongst managers is also high. More fundamentally, land-title records are poorly maintained. A number of changes could be made to speed up the process of land acquisition. One possibility is to create a land corridor, prior to the detailed designs, and acquire land on the basis of this corridor. The second would be for the NHAI to undertake land acquisition by itself using public records.

Land acquisition is widely seen as a key reason for implementation delays. Some states have attempted to computerise records but these tend to be outdated, inaccurate and incomplete. The major reason is that the 1908 Land Registration Act ensures that details of property transactions are recorded but generally provides no guarantee as to whether the title is legitimate. Moreover, there is no unified map of parcel boundaries. In one state, three such different maps exist across government departments (Patel *et al.*, 2009). In 2008, the government announced that it would move towards a system of guaranteed title. A National Land Records Modernisation Programme was launched. Each state government was requested to take up a few districts per year so that the entire state is covered in the next eight years, though the states without a survey may take longer. According to the government, "the task appears to be stupendous, with monumental challenges at every step of the way" (Sinha, 2009). At the technical level, though, the capacity for this project exists in the Indian private sector. Witness, one Indian company completed the entire digitisation of Irish property parcel boundaries (Karandikar, 2007).

The government has now proposed a Land Titling Act that will eventually result in a guaranteed title for all land parcels. The proposal follows best practice in that it creates a three-pronged structure that separates policy, operations and regulation. Each state will have to create a Title Authority, separate from the Land Ministry, and a Land Tribunal will

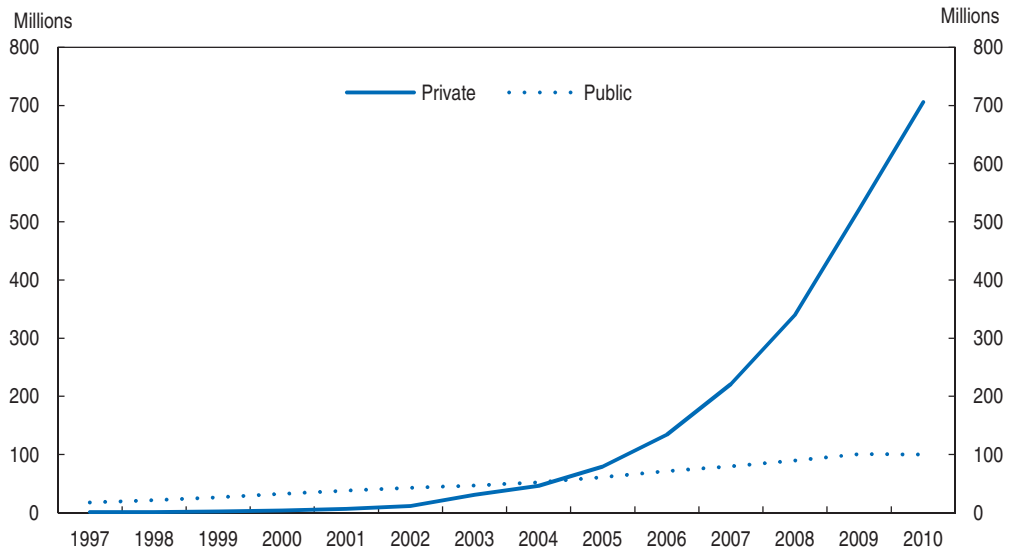
be established to control decisions of the Authority with appeals possible to the Supreme Court (Sinha, 2010). A successful completion of this project would also help to reduce the workload of the courts, where one third of cases are related to property titles. The authorities will need to subcontract as much of their work to the private sector as possible and to separate their staffing from that of the government.

Telecommunications

As highlighted in the previous *Economic Survey*, legislative changes have transformed the telecommunications sector (OECD, 2007). First, the government converted the historic provider of land lines from a government department into a public corporation. It then created an independent regulator and auctioned frequency for private-sector providers of mobile telephony services. As a result there are 15 providers of mobile services. Even in local markets, there is competition as both GSM and CDMA technologies are typically on offer. Prices are extremely low, at one third of the level in China and one-tenth the level in Europe. The number of subscribers has soared, mostly in the private sector, reaching 806 million people or about 67% of the population by early 2011 (Figure 1.11), near the average in all developing countries (ITU, 2010). With urban areas moving toward saturation, rural consumers accounted for 40% of new subscribers in 2009-10. The development of internet subscriptions has been held back by the very low number of fixed-line subscribers (around 35 million and falling). However, the government auctioned licences for 3G, 4G and WiMax frequencies in early 2010, and the latter should especially facilitate the delivery of fixed-link broadband internet through wireless networks, while 3G services can serve mobile internet users, even if they generally face capacity constraints as demand rises. After the auction, India was one of only 12 nations to have licensed 4G frequencies. The regulator has also licensed voice-over-internet telephony services (VOIP).

Figure 1.11. **Number of telephone subscribers**

Public and private sector companies



Note: Data are presented on an Indian fiscal year basis for the year ending March except for 2010 which is for January 2011.

Source: Telecommunications Regulatory Authority of India.

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The spread of VOIP should further lower long-distance calling charges and put pressure on the historic telephone operator. By March 2010, long-distance phone calls cost just 7% of their 1999 levels (in real terms). With such a rapid fall in prices, the historic public-sector telephone provider Bharat Sanchar Nigam Limited (BSNL) made a loss of INR 18 billion in the year to March 2010. The extent of the problem with BSNL can be seen from the customer-to-employee ratio, which stands at 150, as against 10 500 for a major private company such as Bharti Airtel. The fixed-line communications offered by BSNL may be more labour-intensive than mobile networks. However, even for the mobile sector alone, public-sector operators have labour costs five times greater than those of the leading private operator. A committee set up by the Prime Minister has recommended that BSNL introduce a voluntary retirement scheme to lower employment by one-third, alongside partial privatisation. BSNL requires major restructuring in order to avoid continuing capital injections. If the new equity injections do not result in investment that turns losses into profits, then they amount to no more than a subsidy and represent state aid to a public-sector company. They would enable the company to sustain artificially low prices below its true costs and so generate unfair competition for its rivals. One route for avoiding this outcome might be city-by-city sales of networks to private-sector companies.

Electricity

The electricity-generating industry has also undergone fundamental changes in recent years. It used to be dominated by state electricity boards. The 2003 Electricity Act, however, set the ground for a competitive market, splitting the boards into separate distribution, transmission and generation companies. It created regulators independent from government that control prices and allowed private generators into the market.

By 2010, private-sector generators were playing a key role. They no longer needed a licence from the government to build plants and were free to sell the power to the grid. This has been aided by the creation of a trading system for electricity, which functions through a broker-based and two order-driven markets. The main buyers are the state distribution companies. When the market was introduced in 2008, prices were high, averaging INR 7 per kWh, over three times the long-run marginal cost of electricity. This gave strong entry incentives to merchant (private) power generators. Within two years, the average price had fallen to INR 4. This is still high relative to production costs and so further expansion of trading seems likely, beyond its 9% market share in the first nine months of 2010. Indeed, in the first three quarters of 2010, 45% of all new generating capacity came from the private sector.

Seeing the need for further expansion of generation capacity, the government created a mechanism for the private sector to provide it. The Central Electricity Authority carries out the necessary land and permit acquisition by establishing a company for five so-called ultra-mega power plants (each of 4 000 MW capacity) at a cost of about USD 3 billion per plant. States were required to indicate their demands and then power companies were invited to bid for the plants. Private companies won all of the tenders. The move towards the private sector may be spurred by the end of cost-plus tendering for new plants in January 2011, when all tendering for new plants was put on a competitive tariff basis.

The trading market is often disrupted by a lack of transmission capacity. The public-sector power grid company (now a listed company) is responsible for developing the grid, but independent transmission companies can enter the market. The national company plans cumulative outlays of USD 22 billion in the seven years from 2010, against the annual

expenditure of USD 44 billion by the Chinese industry. The transmission lines for the ultra-mega power projects will be supplied through private-sector build-and-operate contracts.

A further boost to private power companies came as state electricity regulators were required to provide plans for open access to electricity for major consumers. This is meant to allow final customers to contract with independent merchant suppliers. Nearly all state regulators have introduced such plans and have announced the cross-subsidy surcharge that the customers must pay. Such a surcharge is necessary due to the high price borne by industrial and commercial consumers (Chapter 3). In practice, the open access policy has not yet achieved its goal of increasing competition. The main reason is the high prices of traded electricity which, once a surcharge has been added, results in a tariff higher than that offered by the distribution companies to their large customers. Even in the few states that set surcharges at zero, such as Haryana, the policy has not worked as regulators in neighbouring states have refused to allow the export of electricity to zero surcharge states when their own states have a power deficit.

The major problem in the electricity sector now lies in distribution, which is controlled by state governments. Almost all states have now separated their electricity boards into a generation, a transmission and a distribution company. Of the 72 distribution companies in India, electricity loss data is available for 60. A small minority of companies – of which all but two are privately owned – manage to keep losses from transmission and theft under the international norm of 10%. Amongst the remaining companies for which there is data, the median loss is as high as 30%.

Resolving the distribution problem is now the key to eliminating shortages of electricity. The overall transmission losses run at around 2% of GDP (Jalan, 2010) and prevent the distribution companies from making sufficient investment in their network and in metering. In addition, the workforce of the state electricity boards is not adapted to a competitive client-oriented environment. For example, when a private company took over the North Delhi network, almost one third of the labour force was let go through a voluntary redundancy scheme. The sector is burdened with archaic procedures, corruption and unprofessional work attitudes. A few State electricity companies and boards have managed to reduce losses, but the way forward is to either sell or franchise distribution systems to private-sector operators.

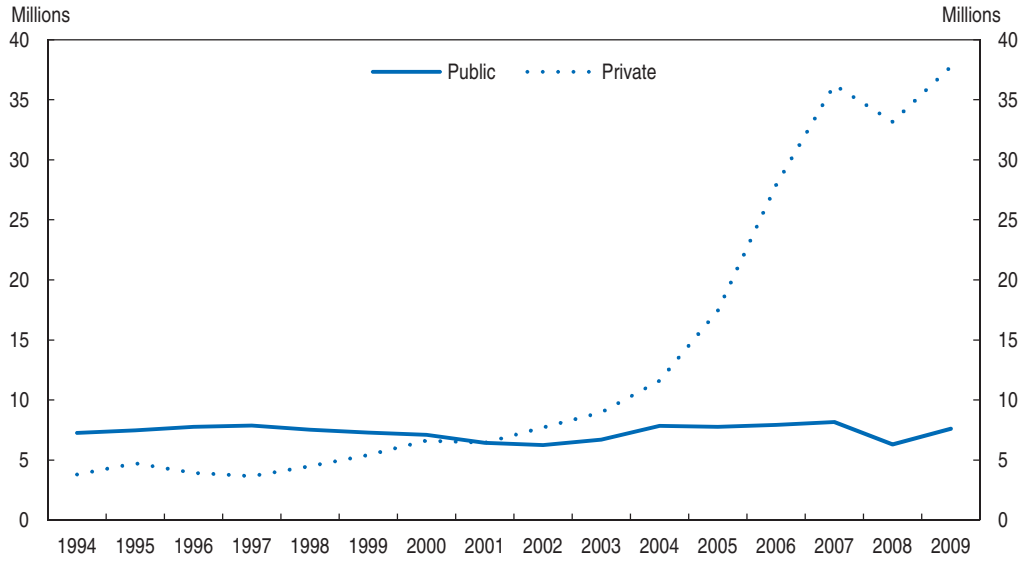
Aviation services

The airline industry was first opened to competition in 1994 and completely liberalised in 2003. Many new firms, often of a low-cost type offering point-to-point services with no frills, entered the market. While private-sector traffic surged (Figure 1.12) and competition intensified, market concentration remains high on some routes (Dasgupta, 2009). The distribution of slots is a barrier to entry since they are typically re-allocated to existing users each year. A free bidding system would be superior to such grandfathering.

Also hampering entry are the so-called Route Dispersal Guidelines. Under these rules the government classifies routes into four groups, reflecting their attractiveness in terms of the population served. In order to be allocated routes in the more attractive areas, airlines must also offer routes in the less attractive ones. This cross-subsidises routes in the remote and more sparsely populated areas. An alternative, more transparent arrangement would be for the government to directly subsidise certain routes.

Figure 1.12. **Airline passenger traffic by sector**

Millions of passengers per year, Indian fiscal years



Source: Directorate General of Civil Aviation.

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Furthermore, competition is distorted by the existence of state-owned airlines. The two original public ones (Air India and Indian) had a long history of unprofitable operations. They have been merged and now operate as one loss-making airline. The combined airline has an old fleet and low productivity. A large new order for jets was placed in 2006 and delivery of these planes will lower the age of the fleet. At present, the reasons why a Ministerial committee decided that Air India should place such an order (more than three times the planes that it required) is under investigation by the Comptroller and Auditor General. Private airlines have taken market share from Indian, while Air India's international business has been hit by an open-skies agreement with the United Arab Emirates which has made Gulf airports attractive hubs for Indian passengers. The company asked for an INR 150 billion equity injection (the amount of its accumulated losses). It received the promise of INR 20 billion, in two instalments: the first tranche was paid in 2009 but the second was conditional on performance targets that have not been met so far. By December 2010, Air India was having to pay cash for its jet fuel, owed INR 23 billion to state-owned oil companies and was having, once again, to delay payment of salaries. By April 2011, the company was experiencing strikes by pilots resisting proposals to implement productivity enhancing changes. It will be difficult for the airline to reduce costs significantly without an expensive voluntary redundancy agreement. A policy of disinvestment to a strategic partner that can take operational control might be the best option to the government at the moment.

There was a considerable delay between the liberalisation of the airlines and private sector entry into the provision of airport services. With the surge in traffic, the two major airports in the country operated at twice their designed capacity, generating deterioration in service quality that the government owner (Airports Authority of India – AAI) was unable to remedy. As a result, the government decided in 2003 to create joint ventures with the private sector. After a protracted bidding process, a consortium was awarded a contract to build and operate Mumbai and Delhi airports. The latter is now open with its international

terminal being one of the largest in the world, and further work is in hand with a view to quadrupling capacity. At the same time six new airports were constructed by the private sector (three of which were greenfield sites), which now account for over 60% of nationwide air passenger movement. These were private-public partnerships with the exact structure varying from airport to airport.

The other airports are publicly owned through AAI. Only seven of the 57 operational airports run by AAI make a profit. Despite the plans to upgrade 35 airports in smaller cities, government investment has been limited and more private sector investment is necessary. One way to attract such investment would be by awarding contracts to the group asking for the smallest subsidy. Most airports have extensive land holdings, usually more than needed for aeronautical activities. However, due to the drafting of the 1994 Air Act, AAI does not have the legal right to use this land for commercial purposes, nor to lease it. The government should amend the Air Act to enable AAI to lease the land. Given the success of private sector involvement in creating new airports, there would appear to be a good case for insisting that commercial development of airport land occur through partnerships with the private sector.

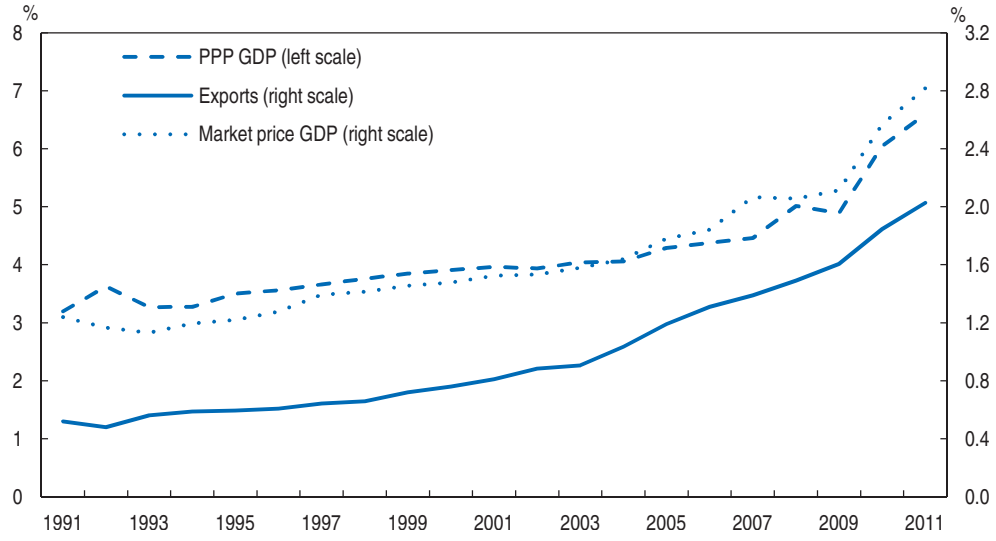
Air traffic control services are essential for the efficient running of airports and airlines. At present, they are provided by AAI, which as a public authority is constrained in its human resource management. The result is that in a competitive labour market, it is unable to attract sufficient staff to fill all the controller positions. In addition, the provision of air traffic services by the airport operator may give rise to conflicts of interest. Evidence from complete corporatisation of air traffic control systems points to substantial efficiency gains (Ministry of Civil Aviation, 2003).

A new airport economic regulatory authority to control the pricing of aeronautical services in the major airports was created in 2009. Regulation of the remaining small airports remains with the AAI, which is also the owner and operator of these airports. This is a step in the right direction but the regulator of small airports should not also be the operator and owner. Given the experience that the new economic regulatory authority will build up over time, it would seem wasteful to have two regulators. Thus, the new regulatory authority should cover all airports. Moreover, given the interaction between airline ticket pricing and slot allocation (Gonenc and Nicoletti, 2000), it should be responsible, through slot allocation, for ensuring sufficient competition on at least domestic routes. Separation of policymaking and regulation would also be improved by transforming part of the Directorate General of Civil Aviation into a separate airline safety agency. Responsibility for monitoring airline ticket pricing should be undertaken by the Competition Commission of India. The new regulators need to be made independent of ministries through sectoral funding, overseen by Parliament and subject to an appellate tribunal (Kacker, 2010).

The Indian economy is continuing to catch up

As documented above, the Indian economy has expanded rapidly in recent years, notwithstanding the global financial and economic crisis. Over the past decade, it has reduced the gap in living standards *vis-à-vis* OECD countries, GDP per capita at purchasing power parity (PPP) has risen from 7% of the OECD average to 10%. Concomitantly, the Indian share of world GDP has surged, to over 6% in PPP terms, while the share of global trade has more than doubled since 2000 (Figure 1.13). A number of favourable policy-driven supply-side factors have pushed up India's underlying GDP growth rate. Domestic saving

Figure 1.13. **India's share of world GDP and trade**



Source: World Bank, *World Development Indicators*.

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and investment have risen considerably, about as much as in most East Asian countries during their high-growth period (Chapter 4). At the same time, the improvement in the framework conditions for business witnessed since the mid-1980s continued in the past decade with the unilateral reduction in tariffs on manufactured products: the unweighted average tariff rate fell to 8%, accompanied by a sharp drop in the standard deviation of tariffs and in their average yield (which takes into account both actual tariffs and tariff concessions). As discussed above, this has heightened competitive pressures in the Indian economy and may have raised the growth of productivity (Kowalski and Dihel, 2008).

A second factor has been the take-off of Special Economic Zones (SEZs) since 2006, when the current SEZ Act came into force. By 2010, approvals had been granted to set up 571 SEZs and total employment in SEZs was estimated to approach 0.6 million, while SEZs accounted for almost 3% of the capital stock of corporate enterprises. The considerable fiscal and legal advantages given to developers establishing these areas were analysed in the previous *Economic Survey* (OECD, 2007). The objective was essentially to create export processing zones that would overcome many of India's traditional barriers to growth. They would be completely tariff free, taxation would be low for the first ten years and all infrastructure would be supplied privately. Businesses operating in SEZs would also be shielded from onerous administrative burdens via a single-window facility. In five years, exports from these areas have risen 15-fold (Table 1.4) and they now account for almost one-quarter of total exports. The slowdown in the world economy has had little impact on the SEZs. This rapid growth contrasts starkly with the first generation of Indian SEZs, which lacked a unifying strategy (Engman *et al.*, 2007).

The SEZ's success has to be assessed on the basis of their value-added rather than just by the value of SEZ exports and here the results have also been good. The simplest method of measuring the value-added of the zones is to compare their exports and imports, as the zones do not generally sell to the domestic market. Using data collected from a sample of SEZs, Aggarwal (2010) found that value-added represented nearly half of their total exports, but with differences across products (higher for software and lower for electronics). Based

Table 1.4. **The development of special economic zones**

	Gross value of exports		Share of exports of goods and services	Share of GDP
	INR billion	% change from previous year	%	%
2005	228	22	3.2	0.6
2006	346	52	3.8	0.8
2007	666	93	6.5	1.3
2008	997	50	7.6	1.8
2009	2 207	121	17.0	3.5
2010 (projection)	3 443	56	22.1	4.6

Note: Data presented on an Indian fiscal year basis and are in nominal terms.
Source: Ministry of Commerce and Industry.

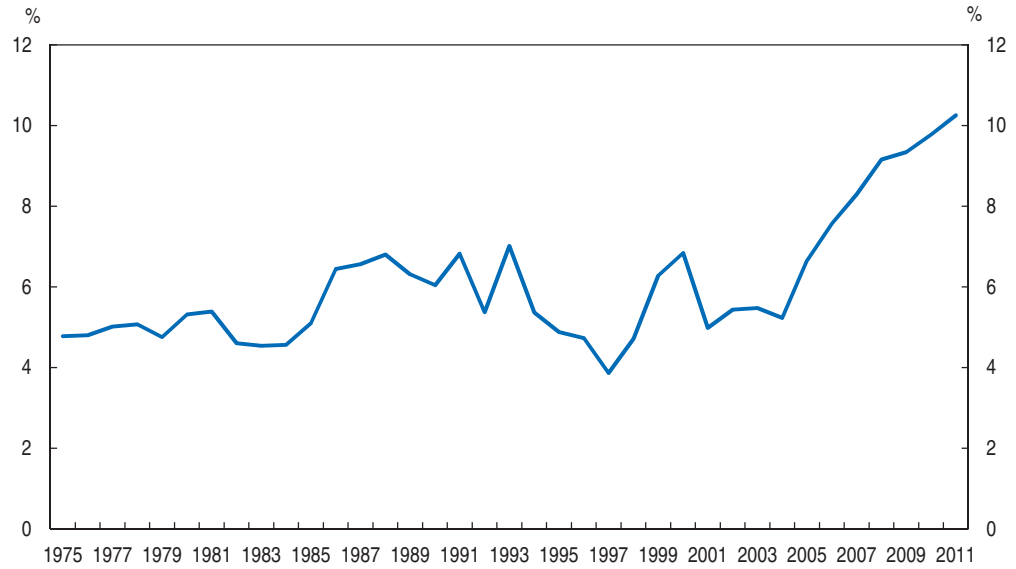
on a smaller sample, however, Tantri (2010) estimated a lower value-added share of 30%. In 2010-11, the share of value-added in exports probably fell significantly as a major oil refinery located in an SEZ came on stream.

An optimal policy would be to remove regulatory and other barriers to growth across the country. Short of this, the recent strong growth in exports, employment and investment in the SEZs could act as a catalyst for broader change. In particular, the zones appear to be encouraging the emergence of a concentration of modern industrial areas that could generate agglomeration economies. However, they have been concentrated in just 35 of India's 626 districts. Developers have focused on setting up zones close to mega-cities, in areas where there is a high share of non-agricultural employment (Mukhopadhyay and Pradhan, 2009). This has led to the concentration of SEZs in a small number of states: four (Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu) have 27 zones that account for 56% of the total surface areas of approved SEZs. In five years, these zones (not all of which are yet fully operational) have developed an area equivalent to the largest Chinese zone.

The final positive supply-side factor has been the pick-up in the growth of infrastructure (Figure 1.14). No long time series are available, but the capital stock in this area can be proxied based on total investment in electricity, gas, water, railways, other transport and communications. In the case of India, extra infrastructure investment can be expected to have considerable spillover effects, reducing the uncertainty surrounding production schedules as electricity supply improves and transportation times shrink, thus allowing for a much greater specialisation of production (Hulten *et al.*, 2006). Cross-country evidence for spillovers is mixed. Some authors have failed to find any in East Asia (Young, 1995), but others have found some for advanced economies (Aschauer, 1989). In India, there appear to be strong externalities in the Indian manufacturing sector (Sharma and Sehgal, 2010) and the spillover effect from highways is equal to a rate of return of 9% over and above the private rate of return (Hulten *et al.*, 2006).

Against this backdrop, the longer-run potential growth rate of the economy has continued to increase, approaching 9% on OECD estimates (Table 1.5). The acceleration in the capital stock added 1.8 percentage points to the growth rate between the first and the second half of the past decade, but faster total factor productivity growth also contributed, not least thanks to the externalities arising from the surge in infrastructure investment over the past five years.

Figure 1.14. **Increase in real capital stock of infrastructure industries**



Source: Central Statistical Office, *National Accounts Statistics*.

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Table 1.5. **Economic growth: contributing factors**

In per cent and percentage points

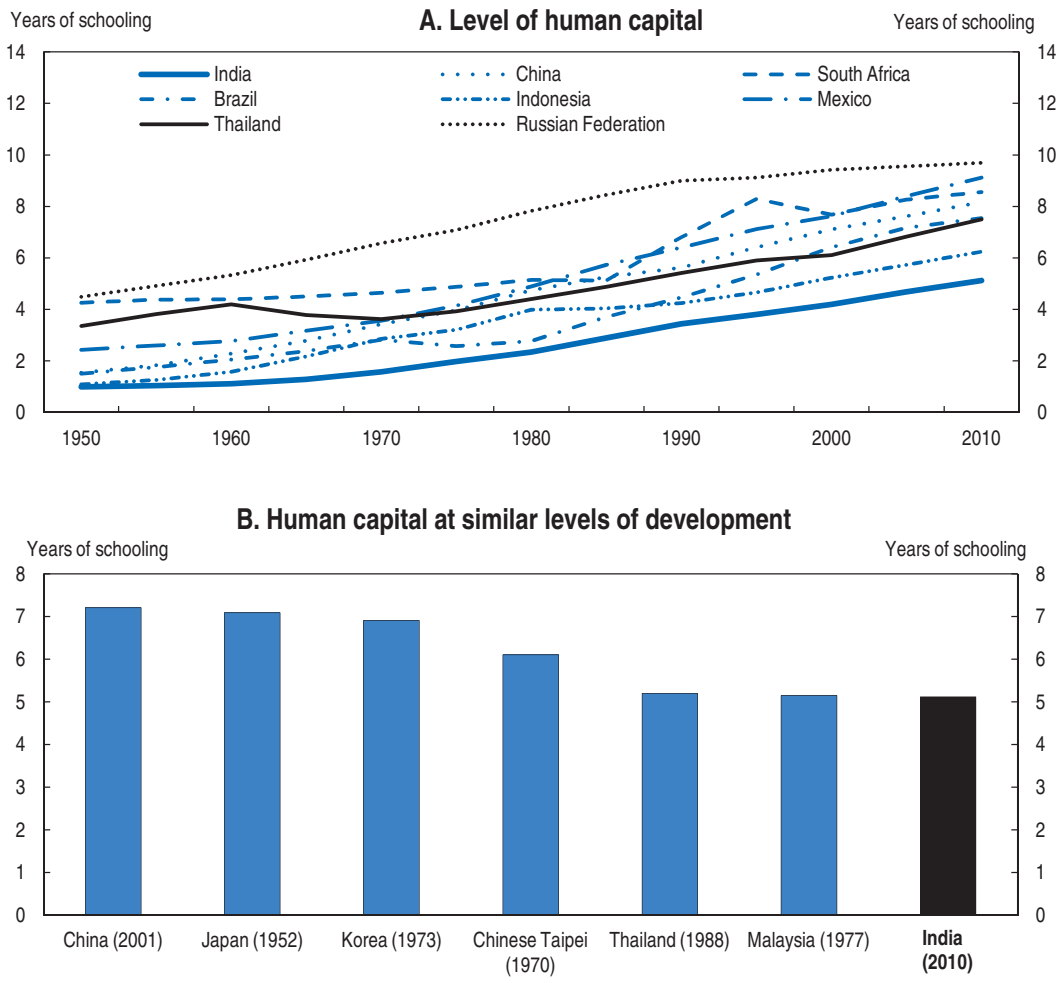
	1996-2001	2001-06	2006-11
	Annual average compound growth		
Contributions to potential growth			
Capital	3.7	4.5	6.3
Labour	0.6	0.6	0.5
Total factor productivity	1.7	1.7	1.9
Potential (rainfall corrected)	6.0	6.9	8.8
Rainfall input	0.0	0.1	0.1
Potential growth	6.0	7.0	8.9
Increase in spare capacity	0.0	0.0	–0.4
GDP growth (actual)	5.9	7.0	8.4

Note: The above estimates use the share of both capital and mixed income to represent the capital share in the underlying production function. While this high share is supported econometrically, it might be lower given the extent of self-employment.
Source: OECD analysis.

Total factor productivity (TFP) growth, as measured above, reflects a number of factors. One important driver is the move of labour out of agriculture into higher-productivity sectors. The proportion of labour still engaged in agriculture is high and so the prospect for productivity gains as labour moves out of the sector are good. Indeed, the percentage point decline in the share of the labour force in agriculture has been the same in India in the past decade as in China in the decade to 2001, the year in which its income level was the same as that of India in 2010. Acceleration in the movement of labour out of agriculture, as happened in China over the past decade, would help raise growth.

Human capital in India is still low relative to a number of North-East Asian economies when incomes there were similar to those in India in 2010 (Figure 1.15). On the other hand,

Figure 1.15. **Human capital across economies**



Note: Years of schooling for population aged 15 years and over.

Source: Barro and Lee (2010) and Penn World Table version 7.

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the overall level of education is similar to that of a number of South-East Asian countries, when they were at India's level of development, and these countries subsequently achieved rapid growth. This deficit of human capital is being filled, as educational achievements are rising faster than in a number of emerging economies. As yet though, the faster growth is not narrowing the absolute gap in years of schooling.

The extent of the contribution of better education to past growth depends on the method of calculation and there are marked differences in the literature as to how to measure human capital. Using the measure of years of schooling, human capital grew by 2% per year between 1985 and 2010, according to Barro and Lee (2010). They also estimate that in South Asia, the increase in GDP per person for each year's increase in schooling is 11%. Consequently, their estimates suggest that the increase in human capital has contributed 0.2% to overall growth. Another approach to measuring the impact of human capital is to multiply the share of workers with a given educational level by the average wage of all employees with that education level in a base year. The result shows the increase in average wages that, over time, is due to increased education. Such a calculation

puts the increase in the average wage due to better education as 0.5% annually in the period 1990 to 2004 (Aggarwal, 2011). Given a labour share of between 0.4 and 0.5, such an improvement in labour quality implies that increased human capital has raised growth by around 0.3% per year. These two estimates may understate the contribution of education since there may be external benefits from a better educated labour force through their ability to use more sophisticated technology. Indeed, improvements in cognitive skills, as reflected in higher student test scores, exert a stronger positive impact on economic growth (OECD, 2010b).

Once allowance has been made for human capital accumulation and sectoral reallocation, TFP growth in India barely exceeds 1% annually. This is low and suggests that in the absence of significant product and labour market reforms, TFP growth may not be converging to that in advanced economies. In any event, over the next decade or two, growth will mainly come from capital formation, both physical and human. To achieve a double-digit pace, investment would need to continue to rise, as discussed in Annex 1.A1. Given future demographic trends, this is feasible, provided the fiscal deficit is reduced further (Chapter 2).

Box 1.3. **Summary of policy recommendations on maintaining growth and improving welfare**

Prudent macroeconomic policies to prolong the expansion

- Undertake further incremental monetary policy tightening to damp inflation.
- Stay the course with planned fiscal consolidation.
- Maintain vigilance against possible capital inflow surges and attendant risks to macroeconomic stability. Focus on macro-prudential measures to guard against possible undue asset price inflation. Undertake foreign exchange intervention only in the case of significant rapid currency movements.

Strengthen safety nets, improve health care provision and promote job creation

- Further experiment with cash transfers, including conditional cash transfers, to provide direct assistance to the neediest.
- Improve regulation and oversight of private health providers and promote better public information disclosure. Ensure access to generic drugs while maintaining commitments to international intellectual property rights obligations.
- Encourage job creation in the formal sector by reducing the administrative burden for dismissal faced by large firms.

Step up product market regulation reform and improve infrastructure delivery

- Build on progress in privatisation by hardening the budget constraints faced by Public Sector Units and enhancing their exposure to market competition. Further reduce administrative barriers to entry for new firms to stimulate investment and innovation. Continue to reduce trade and FDI barriers, especially in services and network industries.
- Speed up the expansion of road infrastructure by streamlining land titling to reduce uncertainties with land acquisition. Strengthen efforts to improve land record management by clarifying land boundaries.
- Focus on efforts to improve the functioning of electricity distribution through privatisation or franchising to private operators. Meter electricity supply to the irrigation sector.

Box 1.3. **Summary of policy recommendations on maintaining growth and improving welfare** *(cont.)*

- Hive off air traffic control functions from the Airports Authority of India to a separate company. Expand the remit of the Airports Economic Regulatory Authority to cover all airports.
- Consider options for restructuring and full or partial privatisation of the national telecommunications provider (BSNL), as well as of Air India and Indian Airlines.

Notes

1. The shift towards more protein-intensive diets in India may also be driving a secular increase in relative food prices (Gokarn, 2010).
2. The OECD's PMR indicators measure the extent to which the regulatory framework is supportive of competition in markets for goods and services where technology and market conditions make competition viable. The indicators cover most of the important aspects of general regulatory practice as well as some aspects of industry-specific regulatory policy (see Wölfl *et al*., 2009).
3. By way of confirmation, the World Bank's Doing Business indicators rank India 165th out of 183 countries for the ease of starting a new business. The overall "ease of doing business" in India is ranked 134th out of 183 countries, according to these indicators. See *www.doingbusiness.org*.

Bibliography

Aggarwal, A. (2010), "Economic Impacts of SEZs: Theoretical Approaches and Analysis of Newly Notified SEZs in India", presented at a World Bank Conference on Special Economic Zones, April.

Aggarwal, S. (2011), "Measuring Labour Series at Sectoral Level", paper prepared for the First India KLEMS workshop held at ICRIER, New Delhi, January.

Aghion, P. and R. Griffith (2005), *Competition and Growth*, The MIT Press, Cambridge, MA.

Aghion, P. and P. Howitt (2006), "Appropriate Growth Policy: A Unifying Framework", *Journal of the European Economic Association*, Vol. 4, No. 2-3.

Anant, T. and R. Singh (2009), "Distribution of Highways Public Private Partnerships in India: Key Legal and Economic Determinants", *Center on Democracy, Development, and the Rule of Law Working Papers*, No. 100.

Arnold, J., G. Nicoletti and S. Scarpetta (2008), "Regulation, Allocative Efficiency and Productivity in OECD Countries: Industry and Firm-Level Evidence", *OECD Economics Department Working Papers*, No. 616.

Aschauer, D. (1989), "Is Public Expenditure Productive?", *Journal of Monetary Economics*, Vol. 23, No. 2.

Athukorala, P. and P.-L. Tsai (2003), "Determinants of Household Saving in Taiwan: Growth, Demography and Public Policy", *Journal of Development Studies*, Vo1. 39, No. 5.

Azam, M. (2009), "Changes in Wage Structure in Urban India 1983-2004: A Quantile Regression Decomposition", *IZA Working Papers*, No. 3963.

Barro, R. and J. Lee (2010), "A New Data Set of Educational Attainment in the World, 1950-2010", *NBER Working Papers*, No. 15902.

Basu, K., S. Das and B. Dutta (2010), "Child Labor and Household Wealth: Theory and Empirical Evidence of an Inverted-U", *Journal of Development Economics*, Vol. 91, Issue 1.

Bhalotra, S. (2010), "Fatal Fluctuations? Cyclicality in Infant Mortality in India", *Journal of Development Economics*, Vol. 93, Issue 1.

Bhattacharya, R., I. Patnaik and A. Shah (2011), "Monetary Policy Transmission in an Emerging Market Setting", *IMF Working Papers*, No. WP/11/5.

Bhaumik, S.K. and M. Chakrabarty (2009), "Is Education the Panacea for Economic Deprivation of Muslims? Evidence from Wage Earners in India, 1987-2005", *Journal of Asian Economics*, Vol. 20, Issue 2.

A corrigendum has been issued for this page. See: http://www.oecd.org/dataoecd/50/18/48612177.pdf

Bloom, D., D. Canning, L. Hu, Y. Liu, A. Mahal and W. Yip (2010), "The Contribution of Population Health and Demographic Change to Economic Growth in China and India", *Journal of Comparative Economics*, Vol. 38, Issue 1.

Buiter W. and E. Rabhari (2011), "Global Growth Generators: Moving beyond Emerging Markets and BRICs", Citi Investment Research and Analysis, Citigroup Global Markets Inc., London.

Castro, J. and L. Modesto (2010), *Bolsa Família 2003-2010: Avanços e Desafios – Volume 1*, Instituto de Pesquisa Econômica Aplicada, Brasília.

Conway, P., R. Herd and T. Chalaux (2008), "Product Market Regulation and Economic Performance Across Indian States", *OECD Economics Department Working Papers*, No. 600.

Conway, P., S. Dougherty and A. Radziwill (2010), "Long-Term Growth and Policy Challenges in the Large Emerging Economies", *OECD Economics Department Working Papers*, No. 755.

Dasgupta, P. (2009), "Competition Issues in the Air Transport Sector in India", ASCI Research, Administrative Staff College, Hyderabad for the Competition Commission of India.

Datt, G. and M. Ravallion (2010), "Shining for the Poor Too?", *Economic and Political Weekly*, Vol. 45, No. 7.

Deaton, A. and J. Drèze (2009), "Food and Nutrition in India: Facts and Interpretations", *Economic and Political Weekly*, Vol. 44, No. 7.

Ding, S. and J. Knight (2009), "Can the Augmented Solow Model Explain China's Remarkable Economic Growth? A Cross-Country Panel Data Analysis", *Journal of Comparative Economics*, Vol. 37, No. 3.

Dutta, P., S. Howes and R. Murgai (2010), "Small But Effective: India's Targeted Unconditional Cash Transfers", *ASARC Working Papers*, No. 2010/18.

Engman M., O. Onodera and E. Pinali (2007), "Export Processing Zones: Past and Future Role in Trade and Development", *OECD Trade Policy Working Papers*, No. 53.

Fiszbein, A. and N. Schady (2009), *Conditional Cash Transfers: Reducing Present and Future Poverty*, World Bank, Washington DC.

Gokarn, S. (2010), "The Price of Protein", Speech delivered in Mumbai, 26 October.

Goldar, B. (2011), "Growth in Organized Manufacturing Employment in Recent Years", *Economic and Political Weekly*, February.

Goldar, B. and S. Aggarwal (2010), "Informalization of Industrial Labour in India: Are Labour Market Rigidities and Growing Import Competition to Blame?", presented at the Indian Statistical Institute Sixth Annual Conference on Economic Growth and Development, December.

Golub, S. (2009), "Openness to Foreign Direct Investment in Services: An International Comparative Analysis", *The World Economy*, Vol. 32.

Gonenc, R. and G. Nicoletti (2000), "Regulation, Market Structure and Performance in Air Passenger Transportation", *OECD Economics Department Working Papers*, No. 254.

Grosh, M., C. del Ninno, E. Tesliuc and A. Ouerghi (2008), *For Protection and Promotion: The Design and Implementation of Effective Safety Nets*, World Bank, Washington DC.

Grover, A. and B. Citro (2011), "India: Access to Affordable Drugs and the Right to Health", *The Lancet*, forthcoming.

Hasan, R. and K. Jandoc (2010), "The Distribution of Firm Size in India: What Can Survey Data Tell Us?", *ADB Economics Working Paper Series*, No. 213.

Herd, R. and S. Dougherty (2007), "Growth Prospects in China and India Compared", *European Journal of Comparative Economics*, Vol. 4, No. 1.

Hsieh, C. and P. Klenow (2009), "Misallocation and Manufacturing TFP in China and India", *Quarterly Journal of Economics*, Vol. CXXIV, Issue 4.

Hulten, C., E. Bennathan and S. Srinivasan (2006), "Infrastructure, Externalities, and Economic Development: A Study of the Indian Manufacturing Industry", *The World Bank Economic Review*, Vol. 20, No. 2.

IMF (2011), *India: 2010 Article IV Consultation*, IMF, Washington DC.

Islam, M. and R. Rajan (2009), "The Bank Lending Channel of Monetary Policy Transmission: India and the Global Financial Crisis", *ISAS Working Papers*, No. 78.

ITU (2010), *The World in 2010, ICT Facts and Figures*, Telecommunication Development Bureau, International Telecommunication Union, Geneva.

Jalan, L. (2010), "Distribution Reform", *Monthly Economic Review*, Indian Chamber of Commerce, July.

Jongwanich, J. (2010), "The Determinants of Household and Private Savings in Thailand", *Applied Economics*, Vol. 42, No. 8.

Kacker, M. (2010), "One Sector, Three Regulators", CUTS Institute for Regulation and Competition, May.

Karandikar, V. (2007), "Ireland Leaps Ahead with Land-Registration Records", Spectrun@RMSI.

Kowalski, P. and N. Dihel (2009), "India's Trade Integration, Realising the Potential", *OECD Trade Policy Working Papers*, No. 88.

Lim, S., L. Dandona, J. Hoisington, S. James, M. Hogan and E. Gakidou (2010), "India's Janani Suraksha Yojana, A Conditional Cash Transfer Programme to Increase Births in Health Facilities: An Impact Evaluation", *The Lancet*, Vol. 375.

Loayza, N., K. Schmidt-Hebbel and L. Serven (2000), "What Drives Saving Across the World?", *Review of Economics and Statistics*, Vo1. 82, No. 2.

Kumar, S., L. Chen, M. Choudhury, S. Ganju, V. Mahajan, A. Sinha and A. Sen (2011), "Financing Health Care for All: Challenges and Opportunities", *The Lancet*, Vol. 377.

Mazundar, D. (2010), "Decreasing Poverty and Increasing Inequality in India", *in* OECD, *Tackling Inequalities in Brazil, China, India and South Africa: The Role of Labour Market and Social Policies*, OECD, Paris.

Mehrotra, S. (2010), "Introducing Conditional Cash Transfers in India: A Proposal for Five CCTs", Planning Commission, December.

Ministry of Civil Aviation (2003), "Report of the Committee on a Road Map for the Civil Aviation Sector", Government of India, November.

Ministry of Commerce and Industry (2010), "A National Manufacturing Policy: A Discussion Paper", Government of India, New Delhi.

Ministry of Finance (2010a), *Report of the Working Group on Foreign Investment*, Government of India, New Delhi.

Ministry of Finance (2010b), *Economic Survey 2009-10*, Government of India, New Delhi.

Ministry of Finance (2011), *Economic Survey 2010-11*, Government of India, New Delhi.

Ministry of Health and Family Welfare (2010), *Annual Report to the People on Health*, Government of India, New Delhi.

Ministry of Labour and Employment (2009), *Report on Effect of Economic Slowdown on Employment in India, October to December 2008*, Government of India, Chandigarh.

Ministry of Labour and Employment (2010), *Annual Report, 2009-10*, Government of India, New Delhi.

Modigliani, F. and S.L. Cao (2004), "The Chinese Saving Puzzle and the Life-Cycle Hypothesis", *Journal of Economic Literature*, Vol. XLII, No. 1.

Mohanty, D. (2009), "The Global Financial Crisis – Genesis, Impact and Lessons", speech delivered in Hyderabad, 30 December.

Mohapatra, S. and D. Ratha (2010), "The Impact of the Global Financial Crisis on Migration and Remittances", *in* Canuto, O. and M. Giugale (eds.), *The Day After Tomorrow: A Handbook on the Future of Economic Policy in the Developing World*, World Bank, Washington DC.

Mukhopadhyay, P. and K.C. Pradhan (2009), "Location of SEZs and Policy Benefits What Does the Data Say?", *Centre for Policy Research Occasional Paper Series*, No. 18, New Delhi.

OECD (2005), *OECD Economic Survey of Brazil*, OECD, Paris.

OECD (2007), *OECD Economic Survey of India*, OECD, Paris.

OECD (2008), *OECD Employment Outlook*, OECD, Paris.

OECD (2011), *OECD Economic Outlook*, OECD, Paris, May.

OECD (2010a), *OECD Employment Outlook, Moving Beyond the Jobs Crisis*, OECD, Paris.

OECD (2010b), *The High Cost of Low Educational Performance, The Long-Run Economic Impact of Improving PISA Outcomes*, OECD, Paris.

Panagariya, A. (2008), *India: The Emerging Giant*, Oxford University Press, Oxford.

Patel, B., S. Ballaney, C.K. Koshy and M. Nohn (2009), "Reforming Urban Land Management in Gujarat", *in India Infrastructure Report 2009*, Oxford University Press, Oxford.

Patnaik, I., A. Shah and G. Veronese (2010), "India's Inflation Problem, Not Only a Measurement Issue", Presented at the NIPFP Macroeconomics Symposium, 14 September.

Patnaik, I. and A. Shah (2011), "Did Indian Capital Controls Work?", *NIPFP Working Paper*, No. 2011-87.

Perry, G., W. Maloney, O. Arias, P. Fajnzylber, A. Mason and J. Saavedra-Chanduvi (2007), *Informality: Exit and Exclusion*, World Bank, Washington DC.

Planning Commission (2009), *Report of the Expert Group to Review the Methodology for Estimation of Poverty*, Government of India, New Delhi.

Planning Commission (2010), "Investment in Infrastructure During the Eleventh Five Year Plan", September, New Delhi.

Prasad, E. (2009), "Some New Perspectives on India's Approach to Capital Account Liberalization", *NBER Working Papers*, No. 14658.

Ravallion, M. (2011), "A Comparative Perspective on Poverty Reduction in Brazil, China and India", *World Bank Research Observer*, Vol. 26.

Schwellnus, C. (2009), "Achieving Higher Performance: Enhancing Spending Efficiency in Health and Education in Mexico", *OECD Economics Department Working Papers*, No. 732.

Sharma, C. and S. Sehgal (2010), "Impact of Infrastructure on Output, Productivity and Efficiency: Evidence from the Indian Manufacturing Industry", *Indian Growth and Development Review*, Vol. 3, No. 2.

Sinha, R. (2009), "Moving Towards Clear Land Titles in India: Potential Benefits, a Road-map and Remaining Challenges", Presentation to the FIG Washington – World Bank Conference on Land Governance in Support of the Millennium Development Goals: Responding to New Challenges, March.

Sinha, R. (2010), "Draft Land Titling Bill, 2010 – India", presentation to a workshop on "The Fundamental Principles of Property Titling", July, New Delhi.

Subbarao, D. (2009), "Impact of the Global Financial Crisis on India Collateral Damage and Response", speech delivered in Tokyo, 18 February.

Tantri, M. (2010), "Import Dependency of Special Economic Zones", *Economic and Political Weekly,* Vol. XLV, No. 36.

Wacziarg, R. (2001), "Measuring the Dynamic Gains from Trade", *World Bank Economic Review*, Vol. 15, No. 3.

Wölfl, A., I. Wanner, T. Kozluk and G. Nicoletti (2009), "Ten Years of Product Market Reform in OECD Countries – Insights from a Revised PMR Indicator", *OECD Economics Department Working Papers,* No. 695.

Young, A. (1995), "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience", *Quarterly Journal of Economics*, Vol. 110, No. 3.

Zhang, Y. and G. Wan (2010), "National Savings and Balanced Growth: China *versus* India", World Bank presentation.

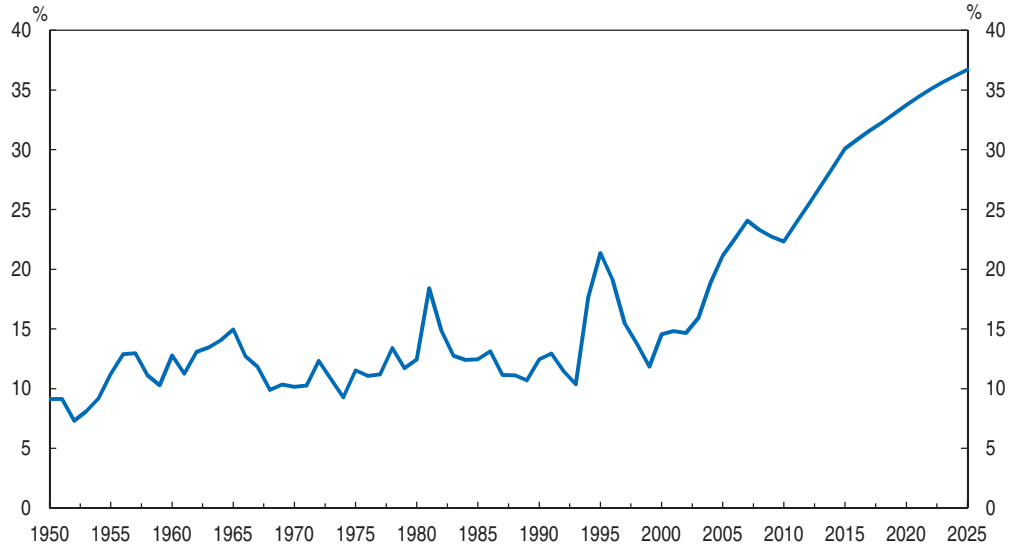
ANNEX 1.A1

Growth projections through 2025: a highly stylised outlook for India

India's growth performance has improved so spectacularly since the 1990s that a prominent question is now whether and under what conditions double-digit growth can be achieved in the coming decade. The first chapter of this *Survey* presents a short-term outlook for the Indian economy. These projections suggest that after two years at over 9%, growth may ease to around 8½ per cent this year and next as fiscal consolidation continues and monetary policy is further tightened in order to lower inflation and promote more balanced growth. Other chapters make recommendations for strengthening the financial sector, improving education and fiscal policy, including public spending. Reforms in these areas should increase the national saving rate and help remove impediments to investment, which has already risen rapidly in the past decade (Figure 1.A1.1). At the same time as the government is moving forward with these reforms, the demographic structure of the Indian population will be changing markedly. The ability of Indian households to

Figure 1.A1.1. **Evolution of net fixed capital investment**

Per cent of GDP at constant prices



Source: CEIC and OECD projections.

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save will improve as the number of children per family continues to fall and the proportion of elderly people in the population remains relatively stable.

Historically, growth in India has long been held back by extensive and intrusive product and labour market regulations. Total factor productivity (TFP) growth was close to nil and capital formation was extremely low between 1950 and 1975. During that period, per capita income grew at only 1.5% annually – from USD 0.46 to USD 0.66 per day in 2004-05 prices. In the next 25 years, this growth rate nearly doubled and average income rose to USD 1.32 per day. Finally, during the past decade, a further rapid rise saw incomes double, to USD 2.47 per day. This acceleration mostly reflected an increase in the pace of capital formation. In the first 25-year period, net investment was only around 10% of GDP. This share rose during the following 25 years to average 15½ per cent of GDP, and again in the most recent decade to an average of 23½ per cent of GDP (Figure 1.A1.1). This pushed up GDP growth but the expansion of employment and a markedly better TFP performance also played a role (Herd and Dougherty, 2007).

In the course of the past three decades, trend GDP growth has thus clearly picked up, not least thanks to economic reforms (Figure 1.A1.2, Panel A). There are no signs that the very high and increasing growth of recent years is set to slow. In that regard, the pattern is similar to that witnessed earlier in China. Cross-country analysis suggests that three factors play an important role in sustaining such growth momentum: the transfer of labour from lower to higher-productivity sectors, improvements in human capital and an increasing saving rate (Ding and Knight, 2009). These factors can be expected to play an important role in India as well.

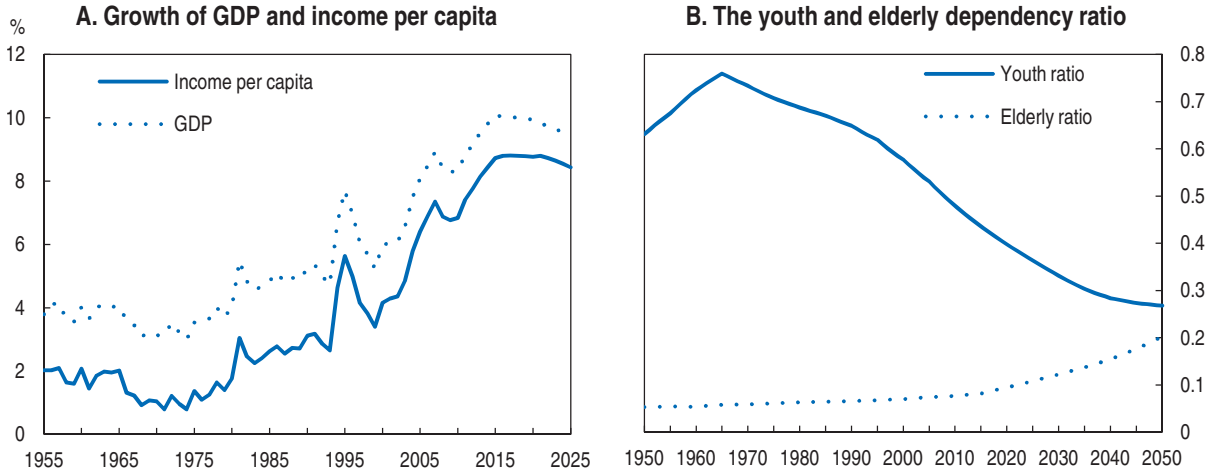
A simple Cobb-Douglas production function is used to project growth through 2025, consistent with the notion that over the longer term, growth is driven mainly by supply-side factors, namely the accumulation of capital, the evolution of the quantity and quality of labour inputs, the reallocation of resources between lower- and higher-productivity sectors and technical progress. The share of capital is relatively high, at 0.68, partly because it is difficult to apportion the share of labour income for the high proportion of the labour force that is self-employed. However, econometric estimates of a production function for the whole economy are consistent with this high share.

In the case of India, the transfer of labour from lower- to higher-productivity sectors has been relatively slow due, on the one hand, to policies (including subsidies and rural public-sector job programmes) designed to favour agriculture and boost incomes in rural areas and, on the other hand, labour market regulations that have biased growth toward capital-intensive industries. The pace of human capital accumulation has picked up and may continue to do so in the coming decades, given recent improvements in enrolments.

The increase in capital formation in the past decade has been financed by a rising saving rate, which itself can be ascribed to two factors: first, as in other emerging economies, higher real income growth has raised saving rates (Zhang and Wang, 2010); second, the large decline in the number of dependents – and especially in the number of children – relative to the number of employed (Figure 1.A1.2, Panel B), has been found to raise saving in a number of studies (Table 1.A1.1). The precise impact of demographic variables differs considerably; nonetheless cross-country analysis by Loayza *et al.* (2000) does show a statistically and economically significant impact on the saving rate of changes in both the youth and elderly dependency rates.

A corrigendum has been issued for this page. See: http://www.oecd.org/dataoecd/50/18/48612177.pdf

Figure 1.A1.2. **Economic and demographic projections until 2025**



Source: CEIC and OECD projections.

StatLink http://dx.doi.org/10.1787/888932435872

Table 1.A1.1. **Impact of the dependency ratio on the saving rate**

Geographic coverage	Type of saving	Study	Dependency ratio	
			Youth	Aged
India	National	Zhang and Wang (2010)	–0.32	–0.01
China	National	Zhang and Wang (2010)	–0.42	0.01
China[1]	Household	Modigliani and Cao (2004)	–0.23	0.00
Chinese Taipei	Household	Athukorala and Tsai (2003)	–0.18	–4.80
Thailand	Household	Jongwanich (2010)	–0.88	–3.30
61 economies	Private	Loayza *et al.* (2000)	–0.72	–1.60

1. In this paper, both the dependency ratios entered the saving rate equation as a reciprocal. The marginal impact of a change in the youth dependency ratio, at the 2010 value of the dependency ratio, is shown in the table in order to preserve comparability with the coefficients from the other papers, where the dependency ratio enters in the saving equation directly. The paper found no impact of the reciprocal of the aged dependency ratio on the saving rate and so there is no marginal effect either.

Looking forward, in the case of India, the impact of demographic change on the saving rate would appear to be positive for the next 15 years. The continued decline in the youth dependency ratio more than offsets the modest rise in the elderly dependency ratio. Beyond 2025, though, demography will start to work in the opposite direction. Current UN population projections suggest that around that time the youth dependency ratio will stabilise and the share of the elderly will start to rise significantly. The turning point in the combined dependency ratio would come between 2030 and 2040. As the negative impact on the saving rate generally outweighs the positive impact of the youth dependency ratio, the turning point in the saving ratio may occur somewhat before the demographic turning point. Such estimates, though, take no account of India-specific factors. In particular, the very high share of private financing of health care may mean that elderly people may not reduce their saving to the extent suggested by cross-country experience.

These demographic tendencies and announced government fiscal policies can be used to derive a baseline for the evolution of domestic saving over the next 15 years. Projections of saving and capital formation can then be combined with projections for labour force

A corrigendum has been issued for this page. See: http://www.oecd.org/dataoecd/50/18/48612177.pdf

growth and TFP to compute an estimate of economic growth through 2025. The projection rests on a number of assumptions:

- TFP continues to grow at its recent trend rate of 1.9% *per annum*.
- The relationship between the gross household saving rate and the youth dependency ratio is projected to move in line with the cross-country estimates of Loayza *et al.* (2000) reported in Table 1.A1.1.
- Expected income growth (measured by a moving average of past income growth) increases the household saving rate, with a one percentage point increase in income growth raising the saving rate by one percentage point. This assumption is again based on results from Loayza *et al.* (2000).
- Government net saving rises by almost two percentage points of GDP over 2010-15, in line with government deficit reduction plans.
- Public sector enterprises increase net saving by 1% of GDP over 2010-15, assuming oil companies no longer have to finance subsidies and electricity distribution companies improve their performance.
- The labour force grows in line with the UN population projections for the 15-64 age group.
- The contribution of labour to growth increases as the education level of the working population rises and workers move out of agriculture. The labour share is projected to rise from 0.35 in 2010 to 0.50 by 2025.
- Last but not least, increased net national saving is reflected one for one in higher net fixed capital formation. On this basis, the net national saving rate rises from 22% of GDP in 2010 to 36% in 2025 (Table 1.A1.2), translating into a marked increase in the share of GDP devoted to net fixed capital investment (Figure 1.A1.1).

Any projection exercise involves a number of technical uncertainties. In this case, any understatement of the labour share would tend to imply lower future growth. On the other hand, faster transfer of labour out of agriculture would raise growth.

Table 1.A1.2. **Evolution of net and gross national saving**

Per cent of current market price GDP

	2005-10	2010	2011-15	2016-20	2021-25
Net saving rates					
Households	19.9	20.4	21.6	23.0	23.4
Private companies	4.7	4.5	4.5	4.5	4.5
Government administrative departments	–2.4	–1.8	–0.7	0.0	0.0
Public sector enterprises	1.7	1.6	2.2	2.6	2.6
National	23.9	24.6	27.6	30.0	30.5

Source: National Accounts Statistics and OECD projections.

The overall result is that the annual potential growth rate of the economy could rise to 10% in the next five years, and that this pace could be maintained for the remainder of the decade (Figure 1.A1.2). This would entail per capita income growth of around 8½ per cent, up from 7.2% in 2010. A recent private sector projection for the 20 years to 2030 put the growth of per capita income at 7¾ per cent, slightly lower than the estimate presented here (Buiter and Rahbari, 2011). The difference can be attributed to the assumption that current government plans for fiscal consolidation and the reduction of fossil fuel subsidies are fully

met. Overall, though, a key conclusion from both of these projections is that with continued reform and a favourable response of household saving to demographic changes, India can grow as fast during the next decade or two as China has done over the past decade.

As indicated in the *Survey*, the extent to which favourable demographic developments will actually boost growth hinges on the implementation of further reforms. Major efforts are needed to facilitate infrastructure investment and to ensure that market forces play a greater role in allocating investment. The fiscal deficit needs to be brought down and government expenditure has to become more growth-friendly. This involves scaling back subsidies and replacing them by targeted payments to households, thereby cutting the deficit and raising the saving rate of government enterprises in the energy sector. Indeed, the more rigorous fiscal policy underpinning this scenario is responsible for almost half of the projected increase in the national saving rate and thus key to sustaining high growth.

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Chapter 2

Fiscal prospects and reforms

Substantial fiscal consolidation was achieved under the aegis of the 2003 Fiscal Responsibility and Budget Management Act. While deficits widened anew in 2008 and 2009, against the backdrop of the global financial and economic crisis, efforts to reduce them have resumed since. To ensure continued progress, as well as stronger government finances in the longer term, the medium-term fiscal framework needs to be improved, notably by embedding the annual budget in a detailed three-year rolling programme. Expenditure needs to be controlled better, in particular as regards subsidies, which the central government is indeed trying to rein in, though with difficulty in the face of rising world oil prices. Expenditure also needs to become more effective, in particular in the areas of health care, education and social assistance. On the revenue side, tax reforms have been tabled, both for direct taxes and for the complex and inefficient system of indirect taxes. Corporate income tax rates are being cut, though the headline rate remains high. Lower taxation for large special economic zones deserves to be maintained for some time. For the personal income tax, which only a fairly small proportion of the population pays, thresholds are set to be raised considerably. A goods and services tax is to be introduced, which should help reduce the segmentation of the national market for goods and services. Customs duties have been reduced on average but remain high for some categories of imports, implying scope for further reduction over time.

The past decade in India has seen a major change in the emphasis given to the medium-term control of public finances. However, progress has not been uniform and recently there has been some deviation from medium-term targets as the world business cycle impacted India but also because of pressures to achieve some key governmental objectives. This chapter discusses how the government's medium-term deficit and debt reduction objectives could be better integrated with the annual budget process, and the choice of an appropriate deficit target. The composition of government spending is also addressed, as across-the-board subsidies form a sizeable share of government outlays. Finally, the chapter looks at two areas of taxation where the government has proposed major reforms, namely direct taxation of individuals and companies, and indirect taxation of domestic goods and services.

Fiscal consolidation: A partial success

Legislation helped bring about consolidation

In response to high and rising public debt, the Fiscal Responsibility and Budget Management Act (FRBMA) was enacted in 2003. The Act specifies a mechanism for setting targets for various concepts of the budget deficit and requires the government to submit a series of documents to parliament spelling out its fiscal strategy, as well as a quarterly report reviewing progress in meeting the annual target. The Act specifies that targets should be set for two key concepts in the budgetary process of the central government: the so-called revenue account and the gross fiscal deficit (Box 2.1). The only specific target in the Act was that the revenue deficit should be eliminated by March 2008 and that an adequate revenue surplus should be built up thereafter. The Act itself did not specify the time path for deficit reduction, which was to be set out in regulations issued by the government. Once the rules were issued, though, the government was allowed to over-run the previously specified targets on exceptional grounds that it must specify. In July 2004, the Act was amended so that the targets were to run from April 2004 to March 2009 (*i.e.* the fiscal years 2004 to 2008; hereafter data for a given year refers to the fiscal year starting in April). At the same time, the government issued the regulation specifying the annual path for the reduction of the deficit. The revenue account of the government was to be balanced by March 2009 through an annual deficit reduction of a minimum of ½ per cent of GDP and the gross fiscal deficit was to be reduced to 3% of GDP by March 2008. The incremental central government guarantees were capped and a ceiling was put on annual debt accumulation. In the first budget following the issuance of the regulations called for by the amended act, the government postponed deficit reduction by one year. It did so again in 2008.

Significant progress was achieved during the first four years of the FRBMA: the revenue deficit was reduced by 0.6% of GDP per year on average to 1.1% of GDP by 2007. As capital outlays and government financing increased somewhat faster than GDP, the headline fiscal deficit came down a bit less but it nonetheless dropped to 2.6% of GDP – close to the original target of the Act. However, this was only achieved by reviving the

Box 2.1. **Measuring the fiscal deficit in India**

The central and sub-national governments in India use two budget deficit measures: the revenue balance and the gross fiscal balance (Table 2.1). The first one attempts to measure the difference between current revenue and expenditure. The second one contains all capital transfers to state governments and public-sector entities used to finance the acquisition of physical assets. It also contains net government acquisitions of financial assets. However, the accounting rules have changed several times. In some years, asset sales were counted as income, in other years they were not. In the past, financial transactions generally added to the deficit as the central government has lent money to the states. In recent years, however, lending to the states has barely exceeded repayments, while the government has been selling shares in public-sector companies. Sale of financial assets helped reduce the gross fiscal deficit in 2010.

Table 2.1. **Various measures of government fiscal balances**

	2007	2008	2009	2010	2011 budget estimates
	Year starting 1 April, % of market-price GDP				
Central government fiscal balances					
Revenue balance	–1.1	–4.5	–5.2	–3.4	–3.4
Fiscal balance (ex-financial transactions)	–3.2	–5.9	–6.6	–5.0	–4.9
Financial transactions	0.7	–0.1	0.3	–0.1	0.3
Gross fiscal balance	–2.6	–6.0	–6.4	–5.1	–4.6
Fiscal balance corrected for subsidy bonds	–3.4	–6.5	–7.9	–5.2	–4.6
State governments fiscal balance					
Revenue balance	0.9	0.2	–0.7	–0.3	0.0
Fiscal balance (ex-financial transactions)	–1.5	–2.6	–3.1	–2.6	–2.4
Financial transactions	–0.1	–0.1	–0.1	–0.1	–0.1
Gross fiscal balance	–1.5	–2.4	–3.3	–2.5	–2.3
Central and states fiscal balance					
Gross fiscal balance	–4.1	–8.5	–9.5	–7.3	–6.8
Off-budget transactions	–0.8	–0.5	–1.5	–0.1	0.0
Corrected fiscal balance	–4.9	–9.0	–11.1	–7.4	–6.7

Note: From 2008 onwards, State government data refer to 28 states only. For 2010, State data are budget estimates, while 2011 data are OECD projections.
Source: RBI *Handbook of Economic Statistics*; Ministry of Finance (2010b); Ministry of Finance (2011); Budget documents.

There are two further complications in using the fiscal data: *first*, the centre and states use different accounting conventions for the repayment of loans between the centre and the states, so that the fiscal deficits of the centre and the states cannot be added to obtain the general government deficit; second the central government has funded subsidies off-budget, notably in the energy sector (Chapter 3).

The government's financial asset transactions do not have a direct impact on private consumption or capital formation. This impact is best measured by the balance of non-financial transactions (known as net lending) which reflects the extent to which the government is adding or subtracting demand to the economy. This indicator provides an internationally comparable measure of the government budget deficit. It is not available, however, from the government at the time of the budget, but only close to one year later, when the budget year is almost completed. Similar data for the states are not available until the publication of the national accounts two years after the fiscal year. These delays make the use of this indicator problematic for India. Moreover, no reconciliation table is available to show exactly how to go from the gross fiscal deficit to net lending.

practice of paying subsidies to companies in the form of special bonds. Under government accounting rules, as payments were not made in cash, the value of these bonds would not count towards government expenditure and so would not raise the budget deficit. The companies that received these bonds were free to sell them on the open market. Their issuance did, however, raise the stock of outstanding government bonds. In 2007, such bonds with a face value of 0.8% of GDP were issued, implying an actual central government gross fiscal deficit of 3.4% of GDP.

In the years following the introduction of the FRBMA most state governments introduced fiscal responsibility laws that limited their deficits to 3% of gross state product (GSP). By 2007, the average gross fiscal deficit across states had been reduced to 1.7% of GSP, down from 2.9% in 2002, although this also reflected a marked increase in transfers from the central government.[1] As a result, the overall deficit of both levels of government fell to under 5% of GDP by 2007, even after the adjustment for the issuance of bonds. This was within the combined target for the deficit of the central and state governments.

The reduction in the deficit between 2002 and 2007 was mainly achieved thanks to the expansion of the corporate sector, which boosted corporate tax receipts, and to the new tax on services (see below), which also increased the tax base. In addition, personal income tax receipts spiked towards the end of the period due to the strength of the economy while government consumption declined, reflecting temporary public sector wage restraint.

Deficits soared with the crisis and the electoral cycle

The period of fiscal restraint ended in 2008. For domestic reasons and as world growth pushed up energy and commodity prices, the government raised public expenditure markedly (Table 2.2). The increase in spending was concentrated in four areas. *First*, the government was firmly committed to implementing a number of flagship programmes in the last year of its mandate, notably the National Rural Employment Guarantee (Box 2.2). *Second*, a significant programme of debt relief for small farmers was introduced. *Third*, in

Table 2.2. **A breakdown of the factors raising the central government deficit**

	2008	2009	2010
	Change in spending/taxation since 2007 % of GDP		
Underlying spending increases			
Rural employment	0.4	0.4	0.4
Debt relief	0.4	0.4	0.3
Government consumption	0.4	1.0	0.2
Subsidies	0.9	0.5	0.1
Transfers to nationalised banks	0.0	0.2	0.1
Interest	0.1	0.3	0.0
Total	2.2	2.8	1.1
Crisis-related tax reductions			
Excise taxes and countervailing duties	0.7	1.2	1.0
Service tax	0.0	0.2	0.2
Automatic stabilisers	0.1	0.1	0.2
Total	0.9	1.5	1.4
Receipts from wireless spectrum	0.0	0.0	1.2
Total identified increase in deficit	3.1	4.3	1.3
Actual change in gross fiscal deficit	3.5	3.9	1.8

Source: Budget documents and OECD analysis.

Box 2.2. **The National Rural Employment Guarantee Scheme**

The National Rural Employment Guarantee Scheme (NREGS) aims to provide a welfare safety net for rural inhabitants and to promote local development by funding small-scale farm and infrastructure projects. It was rolled out in a few states in 2006 and subsequently expanded nationally. The scheme provides 100 days or more of employment at a wage determined by the central government to any member of a rural household who wishes to participate. This enables people to move in and out of the scheme as their circumstances change, thereby offering some protection against idiosyncratic shocks. Workers are issued a job card and request work with *Gram Panchayats* (local governments), which are responsible for devising and overseeing projects. Employment is to be allocated within 15 days of a request. Work is focused on unskilled manual tasks. Most of the associated projects focus on local infrastructure such as improving roads and irrigation, preventing flooding and addressing soil erosion.

Government funding, predominantly from the Centre, covers wage and material costs. In line with the focus on assisting the poor, wage costs are required to account for at least 60% of total project outlays. Total outlays in 2009-10 amounted to around 0.6% of GDP, of which over two thirds for wages. According to government sources, in 2009-10 over 52 million households participated in the scheme, up from around 45 million in the previous year. The total number of person work days exceeded 2.8 billion, with women accounting for just under half of this total and participation amongst officially designated disadvantaged minority groups also high. An independent evaluation of the NREGS indicates that some official figures may have suffered from over-reporting (NCAER, 2009). Notably, in some districts the number of households issued with job cards was found to exceed the number of households. However, the strong participation of women and minority groups was verified, and the average wage paid to participants was close to the statutory rate.

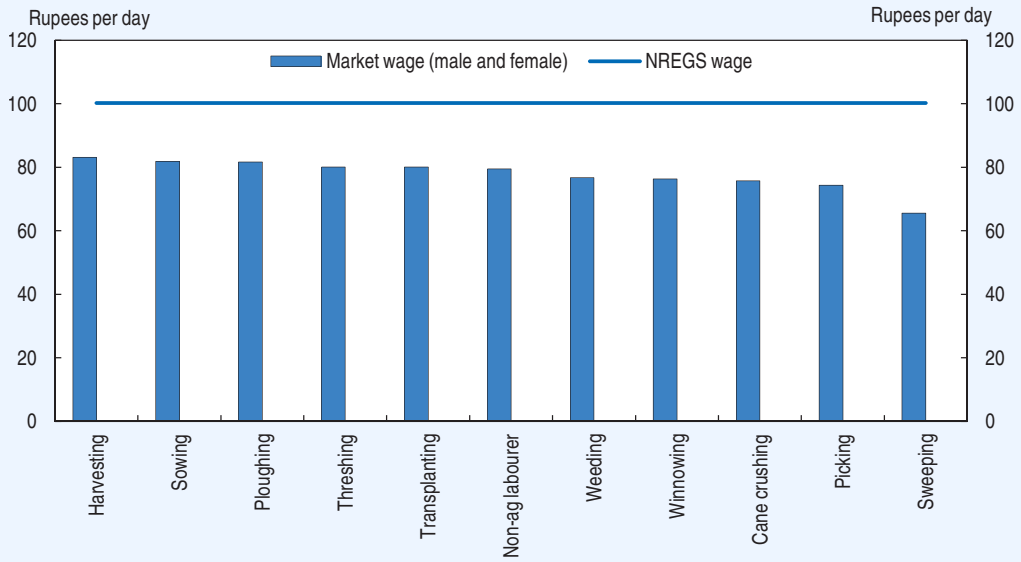
A potential strength of workfare schemes such as the NREGS is that the requirement to work at a low wage may encourage the self-selection of the neediest and discourage those who have a higher reservation wage. Also, to the extent that projects focus on public works that provide better infrastructure, they can generate wider gains through second-round employment effects and higher earnings. How well the scheme is targeted depends heavily on the wage offered relative to the alternatives. If the wage is too high the non-poor may be drawn away from the labour market. Experience with a state-based workfare scheme operating in Maharashtra since the 1970s confirms a strong tendency for people to opt into the scheme when the wage offered is high relative to the market alternative (Scandizzo *et al.*, 2009). The wage offered under the NREGS is based on the statutory minimum wage, which varies across states. In 2009, the average national wage paid under the scheme exceeded the average market wage for many types of agricultural and non-agricultural unskilled jobs (Figure 2.1). Generalised wage increases resulting from this premium could lead some workers to be priced out of the market, lowering output and ultimately reducing employment opportunities. In 2011, the government announced that it would index the wage paid under the scheme to the CPI for agricultural workers. Nationally, this implies an increase in the NREGS wage by around 22%, raising it above the statutory minimum wage offered in a number of states. Recent empirical evidence on the characteristics of NREGS participants indicates mixed success in targeting the neediest (Jha *et al.*, 2009; and Jha *et al.*, 2010a). Participation has been higher amongst illiterates but also those with larger agricultural land holdings. There are also indications that higher NREGS wages relative to the local market wage encourage participation, suggesting that those who could access alternative employment are being drawn into the scheme.

Box 2.2. **The National Rural Employment Guarantee Scheme** *(cont.)*

One downside to workfare schemes such as the NREGS is that by occupying the time of workers they may give rise to significant opportunity costs, potentially resulting in relatively low net transfers compared with schemes that provide cash or in-kind transfers. In a study using household data in Andhra Pradesh, Maharashtra and Rajasthan, Jha *et al.* (2010b) estimate that the net transfer to households from the NREGS varies widely, reflecting different opportunity costs to participants. On average, in these three states the net transfer was relatively low, between 6 and 16% of household income.

Figure 2.1. **Market and NREGS wage rates**[1]

April 2009



1. The NREGS wage is calculated as the weighted national average of wages offered in different states on 1 April 2009. The market wage is the simple average of the reported average wage of men and women in April 2009.

Source: Ministry of Labour and Employment (2010), Ministry of Rural Development and OECD calculations.

StatLink http://dx.doi.org/10.1787/888932435891

Given the size of outlays associated with the NREGS, it is important that the government take steps to ensure its cost effectiveness as a mechanism for helping the neediest. The prospect of further wage increases raises risk that the scheme will attract workers with viable alternatives. The government may therefore need to consider introducing eligibility criteria, such as limiting access to those with below the poverty line status. Ultimately, the success of the scheme also depends heavily on the social value of the public works being funded, highlighting the importance of ongoing audits required by the government.

Source: Jha *et al.* (2009); Jha *et al.* (2010a); Jha *et al.* (2010b); Ministry of Labour and Employment (2010); Ministry of Rural Development, NCAER (2009); and Scandizzo *et al.* (2009).

early 2008, the oil price surged and the government decided to restrict their pass-through into domestic prices by raising subsidies (Chapter 3). *Fourth*, the Pay Commission, which reviews civil service pay once every ten years, recommended close to 40% pay rises with large amounts of back pay. These factors raised government outlays by 2¼ per cent of GDP in 2008 and a further ½ per cent in 2009.

When the world economy slowed markedly in late 2008, the government responded with a range of measures. The most costly of these was a two-stage cut in indirect taxes. First, in December, the indirect tax rate on manufacturing output was reduced from 16% to 12%. Then, in the 2009 Budget, it was cut by a further two percentage points and the service tax was also cut by two percentage points, bringing both to 10%. On a full-year basis, these two cuts lowered the tax take by around 1½ per cent of GDP, even as the automatic stabilisers worked in the same direction. A large number of other steps were taken, mostly involving increases in lending by development banks and in interest rate subsidies for selected industries. In 2009, the combined impact of the crisis-related measures and the pre-crisis spending increases was to push up the central government deficit to almost 8% of GDP, after re-integrating off-budget expenditure on subsidies.

Public spending also picked up at state level in 2009 and 2010. However, given that states have less access to capital markets than the Centre, the rise in spending was more modest and the aggregate state gross fiscal deficit rose by only 1½ per cent of GDP to just over 3% of GDP, broadly staying within the limits imposed by their fiscal responsibility laws. With state government deficits also rising, the combined central and state government deficit reached 11% of GDP in 2009, reversing all of the deficit reduction seen under the aegis of the FRBMA.

A new start in deficit reduction

In the 2010 Budget, the government announced its intention to resume fiscal consolidation and to reduce the central government gross fiscal deficit by over 2½ per cent of GDP by 2014. It also announced its intention to end the use of off-budget financing to pay for subsidies, so that the projected fall in the underlying fiscal deficit was even greater, at 4% of GDP, unwinding most of the increase seen in 2008 and 2009. For 2010, the government planned to reduce expenditure by 1¾ per cent of GDP, based on the absence of payment of salary arrears to civil servants and a stringent policy with regard to subsidies. Tax revenue was expected to remain broadly stable relative to GDP but supplemented by a one-off sale of wireless spectrum. Together, these factors were expected to reduce the gross fiscal deficit (corrected for off-budget transactions) by 3% of GDP.

Revised estimates in the 2011 Budget, and data available to February 2011, showed that the government was on track to exceed its initial consolidation target for 2010, with the deficit estimated at 5.1% of GDP, down from 6.4% in the previous year. This is largely due to an upward revision in expected nominal GDP growth, as well as higher-than-expected proceeds from the telecommunications auction. The reduction in the deficit would have been larger if it were not for a 10% overshooting in current spending, which in part reflected unplanned outlays that were made following the successful completion of the telecommunications auction.

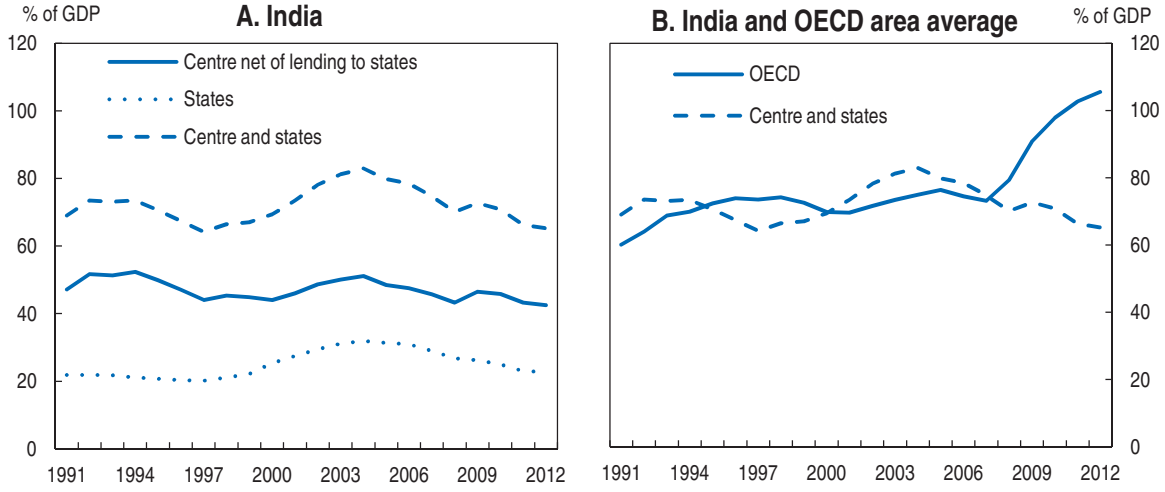
For 2011, the government is planning a further reduction in the deficit to 4.6% of GDP. It has also set rolling targets of 4.1% and 3.5% of GDP in 2012 and 2013 respectively. In the near term, the government expects tax revenue to rise a little faster than GDP. The central excise duty rate was kept at 10%, thereby not fully rolling back the reduction made in response to the slowdown. However, with a view to mooted reforms of the indirect tax system (see below), the number of items exempted from this tax was reduced. Current spending growth is expected to slow markedly, to just 4%, quite possibly slower than inflation, following a rise of over 15% in 2010. Whether the targeted deficit reduction can be achieved, therefore, depends heavily on the government's ability to adhere to its spending plans. One specific risk concerns a possible blow-out in spending on oil and food subsidies,

which the government is considering expanding markedly. Another concerns spending on the NREGS: despite its announcement that it would index wages offered under the scheme to inflation, the budget allocation has not increased from 2010.

The evolution of debt

While deficits widened sharply from 2007 onwards, the central and the combined state debt-to-GDP ratios rose far less than in most OECD countries (Figure 2.2 and Box 2.3). Although the addition of new debt generated by the deficits has been large, the stock of debt has not risen as fast as nominal GDP. As a result, the overall debt ratio of the central government did not increase during this period of very large fiscal deficits. A similar, but somewhat less powerful process (given the lower initial level of debt) has occurred at the state level. Overall, most of the run-up in central government debt in the years prior to the introduction of the FRBMA has been reversed. The process has not advanced as much for states, however, where the increase in debt from 1999 onwards appears to have been linked to the new automatic source of finance, the National Small Savings Fund, which was offered to them in 1999 (Box 2.3).

Figure 2.2. **Evolution of government debt**



Source: Same as Box 2.1.

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Box 2.3. **Accounting for government debt**

The central government borrows money through two routes. The first is through the Consolidated Fund: the total borrowing through this route is known as the public debt in India (Table 2.3, line 1). However, the government also has the right to issue liabilities through the Public Account (line 2). Such liabilities are backed by the full faith of the government and only differ from the debt issued through the Consolidated Fund in that they can be issued without the authority of the parliament. The total liabilities of the government are the sum of the two sets of debt (line 3).

The Public Account has historically existed as a form of financial intermediary. It sells liabilities to various government financial intermediaries such as the National Small Savings Fund (NSSF), similar to a Postal Savings Bank, and State Provident Funds that are obliged to invest in government securities. Since 1999, however, Small Savings deposits

Box 2.3. **Accounting for government debt** *(cont.)*

have been lent to the state government where the deposits were made. From 1999 to 2007, the states were obliged to take 100% of the deposits. Since 2007, they are obliged to borrow only 80% of net new deposits, but can borrow up to 100% of the flow. Only the profit or loss of the NSSF enters the Consolidated Fund and so the borrowing of the NSSF that is re-lent to the state governments should not be counted as part of central government debt (line 4).

From 2004 onwards, in agreement with the Reserve Bank of India (RBI), the government has issued bonds, the proceeds of which were deposited with the RBI in order to sterilise foreign exchange interventions. This debt has an offset in assets held at the RBI and so can also be deducted from the gross liabilities of the central government (line 5).

On the other hand, the data for public debt (line 1) includes the external debt at its historic local currency value, rather than at its current local currency value. An adjustment thus needs to be made to the public debt for the rupee's depreciation since the debt was contracted (line 6). Once the above adjustments are made, the revised total represents the total liabilities of the central government as reported in the annual Budget.

Table 2.3. **Central and state government debt**

	2008	2009	2010	2011 (estimate)	2012 (budget)
	31 March each year, % of market-price GDP				
Public debt (1)	38.5	38.5	37.9	36.3	36.5
Public Account liabilities (2)	18.4	18.0	15.8	13.6	11.9
Total central government liabilities (3)	56.9	56.6	53.7	49.9	48.5
Adjustments to total central government liabilities					
National Small Savings Fund lending to states (4)	–9.6	–8.4	–7.4	–6.1	–5.4
Borrowing under the Market Stabilisation Scheme (5)	–3.4	–1.6	0.0	0.0	–0.2
Adjustment of external debt to market exchange rates (6)	2.0	2.5	1.8	1.6	1.2
Central government liabilities used for financing the deficit	46.2	49.1	48.1	45.3	44.2
Loans and advances to states	2.9	2.6	2.3	1.9	1.7
Central government liabilities net of lending to states	42.9	46.5	45.8	43.3	42.5
State government debt	26.8	26.2	25.0	23.0	22.7
Consolidated central and state debt	79.1	72.7	70.8	66.3	65.2

Source: Ministry of Finance (2010a, 2010b); Reserve Bank of India (2010); and Budget documents.

The change in these liabilities (abstracting from the exchange rate valuation effects) should equal the gross fiscal deficit which could also be called the government's borrowing requirement. However, during the period of the FRBMA the ability of the Public Account to issue liabilities without parliamentary approval was used to pay subsidies to petroleum, fertiliser and food companies, following the approach taken in the 1990s to recapitalise public sector banks. Thus the gross fiscal deficit needs to be adjusted to take into account the issuance of these liabilities (the stock of which amounted to 5.8% of GDP in 2009).

The total debt of the central and state government cannot be calculated by adding the debt of the states to the debt of the central government, as states have borrowed from the central government. The extent of this borrowing has to be deducted from the central government debt prior to the addition of the states' debt in order to avoid double-counting of outstanding debt.

Box 2.3. **Accounting for government debt** *(cont.)*

A fair picture of the government balance sheet also requires an accurate measurement of government financial assets, apart from loans to state governments. In some cases, these assets represent majority holdings in public-sector enterprises that are quoted, in other cases the assets are not quoted. The government balance sheet shows these assets as having a value of just under 4½ per cent of GDP (excluding the investment in railways). The yield on these assets appears to be around 11%. Consequently, given that over half of these investments are equities their market valuation would likely be far superior to the historic cost valuation given in the government's balance sheet.

The finances of the government would be considerably clearer if the NSSF were made into a public corporation and its asset portfolio managed by an agency such as the National Debt Management Agency. The current interest subsidies given to the NSSF should be ended. Similarly the pension contributions paid to the new civil servant pension fund should be held by an entity outside the government accounts. Finally, government assets should be valued at depreciated replacement cost for physical assets and market value for financial assets.

The practice of issuing securities through the Public Account Fund in lieu of subsidies should be ended and the debt transferred to the Consolidated Fund.

Spending and deficits in the medium term: Can expenditure be made more effective?

The needs for public expenditure in India are vast and so any policy of holding back expenditure has to be implemented very carefully. Government outlays in some key areas are relatively low. In particular, health care outlays are extremely low, even if a start has been made on improving facilities in rural areas. Education outlays are much higher, but their effectiveness could be improved substantially (Chapter 5). In both areas, there are pressures for increased expenditure.

In recent years government spending on health care in India has risen strongly, though it remains low by international standards, at around 1.1% of GDP in 2009. Under the Indian Constitution the provision of health care is the responsibility of state governments but funding is also provided by the Centre. Although state governments continue to account for the majority of funding, which covers recurrent expenditures including salaries, the Centre has contributed more to the recent increase and now accounts for over a third of total spending, much of it focused on special centrally-sponsored schemes. The central and local governments are aiming to significantly increase health care spending in the coming years, to 2-3% of GDP. However, given the fiscal pressures faced by some poorer states in particular, meeting this target will pose a considerable challenge and it is likely that much of the anticipated extra spending will have to come from the Centre. One of the main mechanisms to raise spending is the National Rural Health Mission (NRHM) launched in 2005. This initiative has several goals including the expansion of health care infrastructure, with a focus on the poorer states.

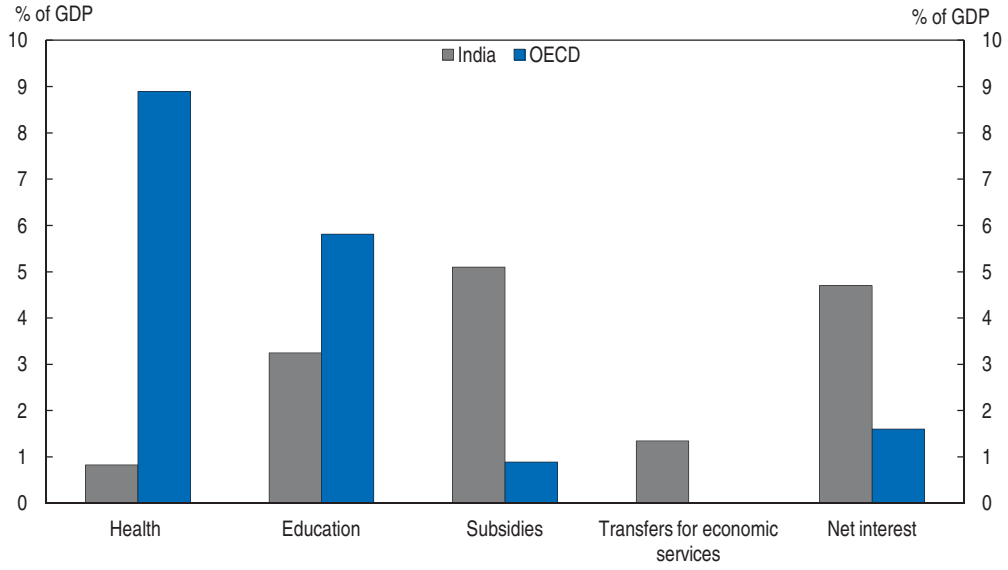
Capacity constraints are evident in many parts of the health care sector, limiting the ability of governments to expand access rapidly. Manpower shortages are particularly acute. In 2008, the number of specialist doctors working in primary health centres was only one-third of the authorised level, due to recruitment problems.[2] Severe shortages also exist for less specialised health professionals, notably male health workers at secondary

centres. A shortage of managerial and policy expertise within the bureaucracy is also a problem in some states. These constraints have led to considerable under-spending on some important programmes in recent years. For example, only 28% of approved outlays for the National Cancer Control Programme, which aims at early diagnosis and treatment, was spent in 2008. A similar level of under-spending held back expansion of facilities to treat mental health illnesses under the National Mental Health Programme. Under-spending appears to be particularly acute in the case of state governments, where spending on the NRHM was only 65% of budgeted allocations in 2008. Given the outlook for increased spending it is important that governments focus on addressing supply bottlenecks, including by expanding both the number of students and medical lecturers in teaching hospitals and tertiary education institutions (Chapter 5).

Other public outlays are concentrated in a few areas (Figure 2.3): other classic public services (administration, justice, police and defence) represent 26% of total outlays, while interest payments account for 13% of total outlays. Finally, transfers to selected business sectors and subsidies represent 24%, notably in the area of food (Box 2.4).

Figure 2.3. **Government spending on selected functional areas**

In 2008



Source: Central Statistical Office: National Accounts Statistics.

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There are also a number of hidden subsidies. For example, almost one-fifth of the electricity produced is supplied to irrigation pumps at zero cost. While the Electricity Act provided that such subsidies should be brought onto state budgets, none have done so, preferring to keep the cost of electricity to other users high so as to cross-subsidise irrigation (Chapter 3).

Irrigation is indeed another area where subsidies are rampant. Governments make good the operating losses of the irrigation authorities as user charges only cover one-sixth of operating costs. Subsidies could be reduced in this area by lowering costs that are overly high due to bloated staff numbers. But in addition, capital has been supplied to the authorities completely free of charge, through the state government budgets. The capital

Box 2.4. **The Public Distribution System**

Since independence, the wartime food subsidy and ration programmes have become a cornerstone of the Indian welfare system. As noted in Chapter 1, although rapid economic growth has enabled steady progress in reducing poverty, malnutrition is widespread and ensuring food access for the poor remains a priority for Indian governments. Total expenditures on food subsidies are significant, amounting to USD 12.4 billion or around 1% of GDP in 2009. The largest food subsidy programme is the Targeted Public Distribution System (TPDS or PDS in short), which provides households access to subsidised food staples as well as a small number of other items including kerosene (Chapter 3). In addition to being a food subsidy programme, the PDS serves as a minimum support price mechanism for farmers. Governments also provide subsidised food through other special programmes, including the Midday Meals Scheme, which aims to provide a hot meal for all children attending government-funded elementary schools (Chapter 5). Subsidised food is also provided through various programmes in public hostels, which target vulnerable groups including the elderly and pregnant women and young mothers.

Under the PDS, the central government has responsibility for procurement and delivery of food to state government facilities. State governments indentify those eligible for subsidised food using national guidelines and distribute to households through a network of privately-owned fair price shops (FPS). Since the late 1990s, the PDS has worked on a targeted basis whereby ration cards are issued to three types of households: above the poverty line (APL), below the poverty line (BPL) and the poorest of the poor, which have access to a special programme, *Antyodaya Anna Yojana* (AAY). Prices for AAY card holders are fixed and incorporate the largest subsidy. The subsidy for APL and BPL households is supposed to be a fixed percentage of procurement costs, with the subsidy larger for BPL households. However, the prices offered to these groups have not been revised since 2002.

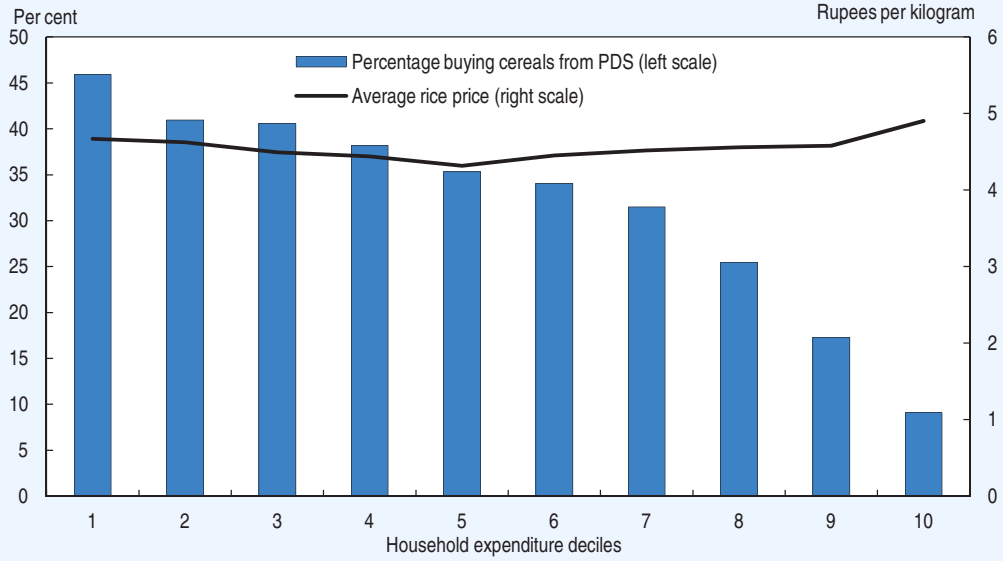
The PDS suffers from extensive leakages, including widespread diversion to the black market through the manipulation of stock and sales records (Planning Commission, 2008). Poor targeting is also a major problem, with some poor households missing out on entitlements and some non-poor being assigned BPL status. Jha and Ramaswami (2010) find that in rural areas around 60% of the poor are incorrectly assessed as APL or have no ration card whatsoever. A portion of those with BPL status fail to make use of the PDS, possibly on account of discrimination or lack of awareness. Recent household survey data confirm targeting problems. Although the poor were the most frequent consumers of PDS cereals, less than half of households in the poorest decile reported PDS purchases in the previous month (Figure 2.4). Further, a significant proportion of relatively affluent households availed themselves of PDS food. Moreover, the average price paid by households of varying affluence shows little variation. After accounting for targeting errors, illegal diversions and excess costs associated with inefficiencies in procurement and delivery, Jha and Ramaswami (2010) estimate that only 10% of total outlays under the PDS are directly transferred to the poor. Part of the excess cost borne by the government may reflect above-market prices paid to farmers. However, as food is sourced mainly from relatively affluent states and farmers with sufficient land to sell surplus crops, the poorest farmers are likely to benefit less from generous procurement prices.

Source: Jha and Ramaswami (2010); and Planning Commission (2008).

Box 2.4. **The Public Distribution System** *(cont.)*

Figure 2.4. **Food purchases through the Public Distribution System**

By total monthly per capita household expenditure deciles, 2007



Source: NSSO, National Sample Survey 64th Round.

StatLink http://dx.doi.org/10.1787/888932435948

stock of irrigation systems amounted to 5% of GDP in 2007 (Finance Commission, 2009) and may have reached 8% of GDP in 2010. Such free provision of capital represents a subsidy as much as the subsidy to cover operating losses. If a modest rate of return of 6% is assumed, then the subsidy due to the provision of free capital amounts to around 0.5% of GDP. While it might be thought that such subsidies would benefit poor farmers, only 13% of rural households use irrigation systems.

Overall, most expenditure on subsidies does not benefit the poor:

- Half of irrigation subsidies were found to accrue to medium and large farmers in two major states (Sur and Umali-Deininger, 2004).
- Two-thirds of the subsidy for fertilisers accrues to medium and large-scale farms (Singh, 2004).
- Only a small proportion of food subsidies directly accrue to households below the official poverty line (Box 2.4).
- Electricity and bottled gas subsidies are also found to be regressive (Chapter 3).
- Up to half of subsidised kerosene is resold at higher prices in parallel marketing networks.

The total cost of subsidies is difficult to estimate, as opportunity costs represent a major, but hidden, part of the total subsidy. One method it is to start from the subsidy estimates from the national accounts and to combine them with the estimates of fossil fuel subsidies in Chapter 3, making due allowance for double-counting. The definition of subsidies used here starts from the meaning in the national accounts, as approved by the

United Nations, where a subsidy is an unrequited payment made to an enterprise producing marketable output. By definition, such subsidies cannot be received by consumers. Payments to consumers are classed as social transfers. The provision of a non-marketable service, such as education or health services directly provided by the government, is not classified as subsidies, in contrast to one Indian government report (Ministry of Finance, 2004). However, a payment to a public sector enterprise that sells its output at below its average cost is counted as a subsidy. In addition, as noted above there are also many implicit subsidies that arise from public-sector enterprises making less than the normal cost of their capital. The electricity, water and irrigation sectors are some of the most egregious examples. In the electricity sector the losses of state-level companies were expected to be significant in 2010 and, on past experience, only one-quarter of the losses will be directly shown in the budgets of the states. In the irrigation sector, the implicit losses from the failure to earn a market rate of return are significant.

The extent to which goods and services are subsidised in India is extremely high. Direct budgetary subsidies amounted to 5¾ per cent of GDP in 2008 (Table 2.4). In addition, various forms of regulations generated subsidies that amounted to 3½ per cent of GDP. Overall, the total level of subsidisation amounted to just over 9% of GDP in 2008.

Table 2.4. **Estimates of different categories of economic subsidies**

2008, % of GDP

Budgetary subsidies	
Central and state government non-energy sector[1]	4.3
Central government on-budget oil sector	0.1
Central government issues of oil bonds in place of cash subsidies	1.3
Total	5.7
Regulatory subsidies	
Oil products: burden on companies of regulated prices held below world prices	1.3
Coal and natural gas: regulated prices held below world prices	0.7
Electricity: subsidies due to not covering the cost of capital	0.9
Irrigation: subsidies due to not covering the cost of capital	0.5
Total	**3.4**
Total of above	**9.1**

1. Excludes subsidies to general public services, health, education and welfare.
Source: National Accounts Statistics (2010); International Energy Agency (2010); Finance Commission (2009).

Given that the rate of poverty reduction in India has not been as fast as might have been possible given sustained strong growth (Chapter 1), and the evident fiscal wastage, there is a pressing need for further reform of subsidies. One approach is to improve targeting, which poses a major challenge. In practice, it is impossible to determine whether a given household is below the poverty line. At an income level of USD 1.25 per day, accurate income data for individual households is not available. One method may be to target the subsidies on individuals that have characteristics that make them highly likely to be living in poverty and give them the so-called below the poverty line (BPL) card (Box 2.5). Given the significance of the BPL card, the BPL census should be taken every five years. The introduction of new identification technologies would also help reduce the proliferation of fake BPL cards. For the poor who currently lack an appropriate BPL card, public awareness campaigns could be a cost-effective way to increase awareness of their entitlements.[3]

Box 2.5. **Targeting subsidies**

At present, the government assesses whether or not a person belongs to a below the poverty line (BPL) household on the basis of a specific census. The household then keeps this status until the next census. In the second half of the last century, eligibility was based on income or consumption. The methodology was changed with the 2002 census. The definition changed to being a weighted average of 13 indicators. Not all of these were true indicators of poverty and some could even give misleading results. Apart from the design of the indicators, there were also major implementation problems. Families knew that the census would result in access to targeted benefits and so adjusted their answers accordingly. In particular, multi-generation households split themselves into nuclear households and under-reporting of the ownership of consumer durables was prevalent (Usami *et al.,* 2010). Moreover, different cut-off points were used in different states and even in different villages in the same state (Alkir and Seth, 2009). In practice the determination of whether a person is above or below the poverty line, though supposedly based on a census, is a highly political exercise (Hirway, 2003).

As noted, the 2002 BPL definition was based on a multidimensional concept of poverty. If this definition of poverty is compared to a standard consumption-based definition of the poverty line, then it gives a very different picture of poverty. In fact, when judged by the official definition of the poverty line used by the Planning Commission, the definition of the poverty line used for the attribution of a card since 2002 shows that only 39% of those below the Planning Commission definition of the poverty line have a BPL card (Saxena Committee, 2009). These mis-classifications can occur for a number of reasons: *first* expenditure may not reflect the more general concept of poverty; *second* there is usually a high degree of movement from year to year as to whether a person is in poverty; *finally* the card may have been obtained corruptly. These types of errors are quite common in other emerging economies (Morestin *et al*., 2009). The question arises though as to whether the instrument of government transfers is adapted to offsetting many of these multidimensional forms of poverty (for example being exposed to air pollution) or whether other government policies should be used to counter non-income forms of deprivation.

In order to address some of these problems proposals have been floated to use the results of the 2011 BPL survey in a different way to previous censuses. In particular, one government report recommends a number of automatic exclusion and inclusion criteria. The remaining households would be scored according to a number of transparent verifiable criteria with a procedure for appeals and public dissemination of the holders of BPL cards and their scores (Saxena Committee, 2009). The status of individuals would remain unchanged, in principle for ten years. States would have the right to modify lists in between censuses to take account of deaths and migration.

The delivery mechanism for subsidies also needs to be improved. Even if it is politically difficult to reduce the income received by genuine final users of subsidised products, it should be possible to ensure that subsidised products reach the intended consumers. Probably one third of total costs could be saved by ensuring that corrupt practices in the distribution system are ended. International experience, including the *Bolsa Familia* programme in Brazil (Neri, 2010) and the *Oportunidades* programme in Mexico, suggest conditional cash transfers can be a cost-effective instrument for assisting the poor and reducing poverty but these are little used in India (Chapter 1).

An important reform ushered in with the 2011 Budget was a decision to replace subsidised fertilisers, kerosene and natural gas with cash transfers for poor households (Chapter 3). Reform to the delivery mechanism should be broadened to include other subsidised items, including food. This could be done by way of cash transfers or food coupons which could be distributed through post offices and redeemed either through the existing network of fair price shops (FPS) or, in cities and larger towns, commercial shops (Basu, 2011). Food would be provided to FPS at commercial rates so there would be no incentives for storeowners to divert supplies to the black market. By providing eligible households an alternative point of access this system would also introduce competition between FPS and commercial operators, thereby reducing the ability of FPS owners to deny access to entitlements. Over time the need for FPS may diminish though in remote localities where commercial outlets are limited, a continued presence may be required. The system for ensuring emergency food supplies would be maintained. Such a system would involve much less cost to the government, while meeting concerns over poverty, than proposals, being considered by the government, to move in the opposite direction by extending the provision of subsidised grains to the population. This proposal would take the form of a legal requirement for the government to provide 7 kg of grains per person each month to 90% of the rural population and 50% of the urban population through the PDS. Such levels of provision would represent about three-quarters of household consumption of grains by the poorer groups in rural areas. The proposal also calls for households to be charged less than current prices charged by the PDS. According to estimates from the government, the implementation of such a scheme would require a two-thirds increase in government outlays on food subsidies (½ per cent of GDP) (Economic Advisory Council to the Prime Minister, 2010). Ensuring an adequate food supply for people having incomes no more than 10% above the poverty line should be an important government objective. The key is to use modern technology to ensure efficient delivery by turning the subsidy into a social transfer.

Spending in other areas also needs to be made more cost-effective, including in the key area of health care, where the government has earmarked large increases in outlays. Spending should continue to focus on the most cost-effective ways to ensure widespread improvements in health status. As the poor typically make less use of inpatient care, spending in this area can be biased in favour of the non-poor (Mukherjee and Levesque, 2010). Good progress has been made in improving access to safe drinking water (Planning Commission, 2010). However, progress in increasing child immunisation coverage has been slower, with large swathes of the population continuing to be unprotected against preventable diseases. The latest national household survey indicates that only 54% of children in the country were fully immunised in 2005, a rise from the 46% covered in 1998. Progress has been highly uneven and some large poor states such as Uttar Pradesh lag well behind the national average. Recent empirical evidence indicates that improving the reliability of access to immunisation services in highly impoverished areas can improve coverage somewhat (Banerjee *et al*., 2010). However, larger gains may require a combination of better access and cash or in-kind incentives.

In addition to better prioritising spending, efforts to address bottlenecks in the supply of health services and improve efficiency must be accorded a high priority. Comparisons of health care systems around the world show that the correlation between inputs and outputs is low (Joumard *et al*., 2010) and there are indications of high levels of waste in the Indian public system. As with the public education system there are signs of

a lack of accountability in the public health care system, including high staff absenteeism. Empirical evidence suggests that improving incentives and accountability mechanisms for medical professionals can deliver significant progress (Banerjee *et al.*, 2008). Governments should therefore consider reforming employment arrangements, including the introduction of more systematic performance assessment and reward mechanisms, to lift productivity in the sector.

A new framework for fiscal policy

The current policy debate

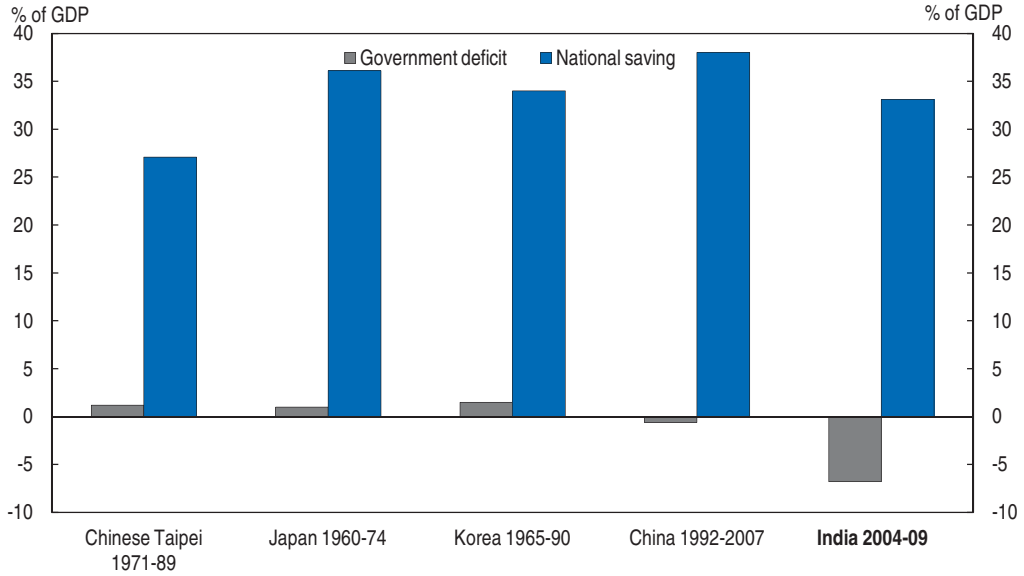
With the expiry of the FRMBA, there is now a need for a new framework for fiscal policy. The central government has announced that it intends to reduce its gross fiscal deficit to 4.1% of GDP by 2012 and 3.5% the year after. The Finance Commission (2009), which reports on fiscal relations between the central and the state governments, has recommended that the central government should go further and reduce its fiscal deficit to 3% of GDP by 2014. The Commission also recommended a 2.4% deficit for the states, bringing a combined deficit of both levels of government to 5.4% – down from its 2010 level of 7.2% of GDP.

This would markedly reduce the ratio of consolidated state and central debt to GDP, which would fall to 60% by 2015, a drop of 11 percentage points in five years. Given current interest rates on long-term debt and growth in nominal GDP, such a target could be met with only a modest reduction, of about one-third of a percentage point of GDP per year, in the primary balance (*i.e.* excluding net interest payments). Such an improvement could be achieved through the natural buoyancy of the tax revenues, as more people are subject to income tax, and as more people move out of a subsistence existence and start paying indirect taxes.

What fiscal rule to adopt?

The natural question that arises from such targets is how such a level of deficit can be justified. The Finance Commission argued meeting these targets would ensure there were sufficient funds to meet likely business sector investment demand and only involve borrowing of 1½ per cent of GDP from abroad. In practice, the future growth of investment is difficult to predict, but to achieve durable double-digit growth a significantly higher investment rate will be needed. Given the current size of the capital stock an increase of 4 percentage points might be necessary. Such a jump would require a substantial drop in the public sector deficit, to avoid an unsustainable increase in the current account deficit. Strikingly, none of four East Asian economies that enjoyed periods of very rapid growth did so with large government deficits (Figure 2.5).

Figure 2.5. **Gross national saving and government net lending: India and other high-growth economies**



Source: OECD *Analytical Database*, national statistical offices.

StatLink http://dx.doi.org/10.1787/888932435967

One rule that has been suggested for regulating government borrowing is that the deficit should be no larger than net government investment in fixed assets. In principle, such a "golden rule" allows for faster growth and greater intergenerational welfare than a balanced budget rule and is also superior to a fixed deficit rule. The golden rule stops governments borrowing to finance consumption and so eventually ensures that government debt does not exceed its assets. It has been found to reduce the anti-investment bias of most government financing rules (Blanchard and Giavazzi, 2008).

While the FRMBA for the central government prescribed a zero revenue balance, this was not equivalent to a golden rule. Indeed, this balance is not equal to government saving (Finance Commission, 2009). The difference averaged 1.5% of GDP in 2007 and 2008 (Ministry of Finance, 2010c). Moreover, the difference between the revenue balance and the fiscal balance does not measure net investment in physical assets but gross investment in both physical and financial assets. The government accounts do not allow for depreciation. Hence, if all gross physical investment is financed by borrowing, government debt will eventually vastly exceed its stock of physical assets. Finally, the government accounts include financial investment in the gross deficit. This would be justified if the investments were profitable, but many government investments have been in loss-making companies (Chapter 3). Thus, the Finance Commission stated that it could not recommend a golden rule for public finances until government accounts had been corrected and put on an acceptable basis.

The national accounts, however, provide an estimate of the combined physical investment of general government in fixed assets (net of capital consumption), which amounted to 3.7% of GDP in 2008. The government also makes financial investments. Strict adherence to such a golden rule would require that the government recognises the falls in the value of investments in its income account, as with depreciation of physical assets. Some of these falls in values might be large, notably when loans are made to loss-making firms. In practice, the central government has only made small net financial investments:

over the past five years they have averaged 0.1% of GDP. Thus, even with allowance for financial investments, over recent years, a golden rule would have called for the gross fiscal deficit to decline to 3.8% of GDP. In contrast, the combined target for the state and central governments under the FRMBA and associated state laws was 6%. Thus, despite appearances, FRMBA rules were not equivalent to a golden rule based on investment in net physical assets.

Adoption of a genuine golden rule would lead to a bigger reduction in the deficit than either the government or the Finance Commission have suggested. With GDP growth of 8½ per cent, inflation of 5% and interest rates at 8%, it would require a deficit reduction of just over ½ per cent of GDP per year to reach the target by 2016. Making this rule operational would require an overhaul of government accounting principles, notably to recognise depreciation of its assets in the accounts. Such a strategy would generate substantial savings on interest payments and make room down the road for greater public spending in underfunded areas such as health.

Adoption of a genuine golden rule would lead to a bigger reduction in the deficit than either the government or the Finance Commission have suggested, especially for the central government. State governments are expected to have deficits equal to around 2% of GDP in 2011, well below the target of their Fiscal Responsibility Acts and even below the limit of a golden rule at the state level. The major effort of compliance would thus fall on the central government, whose current deficit is much larger than its net physical investment. If both levels of governments were to comply with the proposed rule by 2016, general government gross debt would fall considerably. For example, with an average interest rate on debt of 8%, inflation of 5% and growth as in the medium-term scenario described in Chapter 1, debt would drop from 66% of GDP in 2011 to 40% of GDP in 2016 and 30% five years later. As a result, government spending (excluding interest payments) could rise by 3% of GDP while maintaining a deficit of 3.8% of GDP. The policy would allow, for example, a tripling of government expenditure on health over a decade with no increase in taxation. Making this rule operational would require an overhaul of government accounting principles, notably to recognise depreciation of its assets in the accounts. Such a strategy would generate substantial savings on interest payments and make room down the road for greater public spending in underfunded areas.

Enhancing institutional arrangements

The major problem with basing fiscal policy on a set of rules is that governments often have little incentive to comply with them once they have been enacted, as witnessed in recent years both in India and in many OECD countries. One remedy might be for the Centre and states to agree that penalties have to be paid by the governments that break the rules. However, as illustrated by the recent European experience, this may not work. One suggestion is that a third institution, such as the judiciary, may need to step in (Buiter and Patel, 2010). This, however, might be difficult to reconcile with parliamentary control of the budget.

There is one institution that has sufficient prestige to try safeguard the implementation of fiscal rules. The Finance Commission already undertakes a similar task as well as deciding the distribution of tax revenue between the states and the Centre. This institution currently only reports once every five years and has no permanent staff. The Finance Commission could become more of a supervisory body, making annual reports and having permanent staff.

Ensuring that the government adheres to a medium-term target may also require changes in the way the budget is formulated. The FRMBA mandated a medium-term plan for the budget. However, this stands apart from the budget itself. At present, the medium-term analysis for the budget consists essentially of a set of targets for the deficit. The whole budgetary process needs to be placed in a rolling three-year framework so that the consequences of new policies can be better seen and greater stability can be given to programmes. At the same time, the annual expenditure budget needs to be seen more as a constraint: over the five years to 2010 the expenditure budget has been overrun by 5% on average, even though planned expenditure growth was 12% (relative to the expected outcome for the previous year).

Moving the emphasis towards reducing the claims that the government makes on the rest of the economy may also require recasting the form in which some budgetary documents are produced. At present, the focus is on the gross fiscal deficit. This aggregate is relevant for controlling gross debt but less so for measuring the impact of the budget on the economy (Box 2.1). The presentation could be improved by producing timely estimates based on an economic and functional breakdown of revenue and expenditure, where the government's role as a financial intermediary is separated from its direct impact on spending. At present, government expenditure is split between expenditure that is within the five year plan for development purposes and other expenditure. Such a split is becoming anachronistic as non-plan expenditure, such as education and health, has developmental consequences. Moreover, the running costs of development expenditure are not taken into account.

Tax reform

Reforming direct taxes

As in many other countries, the direct tax system has become ever more complicated over the years as an increasing number of special exemptions lowered the overall tax take, contributing to keeping tax rates higher than they otherwise would be. After a period of consultation, a new draft Tax Bill was introduced in the summer of 2010. This new law will considerably simplify legislation, though the number of changes to the system is relatively limited. It is expected to come into force in 2012 and the associated reduction in income taxes on individuals and corporations is estimated at around 0.7% of GDP.

Overall, only a small proportion of the population pays income tax. All agricultural income is, effectively, exonerated from income tax. Agricultural income can only be taxed by state governments, who in practice choose not to. Thus, although only 6.7% of the total working and retired population pay income tax, the proportion rises to just under 14% when the agricultural population is excluded. A draft Tax Bill has been introduced to parliament by the government and is scheduled to become law by March 2012. When passed, the proposed law will result in a considerable increase in the income tax thresholds. The highest income tax rate of 30% will not start to be paid until an income level (after deductions) of 8.3 times the average wage, up from 4.2 at the moment. Concerning deductions from gross income, the basic savings deduction is now restricted to retirement saving plans. Many forms of saving will no longer be deducted from income (including principal payments on mortgages), but the overall deduction remains unchanged. A new deduction will be created which has to be shared between various forms of outlays. The short-term capital gains tax will be reduced to between zero and

7.5%, more than halving tax liabilities. Capital gains from securities held for over one year will remain exempt from tax. Income and lump sum payments from the National Pension Scheme (NPS) will become exempt from tax.

The changes in individual taxation reorient the tax system further, and perhaps unduly, toward favouring long-term saving. In order to move the income tax towards a consumption tax base, withdrawals from tax-deductible savings should be taxed when they are withdrawn, totally or partially, from the scheme, while interest income during the accumulation should not be taxed. Most savings schemes in India (pensions, provident fund and insurance) are not taxed in this way. At all three stages, savings can be exempt from taxation in many schemes. The proposed Direct Tax Code moves further in this direction by allowing withdrawals from the NPS to be tax-free. At the same time it moves partially in the opposite direction by subjecting certain investment vehicles (such as life insurance) to a 5% tax on income. Such a move may be justified as a second-best solution to over- generous treatment of withdrawals, given the difficulty of removing such concessions. In the future, it would be better to move towards taxing withdrawals.

Individuals will continue to be subject to a wealth tax but the threshold has been trebled. For individuals, the principal asset covered is undeveloped residential land and unoccupied housing. By contrast, investment in bonds, equities, insurance, the principal residence and all rented property will not be included in the tax. The threshold has been increased threefold.

For companies, the major change is the proposed reduction of corporate tax rates, from 34 to 30%. To some extent this will be offset by the abolition of all geographically-based tax allowances and holidays. For SEZs established from 2014 onwards tax holidays will be replaced by complete first-year depreciation. Industry in India tends to be capital-intensive rather than labour-intensive, due, in part, to strict labour regulations (OECD, 2007). So while more investment is needed, the tax code should not further bias production technology further towards capital-intensive projects. Low tax rates or tax holidays also boost investment, but are neutral between labour and capital-intensive projects. For the same net present value of tax benefits, one that is contingent on investment will result in companies choosing capital-intensive means of production rather than a labour-intensive technology. Moreover, the tax holiday basis has been extremely successful in promoting SEZs (Chapter 1). In the future, investment in these areas is likely to be more capital-intensive.

The new Direct Tax Code also stipulates that companies must pay a minimum amount of corporate tax, which is set at 20% of the book profits of a company if this amount is higher than the corporate tax liability of the corporation due to large special tax deductions. However, this minimum tax payment is more in the nature of a partial loan to the government, as the difference between the minimum tax paid and the standard tax payable can be carried forward as a tax allowance for 15 years, thereby offsetting future corporate tax liabilities. For the first time, this provision will also apply to companies in SEZs. In order to mitigate its impact, companies will be able to consolidate their results inside and outside SEZs, implying that many companies with established tax-paying operations outside SEZs will not have to pay the minimum tax on their SEZ profits. Start-ups with no other operations outside India will not enjoy this benefit.

When the new Direct Tax Code becomes law, the current discriminatory tax regime for foreign companies will end. The corporate tax rate for foreign-owned companies will fall

from 40% to 30%, in line with the rate for domestic companies. In addition, in October 2009, the regime for determining transfer prices became substantially more certain. A Disputes Resolution Panel (DRP) was introduced to speed up settlements of disagreements over transfer prices (Deloitte Touche Tohmatsu, 2009). This institution draws on the experience of the successful Authority for Advance Rulings (AAR), which reduces the scope for prolonged litigation inherent in the four-tier structure of the current appellate structure for tax rulings. By appealing to the AAR, a taxpayer can obtain a binding decision in six months, even for proposed transactions. For transfer prices, a foreign company can register an appeal with the DRP against any ruling of the tax authorities. This appeal suspends the application of any ruling of the tax authorities. The panel has nine months to give its verdict on the case. Only the taxpayer can appeal. Both the ending of the discriminatory tax regime and this new tribunal give foreign companies a markedly better environment for operating in India.

Introducing a goods and services tax

India's indirect tax system is complex and inefficient. Its design has its roots in the way that the Constitution specifies the respective taxing rights of the Centre and the states. The Centre has the right to tax goods (up to when they leave the manufacturing process), imports and, since 1999, services, but not to tax goods at the wholesale or retail level. Such forms of taxation are reserved to the states, along with a number of specific taxes on certain activities, but states cannot tax services. Finally, the Centre can levy taxes on inter-state sales, but the taxes are collected and retained by the originating state. The original design of these taxes did not allow for the claiming of credits for taxes paid on inputs. As a result there was severe cascading of taxation.

Over time the extent of cascading has been reduced. At the central level, the taxes on goods became a value-added tax, albeit with a boundary restricted to the manufacturing sector. At state level, a sales tax on goods was replaced by a VAT on goods but not on services. Moreover, once goods leave the factory, the central VAT on manufacturing becomes an excise tax and so is not subject to rebate at the state level. Finally, the tax on inter-state trade has been reduced, with the Centre compensating the exporting states for their loss of revenue. Hence, the system remains complex, with many disputes as to what constitutes a service. It still generates considerable cascading, which distorts resource allocation since effective tax rates on different products can vary considerably depending on the extent of cascading.

Given these drawbacks, reform was needed and is now on the way. The previous *OECD Economic Survey of India* recommended a dual VAT structure where both the states and the central government could levy taxation and also that the tax should be destination-based. It recognised that this would imply zero-rating of goods crossing state borders and was concerned to avoid problems of VAT fraud that have occurred with similar systems in the European Union.

The central and state governments have agreed to a dual system of value-added tax. Any transaction in goods or services (including imports) will be subject to a central goods and services tax (CGST) and a state goods and services tax (SGST). Taxation on inputs can be credited against taxation on outputs, but only within each stream of taxation. To ensure traceability of sales between states, there will be a tax on interstate trade so that when the purchaser is out-of-state, the seller will pay an interstate goods and services tax to the central government (IGST). This tax can then be credited against both CGST and SGST in the importing state. This is a key anti-fraud element as there will be no payment of a rebate

when a product crosses a state border. One problem with such a design was deciding where services sold across state borders are produced and consumed. However, most such sales are made from business to business and so definitional problems do not have any incidence on the final receipts of tax, which are based on where final consumption takes place (Poddar and Ahmad, 2009). State governments are expected to settle this issue in 2011.

The widest base for the value-added taxation would be the sum of private consumption, government consumption of goods and services and investment goods, essentially housing sold to individuals. In addition, the tax base would normally include the difference between the sales of exempt small traders going to final consumption and intermediate consumption. This base can be calculated using national accounts (Modi, national accounts line in Table 2.5); or by using the 2003-04 input-output table and assumed unchanged subsidy rates and petroleum taxation Chadha (2009); or by corporate tax returns (Modi tax returns line) or private consumption excluding indirect taxation (Poddar and Ahmad line).

Table 2.5. **Various estimates of the tax base and of revenue-neutral tax rates**

	Tax base	Standard tax rate (%)	
	% of GDP at factor cost	Unified rate	Half rate for food, health and education
Modi (national accounts)	93.3	8.6	9.3
Chadha	88.0	9.5	n.a.
Modi (tax returns)	61.2	13.1	14.8
Poddar and Ahmad	51.3	15.6	18.2

Source: Modi (2009); Poddar and Ahmad (2009); Chadha (2009).

There is a considerable difference between these estimates. The lowest one (Modi on national accounts data) has a high tax base and a low tax rate. As the tax base declines relative to GDP the required revenue-neutral GST increases. The highest estimate (nearly 16%) is made by Poddar and Ahmad but they exclude residential construction and government purchases of goods and services from the tax base. The government has stated that a 16% tax rate is likely, suggesting that residential construction will not be taxed (Mukerjee, 2010). However, no decision has been made by the Centre and states, nor has it been decided whether the land value of a new house should be included in taxation. At a minimum, new residential construction, excluding the land value, should be taxed. In practice, it may be difficult to assess land value and so a tax on the entire sale value would seem better.

The GST would replace a large number of central and state government taxes. There is a broad consensus that petroleum products and alcohol for human consumption will be excluded from the GST while tobacco, and its products, will be included. The final tax rate depends on whether there are additional exemptions or decisions to tax certain goods and services at lower rates. For example, if food, health and education are taxed at half the standard rate then the latter could rise by at least two percentage points. A detailed audit of the different bases for the GST is required in order to avoid undue tax buoyancy when the GST is introduced due to under-estimation of the base and should be feasible given that the start of the GST has been delayed. This should not involve delay in implementing the GST since a constitutional amendment, currently before parliament, still has to be passed in order to validate the change in tax powers for the central and state governments.

There have been some examples in recent years of jurisdictions that have introduced a GST with a wide tax base and low rates. For example, in New Zealand the tax base amounts to 94% of total consumption and the tax rate has been kept to 15%, while in Singapore the rate is 7%, also with few exemptions. Government policy there is to give direct benefits to the poor rather than tax certain products at lower rates. However, in Europe there tends to be a high standard rate accompanied by multiple tax rates and many exemptions. As a result, the average VAT rate on consumption is often only half the standard rate (de Mello, 2008). This leads to distortions in the choice of goods.

The Indian debate on public finance has been dominated by distributional concerns for more than a generation, resulting in excessive differentiation of tax rates (Ahmad and Stern, 1984). Some progress has been made in reducing such differentiation but there is likely to be considerable pressure for lower tax rates on food and perhaps even other items such as kerosene. However, as discussed above, there are other instruments available to offset distributional effects and a tax subsidy is a blunt weapon for aiding the poor. Moreover, once differentiation of VAT rates is accepted, the standard rate has to rise to maintain revenue neutrality and this increases political pressure for even more exemptions and special treatments.

In the case of India, state governments have already agreed that there should be a dual rate structure, though no decision has been made on the rates, the base or the exemption threshold for dealers. Variation in state-level GST rates should be permitted. Cross-border shopping was a problem for high-value products under the sales tax system, as states selectively reduced the sales tax rate. With the unification of the tax base across states, the attraction of cross-border shopping will be limited as differences in tax rates are unlikely to be large. For example in 2008, states that raised between 4% and 6% of GSP accounted for 80% of total state indirect taxes. Only two major states were outliers, namely Karnataka (7.0%) and West Bengal (2.6%), and only a few remote states or territories raised less than 3% of GSP in indirect taxation.

Reforming customs duties

The third area in need of reform is external tariffs. The government embarked on a substantial programme of unilateral tariff reduction that has reduced the weighted average of actual tariff rates to below 9% for manufactured goods (Table 2.6). This average is slightly below the standard tariff rate of 10% due to fluctuations in the tariff rate across products. The extent of the fluctuations is quite small, with a standard deviation of 2.4%. However, the government chose not to reduce the bound tariff rates which remain, on average, between 35% and 40% for manufactured products. This introduces uncertainty for manufacturers as tariffs can easily be raised without contravening WTO obligations. There is evidence though that substantial exemptions are granted for certain products imported by favoured industries. For example, the total effective rate of customs and countervailing duties (the latter being a form of VAT on imported products) was only 8% in 2009. Given that the countervailing duty, alone, was 10%, and the weighted average of tariffs on manufactured goods was 8.8%, legislated industry-specific exceptions appear to be extremely prevalent.

The government had announced a target of reaching a standard tariff rate of 5% by 2010. Such a tariff would have put India on a par with ASEAN countries. With the economic crisis the government decided not to continue with the process. A number of manufactured products have a tariff of over 10%, most notably cars, where it stands at 57.5%, and a number of textile products. There is no evidence of tariff escalation between

Table 2.6. **Tariff rates in India and selected other countries**

2009

	India	China	Indonesia	South Africa	Brazil	Russia	United States
Food and live animals							
Simple average							
Actual	34.6	13.4	4.3	7.8	10.1	8.1	2.2
Bound	108.1	15.6	45.9	40.3	36.2	–	4.1
Most favoured nation	32.4	15.6	5.2	9.2	11.0	9.4	4.1
Weighted average							
Actual	33.9	9.7	4.0	5.4	3.3	5.9	1.3
Bound	96.2	13.1	63.0	47.0	40.0	–	4.0
Most favoured nation	39.2	12.7	5.2	6.6	10.4	8.1	4.0
Standard deviation of rates							
Actual	37.3	10.6	23.4	10.4	7.4	5.6	7.3
Bound	38.1	10.4	20.0	39.4	10.2	–	9.7
Most favoured nation	23.5	11.1	11.2	12.2	5.3	4.3	9.8
Manufactured goods							
Simple average							
Actual	8.8	8.1	5.7	7.9	14.5	10.5	3.2
Bound	35.1	9.0	34.2	17.2	33.7	–	4.2
Most favoured nation	8.9	8.8	7.7	9.9	16.1	10.8	4.2
Weighted average							
Actual	8.8	4.5	4.1	5.3	11.1	7.9	1.6
Bound	39.0	5.7	35.9	14.5	31.7	–	2.3
Most favoured nation	8.9	5.1	7.6	6.8	12.9	9.8	2.3
Standard deviation of rates							
Actual	2.4	4.8	5.0	8.7	8.0	6.2	4.7
Bound	7.6	4.5	7.3	8.1	5.4	–	4.7
Most favoured nation	2.2	4.6	4.6	9.6	7.8	5.6	5.0
Total trade							
Simple average							
Actual	10.2	8.2	5.2	7.6	13.4	8.1	2.9
Bound	50.2	10.0	37.5	19.4	31.4	–	3.7
Most favoured nation	12.4	9.7	6.8	7.8	13.7	8.7	3.8
Weighted average							
Actual	7.9	4.2	3.1	3.9	7.6	5.9	1.8
Bound	33.1	5.2	36.9	19.7	30.5	–	2.8
Most favoured nation	8.1	4.6	5.3	4.9	10.1	6.7	3.0
Standard deviation of rates							
Actual	14.8	6.5	11.8	10.5	8.2	6.6	10.0
Bound	39.2	7.1	12.3	25.4	8.4	–	11.5
Most favoured nation	15.9	7.4	12.7	11.0	8.4	6.1	11.6

Note: The bound rate is not applicable in the case of the Russian Federation, which is not a member of the World Trade Organisation.
Source: WTO, *Tariff Database*.

unprocessed, intermediate and finished products in the non-agricultural sector. The level of tariffs is much higher for agricultural products: alcoholic drinks face tariffs of between 100% and 150% and for grains they vary between nil and 80%. The goal of a unified tariff of 5% on the bulk of manufactured goods is now within reach, including those products which currently have mixed fixed and *ad valorem* rates. The emphasis of government policy has changed from unilateral reduction to negotiating Free Trade Agreements (FTA), with agreements being negotiated with Australia, New Zealand and the European Union, while feasability studies have started with Chinese Taipei, following the agreements with

Malaysia, Thailand, Indonesia and Japan. Agreements with Brunei, Cambodia, Laos and the Philippines are likely to follow, fully implementing the ASEAN FTA.

Conclusions

With the economy now back on a high-growth trajectory, the time is right for further fiscal consolidation. New legislation needs to be introduced to programme a marked reduction in the combined central and state deficit so as to move towards meeting the golden rule for public finances. Currently, such a target would imply a combined deficit of around 3% of GDP, excluding all financial transactions.

The government's proposal to cut the corporate income tax rate to 30%, coupled with ending a number of allowances, is welcome as it goes in the direction of widening the tax base and lowering marginal rates. The government should also consider removing accelerated depreciation and putting depreciation onto an economic basis, which would move taxation closer to being on a book profit basis and allow for a deeper cut in the tax rate. Regarding SEZs, the current proposal is to replace tax holidays by allowing full first-year depreciation for investment in new SEZs. This proposal will tend to bias projects towards capital-intensive projects in lieu of a system that is neutral between projects of different capital intensities. Given that India has a surplus of labour, this is a move in the wrong direction. The government's worthy proposal to move the income tax towards a form of consumption tax with deferred taxation of saving proved unpopular, given that it would have raised taxes on many pension schemes.

The planned introduction of the GST will be a major gain for the country as it will permit a unified market for the first time, while maintaining the fiscal autonomy of states. It will also permit a major simplification of the various exemptions that bedevil indirect taxes and should set the scene for a similar unification of the tariff structure.

In sum, fiscal consolidation ought to continue, the fiscal framework needs to be enhanced, and further progress is needed with respect to expenditure and tax reforms (Box 2.6).

Box 2.6. **Summary of recommendations on fiscal policy**

Fiscal framework

- Revise government accounting principles to recognise depreciation. Use the concept of government acquisition of financial assets (net lending) as the key measure for the fiscal deficit.
- Aim to reduce the fiscal deficit so that it is no larger than government net fixed capital formation.
- Introduce three-year detailed rolling budgets that fit with the medium-term deficit strategy.
- Introduce new legislation to create a permanent Finance Commission to oversee implementation of fiscal rules.
- Ensure that expenditure within a given year keeps to budget plans, in order to make the budget a better instrument of control.

Spending

- Improve the efficiency of the Public Distribution System by introducing food tokens which could be redeemed at fair price or commercial shops, or instead by providing cash transfers.

Box 2.6. **Summary of the fiscal recommendations** *(cont.)*

- Introduce eligibility criteria for the National Rural Employment Guarantee Scheme so as to restrict access to the poorest. Ensure that future adjustments to the wage offered under the Scheme are not excessive relative to the market wage.
- Address bottlenecks that are impeding the expansion of health care. Prioritise higher health spending towards programmes and areas that will yield the widest, cost-effective benefits, including improved immunisation coverage.

Tax reform

- Withdraw the accelerated depreciation allowances and lower corporate tax rates.
- Ensure that tax incentives in new SEZs are neutral between labour and capital-intensive projects which produce the same pre-tax return.
- Move income taxation more to a consumption tax base by reconsidering the decision not to tax withdrawals from tax-exempt savings and pension schemes.
- Reconsider the complete exemption on taxation granted to retirement pensions which goes beyond a consumption tax treatment of that category of saving.
- Reconcile the different estimates for the GST base in order to estimate a correct revenue-neutral rate.
- Complete the move to a 5% import tariff for all manufactured products, including textiles, cars, tobacco and alcohol.

Notes

1. See the previous *OECD Economic Survey* for a detailed discussion of fiscal federalism arrangements (OECD, 2007).
2. Currently public health care in rural areas is provided on a three-tier basis with shortages in the number of facilities at all levels. At the local village level are secondary centres, normally staffed by two general health care workers. Primary health centres feature a small number of beds and offer basic inpatient treatment while community health centres and rural hospitals are larger and offer a wider array of specialist services.
3. For the other cards (AAY and APL), the criteria for attribution are quite clear. The major problem is ensuring that people do not have multiple cards.

Bibliography

Ahmad, E. and N. Stern (1984), "The Theory of Tax Reform and Indian Indirect Taxes", *Journal of Public Economics*, Vol. 25.

Alkir, S. and S. Seth (2009), "Measuring Multidimensional Poverty in India: A New Proposal", Oxford Poverty and Human Development Initiative, *Working Paper* No. 15, Oxford.

Banerjee, A., E. Duflo and R. Glennerster (2008), "Putting a Band-Aid on a Corpse: Incentives for Nurses in the Indian Public Health Care System", *Journal of the European Economic Association*, Vol. 6, Nos. 2-3.

Banerjee, A., E. Duflo, R. Glennerster and D. Kothari (2010), "Improving Immunisation Coverage in Rural India: Clustered Randomised Controlled Evaluation of Immunisation Campaigns With and Without Incentives", *BMJ*, Vol. 340.

Basu, K. (2011), "India's Foodgrain Policy: An Economic Theory Perspective", *Economic and Political Weekly*, Vol. XLVI, No. 5.

Blanchard, O. and F. Giavazzi (2008), "Improving the Stability and Growth Pact Through a Proper Accounting of Public Investment", in Perry, G., L. Servén and R. Suescún (eds.), *Fiscal Policy, Stabilization, and Growth: Prudence or Abstinence?*, The World Bank, Washington DC.

Buiter, W. and U. Patel (2010), "Fiscal Rules in India: Are They Effective?", *NBER Working Papers*, No. 15934.

Chadha, R. (2009), *Moving to Goods and Services Tax in India: Impact on India's Growth and International Trade*, National Council of Applied Economic Research, December, New Delhi.

de Mello, L. (2008), "Avoiding the Value Added Tax: Theory and Cross-Country Evidence", *OECD Economics Department Working Papers*, No. 604.

Deloitte Touche Tohmatsu (2009), "India: Rules Issued on New Dispute Resolution Panel", New Delhi.

Economic Advisory Council to the Prime Minister (2011), "Report the Expert Committee on the National Food Security Bill", New Delhi.

Finance Commission (2009), Report of the Thirteenth Finance Commission, New Delhi.

Hirway, I. (2003), "Identification of BPL Households for Poverty Alleviation Programmes", *Economic and Political Weekly*, Vol. 38, No. 45.

International Energy Agency (2010), *World Energy Outlook, 2010*, Paris.

Jha, R., S. Bhattacharyya, R. Gaiha and S. Shankar (2009), "'Capture' of Anti-poverty Programs: An Analysis of the National Rural Employment Guarantee Program in India", *Journal of Asian Economics*, Vol. 20, Issue 4.

Jha, R., R. Gaiha and M. Pandey (2010a), "Determinants of Employment in India's National Rural Employment Guarantee Scheme", *ASARC Working Papers*, No. 2010/17.

Jha, R., R. Gaiha and M. Pandey (2010b), "Net Transfer Benefit Under National Rural Employment Guarantee Scheme", *ASARC Working Papers*, No. 2010/12.

Jha, S. and B. Ramaswami (2010), "How Can Food Subsidies Work Better? Answers from India and the Philippines", *ADB Economics Working Paper Series*, No. 221.

Joumard, I., P. Hoeller, C. André and C. Nicq (2010), *Health Care Systems, Efficiency and Policy Settings*, OECD, Paris.

Kumar, S., L. Chen, M. Choudhury, S. Ganju, V. Mahajan, A. Sinha and A. Sen (2011), "Financing Health Care for All: Challenges and Opportunities", *The Lancet*, forthcoming.

Ministry of Finance (2004), "Central Government Subsidies in India", Department of Economic Affairs, New Delhi.

Ministry of Finance (2010a), *Government Debt Status and Road Ahead*, Department of Economic Affairs, November, New Delhi.

Ministry of Finance (2010b), *Economic Survey*, New Delhi.

Ministry of Finance (2010c), "An Economic and Functional Classification of the Central Government Budget, 2010-2011", New Delhi, December.

Ministry of Finance (2011), *Economic Survey*, New Delhi.

Ministry of Labour and Employment (2010), *Wage Rates in Rural India, 2008-09*, Government of India, Chandigarh.

Modi, A. (2009), *Report of the Task Force on the Introduction of a General Sales Tax*, Thirteenth Finance Commission, New Delhi.

Morestin, F., P. Grant and V. Ridde (2009), "Criteria and Processes for Identifying the Poor as Beneficiaries of Programs in Developing Countries", *Policy Brief*, Université de Montréal.

Mukerjee, P. (2010), "Rollout of GST", speech by Finance Minister, 21 July, DNA, New Delhi.

Mukherjee, S. and J.-F. Levesque (2010), "Changing Inequalities in Utilisation of Inpatient Care in Rural India: Evidence from the NSS", *Economic and Political Weekly*, Vol. 45, No. 46.

NCAER (2009), *NCAER-PIF Study on Evaluating Performance of National Rural Employment Guarantee Act*, NCAER, New Delhi.

Neri, M.C. (2010), "The Decade of Falling Income Inequality and Formal Employment Generation in Brazil", *in Tackling Inequalities in Brazil, China, India and South Africa – The Role of Labour Market and Social Policies*, OECD, Paris.

OECD (2007), *OECD Economic Survey of India*, OECD, Paris.

Planning Commission (2008), *Eleventh Five Year Plan (2007-2012) Social Sector*, Vol. II, Oxford University Press, New Delhi.

Planning Commission (2010), *Mid Term Appraisal for Eleventh Five Year Plan 2007-2012*, Planning Commission, Government of India, New Delhi.

Poddar, S. and A. Bagchi (2007), "Revenue-Neutral Rate for GST", *The Economic Times*, 15 November, New Delhi.

Poddar, S. and E. Ahmad (2009), "GST Reforms and Intergovernmental Considerations in India", *Department of Economic Affairs Working Papers,* 1/2009, Ministry of Finance, New Delhi.

Reserve Bank of India (2010), *Handbook of Statistics on Indian Economy,* September.

Saxena Committee (2009), "Identifying the Below the Poverty Line Population", Government of India, August, New Delhi.

Scandizzo, P., R. Gaiha and K. Imai (2009), "Option Values, Switches, and Wages: An Analysis of the Employment Guarantee Scheme in India", *Review of Development Economics*, Vol. 13, Issue 2.

Singh, R. (2004), "Equity in Fertiliser Subsidy Distribution", *Economic and Political Weekly*, Vol. 39, No. 3.

Sur, M. and D. Umali-Deininger (2003), "The Equity Consequences of Public Irrigation Investments: The Case of Surface Irrigation Subsidies in India", Proceedings of the 25th International Conference of Agricultural Economists (IAAE) August, Durban, South Africa.

Usami, Y., B. Sarkar and V.K. Ramachandran (2010), "Are the Results of the BPL Census of 2002 Reliable?", presented at the International Conference on Environment, Agriculture and Socio-economic Change in Rural India organised by Kyungpook National University and University of Tokyo, March, Daegu.

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Chapter 3

Phasing out energy subsidies

India's energy subsidies are large by any standard and impose enormous fiscal costs on the central government and, in turn, on Indian taxpayers. They also entail economic and environmental costs and primarily benefit wealthier households. Phasing out energy subsidies and allowing greater latitude for price signals to operate in energy markets would increase economic efficiency and reduce greenhouse gas emissions over the long run. A number of steps have been taken recently in this direction, including a change in gasoline pricing, as well as efforts aiming at moving away from the current system of subsidies on kerosene and liquid petroleum gas towards direct help in cash for people with incomes below the poverty line. Higher world oil prices have overwhelmed these efforts, however. Targeted cash transfers would help shield low-income households from increases in energy prices though they will be difficult to implement effectively.

In 2009, amongst net fuel importing countries, India had one of the highest levels of subsidies for fossil fuels. According to the metric that is used (per capita, share of GDP or per unit of energy), India's fossil fuel subsidies range from the fifth to the ninth most important amongst all net oil importers. Taking account of the size of the Indian population, GDP and energy consumption, though, India had the largest subsidy bill amongst net oil importers in 2009. India's per capita oil subsidies were almost three times higher than China's, and its gas subsidies six times higher. Only for coal does India compare favourably.

In India, fossil fuel subsidies are given to all consumers and are generally poorly implemented. They put a heavy burden on public finances, either through direct subsidy payments by the central and state governments or the reduced profits of a number of India's state-owned enterprises. Moreover, these subsidies fail to be concentrated on the poor. Energy subsidies have also led to the withdrawal of private firms from retail petroleum markets and have hindered entry in electricity markets, thereby restricting competition and productivity growth. As well, in the sub-continent, energy subsidies encourage wasteful consumption, fuel adulteration and smuggling and create a system that is overwhelmed by corruption. Globally, by blurring market signals, they push up the level and volatility of energy prices, since when world prices rise India's consumption does not fall commensurately. Last but not least, they are environmentally damaging.

The government has started to reduce these subsidies by changing the method of regulating gasoline and diesel prices in June 2010. This change came after several committee reports over a period of years. In the very short term, this reform had the impact of almost halving the extent of overall subsidies. However, the impact of this change has been more than offset by the increase in world oil prices that, by mid-May 2011, had not been passed on to consumers, except for gasoline, whose price was deregulated in June 2010. The central-government budget for 2011 allowed for expenditure of INR 200 billion to compensate oil companies for the losses incurred by selling at less than world prices. By May 2011, the revenue shortfall for oil companies, obliged to sell at administered prices, had risen to INR 2 trillion (2% of GDP). In 2008, when a similar crisis arose, about two-thirds of the cost eventually fell on the government budget. Over the slightly longer term, the government plans to reduce subsidies while maintaining inclusive growth through improved targeting and by deregulating diesel prices. The 2011 Budget proposes that a committee should design a new system for distributing subsidies for fossil fuels, replacing subsidies for LPG and kerosene by cash transfers to targeted groups that have a high probability of having incomes below the poverty line. Depending on the results of the study group, this reform would be implemented in 2012.

The Indian government is well aware of the high costs imposed by energy subsidies and has been actively reviewing its energy-pricing policies. The National Environment Policy (Government of India, 2006) recognised that explicit and implicit subsidies for the use of various resources can entail policy failures. It suggested that the tendency to regard the environment as a free good be reversed. In the context of its commitment as a member of the

G20 to reduce fossil fuel subsidies while preventing an adverse impact on the poorest, India has recently made welcome progress in reducing some energy subsidies Even so, the fiscal burden of energy subsidies remains large and further efforts are needed to reduce these subsidies and to introduce greater market discipline into India's energy markets.

The growth of carbon emissions has been limited. The introduction of an improved auto fuel policy; reductions in gas flaring by oil and gas companies; and encouragement of the use of solar and wind power (though their development is held back by high capital costs) have all helped in this regard. Further reductions could be achieved by promoting the use of more efficient electrical appliances; introducing more fuel efficient power plants and changing the mix of power plants. In the transport sector, promoting goods transport by railways, mass transport for passenger movement, facilitating non-motorized transport and increasing fuel efficiency of vehicles would also help. A government report suggests that with a reasonable package of measures, the emission intensity of India's GDP can be reduced by 23 to 25% from its 2005 level (Government of India, 2011).

In the oil sector, continuing to phase out energy subsidies would help India achieve its policy goals of increasing refining capacity and the role of market-based pricing, and facilitate private and joint-venture investment. In electricity markets, the removal of cross-subsidies that reduce the revenues of the distribution utilities to below cost, in conjunction with subsidy rationalisation in the coal and rail transport sectors, would remove a major barrier to private investment. These measures would improve allocative efficiency in the Indian economy and boost GDP. They would also relieve considerable fiscal pressure and allow revenues to be better directed towards achieving India's development goals. In addition, phasing out energy subsidies would reduce energy demand and thereby help India contain its greenhouse gas emissions and achieve its long-run sustainability goals.

Although energy subsidies are generally poorly targeted, they have come to constitute a significant proportion of income for poor Indian households. As such, the phasing-out of energy subsidies may only be acceptable if done in a way that does not hurt the living standards of the poorest. Modern technology makes it possible to better target fiscal transfers to poor households. However, attention needs to be devoted to implementation challenges, including overcoming political obstacles and the ending of major opportunities for corruption.

India is one of the world's largest energy consumers but access remains poor

India is currently the world's fourth-largest consumer of energy and accounted for around 5.1% of world primary energy demand in 2008 (IEA, 2010). Coal is the primary fuel in India's current energy mix – accounting for 42% of total primary energy demand and over 80% of electricity generation in 2008 – and India is the third-largest user of coal products in the world. Notwithstanding supply bottlenecks, particularly in the electricity sector, energy demand has been growing robustly over recent years and India's energy consumption is forecast to grow significantly faster than elsewhere and more than double by 2035 (IEA, 2010). Although India has extensive steam-coal reserves, its known reserves of oil and gas are limited and India is importing a growing share of its energy requirements.

With 17% of the world's population, per capita energy demand in India is extremely low at one quarter of the world average. Around one quarter of Indians currently live without electricity, down from one half in 1993 (NSSO, 2010). For those with electricity, power shortages and blackouts are an every-day fact of life given insufficient generating capacity and inadequate transmission and distribution infrastructure. In addition, some 75% of rural

households (around 650 million people) continue to rely on biomass as their primary source of cooking fuel (Government of India, 2008). Indeed, improving energy infrastructure and access in the oil, gas and electricity sectors are major policy priorities for India.

India's energy subsidies are very large

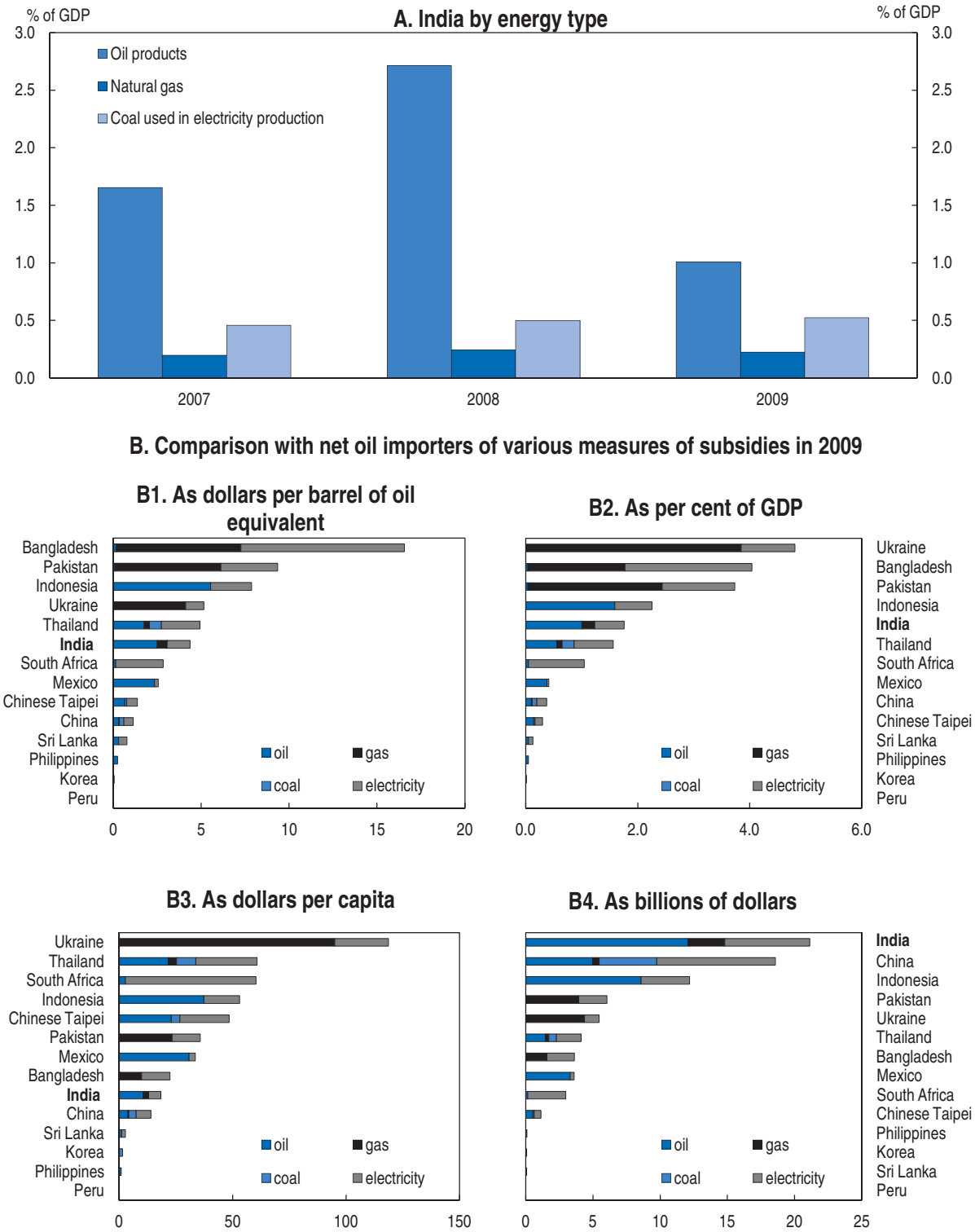
Energy subsidies are difficult to systematically identify and measure across countries (OECD, 2010a). They also change considerably over time, reflecting changes in domestic pricing policy, world prices, exchange rates and demand. India's energy subsidies, calculated on the basis of differences between domestic prices and world prices, surged to around USD 41 billion in 2008, or USD 36 per capita and 3.4% of GDP (Figure 3.1, Panel A). In 2009, as fossil fuels prices fell in international markets, India's energy subsidies halved only to rebound to the level of 2008 by May 2011.

In India, the subsidy per unit of energy is the sixth highest amongst all net oil importers in the world, well below that in a number of other Asian economies, though twice that of China (Figure 3.1, Panel B1). Across all products, the subsidy rate was 15% in 2009 (IEA, 2010). India devotes the fifth largest share of its income to energy subsidies amongst all net energy importers (Panel B2). Relative to population size, India ranks ninth (Panel B3), though considering only oil (most of which has to imported) India has the fifth highest per capita subsidy (and two of the economies with higher per capita subsidies have a very level of self-sufficiency in oil). Given India's sheer size, both in terms of population and energy consumption means, the absolute value of India's energy subsidies were the highest among net energy importing economies in 2009 (Panel B4).

The bulk of India's energy subsidies are directed at lowering the domestic prices of oil-based products (Figure 3.1, Panel A). These subsidies aim at: *i)* providing cheap fuel for lighting to poor households deprived of access to electricity; *ii)* encouraging the replacement of biomass fuels – such as firewood and dung – with cleaner, healthier and more sustainable cooking fuels; *iii)* insulating the domestic economy from the volatility of the international prices of petroleum products. By May 2011, when oil prices reached USD 120 per barrel, subsidies on these oil products alone reached 2% of GDP, only slightly less than in 2008 and almost double the 2009 level. By this time, oil subsidies had reached USD 0.1 per day per person, a substantial sum given the number of people in India with an income of less than USD 1 per day. About 60% of the subsidies come from holding down the price of diesel, about half of the remainder comes from the long-standing subsidy on kerosene (Box 3.1).

With these objectives in mind, the central government controls the prices of three "sensitive" petroleum products – diesel, domestic LPG and kerosene, which account for slightly over half of India's total consumption of petroleum products. The pre-tax retail price of gasoline was also subsidised until 2010, when the price was deregulated. Kerosene is subsidised on the grounds that it is an important fuel predominantly used for lighting by poor Indian households. LPG is subsidised with the intention of improving the access of lower-income Indian households to modern cooking fuels whereas the price for diesel is controlled given the importance of these products as transport fuels widely used in public transport, food freight and so forth. In practice, LPG is mainly used in urban areas, with 60% using this fuel for cooking. The proportion falls to one-tenth for people living in rural areas. Nationally, according to analysis of the unit record data of the 64th National Sample Survey, undertaken in 2007-08, the richest 30% of households consume 72% of all LPG. On the other hand, the poorest 30% consume just 2%.

Figure 3.1. **Energy subsidies**



Source: IEA (2010).

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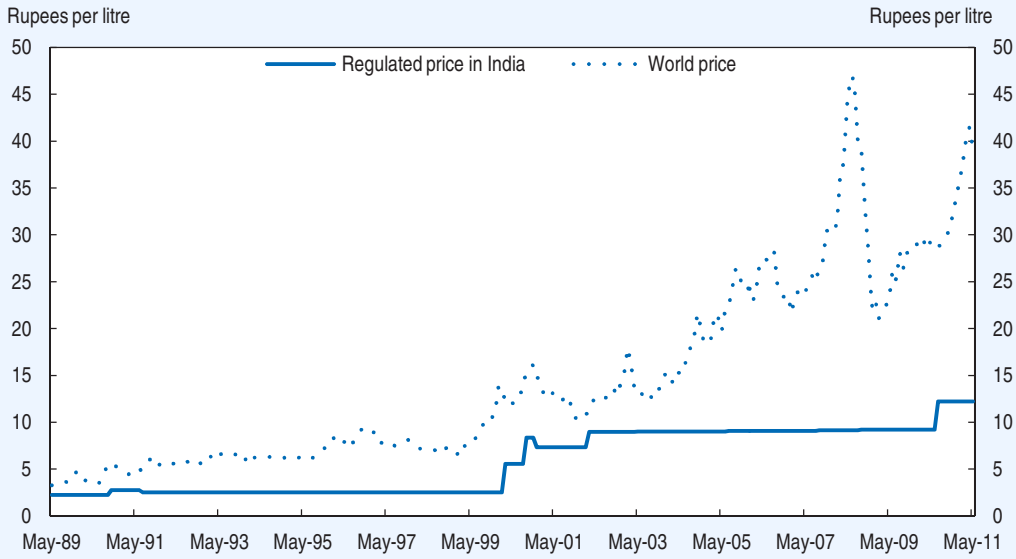
Box 3.1. **A brief history of energy subsidies in India**

The central government has been working towards the reform of energy subsidies for several years. However, a number of attempted reforms have faced public resistance, sometimes leading to their reversal.

The subsidisation of petroleum products in India dates from the Second World War, when the colonial power created a public distribution system for food and kerosene. Bottled gas was added to the system in 1968. From 1976 to 2002, the prices of petroleum products in India were determined by the central government using an opaque and complex "cost of operating capital plus" formula. The overriding objective of this regime was to smooth fluctuations in the prices of sensitive petroleum products in the domestic economy but it was used to keep domestic prices permanently low relative to international prices (Figure 3.2). It also became clear that administered prices, essentially based on a cost-plus formula, were leading to inefficiencies in the domestic oil sector and discouraging investment (Morris *et al.*, 2010).

Figure 3.2. **Domestic and world kerosene prices**

Rupees per litre



Note: The world price has been calculated by adding IEA estimates of transport and distribution costs to world prices.

Source: Reuters Thompson for prices in India, United States Energy Information Agency for world prices.

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There was a brief interlude in the discretionary regulation of prices between 2002 and 2004 when the central government allowed state-owned oil marketing companies (OMCs) to set retail prices on the basis of an import parity pricing formula. The domestic refining and retail sector was also opened to private firms, leading to the emergence of a small private retailing sector. Because of the importance of LPG and kerosene as lighting and cooking fuels for India's low-income population, per-unit subsidies were maintained on these products. However, these subsidies were to be phased out between 2005 and 2007. Under the new pricing regime, it was expected that that the retail prices of petroleum products would fluctuate with changes in the price of India's crude basket. With rising world prices, however, the pre-2002 regime was re-established.

Box 3.1. **A brief history of energy subsidies in India** *(cont.)*

In 2006, the government established a Committee on Pricing and Taxation of Petroleum Products, which recommended that the domestic prices of petroleum products should reflect international oil prices and that subsidies should be better targeted to low-income households and transparently accounted for in the Budget. These recommendations were not followed, quite the reverse. The government resumed financing oil subsidies outside the budget by issuing bonds, rather than cash, to the oil companies, at the expense of budget transparency.

In 2008, a High Powered Committee on the Financial Position of Oil Companies was set up by the Prime Minister. In broad terms, this committee also recommended a process by which the domestic prices of petroleum products would reflect prevailing international prices to improve efficiency and the response of the domestic economy to oil price changes. Direct and transparent subsidies to low-income households were advocated as well.

As discussed below in the main text, the most recent review of subsidies for petroleum products by the Kirit Parikh Committee in 2009 also recommends an increased use of market price signals in retail markets for sensitive petroleum fuels.

Encouraging the poor to use cooking fuels that generate less indoor pollution is a key to promoting inclusive growth. Indeed one of the Millennium Development Goals is to halve the share of the population not using clean methods of cooking. Cost-benefit analysis of the use of LPG in poor countries suggests that such a policy would improve the health and income of the poorest (Hutton *et al.*, 2007). However, this study found that external environment gains are relatively low. On the other hand, helping with the initial purchase of the gas bottle and cooking equipment could contribute to securing lasting benefits for poor households. Such a policy has been adopted with some success by the government of Andhra Pradesh. Moreover, a nationwide programme has been introduced to spread the distribution network through all of rural India. As subsidies are reduced, programmes on these lines could be expanded.

The overarching aim of India's subsidy regime for sensitive petroleum products is to insulate domestic consumers from the impact of price swings in world markets. This has largely been achieved, with only around two-thirds of increases in world oil prices between 2004 and 2008 passed through into domestic retail prices of gasoline and diesel, while kerosene prices scarcely rose at all (Table 3.1). In contrast, in the OECD area there was full pass through.

Table 3.1. **Pass-through of international prices to domestic retail prices, 2003 to 2008**[1]

	Gasoline	Diesel	Kerosene
All oil importers	0.96	1.06	0.79
India	0.65	0.72	0.11

1. The pass-through is estimated using monthly data as the ratio of the absolute change in the domestic retail price to the absolute change in international price. It is calculated based on tax-included prices and over the period running from end-2003 to mid-2008. During this interval, crude prices quadrupled, rising by USD 100 per barrel.

Source: OECD calculations using Arze del Granado *et al.* (2010); and US Energy Information Administration data.

For electricity, the extent of subsidisation varies across states. The subsidy often takes the form of a cross-subsidy where the agricultural sector is provided with free or un-metered power, household consumers pay low prices while others (typical industrial users) pay inflated electricity charges relative to the costs of production (International Energy Agency, 2010). In addition, although not recognised as a subsidy, reluctance on the part of some state governments to reduce theft and charge for electricity exacerbates distribution losses that effectively represent a transfer to some consumers and puts immense pressure on the financial performance of the state electricity utilities. In total, subsidies for electricity, LPG and kerosene accounted for 87% of total subsidies in India in 2009 (IEA, 2010).

The central government also subsidises natural gas via a complex system of differential prices that vary across end-users and regions. About 60% of natural gas is sold under an administered pricing mechanism under which the government sets the price for gas produced by the state-owned oil companies. The prices of gas produced from joint-venture fields licensed before the New Exploration Licensing Policy (NELP) came into effect in 1997 are determined by production-sharing contracts entered into with the government. For gas derived from fields awarded under the NELP, prices are typically set on the basis of a formula linking them to the price of crude oil (Mercados, 2010). The price of natural gas imported as LNG is set on commercial terms.

Given extensive subsidisation, the retail prices of kerosene and LPG are extremely low in India in international comparison (Figure 3.3, Panels A and B). For gasoline and diesel, differences in retail prices in India and the OECD area mainly stem from differences in taxation. Reflecting relatively low taxes, the retail price for diesel in India is well below the OECD average. On the other hand, the local price of gasoline is similar to that in some OECD countries and substantially higher than in the United States. The ex-tax prices of these products are much closer to world prices than for LPG (Panels C and D). In contrast to the typical pattern in most OECD countries, the price of electricity for industrial users in India, at slightly less than the OECD average, is significantly higher than for residential users (Panels E and F).

India's subsidies for petroleum products burden the budget

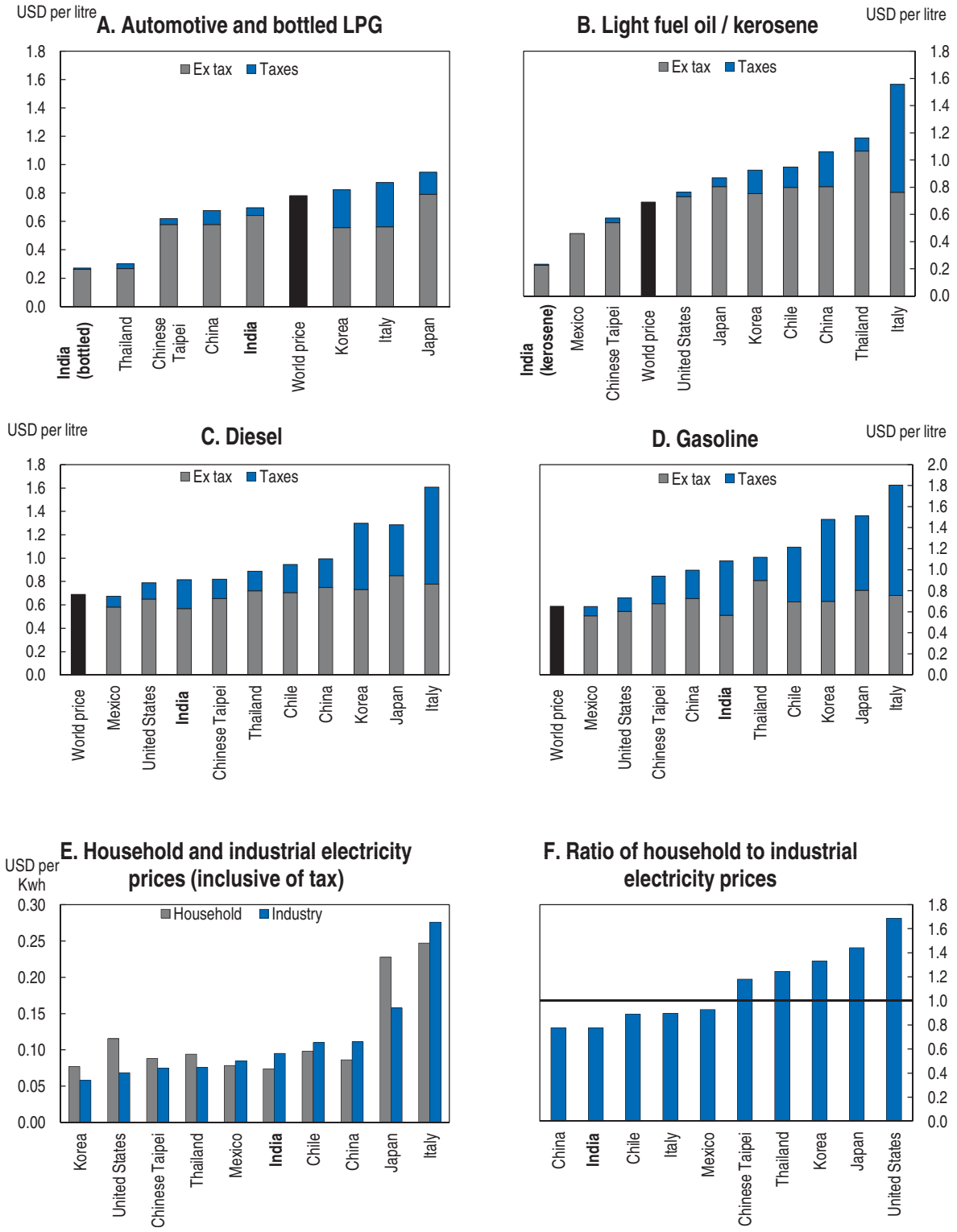
To implement its subsidies for sensitive petroleum products, the central government sets administered prices at the retail level. As private firms are not allowed to receive government subsidies, India's retail sector for petroleum products is completely dominated by the three public-sector oil marketing companies (OMCs), which collectively account for around 98% of operational retail outlets.

Two private companies – Reliance Industries, Ltd., and Essar Oil, Ltd. – did establish retail outlets in 2002 when the central government announced a move away from administered pricing of oil products. However, with a return of *de facto* administered pricing in 2003, in an environment of increasing crude prices, these outlets were subsequently mothballed.

The price at which OMCs are obliged to sell is less than the imputed cost of purchasing and distributing refined products based on world market prices. This differential represents a subsidy to consumers even if the production costs of refining in India are less than implied by world oil product prices (in a free market, refiners would sell only at world market prices, hence domestic production cost have no bearing on the extent of the subsidy). The difference between the costs and revenues of distributing sensitive

Figure 3.3. **Retail energy prices in US dollars**[1]

2010



1. The sample in each chart reflects data availability. The government of India deregulated gasoline prices in June 2010. The Indian data for 2010 shown for gasoline are an average of six months of regulated prices and six months of deregulated prices.

Source: IEA, *Energy Prices and Taxes*; CEIC and national sources.

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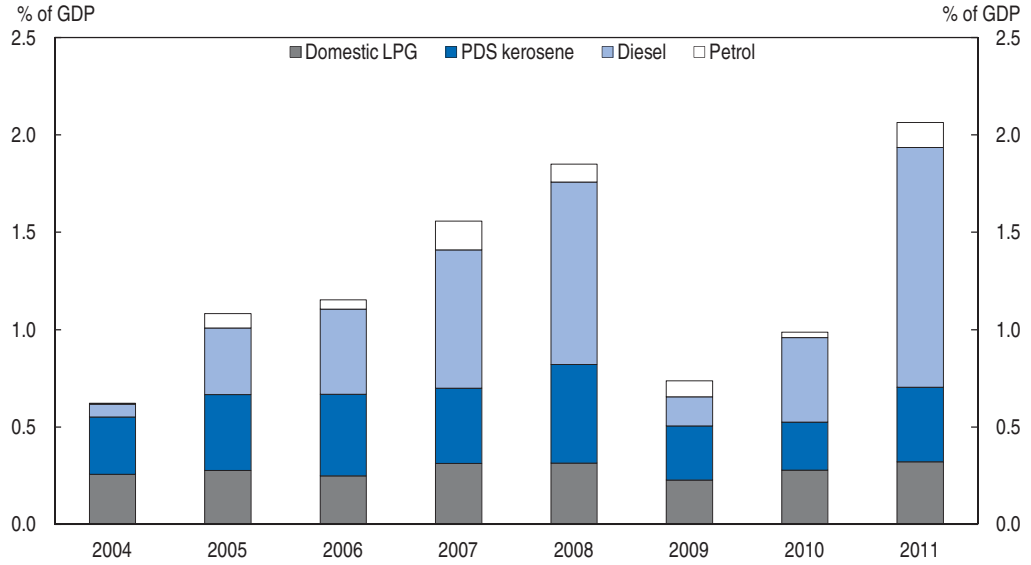
petroleum products is referred to as an under-recovery in India and represents a subsidy to consumers. By almost insulating the domestic prices of kerosene and LPG completely from changes in international prices, the cost of the subsidies is large, reaching 1.9% of GDP in 2008-09 (Figure 3.4). In 2009-10, with falling international crude prices in the context of the global recession, under-recoveries more than halved, even though the central government cut administered retail prices during the year. Since then subsidies have risen once again. As international energy prices are typically pro-cyclical, the balance sheet pressures stemming from petroleum product subsidies tend to rise when the global economy grows strongly and to fall during downturns.

Figure 3.4. **The under-recoveries of the oil marketing companies by fuel type**

Fiscal year starting in April



Note: Data for 2010 are taken from press reports. Data for 2011 refer to the annualised daily loss rate as reported by the Ministry of Petroleum and Natural Gas at the beginning of May 2011.

Source: Ministry of Petroleum and Natural Gas.

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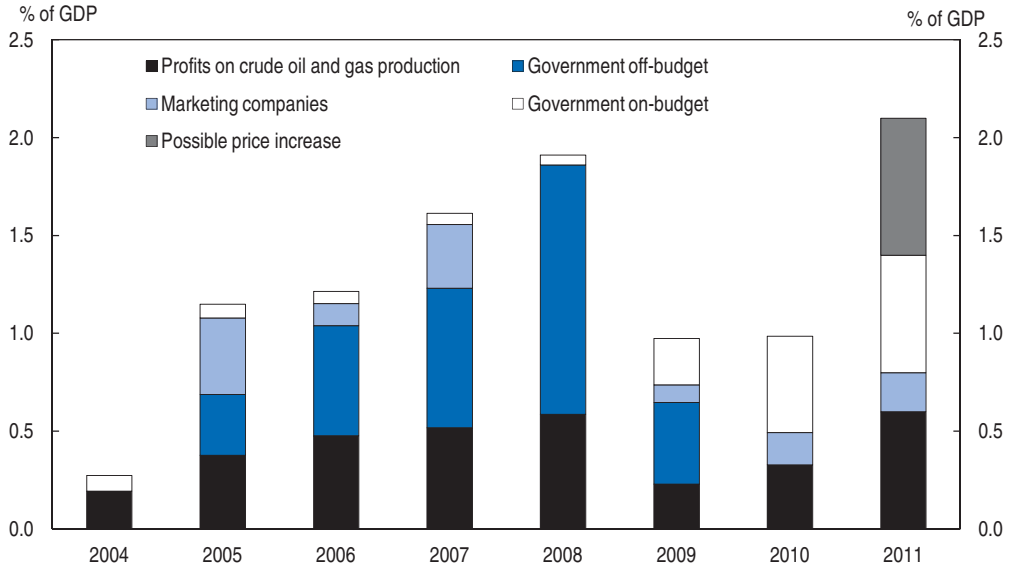
The Indian government finances these subsidies through various means, all of which have an incidence, directly or indirectly, on the public purse. Although on-budget subsidies to the OMCs are the most transparent method of paying subsidies, they have funded only a tiny proportion of under-recoveries, owing to the government's desire to meet fiscal deficit reduction targets (Figure 3.5). Instead, the largest financing channel has been off-budget, through the issuance of oil bonds to the OMCs which could then be sold for cash. In addition, the central government has required state-owned oil and gas production companies to transfer part of the profit on their production to the OMCs, thereby reducing the potential dividend production companies could pay to the government. As well as moving some of the under-recoveries off the balance sheets of the OMCs, the central government has also lowered taxes and duties on gasoline, diesel, kerosene and LPG. As the government kept tax-inclusive retail prices unchanged when taxes were cut, the oil companies received extra cash. The choice of instrument used to deal with under-recoveries is essentially made on an *ad hoc* basis from year to year. This creates pervasive uncertainty for the OMCs and minority shareholders in these firms.

Figure 3.5. **The financing of under-recoveries**

Fiscal year starting in April



Source: Ministry of Petroleum and Natural Gas, ICRA.

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In the 2010-11 Budget, the government announced welcome plans to phase out oil bonds in favour of direct subsidies to the OMCs, but has been late in making these payments. Indeed, with rising international oil prices and acute fiscal pressures at the central government level, there is a risk of a policy reversal and/or increasing financial pressures on India's oil and gas sector. Indeed, in its 2011 budget the government announced that despite much higher world oil prices payments to OMCs for under-recoveries would be cut substantially, from 0.7% of GDP in FY 2010 to just 0.2%. According to government estimates, if oil prices were to remain around their early May 2011 levels and prices are not increased, the total under-recoveries of the OMCs will amount to 2.0% of GDP in FY 2011, ten times the financing provision in the budget. If one third of the under-pricing were recovered through price increases, one third fell on the profits of the oil companies, then the amount to be financed through the budget in 2011 would be around 0.7% of GDP (Figure 3.5).

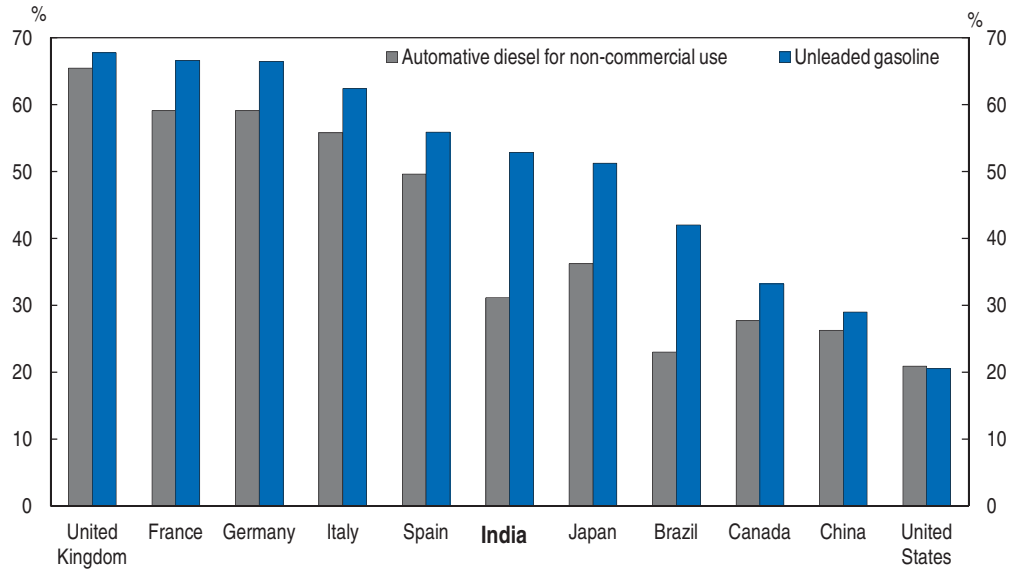
The tax revenue from petroleum products accrues to both the central and state governments. At the central level, domestically-produced petroleum products are subject to excise and customs taxes which vary from product to product. Between 2004 and 2008, the excise taxes were transformed from *ad valorem* to fixed values and lowered. For LPG and kerosene, excise taxes and customs duties were abolished in the same period. At the state level, products are subject to an *ad valorem* sales tax that averages just over 20% and other forms of excises, both of which vary from state to state and product to product.

Although lowering taxes on petroleum products has been one method used to compensate the OMCs for under-recoveries, it does not offer a long-term optimal financing solution. Because the consumption of petroleum products is inelastic, tax rates should be relatively high, as this will minimise distortions in the pattern of consumption for a given level of tax revenue. In addition, taxation of petroleum products needs to reflect the marginal environmental damage caused by their consumption.

In 2009, Indian taxes on gasoline and diesel were broadly comparable to those in some OECD countries (Figure 3.6). Indeed, a number of middle-income countries have found higher excise taxes on energy consumption to be useful in offsetting income tax evasion and a relatively narrow tax base. Taxes on petroleum products are also a key demand-side management and environmental policy tool. By way of illustration, persistent tax-induced price differentials for petroleum products have had a discernable impact in OECD countries, with relatively high-tax countries having markedly lower oil demand and more energy-efficient infrastructure and transport systems (Sterner, 2007). Indeed, the recent trend in OECD countries has been one of increasing energy taxes on fossil fuels as part of efforts to meet environmental objectives (OECD, 2010a).

Figure 3.6. **Gasoline and diesel tax rates: International comparison**

In 2009



Source: IEA, OLADE.

StatLink http://dx.doi.org/10.1787/888932436081

Taxes on oil products represent a significant source of revenue for both the state and central governments. The overall revenue from such taxation represented 2.7% of GDP in 2008, but the government share of oil company losses (pre-subsidy) was 0.5% of GDP (Table 3.2). The dependence on petroleum taxation was particularly marked at the state level where the sales tax on gasoline (averaging 21% across states) represented over 14% of state governments' own tax revenue. This level of taxation has been well maintained over the past five years, though a number of states reduced sales tax rates in 2008. However, the rise in tax revenue at the central level has been less rapid. The central government has been lowering taxes on petroleum as prices have risen, with the customs duty on crude oil falling from 20% to zero and the duty on petroleum products falling to between 2.5% and 5% depending on the product. Given the maintenance of the duty on products, the effective protection rate for refiners remains high.

The total yield to the government of the oil sector is, however, held back by unequal tax rates on different oil products and by the failure to capture the rent from domestic oil production. At the state level, the average tax rate on petroleum varies significantly from

Table 3.2. **Tax yields from the oil sector**

% of market price GDP

	2005	2006	2007	2008	2009
Excise and customs duty	1.7	1.7	1.6	1.3	1.2
Sales tax	1.3	1.3	1.1	1.1	–
Royalties	0.1	0.1	0.1	0.1	–
Corporate taxes	0.3	0.3	0.4	0.2	–
Other taxes	0.1	0.1	0.1	0.1	–
Total	3.5	3.5	3.2	2.7	–
Government share of public oil company profits	0.2	0.1	0.2	–0.5	0.3
Value of domestic oil production	1.8	1.8	1.8	1.8	1.4
Value of domestic gas production	0.9	1.0	0.8	1.3	1.0

Source: Mukerjee and Rao (2009).

product to product between a high of 23% on gasoline and a low of 3% on LPG sold through the public distribution system. The average rate of tax is 14.5%. At the state level, the shortfall in revenues from not having a uniform tax rate equal to the tax of gasoline is just under 0.7% of GDP. Overall, the total amount of taxation generated by the oil sector is similar to the total amount of subsidies. Some have claimed that this indicates that subsidies are not too large. However, a neutral tax system should tax all goods and services equally, with allowance for the fact that some products have an inelastic demand and so can be taxed more without a significant impact on resource allocation. In addition externalities should be taken into account. To some extent, the current tax system does this through the central excise tax on gasoline and diesel, but there is no central excise tax on other forms of energy. These taxes need to be calibrated correctly. Some substitution might occur if the price of LPG was raised, as rural households might switch back to using firewood and cars in cities might switch back to two-stroke engines. However, this impact is likely to be limited as lower-income rural groups use hardly any LPG for cooking, and higher-income groups are likely to value the convenience of this form of fuel, while a number of users are constrained to use gas for transport vehicles. Subsidies are a form of public expenditure and should be allocated according to the public policy benefit that can be obtained from any change in behaviour of those who receive the subsidies. Thus subsidy allocation should be determined by the benefits of each subsidy and not by the tax that is raised on the product or service that is being subsidised.

In addition to putting pressure on government finances, distorting relative prices and creating corruption opportunities, India's current system of pricing sensitive petroleum products creates severe financial pressures on the OMCs. Across the sector as a whole, cash flows have generally been unsustainably weak and interest payments have increased. The resultant weak profits of the OMCs have resulted in their share prices falling by 25% relative to the Indian market index between end-2008 and the beginning of 2011, with shares in the largest company falling even more. Thus, the position of the OMCs remains tenuous and vulnerable to failures of the central government to revise domestic prices for sensitive petroleum products in line with world prices. In addition the government foregoes an adequate royalty from petroleum. At world prices, oil and gas output represented 3.1% of GDP. Yet the share of the profit accruing to the government from all state-controlled oil companies amounted to only 0.3% of GDP in 2008 (pre-subsidies). In sum, as described in the 11th Five-Year Plan, the administrative pricing system and the tax

environment creates a business environment for the oil sector that is fraught with uncertainties, anomalies and geographic complexities (Planning Commission, 2008).

India's petroleum subsidies are economically and environmentally damaging

As well as being fiscally unsustainable, India's energy subsidies distort markets and entail an inefficient allocation of resources with negative consequences for economic performance. Subsidies also result in a higher consumption of oil products relative to the level of consumption at world prices, which pushes up global prices and damages the environment.

The government's refusal to compensate private companies for selling petroleum products at regulated prices that are below market levels has led them to exit the retail market. However, in the refinery sector, private firms are able to sell their output to retail outlets at wholesale prices determined on the basis of world prices. Private companies account for just over half of total output of refined products, with Reliance operating the largest oil refining complex in the world. Unlike the public-sector OMCs, which almost exclusively supply the domestic market, the private refineries sell both domestically and abroad. The international major oil companies have no refineries or marketing networks in India as the interests of Exxon, Chevron and Shell were nationalised between 1974 and 1976.

Despite fragile balance sheets, the OMCs are currently engaged in large programmes of capital investment in retail infrastructure and additional refining capacity. This is set to make India the largest exporter of refined petroleum products in Asia, notwithstanding expected annual domestic demand growth of 4%. These domestic investments have only been possible because of government support, which allows the central government considerable control over the strategic choices and investment plans of the OMCs. Export activity, though, is dominated by private companies that refine only for the world market.

Pervasive state involvement in the sector also runs contrary to the central government's aim of creating a regulatory environment consistent with competitive markets for petroleum products (Planning Commission, 2008). In conjunction with acute fiscal pressures, this highlights the importance of reforming petroleum markets to enhance the role of market signals in driving private sector investment and lowering the risks of low productivity inherent in a cost-plus regulatory environment. Establishing a credible link between input costs and retail prices is a key part of such a liberalisation.

By artificially lowering prices, India's energy subsidies blunt incentives to economise on petroleum products in response to increases in international crude prices. In turn, a damped domestic demand response to higher international prices hastens the depletion of finite energy resources and exacerbates price volatility on global markets. As in other countries that subsidise petroleum products, India's subsidy regime effectively acts as a negative price for carbon that keeps fossil fuel consumption and greenhouse gas emissions higher than would otherwise be the case.

Artificially low prices for petroleum products also potentially undermine the development and diffusion of superior cleaner technologies for delivering energy to India's poor. For example, solar cells and LED technology offer a renewable and increasingly competitive alternative to kerosene lighting for Indian villages not connected to the electricity grid. However, with its focus on cheap kerosene, the current subsidy regime prevents the shift away from fossil fuels that could accelerate the learning effect for renewable technologies and cause unit production costs to decline. In

addition, by creating artificial divergences between the retail prices of different petroleum products, subsidies also open up technical arbitrage opportunities that would otherwise not exist. For example, because kerosene is priced so cheaply in India, it is often used to adulterate more expensive fuels, particularly diesel, which leads to greater engine wear and pollution (Shenoy, 2010).

Electricity subsidies restrict the development of the sector

Some progress has been made in India's electricity sector since the introduction of the Electricity Act in 2003, which sets out a framework for a competitive electricity market conducive to private sector involvement (OECD, 2007a). Responsibility for India's electricity sector is split between the central and state governments. As part of the reforms introduced under the 2003 Law, all of the state governments have established State Electricity Regulatory Commissions (SERCs) to oversee tariff setting by the state transmission and distribution utilities. In some states, these transmission and distribution utilities still operate as part of vertically-integrated electricity boards, in contradiction with the terms of the 2003 Act. Despite regulatory improvements, additions in generation capacity still lag demand growth and the projections in successive five-year plans. Most of the ongoing problems in the electricity industry stem from the distribution sector and improving the financial performance of this sector would directly improve the viability of India's power sector as a whole.

Reflecting chronic under-investment in transmission and distribution, the network is overloaded and suffers from poor performance with excessively large technical losses of electricity. Non-technical commercial losses, which capture widespread theft and deficiencies in billing and collection, are also extremely high. In 2008-09, aggregate technical and commercial (AT&C) losses ranged between 13 and 81% of electricity generated at the state level, and averaged 28% at the national level (Power Finance Corp. Ltd., 2010). In an ongoing attempt to reduce AT&C losses, a Restructured Accelerated Power Development and Reform Programme was introduced in the 11th Plan. This programme provides for the conversion of central-government loans into grants contingent on sustained reductions in AT&C losses at the state level.

Extensive cross-subsidisation in favour of agricultural and household users is another major problem in the electricity distribution sector. Under the 2003 Act, the SERCs are required to set prices based on actual costs and reduce cross-subsidies so that tariffs are within a band of ±20% of the average cost of supply by March 2011. Although some progress has been made, none of the SERCs have notified a clear plan for achieving this objective and some have not increased tariffs for years (Forum of Regulators, 2010; Government of India, 2010a). As such, the revenue earned per kWh from the agricultural sector is still typically much less than that earned from the industrial sector (Table 3.3).

In the agricultural sector, the major problem faced by the distribution sector is that of unmetered supply to the irrigation industry. In the 1980s, state electricity boards found that the cost of metering and individual charging was excessive and so moved to charging for irrigation pumps based on the horsepower of the unit. Tariffs have not been raised adequately over time and now around 20% of electricity is used for irrigation purposes at zero marginal cost, causing a revenue loss of around 0.8% of national GDP. This is not only a problem for electricity supply but also results in significant under-pricing of groundwater,

Table 3.3. **The extent of cross-subsidies from industry to agriculture**

State	Agriculture		Industry	
	% of total energy sold (MkWh)	% of total revenue (INR)	% of total energy sold (MkWh)	% of total revenue (INR)
Haryana	36	4	27	35
Karnataka	36	7	31	35
Rajasthan	37	17	29	43
Punjab	29	–	33	49
Andhra Pradesh	31	1	35	47
Maharashtra	22	11	46	56
Gujarat	32	15	43	58
Tamil Nadu	22	–	37	54
Madhya Pradesh	30	13	28	41

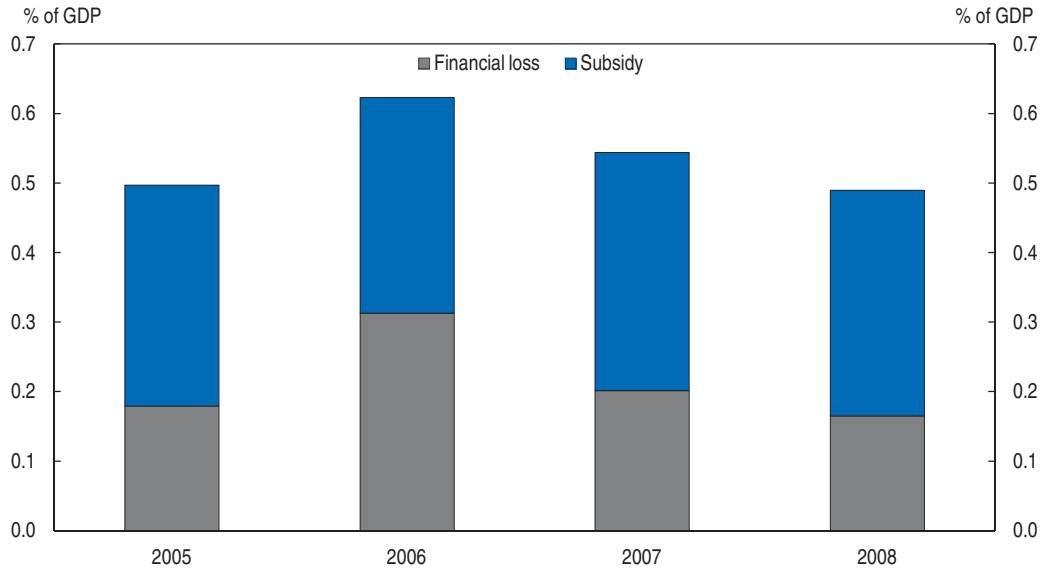
Source: Power Finance Corp. Ltd. (2010).

leading to over-extraction from aquifers. Neighbouring countries (such as China and Pakistan) have, in the past, faced the same problems and moved back to metering of electricity (Shah *et al.*, 2004). Most Indian states refuse to implement metering, however, due to political pressure.

As a result of these ongoing issues in the transmission and distribution sector, the state electricity utilities continue to suffer from a poor financial performance and are largely dependent on subsidies from the state governments for their ongoing solvency (Figure 3.7). Indeed, the gap between revenues and costs in the electricity sector steadily increased to peak at USD 6.7 billion in 2007-08 before falling to just under USD 6 billion in 2008-09. This poor financial performance and dependence on the state governments deters private investment and restricts the ability of the sector to invest in new generation capacity and in maintaining and extending the network. To some extent, this creates a

Figure 3.7. **Net losses of the state transmission and distribution utilities**

Fiscal year starting in April



Source: Government of India (2010a).

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vicious circle in which the state electricity utilities lack the funds necessary to improve infrastructure and the performance of the sector in meeting customer needs, with blackouts remaining common. In conjunction with a lack of political will and institutional capability, this makes the SERCs reluctant to lift prices above the current subsidised rates.

As with India's subsidies for petroleum products, low-cost electricity leads to excessive consumption by users who benefit from below-cost or unmetered electricity, with negative environmental consequences. In particular, electricity subsidies to the agricultural sector have led to excessive water use and ground water depletion in a number of areas. In addition, large subsidies also hamper the implementation of more energy-efficient technologies in the agricultural sector which could dramatically cut energy demand (Sathaye, 2010).

Coal market reform is important

With 80% of India's electricity being produced by coal-fired generation, the coal sector has a large influence on the performance of the electricity sector. Despite some improvements, most coal prices are still set by long-term negotiation and can be as much as 50% below the price of imported coal (IEA, 2010). Although this partly reflects the poor quality and low calorific value of Indian coal, it is also due to discounts designed to support low electricity prices and stem the losses of the state electricity utilities. With prices held below market levels, coal is administratively allocated, through a cabinet committee, on a state-by-state basis. Private companies are restricted in their ability to obtain sites for coal mines and are allowed to mine coal only if it is used in a power plant owned by the same company and accounts for no more than 20% of production. A further problem will arise following the sale of 10% of the government's shares of Coal India to the public in October 2010. The government faces a significant problem of how to treat minority shareholders fairly. In addition, with respect to the allocation of mining licences, the government should move toward auctioning permits by allowing greater private participation in the industry. If it does not, part of any resource rent will accrue to the private shareholders of Coal India or the promoters that have been allocated mining permits.

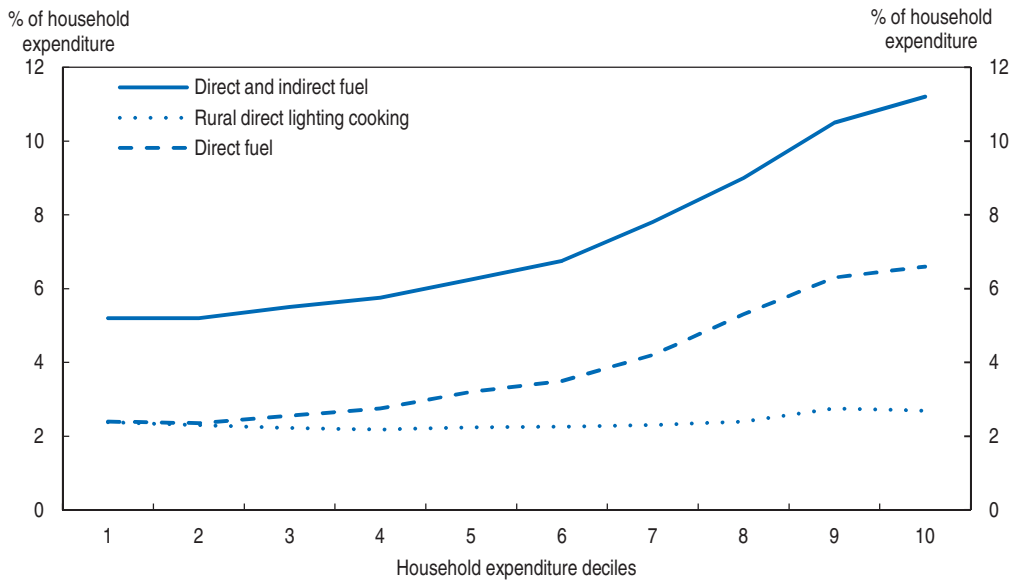
Working against the impact of relatively low coal prices, cross-subsidies for rail transport, which favour passenger travel over freight, put upward pressure on the price of coal for electricity generators. Coal is the largest single freight item handled by the railways and rail freight can account for up to half of the price of coal for inland consumers. As such, distortions in rail freight pricing also have a pronounced impact on the location decisions of electricity generators investing in new capacity.

India's energy subsidies miss their target

The rationale for introducing energy subsidies has historically been to advance particular political, economic, social and environmental objectives, or to address problems in the way markets operate. This can include trying to alleviate energy poverty and promoting economic development by improving access to affordable modern energy services. In practice, however, subsidies have often proved to be unsuccessful or inefficient in achieving their stated goals. But once implemented, they typically attract political support from a particular section of society and become difficult to reform or remove. This has certainly been the case in India. As discussed above, although energy subsidies have largely succeeded in insulating domestic energy prices from movements in international prices, this has been done at great fiscal cost.

The predominant reason why India's energy subsidies have proven to be so costly is that they are very badly targeted towards the poor, their intended beneficiaries. The efficiency with which energy subsidies improve the welfare of low-income households depends *inter alia* on the fuel intensity of their consumption baskets relative to higher-income groups. Even in rural areas, the share of consumer expenditure devoted to lighting and cooking fuels is practically constant across the distribution of consumer expenditure per household, at 2.4% of total outlays (Figure 3.8). In the whole country, the share of total expenditure on fuels is broadly constant up to the median household and then rises, as more people use private transport. When allowance is made for the fuel used in the production and distribution of other products the share of fuel in total expenditure doubles between the lowest and highest income categories (Datta, 2010).

Figure 3.8. **Share of fuel and lighting expenditure in household budgets by expenditure decile**



Note: The direct estimate of energy expenditure is derived from a household survey; the indirect content is estimated by using input-output tables.

Source: Datta (2010).

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India's energy subsidies have a number of negative unintended consequences, as well as being very poorly targeted. In addition to fuel adulteration, artificial price differentials across products and consumer groups encourage fuel theft, smuggling and corruption (Shenoy, 2009). Indeed, it has been estimated that 39% of subsidised kerosene is diverted out of the public distribution system and sold at higher prices for other use (NCAER, 2005). Moreover, this may be an underestimate: survey data of household consumption through the public distribution system suggest that half of the kerosene is diverted. At the beginning of 2011, the kerosene subsidy was INR 20 per litre. If half of the subsidised supply is resold, the total gain from this trade amounts to USD 2.5 billion. This gain is largely captured by wholesale dealers, who need to be licensed and are often powerful local politicians. On several occasions, oil company executives who tried to reveal the extent of corruption were murdered. With growing use of automotive LPG, there is also a trade in diverting bottled gas

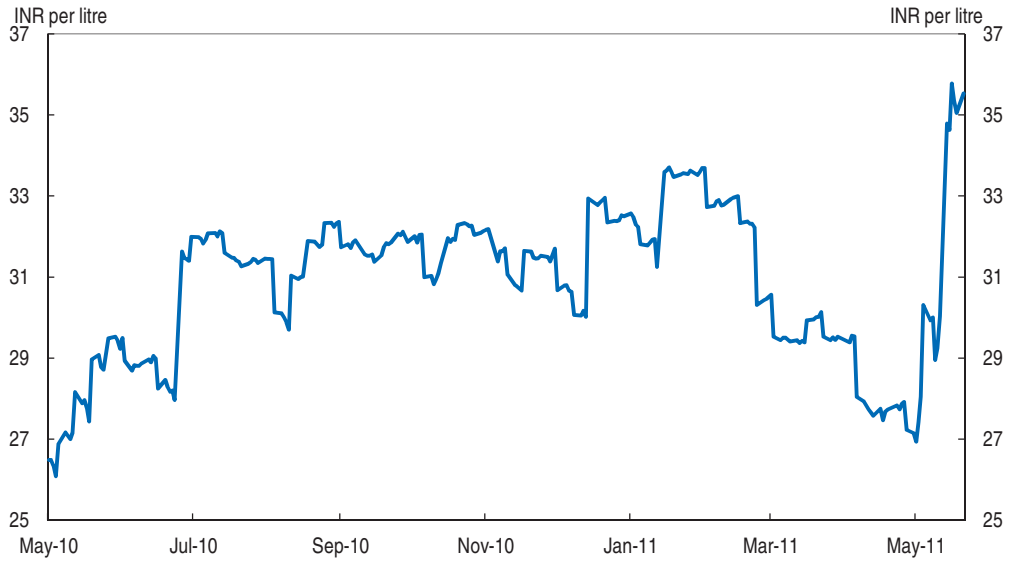
for household use into automotive use. Further evidence of the scale of the gains involved in illegal fuel movements is revealed by the endemic corruption around the awarding of retail petroleum businesses to particular groups and individuals (Morris *et al.*, 2010).

The central government has introduced a number of schemes to try and mitigate these unintended consequences of its subsidy regime. For example, in 2005 GPS systems were fitted to trucks distributing subsidised kerosene to prevent diversion. In 2006, also in an effort to prevent diversion, subsidised kerosene was marked with a dye that acted as a marker in the event of adulteration with other fuels. However, reflecting large monitoring costs and other inefficiencies, both of these programmes were dropped in 2008.

India has made some progress in reducing energy subsidies

India has been actively reviewing its energy-pricing policies over recent years as their associated fiscal costs increased. The most recent review aimed at devising a fiscally sustainable approach to pricing diesel, gasoline, LPG and kerosene (Government of India, 2010b). In response, in June 2010, the central government implemented a number of price reforms for refined petroleum products, with a focus on those used disproportionately by wealthier consumers. In particular, gasoline prices were deregulated, allowing the OMCs to set their own retail prices, after approval by the government. The central government also announced its intention to implement market-driven pricing for diesel, at a date yet to be determined, and raised the administered prices for diesel, LPG and kerosene. The first price rise under the new policy came in mid-2010 and, for gasoline, prices rose several times through early 2011, with increases in world crude oil prices being fully passed on (Figure 3.9). Between mid-January and early May 2011, however, gasoline prices no longer increased, despite the policy of deregulation, and the gap between the retail price of gasoline and the world price of oil narrowed by almost INR 7 per litre (12% of the retail price). In the middle of May, gasoline prices were increased by INR 5 per litre. This, together with a fall in world oil prices, restored full pass through of crude prices in the gasoline market.

Figure 3.9. **The gap between retail gasoline prices in India and world crude oil prices**



Source: CEIC and OECD.

StatLink http://dx.doi.org/10.1787/888932436138

Although these moves are clearly in the right direction, the impact of the deregulation of gasoline on the under-recoveries of the OMCs is likely to be minimal. First, gasoline prices in India are not too far out of line with the cost of supply and the associated under-recoveries have only accounted for around 7% of total under-recoveries since 2005-06. In addition, the hikes in the administered prices for diesel, LPG and kerosene only offset the increase in excise tax implemented in the 2010 Budget and the net impact on the under-recoveries of the OMCs is likely to be small. On balance, although the central government is starting to address the issue of unsustainable subsidies for petroleum products, much more remains to be done, especially for diesel which accounts for two-thirds of the under-recoveries.

The central government also implemented pricing reform in the natural gas sector in mid-2010 by allowing the state-owned companies to sell gas from new fields at market rates instead of regulated prices. Furthermore, the administered price of natural gas covered by the regulated price regime was more than doubled in 2010.

Reforms in the coal industry are expected to slowly bring domestic coal prices into line with import prices, with due allowance for quality differences. In June 2010, state-owned Coal India Ltd, which is responsible for almost 90% of the country's coal production, announced that it would move to price its premium grades on an import parity basis. Over the longer term, coal pricing reforms can be expected to lead to increasing input costs for the state electricity utilities, underscoring the importance of measures to improve their financial viability. The objective should be the creation of a freely competitive coal industry supplying a financially viable electricity industry. This will also require the ending of the system of allocating coal supplies through a cabinet committee and the introduction of a system of granting mining licences on the basis of an auction system. This would allow free competition in the coal market which is, at the moment, effectively closed to new entrants with the exception of mines directly linked to new large power stations.

In electricity markets, ever-increasing subsidies from the state governments to the distribution utilities and the very poor financial performance of these firms signal that little or no progress is being made. Given regulatory improvements in other areas of the electricity market, cross-subsidisation is emerging as the key binding constraint on private sector investment in the sector.

The way forward

There is a clear and urgent need for the central government to reform its policy framework for setting energy prices to reduce the fiscal burden of the associated effective subsidies. With the sharp rise in international crude prices since 2009, the current subsidy regime is once again exerting unsustainable pressures on India's fiscal position. On current policy settings, these pressures are likely to intensify further. Simulations in the Parikh report show that if the consumption of petroleum products grows at the same rate as in recent years, the current subsidy regime will result in under-recoveries in 2025 of USD 88 billion for global crude prices at USD 120 per barrel (Government of India, 2010b).

In the 2011 Budget the government announced that it would start to move away from the current system of subsidies on kerosene, LPG and fertilisers. Its objective is to move to a direct cash subsidy to people with incomes below the poverty line. The system is scheduled to start operation from March 2012. A task force has been established to determine the exact modalities, chaired by the head of the Unique Identification Authority of India (UIAI). Pilot studies have already started in Andhra Pradesh and Maharashtra. The

involvement of the UIAI is a key to this project, in that it should mean that it is possible to eliminate duplicate registrations that are common in current OMC customer databases. The major problem in implementing this programme as well as other targeted subsidy programmes will be accurately determining whether a person is above or below the poverty line (Chapter 2).

The economic and environmental benefits of phasing out energy subsidies in India are far from trivial. For example, simulations of a dynamic general equilibrium model indicate that the gradual removal of fossil fuel subsidies would increase real income by around 2.5% in 2050 as a result of improvements in resource allocation across sectors. In addition, India's greenhouse gas emissions would also be over 15% lower relative to the status quo by 2050 (OECD, 2010b).

In addition to moving to market-based pricing, India's system of taxes, duties and levies on petroleum products needs to be restructured. As discussed in detail in Chapter 2, the central government needs to unify segmented state product markets by standardising the VAT and removing the state tax anomalies and exceptions. For petroleum, uniform tax rates are needed for all products.

Experience shows that reforming or phasing out costly and environmentally harmful energy subsidies is not easy given the vested interests of those who benefit from the status quo (OECD, 2007b; OECD, 2010c). Examples of successful subsidy reform have a number of common key elements. To begin with, a high degree of transparency is essential for building support for reform and challenging those against it. This requires good information on the magnitude of subsidies and their economic and environmental impacts. In addition, reformers need to have a good understanding of the distributional consequences of subsidies. This should form the basis of a strong communication programme aimed at increasing awareness of the benefits of subsidy reform. Building the case for reform also requires strong political leadership and broad support across government departments, including finance, industry, energy, environment, rural development and agriculture.

Well-targeted compensation to help address legitimate distributional concerns is also a key element of successful subsidy reform. Although low-income households only benefit from a small proportion of India's energy subsidies, they are likely to be disproportionately affected by their removal, as they spend a higher percentage of their household income on energy. Furthermore, effective strategies that encourage the poor to switch to cleaner and more efficient fuels can bring considerable health benefits (Wilkinson *et al.*, 2009). Accordingly, a move to market-based pricing for petroleum products must be carefully designed so that it does not restrict energy access or increase energy poverty. In particular, as outlined in the government's *2009-10 Economic Survey*, and as foreseen in the 2011 Budget, support to the poor should be directly targeted and allow the recipients to purchase petroleum products at any retail outlet. A support system along these lines would not interfere with market pricing and thereby remove the myriad arbitrage opportunities that have been abused for so long in India. By being much better targeted, direct transfers to the poor would vastly reduce the extent of petroleum product subsidies (see Chapter 2).

Subsidy reforms are also more likely to be successful when they are done as part of a package. In the case of India, the reform and phase-out of energy subsidies needs to be accompanied by subsidy reform in other areas. In particular, the central government needs to continue the process, begun in the 2010-11 Budget, of reforming fertiliser subsidies. Because the production of fertiliser is energy intensive, some of the fiscal benefits of

energy subsidy reform might be offset by increased fertiliser subsidies if done in isolation. In electricity markets, the removal of cross-subsidies that reduce the revenues of the distribution utilities to below cost, in conjunction with subsidy rationalisation in the coal and rail transport sectors, would remove a major barrier to private investment. More generally, combining the phase-out of subsidies (Box 3.2) into a package of broader structural reforms, such as those advocated in the other chapters of this *Survey*, will increase the chances of success.

Box 3.2. **Summary of policy recommendations on energy subsidies**

General

Continue investigating the size and costs of energy subsidies and the benefits of their removal, along with the associated distributional impacts. Broadly disseminate the results of this work in a communication programme that is supported by the highest level of political leadership.

Consult with stakeholders in formulating subsidy policy reforms and ensure policy coherence by involving all the ministries dealing with energy subsidies.

Establish a system of direct cash transfers to compensate low-income households for increased energy prices.

Petroleum products

Build on the announcements in the 2009-10 Budget and fully liberalise diesel prices.

Establish a timetable for the removal of kerosene and LPG subsidies.

Stick to the pledge made in the 2010-11 Budget not to issue any more oil bonds.

Liberalise fertiliser prices.

State governments should align taxes on all petroleum products with the standard GST rate and in addition external costs should be measured and an additional levy imposed by the states and Centre if necessary.

Electricity

Reduce transport and distribution losses through metering, feeder separation, introduction of high-voltage distribution systems and strict anti-theft measures.

Develop the capacity of regulators and ensure strong governance and independence.

Eliminate cross-subsidies.

Make metering for electricity used in irrigation obligatory.

Coal

Accelerate pricing reforms in the coal sector with the objective of fully liberalising coal pricing.

Remove impediments to full competition with imported coal, including the removal of remaining customs duties and export taxes.

Allow free bidding for new coal concessions.

Rail

Eliminate cross-subsidies in rail transport.

Bibliography

Arze del Granado, J., D. Coady and R. Gillingham (2010), "The Unequal Benefits of Fuel Subsidies: A Review of Evidence for Developing Countries", *IMF Working Papers*, WP/10/202.

Dahl, C. and C. Roman (2004), "Energy Demand Elasticity – Fact or Fiction? A Survey Update", in *Energy, Environment and Economics in a New Era*, 24th USAEE/IAEE North American Conference, Washington DC.

Datta, A. (2010), "The Incidence of Fuel Taxation in India", *Energy Economics*, Vol. 32, Suppl. 1.

Forum of Regulators (2010), "Tariff Revision Assessment for Financial Viability of DISCOM and Comparison of Approaches", New Delhi.

Government of India (2006), *National Environment Policy*, Ministry of the Environment and Forests, New Delhi.

Government of India (2008), *Report of the High Powered Committee on Financial Position of Oil Companies*, submitted to the Prime Minister, New Delhi, August.

Government of India (2010a), *Thirteenth Finance Commission*, New Delhi.

Government of India (2010b), *Report of the Expert Group on a Viable and Sustainable System of Pricing Petroleum Products*, New Delhi.

Government of India (2011), *Low Carbon Strategies for Inclusive Growth, An Interim Report*, Planning Commission, Delhi, May.

Hirway, I. (2003), "Identification of BPL Households for Poverty Alleviation Programmes", *Economic and Political Weekly*, Vol. 38, No. 45.

Hutton, G., E. Rehfuess and F. Tediosi (2007), "Evaluation of the Costs and Benefits of Interventions to Reduce Indoor Air Pollution", *Energy for Sustainable Development*, Vol. XI, No. 4.

International Energy Agency (2010), *World Energy Outlook, 2010*, Paris.

Morestin, F., P. Grant and V. Ridde (2009), "Criteria and Processes for Identifying the Poor as Beneficiaries of Programs in Developing Countries", Université de Montréal.

Mercados (2010), *Study on Common Pool Price Mechanism for Natural Gas in the Country*, Mercados Energy Markets India Private Limited, prepared for GAIL (India) Limited, New Delhi.

Morris, S., J. Varma and S. Barua (2010), "Reform of the Fiscal and Subsidy Regime for the Petroleum Sector", Indian Institute of Management, Ahmedabad.

Mukherjee, S. and R.K. Rao (2009), "Understanding the Impact of Taxation of Petroleum Products in India", mimeo, National Institute of Public Finance and Policy, New Delhi.

National Council for Applied Economic Research (2005), "Comprehensive Study to Assess the Genuine Demand and Requirement of SKO", *NCAER Report*.

National Sample Survey Office (2010), "Housing Conditions and Amenities in India: 2008-09", Report No. 535.

OECD (2007a), *OECD Economic Surveys: India*, Paris.

OECD (2007b), "Subsidy Reform and Sustainable Development: Political Economy Aspects", *OECD Sustainable Development Studies*, Paris.

OECD (2010a), "Measuring Support to Energy – Version 1.0", background paper for IEA, OPEC, OECD and World Bank, *Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative*.

OECD (2010b), *Interim Report of the Green Growth Strategy: Implementing our Commitment for a Sustainable Future*, OECD, Paris.

OECD (2010c), *Making Reforms Happen: Lessons from OECD Countries*, OECD, Paris.

Planning Commission (2008), *Eleventh Five Year Plan*, New Delhi.

Power Finance Corp. Ltd. (2010), "Performance of State Power Utilities for the Years 2006-07 to 2008-09", New Delhi.

Saxena Committee (2009), "Identifying the Below the Poverty Line Population", Government of India, August, New Delhi.

Sathaye, J. (2010), "Eliminating Energy Deficit through Energy Efficiency in India: An Evaluation of Aggregate Economic and Carbon Benefits", Lawrence Berkeley National Laboratory, LBNL-3381E.

Shah, T., M. Giordano and V. Wang (2004), "Irrigation Institutions in a Dynamic Economy: What Is China Doing Differently from India?", *Economic and Political Weekly*, July 31.

Shenoy, B. (2009), "The Mother of All Corruption: How Energy Sector Subsidies Undermine Good Governance and Energy Security", *GPPi Policy Paper Series*, No. 3.

Shenoy, B. (2010), "Lessons Learned from Attempts to Reform India's Kerosene Subsidy", Institute for Sustainable Development, *Trade, Investment and Climate Change Series*.

Sterner, T. (2007), "Fuel Taxes: An Important Instrument for Climate Policy", *Energy Policy*, Vol. 35, Issue 6.

Usami, Y., Sarkar B. and V.K. Ramachandran (2010), "Are the Results of the BPL Census of 2002 Reliable?", presented at the International Conference on Environment, Agriculture and Socio-Economic Change in Rural India organised by Kyungpook National University and University of Tokyo, March, Daegu.

Wilkinson, P., K.R. Smith, M. Davies *et al.* (2009), "Public Health Benefits of Strategies to Reduce Greenhouse-Gas Emissions: Household Energy", *The Lancet*, Vol. 374, No. 9705.

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Chapter 4

Financial reform in India: time for a second wave?

The Indian financial system has changed considerably since the 1990s. Interest rates have been deregulated and new entrants have been allowed in the banking and the securities business. The Indian equity market has become world-class, while new private banks have emerged that are more customer-oriented than the older state-owned banks. Meanwhile, the scale of saving within the economy has expanded considerably, much as in East Asian economies during their high-growth period. This adds to the need for further financial-sector reform. In particular, banks need much greater freedom in asset allocation. While public-sector banks did appear sounder to the public during the 2007-08 crisis due to implicit government backing, they ought to be privatised to improve their governance and minimise the recurrent need for recapitalisation. The remaining obstacles to new entry have to be reduced. Financial inclusion is an important priority and restrictions on microfinance should be avoided. The regulatory and legal framework also needs to be overhauled, consolidating the diverse legislation. While such reforms would improve financial sector efficiency they would also likely have positive spillover effects on the rest of the economy and help sustain rapid growth.

A strong and efficient financial sector is essential for the optimal allocation of capital not just in advanced economies but also in emerging market economies, especially in fast-growing ones. India's financial sector has undergone major reforms and a remarkable transformation since the 1990s but, in many respects, it still reflects the institutional set-up that was put in place when India was run as a directed economy. This chapter looks at the extent and impact of the reforms so far before considering where further institutional, legal and regulatory changes are needed.[1]

Over the past decade, the Indian economy has grown rapidly (Chapter 1), with a sharp increase in saving and investment rates (Table 4.1). In this context, reforms of the financial intermediation between households and firms have played a key role, as evidenced by cross-state studies of the influence of banking competition on the efficiency of traditional industry and the impact of the stock market on high-tech industries in India (Das, 2009). The saving rate had already picked up in the late 1980s (Figure 4.1) in connection with earlier economic reforms, but it rose faster in the early 2000s, to levels comparable to those in a number of East Asian economies during their period of rapid growth (with the notable exception of China, where saving rates have been an order of magnitude higher, and GDP growth higher too).

Table 4.1. **Saving and investment rates**

% of GDP

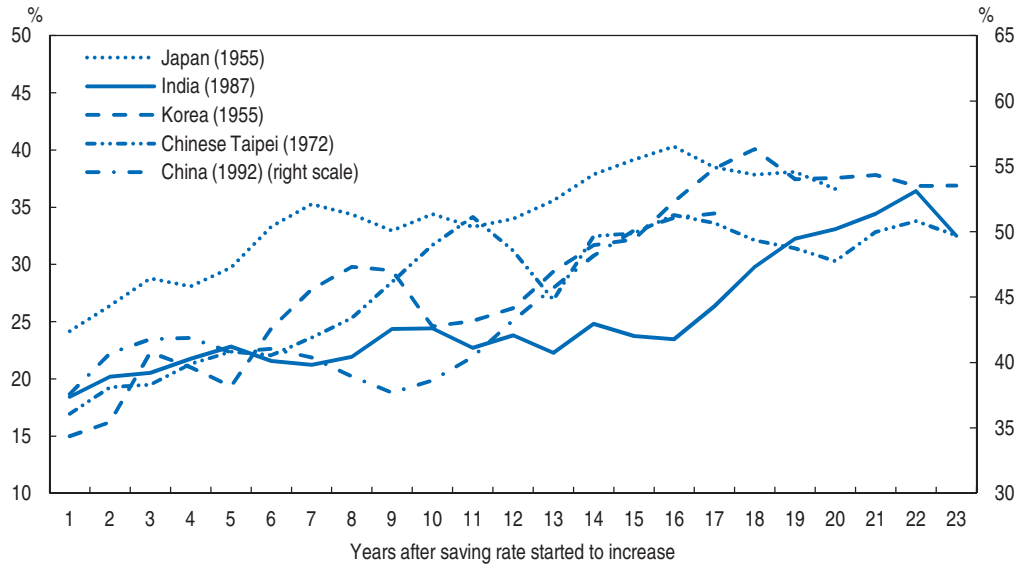
	1998-99	2008-09
Gross private saving	24.7	33.1
Household sector	20.4	24.1
Private corporate sector	4.3	9.0
Foreign saving	0.6	0.5
Gross private investment	15.1	24.9

Source: CEIC.

Credit markets

Credit is channelled through the banking sector *stricto sensu* but also via a wide variety of other institutions. The banking sector consists of three groups of public-sector banks (all of which now have private minority shareholders), private banks and foreign banks. The other institutions are mostly effectively publicly owned and include regional rural banks, various forms of co-operatives and government financial institutions extending credit to housing, export and agriculture. Overall, the credit market is dominated by public sector groupings, which account for three-quarters of the total assets of deposit-taking institutions and non-bank financial institutions (Figure 4.2).

Figure 4.1. **National saving rates in India and selected East Asian economies**



Source: Statistical Offices.

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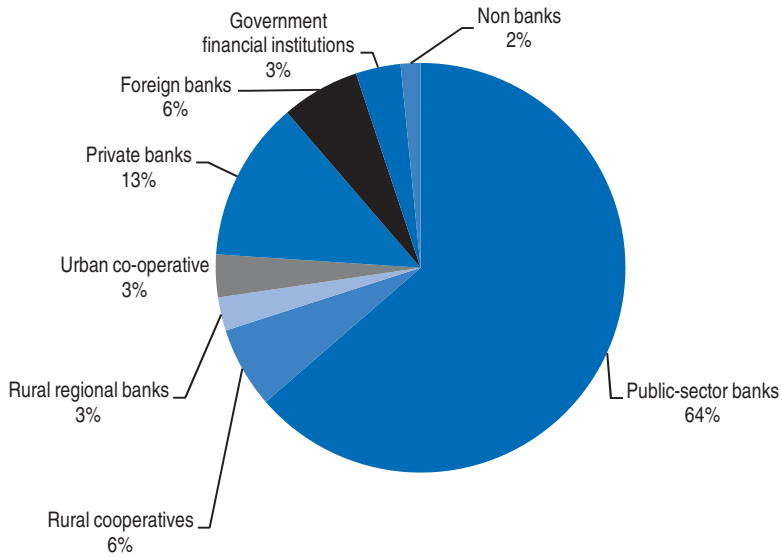
Figure 4.2. **Structure of the credit market**

Share of total assets of deposit-taking institutions and non-bank financial institutions, March 2010



Source: RBI.

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The banking sector

The Indian banking system has long been dominated by state-owned banks (its historical roots are briefly recalled in Box 4.1). In the late 1980s, they accounted for 93% of total assets and nearly 90% of branches, including a number of development banks. Since 1990, however, barriers to entry have been lowered and new banks have emerged. These were formed predominately by non-bank financial intermediaries or by various public-sector entities, often originally development banks, transforming into financial

Box 4.1. **The evolution of development banks**

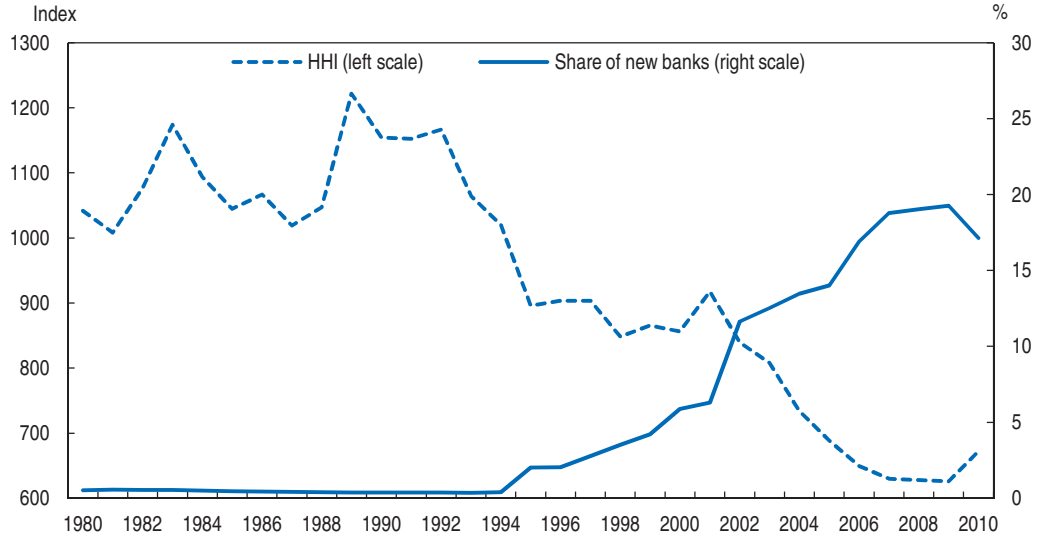
A number of development banks were established after independence under the guidance of the Reserve Bank of India (RBI). These institutions played a role in directing credit flows to the sectors of the economy deemed important under the pre-reform planning system. Some of them have also played a key role in institution building in the financial sector during the post-reform period. Most of these institutions have gradually been transformed into private or commercial banks. For example, the Industrial and Credit Corporation of India was established by the government and the World Bank in 1955. It was transformed into the ICICI Bank and sold to the public in 1994. It is now the leading private sector bank in the country. The first development bank established after independence (Industrial Finance Corporation) was also transformed and sold to the public in 1995. The Industrial Development Bank of India (IDBI) was made into a company in 2004 and became, effectively, a state-owned commercial bank, the fourth largest in the country.

A number of development finance institutions remain under complete government ownership, notably the Small Industries Development Bank and the ExIm Bank. Two other development banks continue to be owned by the RBI: the National Housing Bank and the National Bank for Agricultural and Rural Development (NBARD). The latter has not had the same success as other development banks in institution building (see below).

institutions or creating new banks. New entry considerably lowered the concentration of the banking sector (Figure 4.3). Five of the new banks (Axis, HDFC, ICICI, ING Vysysa and YES) have been extremely successful. Their combined share rose from under 2% in 1999 to 16% in 2007, explaining a slight rebound in the concentration ratio in recent years. Overall, new private banks accounted for 16% of the assets of domestic banks in 2010 (Figure 4.3). While the share of private banks has increased, the public sector still dominates the banking sector.

Figure 4.3. **Concentration of domestically-controlled bank assets and share of private banks**

Concentration of assets is measured by the Herfindahl-Hirschman index multiplied by 1 000



Note: The Herfindahl-Hirschman index is calculated by summing the squares of the market share of each institution in a given market.

Source: Secretariat calculations, Reserve Bank of India, CEIC.

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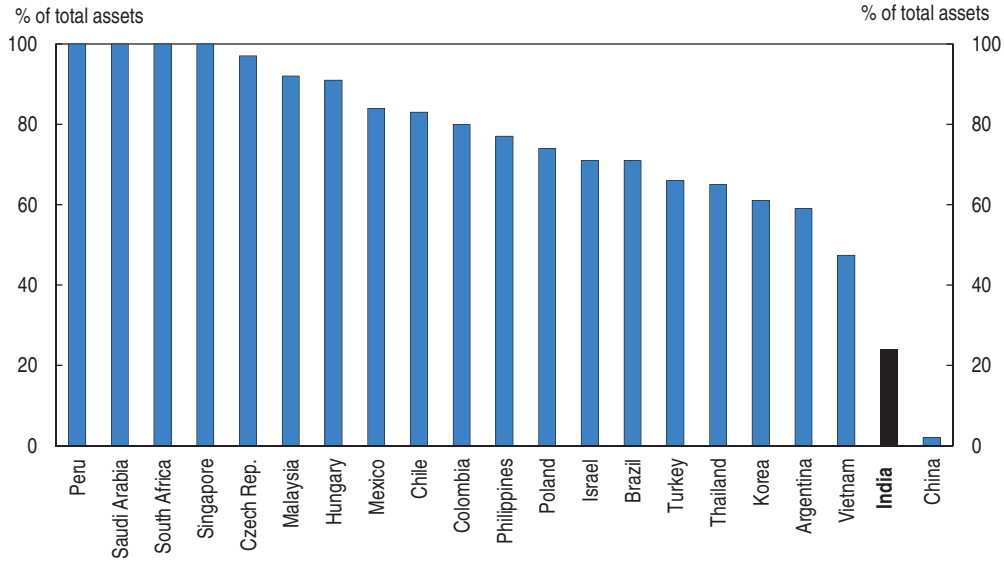
Public-sector banks are now mostly commercial rather than specifically development-oriented institutions. Indeed, amongst a sample of emerging economies, only in China did the private sector have a lower share of total banking sector assets in 2009 (Figure 4.4). Financial deepening has continued and the extent of bank lending to the corporate sector now exceeds that in many similar emerging countries (Figure 4.5).

Figure 4.4. **Share of private banks in total bank assets**



Source: Mihaljek (2010), except for Vietnam which is taken from International Monetary Fund (2010a).

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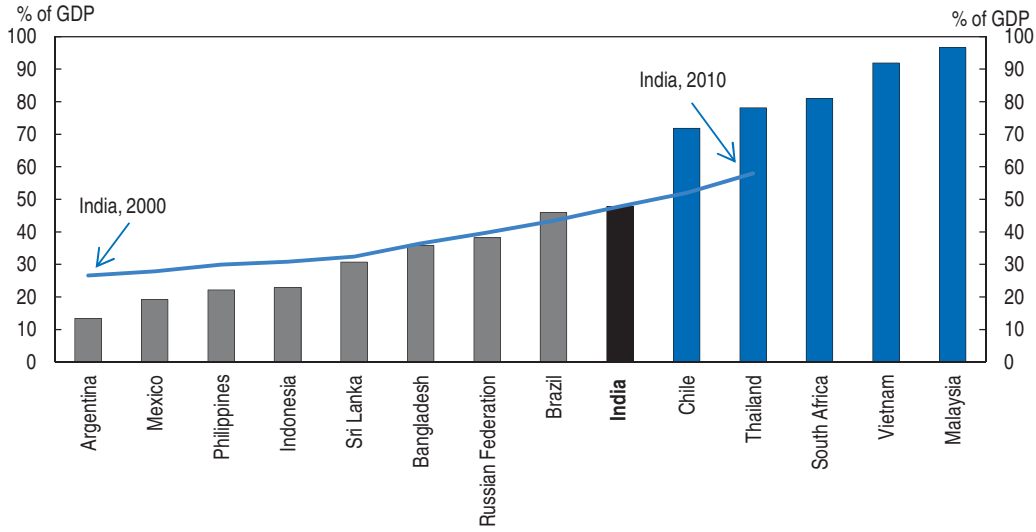
Figure 4.5. **Bank credit to the private sector: international comparison**

Per cent of GDP (in 2008 for comparator countries)



Source: World Bank, *Financial Structure Database*, 2010 version.

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At the same time as entry restrictions were eased, the setting of interest rates was gradually deregulated. By 2009, only the interest rates on saving deposits and on small bank loans were still regulated. However, in 2010, the Reserve Bank of India (RBI) obliged

each bank to set its prime lending rate using a pre-determined objective formula. The aim was to try to ensure that prime lending rates follow money market rates more closely, with a view to increasing the transparency of bank lending rates. Banks are no longer allowed to lend at below their prime lending rate. When this regulation came into force, the interest rate ceiling on small loans was abolished.

The impact of deregulation on the sector

Overall, liberalisation has improved the efficiency of the banking sector. Studies based on the estimation of production functions suggest that following deregulation banks moved much closer to the efficiency frontier in terms of maximisation of profits (Das *et al.*, 2005). The higher efficiency of the new private banks explains their rapid market share gains (Figure 4.3). These banks have high capital ratios and are highly regarded by capital markets with market capitalisation to book value ratios of three against ratios of close to one for public-sector banks. While most of the overall efficiency gains stemmed from the much larger nationalised banking sector, it still performs poorly, being on average some 20% below the cost-efficient frontier (Kumar and Gulati, 2010). Within the public sector, two-thirds of the nationalised banks performed worse between 1999-2000 and 2007-08 than the least efficient member of the State Bank group. The dispersion of cost-efficiency narrowed markedly during the 1990s but not between 2000 and 2007. As a whole, the remaining cost-inefficiency appears to stem mainly from a failure to allocate assets in line with their relative rates of return (Kaur and Kaur, 2010). Indeed, public-sector banks have been more likely to invest in government bonds even after statutory requirements to hold government bonds were lowered (Gupta *et al.*, 2011).

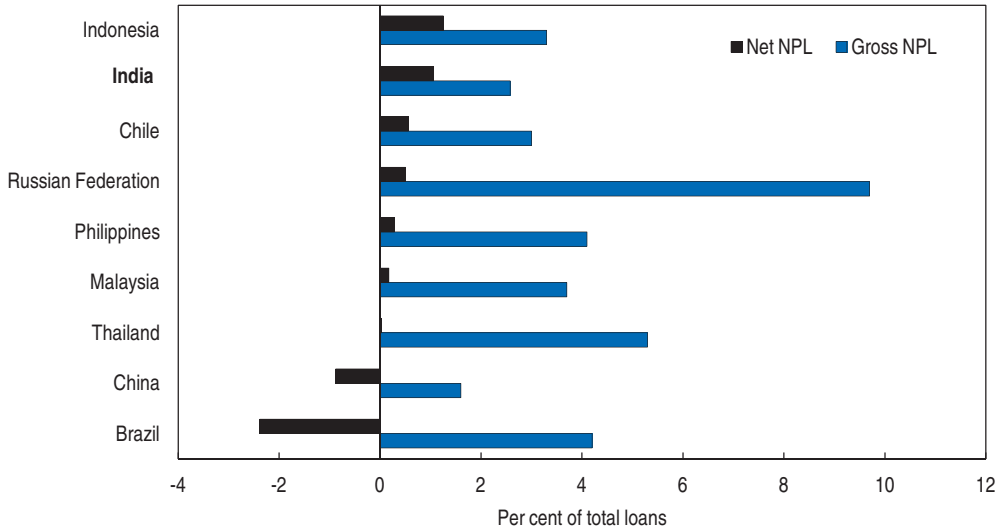
Intensified competition has also compressed intermediation margins. In the immediate aftermath of deregulation, the net interest margin dropped from 4.2% in 1992 to 3.2% in 2000. It has continued to fall since, albeit more slowly, to 2.8% by 2009.[2] This was helped by a fall in employee compensation costs from 2.0% to 0.9% of earning assets in the decade to 2009-10, which was more marked amongst public-sector banks. While the latter were able to reduce costs through voluntary separation schemes, the impact on the quality of the remaining staff was negative, as the most skilled personnel chose to leave and work elsewhere.

Balance sheet quality

On average, Indian banks have strong balance sheet positions.[3] The build-up of poor quality assets, which sparked the deregulation of the banking sector in the early 1990s, was largely absorbed in the first half of the past decade. More recently gross non-performing loans (NPLs) have been rising slightly faster than total loans, to 2.58% of total loans in September 2010, against 2.39%, a year earlier, but still one quarter the level seen at the turn of the century. However, the provisions against these bad loans amounted to only 46% in March 2010, leaving net NPLs at 1.12% of total loans. This was quite high compared to other emerging market economies (Figure 4.6). As a result, at the insistence of the regulator, provisioning requirements were raised to 70% by September 2010, and net NPLs declined to 1.06% of total loans. While the overall situation is satisfactory, there are some concerns about the quality of housing loans.

Stress tests conducted by the RBI in early 2010 (Reserve Bank of India, 2010a) suggested that NPLs would have to soar to pose a major threat to the system as a whole (Table 4.2). To establish banks' resilience, the RBI started from a hypothetical baseline balance sheet for the banking system as of March 2010, on the assumption that the

Figure 4.6. **Gross and net non-performing loans: international comparison**



Note: The data for all countries other than India refers to end 2009. For India, data refers to September 2010.
Source: International Monetary Fund (2010b) and Reserve Bank of India (2010b).

StatLink http://dx.doi.org/10.1787/888932436252

Table 4.2. **Simulated impact of increases in non-performing assets on the performance of banks**

	Gross NPLs/gross loans (%)	Capital adequacy ratio (% of risk-weighted assets)	Share in total assets of banks whose capital adequacy ratio falls below 9% (%)
March 2009	2.4	13.2	0.0
March 2010 baseline (65% increase in NPLs)	3.4	12.9	0.3
Stress on baseline: further increase in NPLs by			
50%	5.2	11.6	10.2
58%	5.4	11.4	10.7
100%	6.9	10.0	39.9
129%	7.9	9.0	44.6
150%	8.6	8.2	61.6

Source: Reserve Bank of India, *Financial Stability Report*, March 2010.

absolute amount of NPLs was up by 65% on March 2009, implying a ratio of NPLs to total loans of 3.4%. Then, the RBI tested the impact of further increases in NPLs. This test was undertaken on two bases. In the first, provisioning rates remained unchanged, in the second, they rose to 70%. Given that the latter is now the required provisioning rate, attention is focussed on this scenario. The stress test is mechanical in that it essentially models what happens to profits and equity, following arbitrary increases in NPLs. The stress test reveals the same pattern as the simulation of the impact of introducing Basel III regulations, in that the impact of a 50% increase in NPLs is concentrated on just 10 banks, accounting for only 10.2% of total bank assets. It would take an increase in NPLs of around 135% for half of the banks to be below the prescribed capital adequacy ratio.

A more recent set of RBI stress tests quantifies the impact on capital adequacy and NPL ratios of hypothetical adverse macroeconomic shocks (Reserve Bank of India, 2010b).

The RBI concluded that the financial system would be most sensitive to an external shock but that it could withstand a serious economic downturn.

The quality of the equity and liabilities is generally high as few Indian-owned banks have had recourse to hybrid capital, such as perpetual bonds or non-cumulative preference shares. For the system as whole, innovative instruments represent only 5% of Tier 1 capital under Basel II definitions. Few banks have significant exposure to senior debt either. Their liquidity position is also favourable. Few domestic Indian banks resort to the interbank market on a major scale. Only four have a net recourse to the interbank and short-term money market greater than 10%. Two are nationalised banks and the other two successful, well-capitalised private banks that have used the market to expand. Only a few banks rely on large deposits from a limited number of depositors (Reserve Bank of India, 2010a). On the other hand, the urban co-operative banks are vulnerable to a liquidity shock (stemming for example from a run on deposits), which underlines the need for them to improve their capital adequacy ratios, so as to avoid any loss of confidence.

Domestic Indian banks have a relatively small off-balance sheet gross exposure to derivatives and foreign exchange contracts, probably because of limited technical experience and the underdevelopment of credit and interest rate derivatives. The latter form of derivatives now accounts for almost half of the total stock of gross derivatives and the market is dominated by foreign banks. For the largest domestic bank group, the nominal value of such liabilities represents 49% of total liabilities, with a total gross exposure of USD 150 billion. However, banks hold asset positions that are broadly similar to their liability positions. Moreover, the market value of the net derivatives position is only a fraction of the gross amount. Thus, for domestic banks as a whole their credit equivalent amounts to only about 0.5% of total assets. The greatest exposure of domestic banks is found in a few rapidly-growing private banks. Foreign banks are far more exposed. Just six of them, with only 1.6% of total assets, account for one-third of the total derivative exposure of all Indian banks. The notional value of their stock of derivatives (at USD 1 trillion) amounted to 31 times their total assets, a ratio that is similar to that found amongst large US banks where the gross value of derivative positions can represent nearly 40 times the value of on-balance sheet assets.

Meeting Basel III capital adequacy regulations

Indian banks, on average, are well placed to meet the new regulatory requirements of Basel III (Table 4.3). This agreement calls for much higher minimum basic capital, whose definition will be restricted to common equity. The ratio of core to risk-weighted assets will

Table 4.3. **Capital adequacy**

% of risk-weighted assets

Norm	Existing RBI standard	Basel III standard	Actual as of 31 March 2010
Common equity (after deductions)	3.6	4.5	8.8
Conservation buffer	0.0	2.5	–
Countercyclical buffer (on average)	0.0	1.25	–
Common equity + conservation buffer + countercyclical buffer	3.6	8.25	8.8
Tier 1 (including the buffer)	6.0	9.75	10.0
Total capital (including the buffers)	9.0	11.75	14.5

Source: ICRA (2010).

rise to 4.5% from 2.0%. However, the RBI has always insisted on a higher level of common equity and, as outlined above, the banks have chosen to have a much larger common equity capital base than demanded by the RBI. As a result, Indian banks, as a group, currently have enough capital to ensure compliance with the requirements for common equity capital and for the conservation buffer. Their existing capital is also sufficient to cope with the average level of the macro-prudential capital requirement (assuming that on average this requirement is halfway between the minimum and maximum levels, rising in expansions and falling in contractions). Considering total capital (which includes general loss reserves, undisclosed reserves and subordinated debt), Indian banks have an even greater margin, on average.

Indian banks are also quite well positioned relative to banks in OECD countries. Core common equity is higher relative to risk-weighted assets than in the euro area and even more so than in Japan (Table 4.4). The major private banks are even better capitalised and have equity levels above those seen in the United States. The same holds for leverage ratios, *e.g.* the ratio of total assets to core common equity. However, to the extent that the Indian economy and asset prices are more volatile than in the OECD area, capital might need to be commensurately higher. Private banks in India appear to have come to this conclusion, as they maintain a core equity capital ratio that is almost twice that found in public-sector banks.

Table 4.4. **Various capital adequacy ratios: an international comparison**

March 2010 for Indian banks, December 2009 for others

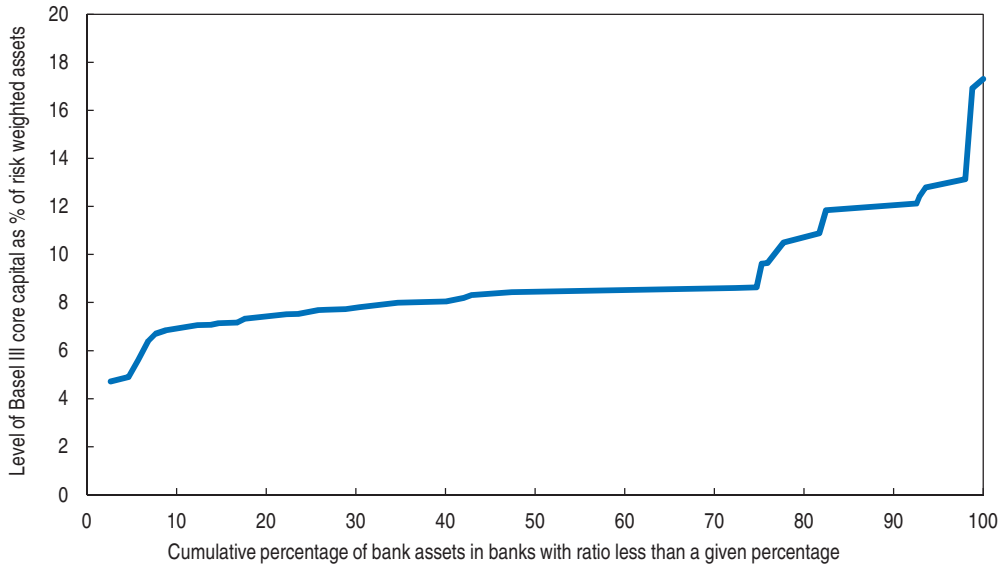
	Tier 1 common equity capital	Leverage ratio
India	8.8	19.6
Private	12.4	14.3
Public	7.7	21.4
United States	10.5	12.9
Euro area	8.0	25.4
Japan	4.1	35.1

Source: ICRA (2010) for domestic Indian banks; Institute of International Finance (2010) for other banks.

While on average capital ratios are close to meeting the demands of the new Basel III regulations, in some banks they are far lower (Figure 4.7). Moreover all of the banks that fall short are publicly owned. However, the capital shortfall is not that large. If shortfalls are computed using data for risk-weighted assets (according to RBI norms) and core Tier 1 capital supplied by ICRA (2010), then, for banks covering 95% of total bank assets, the shortfall amounts to about USD 3 billion, spread over 20 public-sector banks. Two thirds of the shortfall is found in just six banks, which account for only 11% of risk-weighted assets. The Basel III rules allow a transition period running until the start of 2019 for banks to meet the common equity limits and one further year to meet the requirements for the conservation buffer.

The above analysis assumes that the unprovisioned balance of NPLs is worth its written-down book value. Banks' unprovisioned NPLs amounted to 54% of total NPLs in March 2010. The extent to which these uncovered balances will be recovered is unknown but in the two years to March 2010, banks recovered 29% of the gross value of NPLs. If this recovery rate continued, when finally the banks resolve their NPLs they would have to take

Figure 4.7. **The cumulative distribution of the capital adequacy of domestic Indian banks**



Source: ICRA; RBI; OECD analysis.

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a loss equal to 25% of their NPLs, which would result in an equivalent decline in their equity. To guard against this, as noted above, the RBI has required banks to raise their provisioning rate to 70% by September 2010.

Furthermore, the above estimates take no account of restructured loans. In view of the exceptional economic circumstances in 2009, banks were allowed to reclassify certain loans as restructured rather than as non-performing, thereby reducing required provisioning. Such loans are vulnerable to becoming non-performing, especially in agriculture, where many farmers have stopped paying loans in the hope of further government bail-outs, though the improvement in the economic environment may reduce this risk in other sectors. When loans are restructured, however, banks have to carry more capital as the risk-weighting of the loan is increased, if the resulting loan has not been rated and the loan has to be carried on the balance sheet at its fair value.

As a result of Basel III, mandatory leverage ratios will be applied to all banks by 2019. The objective of a leverage ratio is to lessen the scope for arbitrage between different risk-weighting factors applicable to different assets. It will be calculated as the ratio of total assets (including off-balance sheet exposure) to Tier 1 capital (which comprises common equity less a number of deductions) and it must be lower than 33 to one. As a group, domestic Indian banks will have little difficulty in meeting this regulation as they have a low exposure to derivatives and high capital ratios.

Although the law governing the RBI does not mention financial stability as a goal, the RBI has been very active in this area. It has developed a series of indicators of financial stress based on measures of the volatility of a number of markets, various types of interest rate differentials, equity prices and the exchange rate. From October 2006, this indicator started rising sharply, prompting the RBI to initiate some regulatory changes, raising the provisioning rate for NPLs and the risk weights on loans to finance non-bank financial intermediaries and commercial real estate developers. By end-2010, the overall stress

indicator was back to its 2006 levels, but house prices were rising rapidly and NPLs started to increase. This led the RBI to introduce a maximum loan-to-value ratio for residential house purchase loans, to raise the risk rating of this type of loan to 125% and to raise the required level of general provisioning to 2.0%. The latter step was taken after the supervisor noted that many banks had not evaluated the ability of borrowers to repay once an initial period of low interest rates on a loan had ended.

Resolving weak banks

Following the liberalisation of the banking system, some banks became too weak to continue to take deposits and were absorbed by stronger ones, sometimes voluntarily but mostly under instructions from the government and the RBI. Most of the absorbing banks were owned by the government but with significant private shareholding. Event studies show that even though the possibility of forced mergers had been anticipated, the share prices of the absorbing banks fell on the day of the announcement of the terms of merger (Jayadev and Sensarma, 2007). This suggests that minority private shareholders suffered a levy as the result of the forced merger. Supporting this finding, a comparison of the efficiency of Indian banks pre and post merger indicates that in forced mergers the acquiring bank has usually been weakened by the merger (Kaur and Kaur, 2010).

At present, the government faces the need to recapitalise 18 to 20 public-sector banks, while a few small private banks may require a capital infusion. The government set aside INR 165 billion for the recapitalisation of public-sector banks in the 2010-11 Budget, on top of the INR 31 billion used in the two previous budgets (Table 4.5). The total INR 196 billion is broadly in line with the estimates presented above. However, until July 2010 all of the capital infusion was in the form of perpetual non-cumulative preference shares or debt (at preferential rates). While such instruments can be used to meet RBI-required Tier 1 capital, capital requirements will be aligned with those of Basel III, which currently do not allow such instruments to be used to meet the new Tier 1 ratios and call for injections in the form of common equity instead. After July 2010, all capital infusions are therefore to take the form of equity.

Table 4.5. **Recapitalisation of public-sector banks**

Millions INR

Status	2010-11 Completed by July 2010	2009-10 Completed	2008-09 Completed
UCO Bank	6 730	4 500	4 500
Vijaya Bank	7 000	–	5 000
United Bank of India	2 500	3 000	2 500
Central Bank of India[1]	25 000	4 500	7 000
IDBI Bank	31 190	–	–
Bank of Maharashtra	5 880	–	–
Union Bank	1 110	–	–
Total	79 410	12 000	19 000

1. The Central Bank of India is not to be confused with the country's central bank.
Source: Press Information Bureau, Government of India.

These recapitalisations highlight the dependence of one part of the public-sector banking system (known as nationalised banks in India) on government aid. During the 1990s, all of them had to be recapitalised. This was done by issuing recapitalisation bonds to the banks, as government accounting rules did not then consider such bonds as

an expenditure in the calculation of the budget deficit. Most of these bonds are still outstanding, and their rate of interest was raised in 2007. The receiving banks were able to sell the bonds or use the interest payments from the government to provision NPLs. Overall INR 204 billion was given to the banks during the 1990s, equivalent to 1.5% of GDP in 2009 had the nationalised banks since obtained the same rate of return as the average listed company. Even by the late 1990s it was clear that the chosen recapitalisation method had not achieved all of its goals. An official committee classified three of the banks as weak and considered that another five still had considerable problems (Verma, 1999).

Today, the nationalised banks that require the biggest capital infusions relative to current market capitalisation are essentially the very ones that received considerable public support in the early 1990s and were still classified as in poor health in 1999. The government can either provide the equity itself, by increasing the level of state ownership and so going against the opening of the sector that has occurred in the past decade or by selling equity to the market. The problem with the latter route is that existing legislation forbids the government share falling below 51% and the margin between the existing government share and 51% will often not provide sufficient capital.

There have been previous efforts to reduce the government stake in the nationalised banks. The Committee on Banking Sector Reforms recommended to bring it down to 33%, together with other incentives to make them more dynamic (Narasimham, 1998). The 2000 Budget proposed such a measure but in the face of strong opposition from the unions it was not implemented. It is high time to push it through now and to go further by completely selling smaller public-sector banks in line with the Rajan Committee (2009) recommendations. The recent performance of these banks, however, suggests that in addition the government should become a passive shareholder and let private shareholders run these banks. Moreover, restrictions on the voting rights of large shareholders need to be removed, so that ownership can equate with control. In principle, the status of the employees should also be changed. At present, they are effectively civil servants. There is a uniform entrance examination and pay follows the recommendations of the Pay Commission. Moreover, poor lending decisions are subject to review by Ministers and the Central Vigilance Commission (an anti-corruption body). Such a situation creates an unduly bureaucratic structure. Reduction in the government share should also apply to the State Bank of India. At Independence, its colonial precursor (The Imperial Bank) was ten times larger than another colonial bank (HSBC). Today, the former is one-tenth the size of the latter.

A reform that would be limited to reducing the government shareholdings to one-third would be insufficient, however. Corporate governance needs to be improved so that the directors and chief executive are appointed by the shareholders and not the government. Public-sector banks, with reduced government holding, should no longer be governed by social objectives. Moreover, the employees of the nationalised banks should have the same employment status as those in private banks.

The need to increase the capital of the nationalised banks offers an opportunity to move away from a government-controlled system. According to the author of a government report on creating an international financial centre in Mumbai, "state-ownership (along with prolonged regulatory strangulation) has diminished the quality of Indian financial intermediation. It is responsible for the large institutional and market deformities that the Indian financial system now possesses. Areas of the financial system in which the State is predominant as owner (*e.g.* banking) are the areas in which

financial firms and markets are least efficient, most poorly managed, most bureaucratic, most overstaffed, and least-well compensated, so creating too much room for petty malfeasance. They are also the areas in which Indian financial firms are the most technologically backward, least customer-orientated, least imaginative, least competitive, least innovative, and least prone to proper risk-management of their brands, human resources, financial capital, as well as their assets and liabilities" (Mistry, 2007).

Constraints facing the banking system

Branch opening policy

The banking system in India operates under a large number of constraints. The RBI has powers to control the management actions of banks that go well beyond the need for financial supervision. The banks must submit annual business plans to the RBI with, *inter alia*, the number of branches and automatic teller machines (ATMs) that they are going to open and their location. The RBI has the power to decide where the banks open branches. Before deregulation, it was necessary for banks to open four rural branches for every new urban branch. After deregulation, this ratio was reduced to one for one. These restrictions were eased in 2010 but restrictions on opening banks in areas with a population of 50 000 or more remain in place. Moreover, the restrictions are not just nation-wide, the RBI also decides the number of branches each bank shall have in each area. Banks are allowed to have smaller offices in shopping centres, for example, but the RBI restricts these offices to deposit taking. Banks are required to obtain a license to open a branch and permission is required to sell or exchange branches with other banks. The RBI now allows banks to install ATMs in locations separate from their branches without prior permission, but reserves the right to make banks move the ATMs once it knows where they have been installed. Only banks are allowed to own ATMs. In addition, the RBI determines the maximum amount that a client of one bank can withdraw from all third-party banks. It also determines the fees that all banks can charge their client for withdrawals.

Portfolio management

Banks also face severe constraints on portfolio management. They have to keep deposits amounting to 6% of assets with the RBI and have to invest a further 23% of their assets in government securities. Finally, domestic banks have to channel 40% of net bank credit to priority sectors (Box 4.2). Of these loans, 45% have to go to the agricultural sector

Box 4.2. **Areas of lending included in the priority sectors**

Agriculture

Direct loans

- Short-term loans for raising crops.
- Advances up to INR 0.5 million against pledge/hypothecation of agricultural produce.
- Medium and long-term loans for financing production and development needs.
- Construction of farm buildings and structures.
- Purchase of land for agricultural purposes by small and marginal farmers.

Indirect loans

- Finance provided by banks to farmers through other agencies.
- Credit for financing the distribution of fertilisers, pesticides, seeds and other inputs.

Box 4.2. **Areas of lending included in the priority sectors** *(cont.)*

- Loans to electricity boards for well electrification.
- Loans to State electricity boards for Systems Improvement Scheme under Special Project Agriculture.
- Deposits held by the banks in the Rural Infrastructure Development Fund.
- Bonds issued by the Rural Electrification Corporation exclusively for financing pump-set energisation.
- Subscriptions to bonds issued by the National Bank for Agricultural and Rural Development (NBARD) with the objective of financing agriculture/allied activities.
- Finance extended to dealers in drip irrigation/sprinkler irrigation system/agricultural machinery.
- Loans to commission agents in rural/semi-urban areas.
- Lending to non-bank financial companies for on-lending to agriculture.

Small-scale industry

Direct loans

- Loans for manufacturing, processing or preservation of goods (for units whose original capital is less than INR 10 million).
- Small road and water transport operators (owning up to 10 vehicles).
- Small business (original cost of equipment used for business not to exceed INR 2 million).
- Private retail traders loans up to INR 1 million.
- Professional and self-employed persons: up to INR 1 million.
- Rural doctors: up to INR 1.5 million.
- State-sponsored organisations for scheduled castes and tribes.
- Educational loans up to INR 400 000 (more for foreign study).
- Housing loans up to INR 1 million.
- Consumption loans for weaker sections of the community.
- Micro-credit and self-help groups/organisations.
- Software industry loans up to INR 10 million.
- Specified industries in the food and agro-processing sector with plants worth less than INR 50 million.
- Investment by banks in venture capital.

Indirect loans

- Financing of agencies involved in assisting the supply of inputs and the marketing of outputs of artisans, village and cottage industries and handloom co-operatives.
- Finance extended to government-sponsored corporations/organisations providing funds to the weaker sections.
- Rural Electrification Corporation.
- NBARD, Small Industries Development Bank of India.
- The National Small Industries Corporation Ltd.
- National Housing Bank.
- Housing and Urban Development Corporation.

Box 4.2. **Areas of lending included in the priority sectors** *(cont.)*

Weaker sections

- Small and marginal farmers with land holding of 5 acres and less and landless labourers, tenant farmers and share croppers.
- Artisans, village and cottage industries where individual credit limits do not exceed INR 50 000.
- Beneficiaries of the scheme to promote rural self-employment (Swarnjayanti Gram Swarojgar Yojana).
- Scheduled castes and tribes.
- Beneficiaries of differential rate of interest scheme.
- Beneficiaries under the Scheme for Liberation and Rehabilitation of Scavengers.
- Self Help Groups.

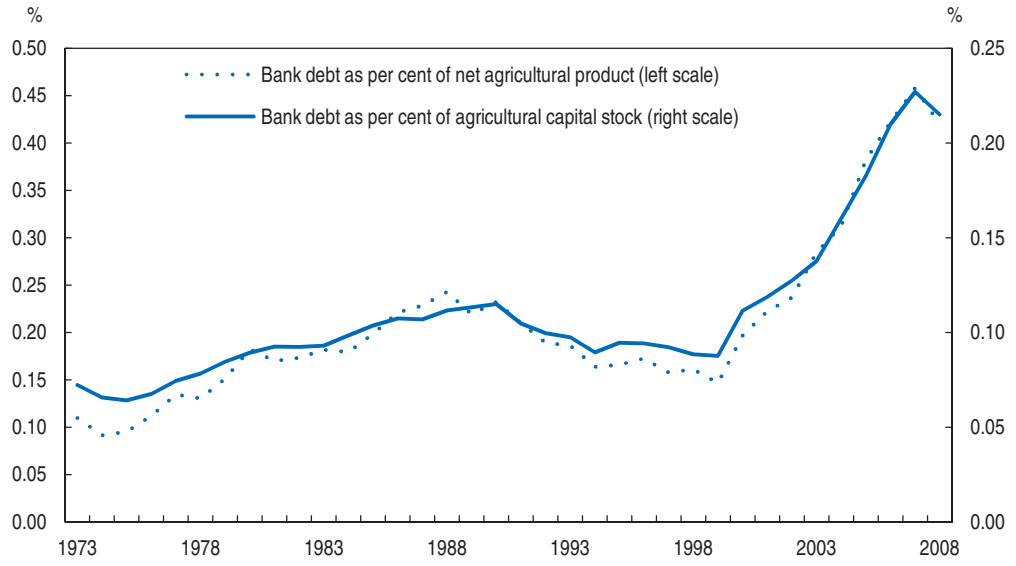
and 55% to a diverse group of other sectors mainly characterised as being small enterprises but also including students and a number of specified socio-economic categories. There are no interest rate limits for this type of lending. However, a lower limit is set by the interest rate banks receive from the official rural bank on their deposits with this institution. Lending under this category has generally resulted in above-average bad loans.

The structure of bank asset portfolios has changed markedly over the past ten years. In the first part of that period banks were able to nearly halve the share of their deposits at the RBI relative to all assets, mainly thanks to the introduction of better payments systems. Initially, banks purchased government bonds with the freed resources, bringing their holdings well above the statutory minimum. Since 2005, they have re-oriented their portfolios towards loans and by March 2010 these represented over 60% of their interest-bearing assets, with RBI deposits and government securities only just above the statutory floor, at around 30%. In this context, priority-sector lending rose from 12½ per cent of interest-bearing assets in March 2003 to a peak of nearly 21% by March 2008. As a result the bank debt of the priority sectors rose by close to 6% of GDP, almost doubling in five years.

Agriculture as a target for lending

From the inception of the priority-lending scheme in the late 1960s, a primary objective of policy has been to direct credit to the agricultural sector, which was seen as key to the growth of the economy. However, growth in agriculture, while picking up in recent years, has been much slower than in the rest of the economy (Chapter 1). With overall credit rising somewhat faster than GDP and a fixed share of lending devoted to the slowest-growing part of the economy, the agricultural sector has tended to over-borrow (Figure 4.8). This was compounded by the decision of the 2004 government to push public-sector banks to double total credit granted to the sector. The agricultural sector does of course need adequate access to credit, not least temporary credit in the face of weather fluctuations, and to supplement or make up for the absence of equity investment in farms from sources other than the farmer and his family. It is important, however, that bank lending to the agricultural sector does not become a hidden form of fiscal subsidy to farmers, through repeated debt write-offs.

Figure 4.8. **Direct bank lending to the agricultural sector**



Source: CEIC and RBI.

StatLink http://dx.doi.org/10.1787/888932436290

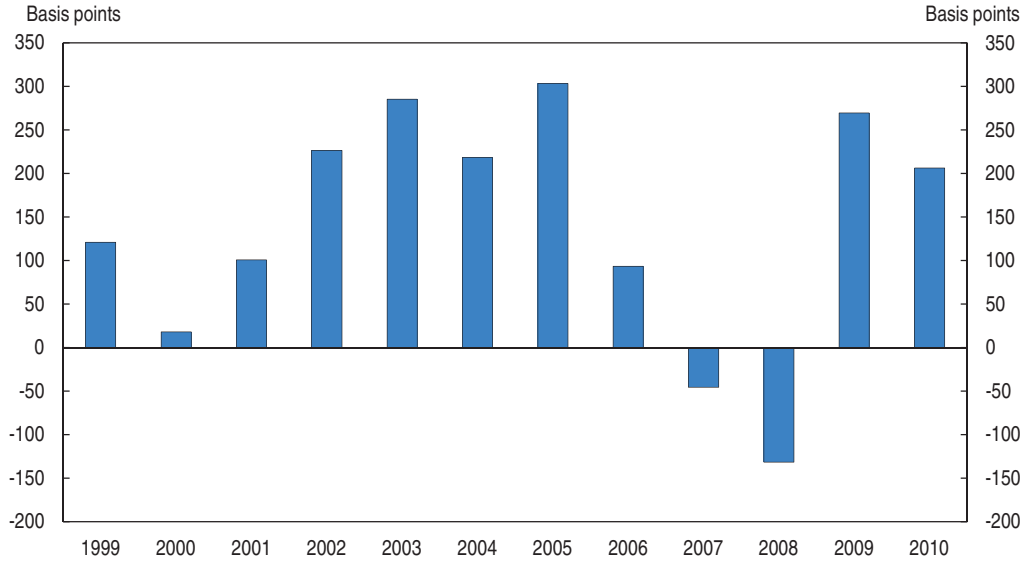
As a result, bank lending relative to the capital employed by farmers nearly tripled in the decade to 2008. Despite falling interest rates, NPLs built up. Eventually, the 2008-09 Budget stipulated that if small farmers were in default, the government would pay back the loan to the bank. In addition, large-scale farmers were offered a one-off payment of 25% of outstanding debt to reduce their indebtedness. Overall, the programme's cost is estimated at 1.1% of 2008 GDP and it reduced the debt burden of farmers by around 23%.

This was the second major debt relief operation within the working life of most farmers, following the 1990 Agricultural and Rural Debt Relief scheme. As with the recent scheme, costs overran and the scheme had to be widened beyond its original target group. At the time, outlays totalled 11% of outstanding agricultural sector bank debt and about 0.8% of net national product. Unwittingly, it might have also contributed to farmers' incentives to avoid prompt repayment of future debt (Ministry of Finance, 1991).

Administered interest rates

While the interest rates of the banking system are now largely deregulated, banks face competition for deposits from the small savings schemes operated by the Post Office. The interest rates on such deposits are determined by the government and change very infrequently (most recently, in 2003). In addition, interest income on these deposits is tax-free whereas for bank deposits it is subject to income tax. The postal savings system thus tends to pull deposits away from the banking system during economic slowdowns (Figure 4.9) and to direct the money to state governments who are allocated a fixed proportion of the change in deposits. Banks thus find themselves borrowing expensively when market rates are low. Measuring the precise differential in favour of small savings schemes is difficult, but if one-year small savings rates are compared to the three-month interbank bid rate, then the government has paid an interest rate about 1.5 percentage points higher than the banking system – mainly resulting from the income tax advantage.

Figure 4.9. **Estimated margin between small savings and money market interest rates**



Note: The differential is measured as the yield on a one-year small savings deposit relative to the three-month interbank bid price. Postal deposits have a maturity nine months longer than interbank deposits. On the other hand, a retail deposit would be subject to a management cost of at least 50 basis points. The depositor is considered to have a marginal tax rate of 20%.

Source: National Stock Exchange; RBI.

StatLink http://dx.doi.org/10.1787/888932436309

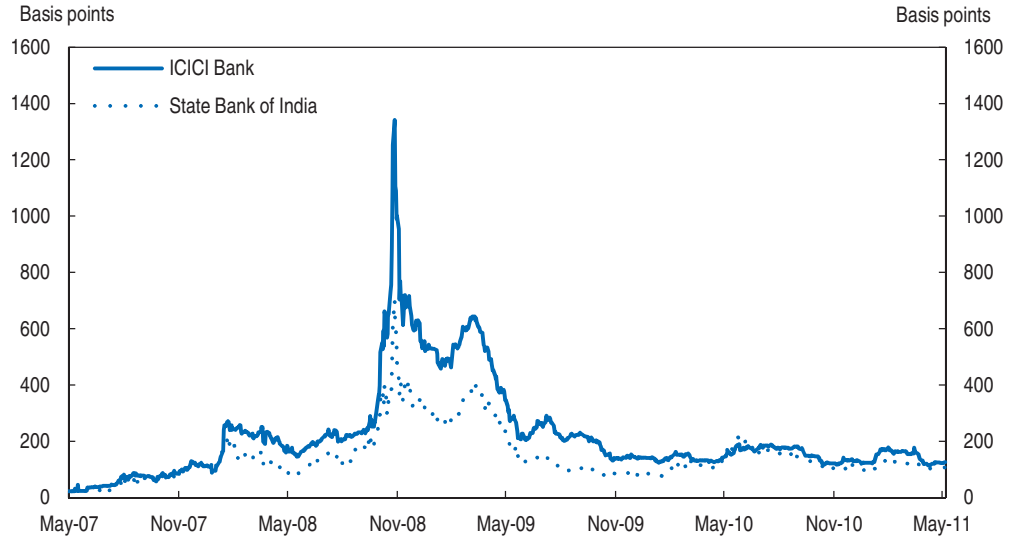
A further problem for the private banks is that depositors appear to feel that investments in public-sector banks are safer because their direct links to the government imply better deposit insurance. Legally, protection is the same: each depositor is covered up to a limit of INR 100 000. As a result, 95% of accounts are fully covered but 40% of total deposits are not insured at all. Protection is provided by the Deposit Insurance and Credit Guarantee Corporation, a fully-owned subsidiary of the RBI. This has important consequences for the liquidity risk faced by private banks and can even induce systemic risk. Under difficult conditions, such as the financial stress in late 2008, depositors have an incentive to switch from private to public banks. Indeed, the year to March 2010 saw the first fall in the market share of private banks for a decade. The perception that the government stands behind public-sector banks markedly influenced the relative cost of credit-default swaps for private and public-sector banks (Figure 4.10). Even after the impact of the crisis had faded, the major private bank had to pay 50 basis points more for credit protection than the largest public-sector bank, in contrast to the pre-crisis position when there was no differential. However, while this may be because markets see a publicly-owned bank as less of a credit risk, it could also be because they consider that the asset portfolio of the private bank is more risky. The spreads for other state-owned banks relative to the State Bank are considerably smaller than the private bank spread, pointing towards the first hypothesis.

New entry policies

The government announced in February 2010 that new banking licences would be issued. The RBI subsequently issued a consultative document setting out the main areas where decisions are needed and inviting comments on: *i)* minimum capital requirements

Figure 4.10. **Credit swap spreads for the largest private and public-sector banks**

One year credit default swaps, senior debt, USD



Source: Datastream.

StatLink http://dx.doi.org/10.1787/888932436328

for new banks and founding shareholders contribution; *ii)* minimum and maximum caps on founders shareholding and other shareholders; *iii)* foreign shareholding in the new banks; *iv)* whether industrial and business houses could be allowed to promote banks; and *v)* whether non-bank financial companies should be allowed conversion into banks or to promote a bank. The Finance Minister announced in the 2011 Budget that the RBI would issue new guidelines by end-March.

In the discussion paper, the RBI underlined that only four of the ten new banks opened in the mid-1990s have survived. Some were forced to merge because of weakness, and others were taken over. New banks, like all new enterprises, are more at risk of failure than established banks. Many emerging economies have high absolute capital requirements for new banks, but they should not be so high as to act as a major barrier to entry. Most advanced economies put more emphasis on capital adequacy and the fitness and experience of the management team.

The RBI suggested favouring the entry of small banks. By keeping absolute capital requirements low and limiting bank size through insisting on a high capital adequacy ratio, the new policy would facilitate the entry of small banks that could perhaps serve lower-income clients more cheaply. It would certainly facilitate the conversion of the major microfinance companies into banks. This in turn would greatly facilitate their ability to offer savings and credit products to their customers. The objective of new entry is to spur competition. This could also be achieved by allowing those foreign-owned banks that are well established in the country to expand freely in those areas that are the most profitable to them. New investment from overseas banks should also be allowed freely.

Since new banks are at greater risk to fail, their creation needs to be accompanied by that of a strong deposit insurance institution and by legislation that levels the playing field between deposits at public-sector and private banks. Furthermore, winding-up methods for failing banks need to change. In the past, exit has involved forbearance followed by a forced merger with a stronger bank. An alternative would be a Deposit Insurance

Corporation, independent of the RBI, and with powers to close down banks well before their capital was exhausted. Deposit insurance is well-placed to provide stability where there are a large number of banks with asset portfolios whose returns are not correlated. When a bank becomes very large, though, deposit insurance may not work for lack of adequate resources and the bank ends up being too big to fail in any case. In India, only one or two banks belong to this category.

Rural co-operative credit societies

The co-operative credit system could have played an extremely important role in bringing financial services to the poor and underprivileged across rural India. Its original purpose was to provide a way for village communities to free themselves from moneylenders. However, over time it became heavily dependent on State governments. To quote a 2004 government report "State policy came to be premised on the view that the government should ensure adequate supply of cheap institutional credit to rural areas through co-operatives. The State took responsibility for strengthening the institutions, by infusing additional capital and professional workforce. Both the State and the workforce then began to behave like patrons, rather than as providers of financial services. The State has used co-operatives to channel its development schemes, particularly subsidy-based programmes for the poor. As these institutions have a wide reach in the rural areas and also deal with finances, the choice was natural. The trend, however, also made co-operatives a conduit for distributing political patronage. This and the sheer magnitude of resources and benefits channelled through the societies, makes control of decision-making and management attractive to parties in power, for accommodating their members, to influence decisions through directives, and for individual politicians to be on the management boards of the co-operatives" (Vaidyanathan, 2004).

Following this report, the government embarked on an INR 160 billion (USD 3.5 billion) programme to restore the viability of these institutions. The major reason behind the decision to inject more money was their sheer reach, with branches in 100 000 villages. Moreover the co-operatives took substantial deposits from villagers that were not covered by deposit insurance. By 2009, 40% of the primary co-operatives had been fully recapitalised. This was a necessary step since these co-operatives were only recovering 60% of the loans they extended, had high overheads and were subject to fraud. The new regime for these co-operatives involves regulation by the RBI, democratic elections by members and installation of new management accounts. Detailed guidelines for accounting have been issued. As yet, these measures have not resulted in a marked improvement of performance. On the contrary, overdue loans rose to 59% of the total by March 2009, up from 36% a year earlier. No doubt the increase was linked to borrowers' hope that their loans would qualify under the government's 2008 debt waiver scheme. The higher-level co-operative societies have a better loan portfolio, but deposits with the primary societies are a sizeable part of their assets.

The co-operative sector remains the single most important regulatory and supervisory problem in the banking system. Over 20% of rural co-operative banks failed to meet statutory minimum capital requirements as of June 2010. The solvency ratios of these banks were poor, with 45% having a Tier 1 capital adequacy ratio of less than 6% (using Basel I standards) and 8 having negative ratios (Reserve Bank of India, 2010b). This sector suffers from having overlapping regulators with conflicting interests. Regulation is split between the Registrar of Co-operative Societies and the Central Registrar of Co-operative

Societies for management issues. Banking issues are dealt with by the National Bank for Agricultural and Rural Development (NBARD) and the RBI. However, the co-operative banks are major clients of the NBARD which itself is owned by the RBI. A clearer delineation of responsibilities is needed. First, the RBI should sell the NBARD to the government. Secondly, the regulatory and supervisory role should be transferred to the RBI. Finally, the Registrar of Co-operative Societies should only supervise societies with no banking or credit activities.

Regional rural banks (RRBs) were launched in 1975 in order to increase the availability of banking in rural areas. They were established by a sponsoring state-owned commercial bank which held 35% of their capital. The remainder was held by the central government (50%) and the state government in the area the bank served. They quickly expanded and by 1991 there were 196 banks with 14 443 branches. The number of branches and banks remained unchanged until 2005. Following a government decision, the number of banks was reduced to 82 but the number of branches rose to 15 181, with one village in three having a RRB branch. However, the initial expansion resulted in an explosion of bad loans: 40% were non-performing in 1993. While this level of NPLs was progressively lowered, according to the RBI an infusion of INR 29 billion would be needed to ensure a capital adequacy ratio of 9% by 2012. Indeed by September 2010, the sector still counted 14 banks with less than 5% Tier 1 capital as measured by the Basel I standards that are still used to regulate this sector, and seven had a capital adequacy ratio of less than 1%. In this sector, it has proved extremely difficult to align the incentives of politicians, stockholders and policymakers (Bhat and Thorat, 2001). Further progress would probably be easier to achieve if the banks were moved into the private sector.

Microfinance

Despite the incentives offered by the government and financial institutions, the extent to which India's population uses traditional banking facilities is extremely limited. Only one-third of the population has a bank account and the penetration of bank accounts declines markedly at lower income levels, with only 14% of agricultural labourers having a bank account. This does not reflect a low physical presence on the ground: India has a high density of bank branches relative to other emerging economies. Rather, banking facilities are not used much because the cost of banking transactions is high for low-income groups. This, rather than the availability of banks appears to be the key constraint. Indeed, lower-income groups are as unlikely to have bank accounts in highly banked urban areas as in lightly banked rural areas. From that standpoint, there appears to be little justification for the micro-control over branch openings that the RBI exercises over commercial banks.

The poor, however, do need financial instruments to cope with high income variability. Studies of financial diaries show that low-income groups use various strategies to that effect, nearly all of which involve informal financial activities (Collins *et al.*, 2009). These activities are local in character, with a cost structure that is adapted to the local area rather than based on national salary scales. The traditional provider of finance for the poor is the moneylender. Amongst the lower-income quartile, two-thirds of those who borrow outside the circle of friends and family use moneylenders. While the rates of interest appear high at over 3% per month (Banerjee and Duflo, 2007), the actual return to the moneylender is much lower due to frequent rescheduling of loans (Collins *et al.*, 2009). The bulk of the high cost of the lending is due to the intense client monitoring needed to ensure that loans are

repaid. Similar results are found in Pakistan (Aleem, 1990) and in the "pay-day" money lending business in the United States (Skiba and Tobacman, 2007).

The space between banks and moneylenders has been filled by new financial entities, which in India have taken two forms: self-help groups (SHGs) and micro-finance institutions (MFIs). SHGs are generally founded by civil society groups and have, on average 11 members (Srinivasan, 2010). They are based on regular saving by members, which provides the funds for lending to each other. At the same time, the groups can borrow from commercial banks to supplement their resources. The saving pool of the SHG can be used by the sponsor of the SHG when a borrower defaults.

Both SHGs and MFIs are closely linked to the banking system: banks' lending to them counts towards their priority loan targets (Box 4.2). Total lending to these two sets of institutions almost quadrupled in the four years to March 2010, with lending to MFIs growing by over 20 times. However, total lending to these groups still only represented 0.3% of the total advances of commercial and rural banks. Of the 14 largest MFIs, 13 are regulated by the RBI as non-bank financial companies that are not allowed to take deposits. MFIs have proved to be good clients of commercial banks with low levels of default. However, the performance of lending to SHGs has not been as satisfactory, with a modal recovery rate in the 80-95% range in 2008-09 and even lower when the loan has come from a public-sector bank. About half of all SHGs are set up by government agencies. While there are no figures for the default rate of SHGs set up by different institutions, local bankers think that SHGs set up by government agencies are politicised and oriented toward obtaining subsidies and grants (Harper, 2002).

MFIs have been expanding rapidly. These institutions form joint borrowing groups to which borrowers belong. They do not offer saving accounts nor require members to have a saving record before borrowing, in contrast to SHGs. There is no formal joint liability but if one member defaults, no member can obtain any further credit, so repayment is guaranteed by peer pressure. As a result, the largest MFIs had a NPL ratio of only 0.9% in 2010 (SKS, 2010). MFIs do not aim to have a branch in every village but use staff to visit the group of borrowers. In 2008, MFIs still had only one-third as many clients as SHGs but they were expanding much faster. The loan portfolio of MFIs in 2008 was equivalent to 1.3% of the lending of commercial banks, with 14 million borrowers, about three times the number of active "no frills" banks accounts.[4] The cost of borrowing from the commercial MFIs appears to be similar to that from SHGs. In the year to March 2010, the five largest MFIs had an average portfolio yield of 26% and a rate of return on assets of 5% (Rosenberg *et al.*, 2009). The sector is extremely competitive and India now has eight MFIs amongst the world's top 50 (MIX, 2010). The inability of the MFIs to offer savings accounts, due to RBI regulations, cuts a route for saving that could be another way to improve wealth amongst the poor (Aniket, 2010).

The impact of microfinance appears to fall short of some of the poverty-reducing claims that are made for the system. Randomised trials in Andhra Pradesh show little impact of microfinance on development goals such as better health and education and lower poverty – at least over a two-year period (Banerjee *et al.*, 2010). However, such trials do suggest that business formation increases somewhat relative to control groups. Also, the constraint of weekly repayment enables many more borrowers to acquire durable goods, a result consistent with the finding that many consumers in advanced economies

make decisions based on hyperbolic discounting (in which events in the far future are discounted at higher rates than those in the near future).

The environment for microfinance appears to be changing. In 2010, the Andhra Pradesh Parliament passed legislation that gives the government the power to fix interest rates on MFI lending and to determine the repayment schedules of MFI loans, deciding that loans should only be repaid once per month, instead of weekly. Both of these moves may well have an adverse impact on the availability of credit to clients of MFIs. The first could lower the profitability of the institutions while the second seems likely to increase default rates and so reduce the willingness of companies to grant credit (Banerjee and Duflo, 2010). Even a small change, such as allowing a two-week grace period, has been found to increase defaults sufficiently to raise the cost of credit by 9 percentage points.

The new regulations in Andhra Pradesh followed well-publicised incidents where over-indebtedness was allegedly responsible for the suicide of MFI borrowers. Andhra Pradesh has been at the heart of the MFI revolution and the number of accounts was equivalent to one-third of all households, though many households had more than one loan outstanding. The penetration of SHGs is even greater, with as many borrowers as households (Srinivasan, 2010), but this has been aided by a state government scheme that holds the rate of interest on bank loans to SHGs to 3% and so makes groups dependent on the state government. Rather than to subsidise interest rates or impose caps on rates, the government should take steps to lower the risk of over-borrowing. One way to do this would be to promote the development of an adequate credit database like Teletrak in the United States for non-traditional borrowers. Adequate personal bankruptcy laws would also be essential, as a complement to greater credit disclosure. Schools also need to provide more information and training in the interpretation of financial information, so that borrowers are more aware of the costs of borrowing and the advantages of saving (OECD, 2010).

Mobile phone banking

MFIs have greatly increased financial inclusion and further improvements are coming from new technology. Mobile phones can be used to make money transfers and other financial transactions without the need for a physical presence at a bank branch or even without having to own a bank account at all (via the use of so-called mobile wallets). The development of mobile banking has followed two separate directions in emerging markets. These can be characterised as following an additive or transformational model.

In the additive model a bank provides a new interface for an existing to customer to make transactions. The bank controls the technology and the client uses the mobile phone as an alternative means of access to the account and can make a limited range of transactions through the phone. However, cash can only be obtained from bank accounts and transfers can only be made to existing customers of the banking system. This is the route chosen by the RBI for India.

The transformational model involves a telecom company providing what is essentially a money transfer system through its own network, computer system and local agents. The best-known example of such a service is in Kenya where the density of banks is less than one third that in India. The key here is a dense network of agents throughout the country who are able to accept cash from and provide cash to mobile phone owners. The major Kenyan system has 16 000 agents (equivalent to having 500 000 agents in India). The Kenyan system is now used by 40% of the population and half of the users do not have bank

accounts. However, only 19% of the households in the lowest quartile of incomes are users against 65% of households in the upper income quartile, and most users are in urban areas.

In India, the major mobile companies are now forming alliances with banks in order to gain access to enter the market. Mobile penetration is high in India and banks are now allowed to have a much wider range of agents than in the past. However, with current regulations, it may be difficult for mobile banking to act as a vehicle for financial inclusion despite plummeting call charges (Chapter 1) and the fact that, at 31% in December 2010, the penetration rate for mobile phones far outnumbers that of bank account holders (Telecom Regulatory Authority of India, 2010). Given the current absence of identity cards in India, the RBI should consider reducing know-your-customer regulations for people using mobile banking services and allow banking correspondents to open accounts, subject to a low use threshold for such accounts.

Securities markets

Equities

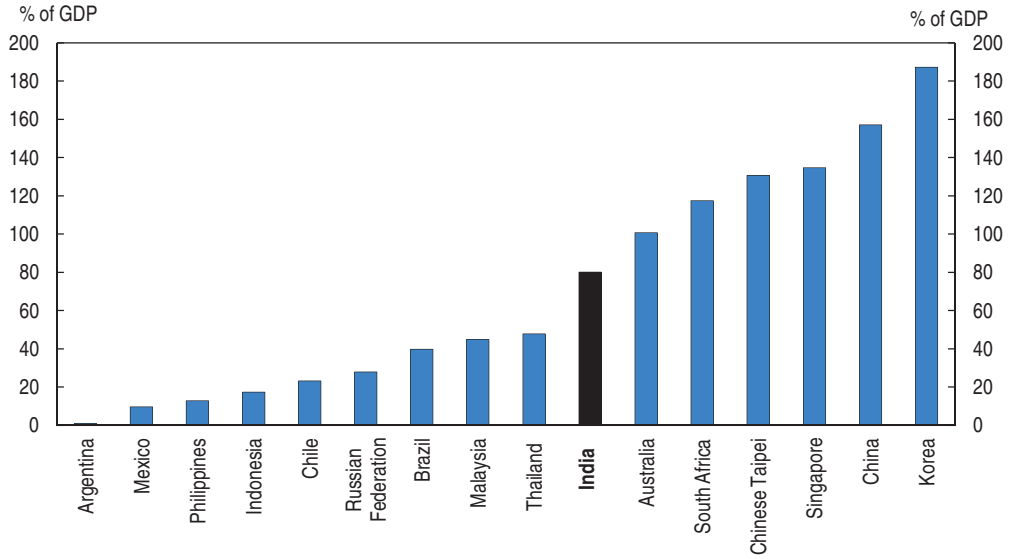
From 1993 to 2001, the Ministry of Finance and the Securities and Exchange Board of India (SEBI) led a strong reform effort aiming at a fundamental transformation of the equity market. The changes were quite dramatic (Shah and Thomas, 2000; Green *et al.*, 2010):

- A new governance model was set up for critical financial infrastructure such as exchanges, depositories and clearing corporations. It involved a three-way separation between shareholders, the management team and member financial firms. These three groups were held distinct in order to avoid conflicts of interest. The shareholders were configured to have an interest in liquid markets rather than to maximise dividends.
- Floor trading was replaced by electronic order books.
- Counterparty credit risk was eliminated through netting at the clearing corporation. This has supported a competitive environment where entry barriers are very low and there is a steady turnover of firms.
- Exchange membership for foreign securities firms was enabled, making it possible for foreign investors to transact through their familiar securities firms.
- Physical share certificates were eliminated through dematerialised settlement at multiple competing depositories.
- Exchange-traded derivatives trading commenced on individual stocks and indexes. The Nifty index of the National Stock Exchange (NSE) became the underlying asset for one of the world's biggest index derivatives contracts, with onshore trading at NSE, offshore trading at SGX in Singapore and CME in Chicago, and an entirely offshore over-the-counter (OTC) market.
- Asymmetric information problems were reduced through improvements in accounting standards and disclosure.
- The eligibility rules for foreign institutional investors (FIIs) were enlarged through time, so encouraging both foreign capital and a greater variety of views on market conditions.

The Indian equity market has thus taken on a significant role. The combined value of turnover of the NSE and Bombay Stock Exchange (BSE) (relative to GDP) is greater than in many middle-income economies (Figure 4.11), and the derivatives market is even more liquid with NSE ranking fifth worldwide in terms of the number of contracts traded. Indeed, this is the only global ranking in finance where India is found. In the larger setting of Indian

Figure 4.11. **Stock exchange turnover in the cash market**

As per cent of GDP, 2009



Source: World Federation of Stock Markets; Russian Stock Market (RTS); and *World Development Indicators*.

StatLink http://dx.doi.org/10.1787/888932436347

finance, the equity market is the first place where modern finance and financial regulation have taken root. The institutional capabilities and experience associated with these reforms will help in transforming other components of the financial system. For example, in 2008, they served to establish a currency futures market. However, while the stock market is a very efficient allocator of finance for large companies, overall the banking system still provides more than twice as much capital to private corporations as the stock market (and bond borrowing provides only a tiny fraction of firms' funding).

Equally strikingly, the market is a low-cost operator. The cost per trade paid to the exchange and the clearing operators is only 35 basis points, less than one third of the cost of a transaction in the Hong Kong market and lower than any Asian market except Japan. The overall competitiveness of the market is held back, though, by the high, 27 basis points transactions tax. If this tax were abolished, as in Japan, then unit costs would likely fall below those in Japan, as turnover would rise significantly.

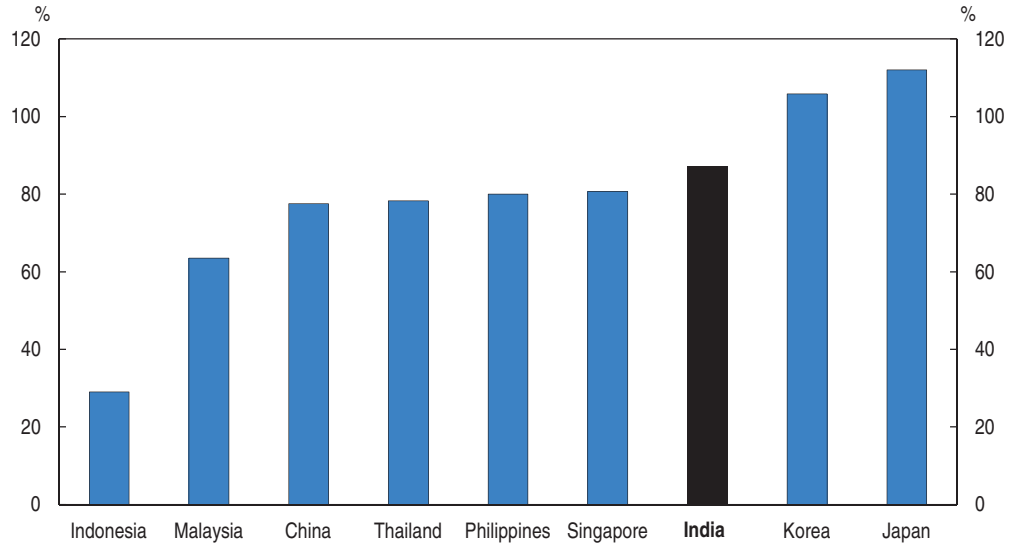
Bonds

The market for government bonds has been developed almost exclusively by the RBI. Over the past decade its liquidity has improved considerably with the bid-offer spread amongst the lowest in the world (Mohan, 2004). The infrastructure has improved with dematerialisation; a similar number of primary dealers as in most major countries; an electronic trading platform; and a central clearing house. Even so, bond market turnover in India remains low (Figure 4.12).

The reason for this low turnover is that the market is dominated by constrained institutional investors, who are obliged to own government bonds. Banks have to keep 23% of their net demand and time liabilities in government bonds and 6% with the RBI, which itself holds part of its assets in the form of government bonds. The largest insurance company, the wholly-government-owned Life Insurance Company of India, must hold at

Figure 4.12. **Government bond turnover: an international comparison**

2010, in per cent of outstanding stock of bonds



Source: RBI, Asian Development Bank: AsianBondsOnline.

StatLink http://dx.doi.org/10.1787/888932436366

least 50% of its investible funds in government bonds. Overall the constrained holders owned above 80% of the stock of central government debt in March 2010 and public-sector institutions themselves held two-thirds of the outstanding debt. Such owners generally do not trade their securities.

The RBI has now allowed the development of derivative markets for government securities, though foreign investors can only take part if they own the underlying security. Since the introduction of the market in September 2009, turnover has been low, mainly because the underlying government bond market is illiquid, which poses problems for the final settlement of the contracts. The RBI has never allowed cash settlement of bond derivatives, but this policy was reversed in March 2011. This should allow a considerable expansion of the fixed-interest derivative market. There are a number of areas where the government bond market needs improvement. This could be achieved through developing a term money market; creating a better market-making system and improving the extent of short selling. At the same time, the low market trading volumes make the market subject to manipulation and excess volatility. The absence of a good range of derivative markets reduced the efficiency of the transmission of monetary policy, so the new measure is a step towards a more fluid market.

The corporate bond market has not developed to its full potential in India. In part this is due to the absence of a fully developed and liquid government bond market. Corporate bonds need a liquid market in government paper to be able to hedge interest rate risks and to price in a rational fashion. At end 2010, the outstanding stock of corporate bonds was only 3.3% of GDP, against 10.6% in China where the market has developed rapidly since 2007. Moreover, the market is illiquid and suffers from not having standardised issue terms. Steps have been taken to improve the market: SEBI has mandated centralised clearing of corporate bonds and the RBI allows banks to hold corporate bonds from the infrastructure sector on their balance sheet as hold-to-maturity assets. This means they do not have to mark them to their market value every year. In addition, the RBI allowed a CDS

market to start in February 2011. However, the scope of the market is extremely limited as only firms that hold the underlying bond are allowed to purchase a CDS on that bond. Dealers in the market are required to have a high capital requirement in order to participate in the market, which is likely to rule out most primary dealers in government bonds. These measures are almost certain to limit the growth of the CDS market in the short term and hence harm the development of a corporate bond market. At present, foreign investors cannot freely purchase corporate bonds due to capital controls. In September 2010, the government raised the limit on the stock of corporate bonds that foreigners could hold by USD 5 billion to USD 20 billion. It was raised by a further USD 20 billion in February 2011, provided that the money is invested in the infrastructure sector. The allocation method chosen for these quotas is not ideal, as it proceeds by administrative action. Rather, the RBI should auction the quotas.

Asset management

India's asset management industry has three major segments: life insurance, mutual funds and pension funds. Private wealth management, venture capital, private equity funds and hedge funds are relatively small in India. The three main sectors essentially provide the same service to investors: professional management of savings and certain amount of risk management in the case of the life insurance and pension sectors. They are gradually offering the same financial products, but bundled in different fashions and with different tax consequences for the investor. Thus the most rapidly growing part of the life insurance industry is the unit-linked policy business, in which a person saves part of the annual premium in a specified fund. At the end of the contract period, the person receives the exact value of the fund. This type of fund resembles the mutual fund industry in all but name. Finally, the pension industry has two components: the first is within the life insurance sector and the second is the government-controlled National Pension Scheme (NPS). In the latter, the investor can choose in which fund to invest the balance of the account.

Both the life insurance and the mutual fund industry have undergone considerable change over the past 20 years, as they were opened to the private sector. In 2002, the mutual fund sector underwent a crisis when the publicly-owned UTI company was unable to meet the returns it had offered on some guaranteed products. As a result, its dominance ended and by March 2010, the private sector accounted for 78% of mutual fund assets. The total assets under management reached just under 10% of GDP. This is very low even compared with some other emerging economies, for example Brazil where assets under management by the mutual fund industry are equivalent to 39% of GDP.

The life insurance industry was also opened to private sector participation but not until the turn of the century. Prior to 2000, only one state-owned life insurance company had been allowed. Since then, 22 private companies have entered the market, but by 2010 they still accounted for only 30% of total premium income and just 18% of assets. The private sector was concentrated in the unit-linked business, while the state-owned company had most of its liabilities represented by conventional life insurance contracts offering guaranteed returns. Total assets under management amounted to 14% of GDP for conventional insurance and pensions and a further 5.3% of GDP in unit-linked policies in 2010. Unit-linked policies are mainly owned by individuals and their holdings are now broadly equivalent to the investment of households in the mutual fund industry. Overall, the annual cost of managing these funds is equal to 4.4% of assets under management.

The pension fund industry was reformed in 2004. Until then, the pension fund sector was dominated by the government-run Life Insurance Company of India and the Employee Provident Fund. Since then the government has established the NPS. This fund was initially designed to replace the defined benefit pension scheme for civil servants by a defined contribution scheme, with the obligation to take 40% of the accumulated individual fund as a pension on retirement. By 2010, 22 states had moved their employees to the NPS. Moreover since 2009, it has been open to any individual. Fund members can choose to invest in three funds (equity, government securities, other debt) all of which follow passive investment rules designed, in the case of the equity fund, to replicate the movement of the BSE and NSE indices.

The management of the NPS funds is contracted to a number of management companies. Initially they were mostly in the public sector, but subsequently with the widening of possible membership, a number of private sector managers have been approved. The management fees set by the Pension Fund Regulatory and Development Authority (PFRDA) are extremely low, at 0.0009%. Clearly this is inadequate. For example, the management fee for the Thrift Savings Plan, the defined contribution part of the United States federal civil service pension plan, is over 300 times greater, at 2.8 basis points. This management fee (which by international standards is very low) was the outcome of a competitive bidding system, which ought to be adopted for the NPS as well.

The other administrative fees for the NPS while low in the absolute may constitute an initial barrier for those making very small contributions. At the minimum contribution level administrative expenses take 12% of the contribution in the initial years. However, averaged over a full lifetime of contributions, administrative costs may represent an annual charge of just 0.6% of the average assets under management. To overcome the initial costs of joining the NPS the government has introduced the *Swavalamban Scheme*, under which the central government will contribute INR 1000 per year to each NPS account opened in the year 2010-11 and for the next 5 years. To be eligible, a person will have to make a contribution of between INR 1 000 and INR 12 000 per annum. By February 2011, nearly 0.5 million people had applied for this scheme. However, without mandated, or automatic, contributions it will be difficult to increase membership. Moreover, if the product is sold by the private sector, then costs are likely to rise dramatically.

Looking ahead, a number of improvements could be made to the structure of the NPS. First, the administration and executive control of the NPS should be separated from the regulator of the NPS and other pensions. Second, the trustees of the new organisation should have their fiduciary responsibilities made clear, as with all other trustees. Amongst those with lower incomes, it is possible that contributing to the NPS could be made a condition of access to other more attractive government programmes such as healthcare. In urban areas, consideration could be given to mandating contributions both from the employees of companies in the so-called formal sector and amongst those working for smaller "unorganised" companies. The introduction of the new Pension Fund Regulatory and Development Authority Bill in 2011, necessary since the first bill introduced in 2005 was never voted on, offers an opportunity to implement these reforms.

The financial investments in these three sectors are overseen by separate regulators with different approaches. In general terms, the life insurance regulator has been the most generous in terms of the allowable costs and commission charges, while the pension fund regulator has required untenably low investment management fees. The emphasis of the

securities regulator has been on reducing the costs to the investor of holding mutual funds. Entry charges have been made illegal and a cap of 2¼ per cent has been imposed on management charges, with separate ceilings for administration and remunerating the promoter of the fund. The impact of these different regulations has been regulatory arbitrage, with fund management companies preferring to sell mutual funds as unit-linked life insurance policies.

The emergence of regulatory arbitrage led to conflict between the securities and the insurance regulator that was finally settled when the Finance Minister gave the insurance regulator jurisdiction over unit-linked policies. Subsequently the insurance regulator ruled that all unit-linked policies must run for a minimum of five years and that annual expenses cannot exceed 4% of assets under management when an investment is made for five years. Clearly, these terms are far more favourable to providers of unit-linked policies than the rules applied to the mutual fund industry. Moreover, the long minimum period of investment can give rise to mis-selling of products. The maximum expenses allowed for unit-linked policies should be aligned with those of the mutual fund sector.

Legal and regulatory arrangements

Many of the laws governing the financial sector have been written decades ago, when the financial landscape was very different from today's. New legislation has been introduced in recent years such as the 2005 Credit Information Companies Regulation Act, the 2006 Government Securities Act or the 2007 Payment and Settlement Systems Act. However, the need for further changes and for a more far-reaching overhaul of the legislative framework has been evident during the global financial crisis, which also highlighted issues such as the orderly resolution of failing banks and financial institutions, domestically as well as cross-border, home-host regulatory cooperation in information sharing or the convergence of Indian Accounting Standards with the International Financial Reporting Standards. The urgency to review and revamp legislation has been acknowledged and the creation of a Financial Sector Legislation Reforms Commission has been announced, which will report in 2013. The 2011 Budget announced that a number of laws would be modernised in the financial sector in the area of insurance, pensions and factoring. The latter will be an important step forward in the development of trade finance, while the interests of banks will be preserved by establishing a centralised credit register. The budget also proposes the establishment of a Mortgage Risk Guarantee Fund (MRGF) which will lower the credit risk faced by banks when they lend for house purchases by low-income households.

The current regulatory structure for financial markets consists of six bodies (Box 4.3). They cover banks, securities markets and financial intermediaries. The structure is complex, with overlapping mandates and institutions that in at least one case (the Ministry of Consumer Affairs) are far removed from the financial industry. The securities market is well regulated through SEBI. A noticeable feature of many of the regulators is that they are charged with the development as well as the regulation of a branch of the financial industry, which can result in the regulator thinking of the interests of the industry rather than the users of the industry. Overall, this structure is plagued by several sets of problems, many of which ought to be addressed by the Financial Sector Legislative Reforms Commission:

- The Indian regulatory system suffers from various conflicts of interest. This is the case in particular for the RBI (Khatkhate, 2005; Chandavarkar, 2005), where they arise between

Box 4.3. **Financial market regulatory institutions in India**

Reserve Bank of India (RBI)

- Owns and operates a bond depository, a bond exchange and some payments functions.
- Owns one development bank.
- Manages the Deposit Insurance and Credit Guarantee Corporation.
- Regulates banks.
- Regulates non-bank finance companies.
- Regulates micro-finance institutions.
- Carries out investment banking for the government.
- Regulates the payments system.
- Regulates OTC trading on government bonds.
- Regulates currency markets and currency or interest rate derivatives.
- Shares regulation of corporate bonds.
- Shares regulation of exchange traded currency or interest rate derivatives.
- Operates the system of capital controls.

Securities and Exchange Board of India (SEBI)

- Regulates equity spot and derivatives markets including financial infrastructure and participants.
- Regulates mutual funds.
- Shares regulation of corporate and government bonds.
- Regulates interest rate and currency futures.
- Prudential regulation of foreign institutional investors operating on the markets which SEBI regulates.

Forward Markets Commission (FMC)

- Regulates exchange-traded commodity futures and is overseen by the Ministry of Consumer Affairs.

Insurance Regulatory and Development Authority (IRDA)

- Regulates general insurance.
- Regulates life insurance.
- Regulates unit linked investment plans.

Pension Fund Regulatory and Development Authority (PFRDA)

- Regulates all aspects of the National Pension System.

Securities Appellate Tribunal (SAT)

- Appeal court for regulatory decisions taken by SEBI.

i) monetary policy and investment banking; *ii)* monetary policy and banking regulation; and *iii)* the RBI as regulator *versus* the RBI as player.

- Organised financial trading is regulated by the SEBI, the RBI and the Forward Markets Commission (FMC). This leads to inefficient partitioning within private financial firms as they have to create corporate structures that match the regulatory environment; for instance, a brokerage firm operating on the stock market (where it is subject to SEBI

regulation) is forced to create a separate subsidiary to trade on commodity futures markets (FMC regulation) and another one to be a primary dealer (which involves an engagement with RBI).

- When the financial system was dominated by public-sector firms which were seen as an extension of government, formal legal aspects of the regulatory process were neglected. Today, a modern legal process should involve: *i)* drafting subordinated legislation with public consultation and transparency so as to avoid mistakes and reduce legal risk; *ii)* respect of due process through a quasi-judicial process; *iii)* reasoned rulings placed in the public domain; *iv)* an appeals procedure at a specialised court, leading to the development of case law in the common law tradition; and *v)* full transparency of all aspects of the legal process through the web.

The RBI handles bank supervision as well as the regular functions of a central bank. There are arguments for separating these functions. Central banks can face a conflict between the need to control inflation and the need to maintain financial stability (and when they manage government debt, there may be a conflict between the need to minimise borrowing costs and the need to control inflation). On the other hand, in the case of separate banking supervisors, co-ordination problems may arise between the supervisor, the central bank and the fiscal authorities. The case for or against a single financial supervisor also hinges on the degree of overlap in the business areas of financial companies. In any event, there is so far little international empirical evidence of the superiority of either system: both types of supervision have experienced problems during the recent international financial crisis and there is no unique solution. On balance, the existing structure appears to function well at the moment, even if the RBI remains overly inclined – albeit gradually less so – to issue regulations interfering with banks' normal operational decisions. Changes need to be guided by country-specific situations which, in India's case, would argue for the shedding of a number regulatory and ownership functions currently attributed to the RBI so that it could concentrate on core activities such as bank regulation and inflation control.

In order to reduce possible conflicts of interests at the RBI, a National Treasury Management Agency (NTMA) is being set up, to work as an agent of the Budget Division of the Department of Economic Affairs in the Ministry of Finance (Aziz, 2008). This should reduce the burden of conflicting claims upon decision-making at the RBI, improve fiscal outcomes through access to a professional investment banker without conflicts of interest, and improve the functioning of the bond market. A major political effort will be required to avoid the problems of delay that ensnared the implementation of the PFRDA.

Economies of scale and scope would be obtained by unifying into a single agency the supervision of all organised financial trading, covering spot and derivative trades, both OTC and on exchanges for all asset classes. This would require merging into a single agency the RBI functions related to the bond and currency markets, the SEBI functions related to the stock market and the FMC functions related to commodity futures markets. Hence, it would require replacing the 2006 RBI Amendment Act, the Forward Contracts Regulation Act, the Securities Contracts (Regulation) Act and the SEBI Act, by new unified legislation.

The current deposit insurance arrangements should be changed. A new Deposit Insurance Corporation (DIC) should be established to take over the role of the Deposit Insurance and Credit Guarantee Company (DICGC). It would have to monitor banks independently of the bank regulator, charge insurance premia to banks that vary with risk,

ensure closure or merger of fragile banks before technical bankruptcy, and work as a channel for fiscal support in the event a bank is indeed insolvent but is considered too large to fail. At present, the existing deposit insurance institution is owned by the RBI. However, the payment of deposit insurance claims is a fiscal matter and hence the new DIC should be a fully owned subsidiary of the Ministry of Finance, which should ultimately make decisions about the use of taxpayer resources, rather than the RBI. The DIC would need to make some difficult decisions about cross-subsidisation. Scheduled commercial banks contributed 93% of the premiums to the existing Deposit Insurance and Credit Guarantee Corporation but have generated no claims. On the other hand co-operative banks have generated claims more than double the premiums they have paid.

Even if all the presently envisaged reforms are enacted, India would have seven agencies in the financial sphere (RBI, SEBI, PFRDA, IRDA, NTMA, DIC and SAT). With the growing complexity of the financial system, problems of gaps, overlaps and conflicts become more and more frequent. For example, as noted, in 2010 there was a dispute between SEBI and IRDA on the regulatory treatment of insurance companies running fund management products. Many such difficulties have been simmering without resolution. In addition, the financial stability function requires close coordination between financial agencies, given the need for new work on the bankruptcy process, achieving counter-cyclical capital requirements, and crisis response with the increasing domination of large complex financial institutions in an ever-more inter-connected financial system.

A recent response to these challenges has been the establishment of a new entity, the Financial Stability and Development Council (FSDC), whose role will be to improve the functioning of the financial system with respect to: financial stability; financial sector development; inter-regulatory coordination; financial literacy; financial inclusion; macroprudential supervision, including as regards the functioning of large financial conglomerates; and the coordination of the interaction with international financial sector bodies. The latter include the Financial Action Task Force, which India joined in 2010 in order to contribute to the international effort against money laundering and financial support of terrorism. The FSDC is a council of regulators, chaired by the Finance Minister and with a permanent secretariat. It may help to resolve inter-agency disputes.

Conclusions

The Indian financial system has made considerable progress since its liberalisation in the 1990s. The banking sector has been transformed by allowing a restricted number of new entrants into the market. A world-class stock exchange has emerged complemented by a large and vibrant equity derivatives markets. A sizeable microfinance industry has sprung up providing credit to low-income households in a way that the banking system cannot, which helps promote financial inclusion. But remnants of the former policy regime still remain in place. The RBI continues to see one of its roles as micro-managing the banking system and deciding on the sectors to which bank credit should be directed. The potential main financial market (government bonds) is anaemic and suffers from having the owner, operator and regulator all in one. This hampers the development of a bond-currency-derivative nexus and hinders the transmission of monetary policy impulses. At the same time, the legal framework is dated and to a large extent relies on laws drafted long before current financial markets came into existence; moreover, and partly for that reason, there is a tendency not to rely on the rule of law but to use administrative decisions that are without appeal.

The economy has reacted very well to the liberalisation in the 1990s and the saving rate has moved up to the levels of the East Asian economies in their high-growth period. The challenge for the authorities is to now put in place a second wave of financial reforms that will ensure that savings are put to an optimum use (Box 4.4).

Box 4.4. **Summary of recommendations for financial reform**

Further implementation efforts are required for the following institutions to function fully

- National Treasury Management Agency.
- Pension Fund Regulatory and Development Authority.
- Financial Stability and Development Council.
- Financial Sector Law Reforms Commission.

New policy initiatives are also called for

Give greater freedom to banking operations

- Plan for a gradual reduction of the proportion of government bonds to be held by banks.
- Set out a plan for ending priority lending.
- Liberalise interest rates on deposits.

Improve competition in the banking system

- Establish a meaningful deposit insurance corporation.
- Recapitalise public-sector banks through equity issues to the public.
- Lower entry barriers for banks and banking.

Reduce conflicts of interest in the RBI

- NBARD bank should be sold to the government by the RBI.
- NBARD, as a major lender to co-operative banks, should not be their regulator.
- The RBI should sell its electronic government bond market and the clearing house to the private sector.
- Move the regulation of foreign exchange markets and of the government bond market from the RBI to SEBI.
- The National Treasury Management Agency should issue debt for state governments.

Improve the regulatory structure

- Establish a Financial Services Appellate Tribunal.
- Emphasise the rule of law in the Foreign Exchange Management Act.
- Modify capital controls to allow more foreign investment in the government and corporate bond market.
- Regulation of asset managers (life insurance, mutual and pension funds) should be unified.
- The operator of the National Pension System should be separated from the regulator.

Improve market functioning

- Reduce the extent to which the bond market is dominated by constrained investors.
- Allow greater direct participation in the government bond market.
- Introduce standard terms for corporate bonds.
- Widen the scope of trading of corporate default swaps.
- Allow for an easier introduction of new investment products.
- Reduce transaction taxes (stamp duty and securities transaction tax).
- Reduce know-your-customer requirements for mobile banking customers.

Notes

1. Parts of this chapter draw on work by Shah and Patnaik (2011).
2. This level of intermediation margin is substantially lower than in a number of other emerging markets (such as Brazil, Indonesia and the Russian Federation) and is in line with that in South Africa. However, it is still some 80 basis points above that found in those advanced economies whose banks were not greatly affected by the 2007-09 banking crisis (such as Australia, Canada, Korea and Singapore).
3. The resilience of India's banking system will be examined in depth in the context of the forthcoming IMF and World Bank Financial Sector Assessment Programme review.
4. The banks, under pressure from the government, have been trying to develop "no-frills" accounts for low-income customers and, indeed, had three times as many such accounts as MFIs. However, only 10% of the accounts are actually used – most are dormant and serve merely to demonstrate compliance with government objectives.

Bibliography

Aleem, I. (1990), "Imperfect Information, Screening and the Costs of Informal Lending: A Study of a Rural Credit Market in Pakistan", *World Bank Economic Review*, Vol. 4, No. 3.

Aniket, K. (2010), "Beyond Microcredit: Giving the Poor a Way to Save Their Way out of Poverty", Trinity College, University of Cambridge, *mimeo*, February.

Aziz, J. (2008), *Establishing a National Treasury Management Agency, Report of the Working Group on Debt Management,* Department of Economic Affairs, Ministry of Finance, New Delhi.

Banerjee, A. and E. Duflo (2007), "The Economic Lives of the Poor", *Journal of Economic Perspectives*, Vol. 21, No. 1.

Banerjee, A. and E. Duflo (2010), "Giving Credit Where it is Due", mimeo, March, MIT.

Banerjee, A., E. Duflo, R. Glennerster and C. Kinnan (2010), "The Miracle of Microfinance? Evidence from a Randomized Evaluation", mimeo, MIT.

Baht, N. and Y. Thorat (2001),"India's Regional Rural Banks: The Institutional Dimension of Reforms", *Journal of Micro Finance*, Vol. 3, No. 1.

Chandavarkar, A. (2005), "Towards an Independent Federal Reserve Bank of India: A Political Economy Agenda for Reconstitution", *Economic and Political Weekly*, 27 August, New Delhi.

Cornett, M., L. Guo, S. Khaksari and H. Tehranian (2010), "The Impact of State Ownership on Performance Differences in Privately-Owned *Versus* State-Owned Banks: An International Comparison", *Journal of Financial Intermediation*, Vol. 19, No. 1.

Collins, D., J. Morduch, S. Rutherford and O. Ruthven (2009), *Portfolios of the Poor: How the World's Poor Live on USD 2 a Day,* Princeton, NJ, Princeton University Press.

Das, A., N. Ashok and S.C. Ray (2005), "Liberalisation, Ownership and Efficiency in Indian Banking", *Economic and Political Weekly*, 19 March, New Delhi.

Das, D. (2009), "Role of Financial Intermediation in Promoting Productivity Growth: Evidence from India", presentation to the Indira Gandhi Institute of Development Research, Annual Money and Finance Conference, January, Mumbai.

Green, C., R. Manos, V. Murinde and N. Suppakitjarak (2010), "Share Liquidity and Market Microstructure Reform: The Case of Screen-Based Trading in Mumbai", *Asia-Pacific Journal of Financial Studies*, Vol. 39, Issue 3.

Gupta, P., K. Kochhar and S. Panth (2011), "Bank Ownership and the Effects of Financial Liberalization: Evidence from India", *IMF Working Paper*, No. 11/50.

Harper, M. (2002), "Promotion of Self Help Groups Under the SHG Bank Linkage Programme in India", paper presented at the Seminar on SHG-Bank Linkage Programme, NBARD, New Delhi.

ICRA (2010), "Proposed Basel III Guidelines: A Credit Positive for Indian Banks", Gurgaon, September.

Institute of International Finance (2010), *Interim Report on the Cumulative Impact on the Global Economy of Proposed Changes in the Banking Regulatory Framework*, Washington DC.

International Monetary Fund (2010a) "*Vietnam: 2010 Article IV Consultation-Staff Report*", IMF Country Report No. 10/281, Washington DC.

International Monetary Fund (2010b), *Global Financial Stability Report*, October, Washington DC.

Jayadev, M. and R. Sensarma (2007), "Mergers in Indian Banking: An Analysis", mimeo, Indian Institute of Management, Bangalore.

Kaur, P. and G. Kaur (2010), "The Impact of Mergers on the Cost Efficiency of Indian Commercial Banks", *Eurasian Journal of Business and Economics*, Vol. 3, No. 5.

Khatkhate, D. (2005), "The Reserve Bank of India: A Study in the Separation and Attrition of Powers", in D. Kapur and P.B. Mehta (eds.), *Public Institutions in India: Performance and Design*, Oxford University Press.

Kumar, S. and R. Gulati (2010), "Dynamics of Cost-Efficiency in Indian Public Sector Banks: A Post-Deregulation Experience", paper presented to the Twelfth Annual Conference on Money and Finance in the Indian Economy, March, Mumbai.

Mihaljek, D. (2010), "Domestic Bank Intermediation In Emerging Market Economies During the Crisis: Locally Owned *Versus* Foreign-Owned Banks", in *The Global Crisis and Financial Intermediation in Emerging Market Economies,* Bank for International Settlements Paper 54, Basel.

Ministry of Finance (1991), *Economic Survey*, New Delhi, February.

Mistry, P.S. (2007), "The Mumbai-IFC Report: of Discourse, Garlands and Brickbats!", *Business Standard*, 10 June.

MIX (2010), *The 2009 Mix 100 Microfinance Institutions*, The MicroFinance Information Exchange, January, Washington DC.

Mohan, R. (2004), "A Decade of Reforms in Government Securities Market in India and the Road Ahead", paper presented to the Annual Conference of the Fixed Income Money Market Dealers Association of India and Primary Dealers Association of India, 20 March, Dubai.

Narasimham, M. (1998), *Second Committee on Banking Sector Reforms,* Reserve Bank of India, Mumbai.

OECD (2010), "Summary Record of the RBI-OECD Workshop Delivering Financial Literacy: Challenges, Strategies And Instruments", Bangalore.

Rajan, R. (2009), *A Hundred Small Steps: Report of the Committee on Financial Sector Reforms*, Planning Commission, August, New Delhi.

Reserve Bank of India (2010a), *Financial Stability Report*, March, Mumbai.

Reserve Bank of India (2010b), *Financial Stability Report*, December, Mumbai.

Rosenberg, R., A. Gonzalez and S. Narain (2009), "The New Moneylenders: Are the Poor Being Exploited by High Microcredit Interest Rates?", *Occasional Paper 15*, Consultative Group to Assist the Poor (CGAP), Washington DC.

Shah, A. and I. Patnaik (2011), "Reforming the Indian Financial System", *NIPFP Working Paper* No. 2011-80.

Shah, A. and S. Thomas (2000), "David and Goliath: Displacing a Primary Market", *Journal of Global Financial Markets*, Vol. 1, No. 1.

Skiba, P. and J. Tobacman (2007), "The Profitability of Payday Loans", Vanderbilt University Law School, *mimeo.*

SKS (2010), *Red Herring Prospectus for the Initial Public Offering of SKS Microfinance*, SEB I, Mumbai.

Srinivasan, N. (2010), *Microfinance India: State of the Sector Report 2009*, Sage India.

Telecom Regulatory Authority of India (2010), *Consultation Paper on Quality of Service Requirements for Delivery of Basic Financial Services Using Mobile Phones*, Consultation Paper No. 13.

Vaidyanathan, A. (2004), *Final Report of the Task Force on the Revival of Cooperative Credit Institutions*, 30 December, Ministry of Finance, New Delhi.

Verma, M.S. (1999), *Report of the Working Group on Restructuring Weak Public Sector Banks*, Reserve Bank of India, October, Mumbai.

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Chapter 5

Building on progress in education

Education has been given high priority by India's central and state governments and continues to grow fast. School access has been expanded by investment in school infrastructure and recruitment of teachers. In higher education too, the number of providers continues to rise rapidly. A new law enshrining the rights of all children to free and compulsory education will further lift enrolment, bringing closer the government's goal of universal elementary education, which comprises eight years of schooling. Nevertheless, high drop-out rates and low attendance continues to be a challenge at lower levels and enrolment at higher levels remains modest by international standards. Private sector involvement is on the rise. While it helps expand education infrastructure, particularly in higher education, access has not always been assured and the availability of student loans for higher education needs to improve. Poor learning outcomes amongst school students and mediocre higher education provision call for more effective government regulation and funding arrangements. Expanding resources will help but they need to be deployed more effectively, while incentives and professional development systems for teachers need to be strengthened. In higher education the government has proposed reforms which have the potential to bring about much-needed improvements in regulatory effectiveness. Efforts should focus on reducing micro-regulation and improving institutional autonomy, in order to stimulate innovation and diversity. Increasing the number of institutions subjected to quality assessments will be important for lifting standards across the higher education system, while reform of recruitment and promotion mechanisms could help attract and retain talent in academia.

The education sector in India is experiencing rapid expansion and change. Governments have implemented new initiatives and increased spending to encourage greater enrolment and attendance at the school level. In higher education they are seeking to implement wide-ranging changes to the regulatory framework. At the same time the rising affluence and aspirations of households is spurring strong demand for education at all levels and the traditional dominance of the public sector as a provider of education is receding. The dual challenge now is to build on the considerable progress made in lifting participation and, equally importantly, improve the quality of education outcomes. To meet these objectives reform momentum needs to be maintained and broadened. This is especially so given the pace of development in the Indian economy, the changing needs of households and businesses, and the considerable lags between changes in education policies and outcomes.

This chapter begins with a review of education achievements since the 1990s, including government commitments to expand education and the progress made in lifting participation. The current state of education quality is also examined. Section two examines the rising importance of private education and the opportunities and challenges this presents for improving access and quality. Areas where reforms are needed to improve the quality of schooling and higher education are examined in sections three and four respectively. The chapter concludes with a summary of policy recommendations.

Education is expanding rapidly but quality is often low

Resources and participation are rising strongly

Central and state governments continue to accord a high priority to expanding the supply of education and increasing participation, especially at the primary level. The universalisation of elementary education, defined in India as grades one to eight, was given a renewed impetus in April 2010 when the Right of Children to Free and Compulsory Education (RTE) Act came into force (Box 5.1). This landmark piece of legislation builds on the 2001 *Sarva Shiksha Abhiyan* central government programme, which aimed for universal enrolment and retention at the elementary level by 2010. The cornerstone of the Right to Free Education Act is the provision of free and compulsory education to all children between the ages of six and 14 and a commitment to ensure access to a neighbourhood elementary school throughout the country by 2013. The government has also set ambitious goals to raise participation at the secondary and tertiary levels. Under the *Rashtriya Madhymik Shiksha Abhiyan* initiative it is planning a rapid expansion in the number of secondary schools with the aim of achieving universal lower secondary enrolments (up to and including grade ten) by 2017 and universal retention by 2020 (MHRD, 2010). Similarly, the government is aiming to lift the tertiary enrolment rate to 30% by 2020.

Since the early 1990s, public spending on education has expanded strongly, though not faster than GDP (Table 5.1). However, given the high proportion of expenditure devoted to teacher salaries, infrequent adjustments associated with Pay Commission outcomes have resulted in uneven yearly growth. On average, combined central and state government

Box 5.1. **The Right to Free Education Act**

The Right of Children to Free and Compulsory Education (RTE) Act (2009), which came into effect on 1 April 2010, enshrines in law for the first time the rights of all Indian children aged between six and 14 years to free and compulsory elementary education. Under the Act the state is liable for all direct and indirect costs of education, including tuition and the provision of uniforms and textbooks, as well as ensuring access to a place at a neighbourhood school, or alternatively free transport to the nearest school. The government is also responsible for students' ongoing attendance and completion of their studies. Enforcement of the Act is to be monitored by central and state government child protection commissions. However, to encourage parent and broader community participation in school monitoring and decision-making, schools are required to form a School Management Committee (SMC) with at least three quarters parents and at least half women. SMC's are empowered to monitor the performance of schools and the use of government grants, to prepare school development plans and to fulfil other functions prescribed by state governments.

The Act stipulates a number of minimum standards concerning teachers and school infrastructure. All private schools are required to obtain a certificate of recognition from a government authority which requires that all standards notified in the Act be met within three years. Schools failing to do so will be subject to punitive actions. School buildings must be all-weather, have a kitchen for the preparation of midday meals, separate toilets for girls and boys, have access to safe drinking water and a library and playground. The student-teacher ratio is capped at 30 to 1 for grades 1 to 5 and 35 to 1 for grades 6 to 8. In addition, for each school offering upper primary education, at least one specialist teacher in each of the fields of social studies, languages and science and mathematics must be employed. All teachers are required to hold a minimum qualification, determined by state government rules, within a five-year phase-in period and are to be remunerated according to state government specified norms. All teachers are required to work a minimum of 45 hours each week and 200 days per year and are prohibited from engaging in private tutoring. Teachers are also required to hold regular parent-teacher meetings.

To increase choice and to promote an inclusive education system and classroom diversity, the Act requires all private schools to allocate at least 25% of places in first grade to government-funded students from officially-defined minority groups and economically disadvantaged backgrounds. Schools will be required to ensure that education is provided freely to those pupils until the completion of grade eight and will be reimbursed directly according to whichever is lower of the cost borne by the private school or the equivalent cost in a public school.

Source: Right of Children to Free and Compulsory Education Act.

expenditure has risen at an annual rate of around 6% in real terms since the early 1990s, in line with GDP. In 2008-09, public spending amounted to 3.8% of GDP, similar to some other large emerging countries, notably China, but much below most OECD countries.

Although education is the shared responsibility of the central and state governments, traditionally the states have had primary responsibility for funding (Box 5.2). However, there has been a gradual shift towards greater central government funding which now accounts for around a quarter of total spending, double the share in the early 1990s. This change reflects a greater ability of the central government to find new sources of revenue to fund education spending, including the introduction of a 2%

Table 5.1. **Government spending and total number of public and private schools and teachers**

	Public education spending						Number of teachers (000s)	Number of schools (000s)
	% total government spending		Total % GDP	Sector (%)				
	States	Centre		Elementary	Secondary	Higher and other		
1992-93	18.9	2.3	3.7	45	34	21	4 131	814
1993-94	18.4	2.6	3.6	46	33	21	4 192	822
1994-95	18.4	2.4	3.6	46	33	21	4 325	851
1995-96	19.1	3.5	3.6	48	32	20	4 465	867
1996-97	18.5	3.1	3.5	49	32	19	4 569	887
1997-98	18.8	3.0	3.5	50	32	18	4 704	912
1998-99	19.4	3.4	3.9	49	33	18	4 837	934
1999-00	20.3	3.6	4.2	46	34	20	4 998	972
2000-01	20.7	3.1	4.3	48	32	20	4 983	971
2001-02	17.4	3.9	3.8	50	32	18	5 173	1 017
2002-03	16.4	3.9	3.8	49	32	19	5 527	1 034
2003-04	16.4	3.6	3.5	50	32	18	5 713	1 120
2004-05	16.5	3.6	3.4	51	30	18	5 833	1 194
2005-06	17.0	4.5	3.4	53	29	18	6 008	1 221
2006-07	16.4	5.8	3.6	54	29	17	6 125	1 249
2007-08	16.2	5.4	3.7	55	28	17	6 241	1 278
2008-09	16.2	6.1	3.8	52	29	19	–	–

Note: Sector allocations of public spending comprise spending by education departments only. School and teacher numbers include the public sector as well as the officially recognised private sector.
Source: CEIC; De and Endow (2008); MHRD (2010); Planning Commission (2010); and Selected Educational Statistics.

Box 5.2. **India's diverse education landscape**

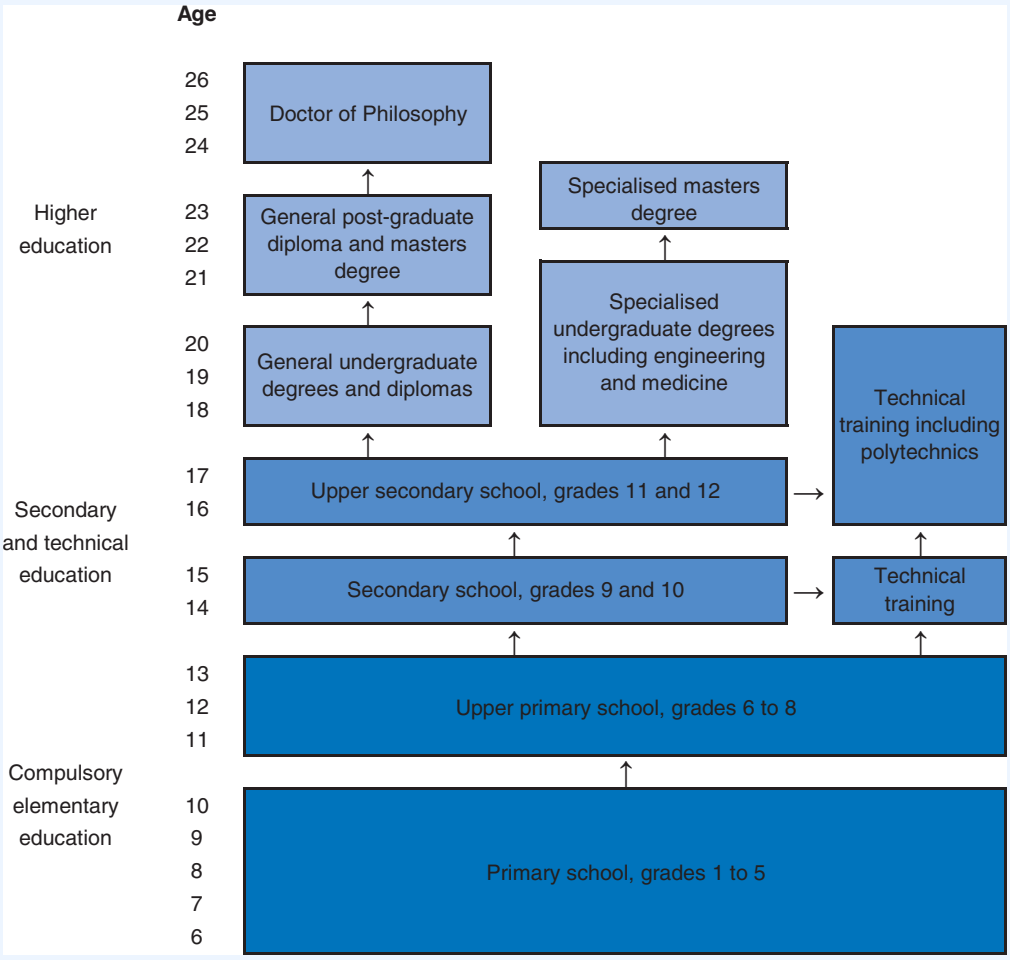
India's federal system, sustained rapid economic development and private sector dynamism, have led to the emergence of a diverse education sector. Since 1976 education has been listed as a concurrent item in the Indian constitution making funding and regulation the shared responsibility of the central and state governments, although the latter still account for the largest spending share. State governments generally have authority over the schools sector with responsibility for curricula and exams as well as teacher recruitment. Both the central and state governments have authority over the vocational education and training (VET) and tertiary sectors. The school system comprises primary and upper primary, which together constitute compulsory elementary education, as well as secondary and upper secondary which terminates in grade 12 (Figure 5.1). The higher education system offers undergraduate bachelors degrees in general and specialised programmes of varying lengths, as well as postgraduate qualifications including masters and doctor of philosophy degrees. In addition a technical training stream commences following the completion of elementary education

Reflecting the functional division between tiers of government, as well as the size and diversity of India, a range of funding and management models apply in the education sector. There are four principal types of schools. *Public schools* are publicly funded and managed, typically by state or local governments, with a relatively small number by the central government. *Aided schools* rely on a combination of public and private funds and are managed privately. Often capital expenditures are met with private funds and recurrent expenditures, including teacher salaries, by state or local governments. *Unaided private schools* are privately managed and generally self-financed but may receive one-off

Box 5.2. **India's diverse education landscape** *(cont.)*

government grants to finance specific capital expenditures. They fall into two categories: recognised and unrecognised. *Recognised private schools* have been approved by relevant education authorities and are affiliated with the central or state boards of education, thereby entitling students to sit board examinations. In contrast, *unrecognised private schools* operate in the informal sector, cannot offer board examinations and are excluded from most official statistical sources. In order to benefit from government sponsored schemes that operate exclusively in public schools and to sit school board examinations some students reportedly enrol in both private and public schools.

Figure 5.1. **Overview of the Indian education system**



Note: Grade and age profiles vary across states and duration of higher education courses varies by discipline.
Source: Ministry of Human Resource Development.

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VET is provided through a diverse network of institutions. The initial point of entry is at the secondary school level. In the post-secondary segment around 2 076 state government *Industrial Training Institutes* (ITI) and 5 529 private *Industrial Training Centres* (ITC) form the backbone of the VET system, offering specialised certificate level courses and a pathway to professional apprenticeships. As in the school system, some institutions are privately

Box 5.2. **India's diverse education landscape** *(cont.)*

managed but publicly funded. More advanced vocational training leading to diplomas in technical disciplines is provided by *Polytechnics*. Standards for most technical training are regulated by the National Council for Vocational Training as well as equivalent state-level authorities. Training in certain disciplines is provided by a separate network of specialised institutions, many of which are directly funded and regulated by government ministries.

Public universities are funded and managed either by the central or state governments. *Private universities* are normally self-financed but often receive support in the form of capital or land grants from governments in the start-up phase. A further distinction concerns *deemed universities* which are accorded university status by the University Grants Commission (UGC), a central statutory authority, rather than through an Act of the Parliament or State Legislature. The bulk of undergraduate teaching is undertaken in *colleges*, most of which are affiliated to a university through which students sit exams and earn degrees. *Public colleges* are funded and managed either by the central or, more commonly, state governments while *aided colleges* are funded publicly and privately managed. *Private unaided colleges* are entirely self-financed, mainly through tuition fees. There are around 534 universities, most of which are public, and 25 951 colleges. In addition to universities and colleges there are a small number of specialised institutions including the *Indian Institutes of Technology* (IIT) and *Indian Institutes of Management* (IIM). These were established by the central government and are more independent financially with stronger revenue-raising capacity through higher tuition fees and other means.

Source: Agarwal (2009), Ministry of Labour and Employment (2010), Planning Commission (2010) and Tooley and Dixon (2007).

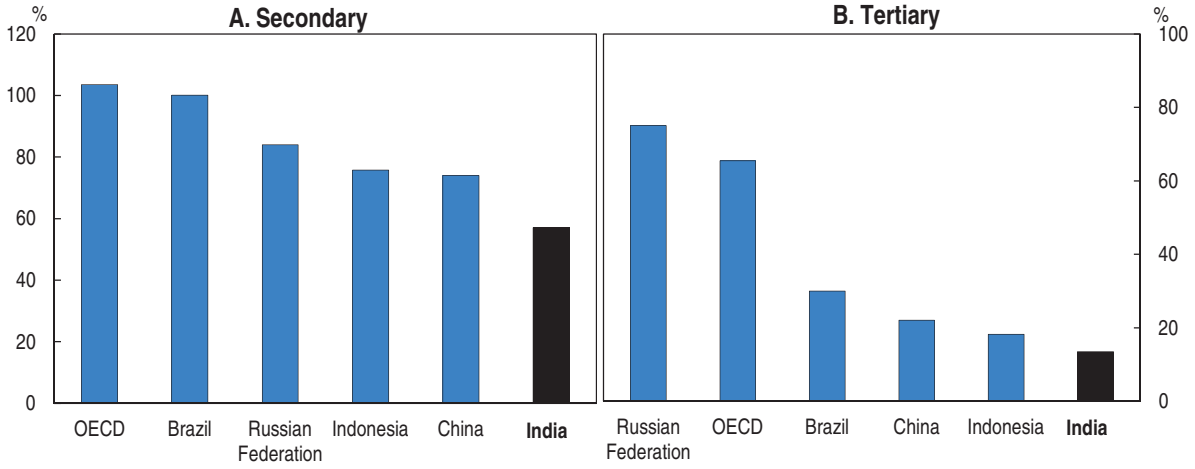
levy in 2004 on all central government taxes which was raised to 3% in 2007. As central government spending is heavily tilted towards plan expenditures, much of the growth in spending has been directed at strategic programmes, including expanding school access, some of which involve cost sharing arrangements with the states. Under the *Rashtriya Madhymik Shiksha Abhiyan* initiative, for example, the central government provides 75% of funding, rising to 90% in poorer north-eastern states. The number of private schools and higher education institutions has risen strongly and National Sample Survey (NSS) data indicate that household spending on tuition fees alone amounted to around 0.9% of GDP in 2007-08.

The expansion in funding has helped underpin significant growth in the supply of education services. In the decade to 2007-08 the number of public and officially recognised private schools expanded by around 40%, to approach 1.3 million, while the number of teachers rose by around 1.5 million, to exceed 6 million (Table 5.1). Thanks to this rapid expansion the government has largely met its objective of ensuring neighbourhood access to elementary schools, even in rural areas where the government estimates that 99% of the population lives within 1 kilometre of a school (MHRD, 2010). The higher education sector too has witnessed rapid growth. Although expanding more slowly than other parts of the education system during the early 2000s, the vocational education and training (VET) system, has grown rapidly in recent years. The number of industrial training institutions and centres, which form the backbone of the VET system, has more than doubled in the past decade. The number of universities and colleges has also risen strongly, more than doubling since the mid-1990s. Under the 11th Plan (2007-12), the government had intended to establish 16 new central universities and expand the number of specialised tertiary

institutions. It has already met its target for new central universities and has established eight new elite Indian Institutes of Technology (IIT) and five Indian Institutes of Management (IIM). The government is also making use of information technology and communication to expand access to higher education. The system for distance learning in the tertiary sector is already large and growing. Through its National Knowledge Network initiative the government intends to connect all libraries, universities and other research institutions to improve resource sharing.

The strong supply-side expansion, together with rising household incomes and falling poverty, has ensured that good progress has continued to be made in lifting enrolment at all levels. The government's goal of universal enrolment at the elementary level, an objective first set in the 1960s, is now within striking distance. Gross enrolment rate (GER) data from the Ministry of Human Resource Development (MHRD), sourced from schools, show strong improvements at the elementary level through the 2000s. Primary enrolments rose from 95.7% in 2000 to over 114% by 2007-08 while upper primary rose from 58.6% to 77.5%. The very high GER at these lower levels are somewhat distorted by the large number of out-of-age enrolments. According to NSS data, net enrolment rates, which reflect the proportion of children of an official age group enrolled at a given level (rather than all enrolments as captured by the GER), indicate that enrolment rates at lower levels are significantly lower. The GER at the secondary and upper secondary levels have also risen, reaching 58.2% and 33.5% respectively in 2007-08, while the tertiary GER reached 13.6% by 2007-08 (MHRD, 2010). Nevertheless, by international standards enrolment at the secondary and tertiary level remains low, particularly the latter (Figure 5.2).

Figure 5.2. **Enrolment rates: international comparison**



Source: World Bank, *World Development Indicators*.

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Progress has also been made in reducing national gender disparities, which have historically been high, particularly at the lower rungs of education. MHRD data show that in 2007-08 the upper primary GER for boys was 7 percentage points higher than for girls, down from a difference of over 16 percentage points a decade earlier. A similar differential exists at the secondary level. Since independence, the Indian constitution has contained affirmative action provisions which specify minimum reservations (quotas) in education, employment and politics for people from designated castes and tribes (Desai and Kulkarni,

2008). Scheduled Castes (SC) represent the lowest group in the caste hierarchy and Scheduled Tribes (ST) traditional tribal people. More recently, affirmative action has been extended to cover other marginalised groups which are designated as Other Backward Castes (OBCs). Updated figures on these groups from the 2011 census were not available at the time of publication. However, according to the 2001 census, SCs and STs accounted for around a quarter of the total population. That census did not include a count of OBCs. More recent NSS data estimate OBCs account for around 41% of the population and SCs and STs a little under 30% (Sethi and Somanathan, 2010). MHRD data show that in 2007-08 upper primary enrolment rates amongst these groups was only marginally below the national average. However, progress amongst all groups continues to be uneven across states, with significant differences persisting at both the school and tertiary levels (Table 5.2). Generally, enrolment rates are significantly lower in the poorer northern and eastern regions, including the populous states of Bihar and Uttar Pradesh, where income levels and literacy rates remain well below the national average.

School retention rates are also improving, with the proportion of children starting school who reach the final year of a given level rising markedly through the 2000s. Nevertheless, in absolute terms they remain low, with on average only three quarters of children who started grade one in 2003-04 reaching fifth grade by 2007-08, and an even smaller proportion of children from minority groups. Retention rates drop off at higher levels of schooling, with only a little over half of those who started primary school in 2000-01 reaching eighth grade in 2007-08. Nevertheless, transition rates to tertiary education have risen over the past decade and are relatively high by international standards, with around half of all students who complete upper secondary school now taking up tertiary studies. Hence, improvements in school enrolment and completion rates will likely lead to much higher participation in tertiary education.

Even with improving enrolment and retention rates, student attendance continues to be patchy, with one national survey reporting that around one quarter of enrolled children were absent on any given school day (ASER, 2011). As the time spent in the classroom has a direct impact on learning there is a significant need to lift attendance (Lavy, 2010). In emerging countries education participation at the school level can be extremely sensitive to even small changes in costs and targeted programmes that provide direct financial assistance or in-kind rewards have been shown to have a significant positive impact (Kremer and Holla, 2008). The elimination of tuition fees and the provision of subsidies for school uniforms, for example, have been shown to improve enrolment and attendance, and to reduce drop-outs (Evans *et al.*, 2008). In India, NSS data confirm that there is a strong positive correlation between enrolment and household affluence at all levels of education and responses to NSS questions on why students drop out of school confirm that financial constraints are amongst the most important factors.[1] With the Right to Free Education Act mandating that the full cost of elementary education, including tuition and other fees, at public and private aided schools will be met by the state, its introduction should have a positive impact on elementary level participation.

In India, a major initiative which aims to improve nutrition standards, and raise enrolment and attendance is the Mid-Day Meal Scheme (MDMS). It provides a cooked lunch at school to children enrolled in elementary government schools and in some states replaced an earlier scheme that provided once-a-month take-home food rations. Over time the scheme has expanded considerably, reaching almost 112 million students in 2008-09 (MHRD, 2010). Evaluations of the MDMS indicate that it has had a decisive impact in

Table 5.2. **State-level enrolment rates, literacy rates and incomes**

In 2007-08

	Gross enrolment rates						Literacy rate	GSP per capita (% national average)
	Elementary (grades 1 to 8)		Secondary (grades 9 to 12)		Tertiary			
	Males	Females	Males	Females	Males	Females		
Andhra Pradesh	99	94	76	66	20	12	68	100
Arunachal Pradesh	109	101	102	80	10	9	67	82
Assam	111	114	80	67	10	8	73	61
Bihar	93	85	54	36	9	4	64	31
Chandigarh	99	96	87	73	47	44	86	298
Chhattisgarh	108	99	56	51	7	3	71	85
Delhi	110	103	74	79	16	20	86	216
Goa	98	104	80	69	18	13	87	275
Gujarat	103	96	62	47	11	9	79	135
Haryana	111	104	85	66	15	16	77	161
Himachal Pradesh	113	110	98	91	12	11	84	118
Jammu and Kashmir	116	116	100	77	15	17	69	71
Jharkhand	102	101	65	46	13	9	68	58
Karnataka	102	96	72	65	17	9	76	105
Kerala	101	98	100	104	21	29	94	123
Madhya Pradesh	106	102	55	40	12	9	71	55
Maharashtra	101	100	80	67	17	16	83	142
Manipur	108	108	100	88	7	8	80	56
Meghalaya	109	119	64	51	12	9	75	84
Mizoram	109	107	71	85	16	12	92	81
Nagaland	112	107	101	98	11	12	80	57
Orissa	98	97	57	47	11	7	73	75
Puducherry	102	104	90	96	27	23	87	234
Punjab	104	102	64	69	11	12	77	132
Rajasthan	106	94	70	45	14	7	67	69
Sikkim	120	122	56	46	9	7	82	98
Tamil Nadu	100	102	82	83	18	15	80	116
Uttarakhand	104	99	84	78	11	9	80	96
Uttar Pradesh	100	94	58	46	14	15	70	47
West Bengal	102	103	51	47	14	8	77	89
India	**102**	**97**	**67**	**56**	**14**	**12**	**74**	**–**

Note: GSP is gross state product. Literacy rates are from the 2011 Census.
Source: CEIC, 2011 Census; and NSSO, *National Sample Survey* 64th Round.

improving enrolment and attendance. Jayaraman *et al.* (2010) find that it lifted first-grade enrolment by around 17% and by a smaller but still significant margin in higher grades. Moreover, the delivery of nutritional supplements through a cooked meal under the MDMS appears to have had a larger impact on school attendance than earlier schemes that provided a take-home ration. Afridi (2010) finds that switching the delivery mode to the school lunch improved attendance rates amongst first-grade girls by more than 12 percentage points.

As noted in Chapters 1 and 2, in India health service provision is weak, although improving. A number of indicators suggest that the average health status of Indian children remains poor. Illness is one factor that is likely to have a significant adverse impact on regular school attendance with one survey reporting that over 40% of children were ill in the past three months such that they missed four or more consecutive days of

school (Kingdon and Banerji, 2009). Moreover, the health status of Indian children has been found to be closely associated with long-term learning outcomes (Kingdon and Monk, 2010). Health interventions including those focussed on deworming have been found to be a cost-effective way to lift student attendance and improve health status more generally (Miguel and Kremer, 2004). By reducing the incidence of communicable health problems such interventions can also generate positive spillovers throughout a community. Targeted programmes to reduce the incidence of preventable illnesses should therefore be considered as complements to the MDMS. More generally, international experience suggests that conditional cash transfers can be an effective instrument for improving health and education outcomes of the poor but these are little used in India (see Chapter 1). Therefore consideration should be given to implementing such schemes to help the government meet its goals of universal elementary, and then lower secondary, enrolment and completion.

School learning and higher education quality remain low

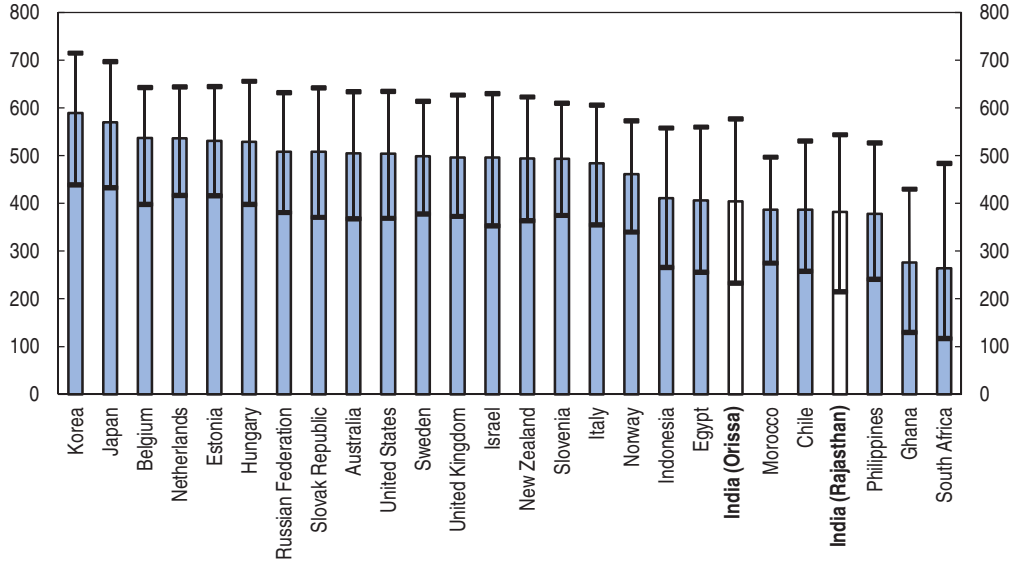
Notwithstanding the rapid gains in enrolment and attendance, average levels of educational attainment and basic skill acquisition, including reading and writing, remain low by international standards. Over time, the stock of educated workers will rise. However, cognitive skill formation, rather than education attainment *per se*, is what matters most for both the earnings potential of the individual as well as their contribution to economic growth at the aggregate level (Hanushek and Woessmann, 2008). The extent to which increases in participation translate into improvements in skills and ultimately better social and economic outcomes will depend heavily on the quality of education provided. As participation rates continue to rise the priority will need to shift to focus on learning outcomes of students.

Basic child literacy rates have steadily risen over the past two decades and now more than nine out of ten adolescents are deemed to be literate according to NSS data. However, surveys of student learning suggest this improvement in headline literacy rates may mask problems with the depth of learning occurring in Indian schools. Testing of third-grade students undertaken by the National Council of Educational Research and Training shows that nationally, around one in five students failed a basic language test and one in three a basic mathematics test (NCERT, 2009). Average results varied considerably across states and in one state, Chhattisgarh, a majority of students failed both mathematics and readings tests. Results from other surveys confirm a worrying picture. A recent national survey of rural students shows that barely over one half of fifth-grade students demonstrated a sound ability to read a second grade text (ASER, 2011). Similarly, a survey of students in Uttar Pradesh and Madhya Pradesh found that a majority of fourth and fifth-grade students failed mathematics and literacy multiple choice tests designed for fourth graders (Goyal and Pandey, 2009).

While domestic learning surveys can track student performance and provide an overview of the state of learning, they generally lack international comparability. In India there is a dearth of data based on an international assessment framework, making it difficult to benchmark the performance of Indian students. One exception is data compiled by Das and Zajonc (2010) based on tests of grade-nine students from two Indian states, Orissa and Rajasthan, in 2005 which use mathematics questions from the Trends in International Mathematics and Science Study. Overall, students from these Indian states performed poorly by international standards, ranking towards the bottom of a sample of 51 countries (Figure 5.3). In some India-wide domestic learning assessments, students in Orissa and

Figure 5.3. **International secondary student test scores**

In 2005



Note: Selected countries shown from study. Columns indicate average test scores and the bars the range of scores between the 5th and 95th percentiles.

Source: Das and Zajonc (2010).

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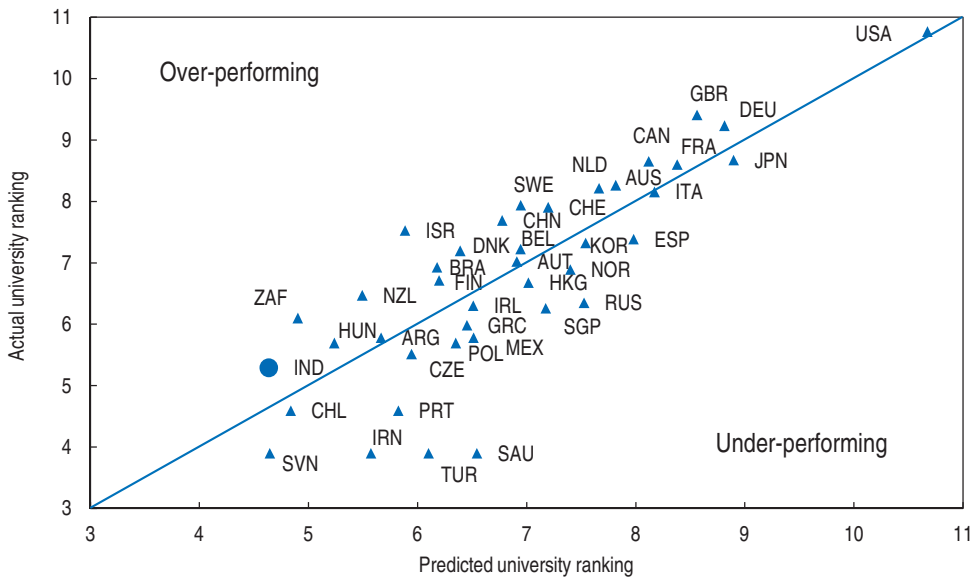
Rajasthan score a little below the national average so that the average Indian student may perform better than indicated by this international comparison (ASER, 2011). However, as secondary level enrolments are lower in India than most of the other countries reported in the study, the relative standing of the average Indian child may be considerably worse.

A second feature of these results is a wide dispersion for the two Indian states, as measured by the difference in test scores of the 5th and 95th percentiles. Of a sample of 47 countries for which the distribution of results is calculated, Orissa and Rajasthan show a higher dispersion than all but one country, South Africa. This is consistent with results from other surveys of student learning in India, which have also reported considerable dispersion (Goyal and Pandey, 2009). Further evaluations of student learning using international assessment frameworks will help policymakers and other stakeholders gain a better understanding of how Indian students are progressing and ways to improve the quality of education provision. To this end, the evaluation of secondary students in Himachal Pradesh and Tamil Nadu currently underway in the context of the OECD Programme for International Student Assessment (PISA) will help to fill an important gap for two additional states. Given the size and diversity of India, commitments to additional testing using international frameworks should be considered.

The quality of VET and tertiary education in India is also highly variable. According to industry surveys, workers trained in the VET system are often ill-equipped and require significant on-the-job training (World Bank, 2008). Weaknesses in skill formation appear to be broad-based, with workers often lacking technical knowledge and having poor soft skills, including the inability to communicate effectively in the workplace. There is also evidence of a skills mismatch in technical and vocational areas, with graduates often employed in fields other than those in which they trained and employers reporting skill shortages. In the tertiary segment there are a group of small elite institutions at the top end

of the scale including the IITs and IIMs as well as other institutions of national importance that are internationally renowned for high-quality research and education, especially of post-graduate students. A small number of business schools, predominately private, also score well in specialised international rankings of business schools.[2] Few Indian institutions feature in international university rankings and none currently features in the top 100 of the most commonly cited indexes. To some extent this reflects India's relative level of economic development (Figure 5.4). An arguably more important indicator of the weakness in the higher education system is the seemingly poor employability of many Indian graduates. According to one industry association representing software and service sector firms, only 10 to 15% of business graduates and approximately one quarter of engineering graduates were judged to be employable (NASSCOM, 2009). Similarly, despite thousands of applicants taking a civil service entrance exam to fill just 30 specialised positions in economics and statistics, only 23 applicants were found to be suitable (Kapur, 2010).

Figure 5.4. **Predicted and actual world university rankings**



Note: Actual university rankings are based on an aggregation of university rankings from the Academic Ranking of World Universities. The predicted university ranking is derived from a regression that includes controls for GDP per capita measured in PPP terms and total population.

Source: ARWU; World Bank, *World Development Indicators*; and OECD calculations.

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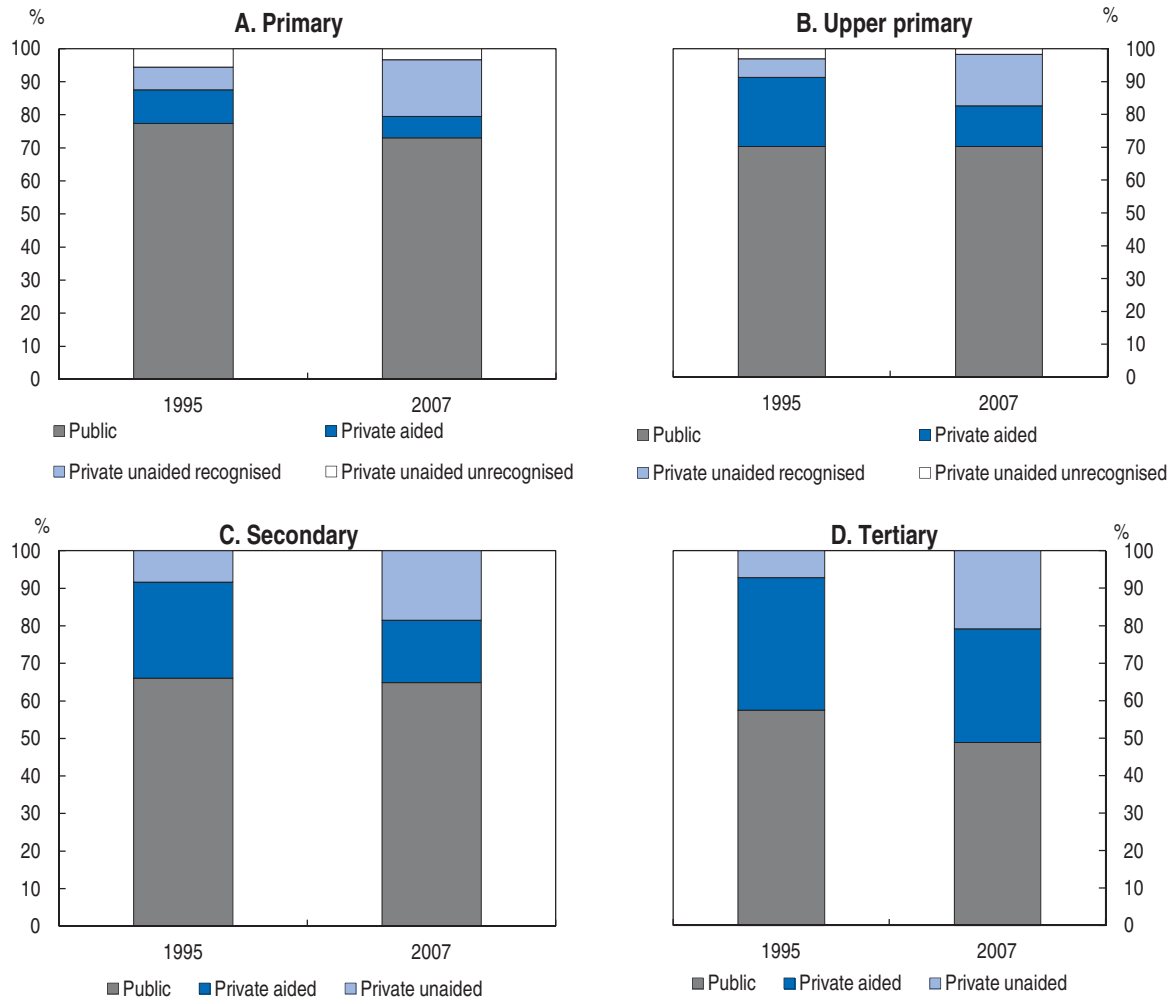
The rise of the private sector creates challenges and opportunities for improving access and quality

Private enrolments are increasing at all levels

As in many other emerging countries fiscal constraints faced by governments in India, especially at the state and local level, have meant that the supply of public education, while expanding rapidly, has not kept up with demand. In higher education, this squeeze has been particularly acute as governments have shifted resources towards the elementary sector in order to meet priorities to lift participation at lower levels. Indeed, in real terms, per-student funding in higher education was lower in 2007-08 than in the mid-1990s. Some tuition fee differentiation is occurring in public institutions, allowing higher rates of cost recovery in professional and technical courses. However, fees generally remain low and

institutions face intense political pressure not to raise costs for students.[3] These fiscal pressures, together with rising household incomes, have inevitably prompted a response from the private sector giving rise to a diverse range of government and private schools and higher education institutions (Box 5.2). The private sector segment now accounts for a rising share of enrolments and is more important in India than in most OECD and many emerging countries (Kapur and Crowley, 2008). Internationally, private sector involvement in education tends to be most heavily concentrated at the tertiary level (OECD, 2010a). The same is true in India but enrolment in private institutions has generally risen at all levels since the mid-1990s (Figure 5.5). Even at the primary level private schools now account for around one quarter of all enrolments and more than half of all tertiary students attend private universities or colleges.

Figure 5.5. **Public and private enrolment shares**



Source: NSSO, *National Sample Surveys*, 52nd and 64th Rounds.

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This expansion has occurred despite often ambivalent official attitudes towards the role of the private sector as well as legal barriers to private investment. Most notably, education continues to be reserved as a non-profit activity and private schools and higher education institutions must be registered as a charitable society or trust or non-profit

company. Any surpluses generated by private institutions have to be reinvested in the same institution and foreign investors are prohibited from repatriating profits. In practice, investors circumvent these restrictions by creating subsidiary companies that supply the non-profit entity with land, infrastructure and other services in return for rental and other fees which are then distributed to investors. Alternatively, schools and colleges that are not officially recognised simply exist in the informal sector of the economy. *De facto*, education has thus often become for profit.

Private schools are most common in urban areas and tend to attract students from higher socio-economic groups. However, spurred by demand from parents, large numbers of unaided private schools have also emerged in poor communities, as well as in rural areas, expanding private school access to relatively poor households. These schools are run on a low-cost model, allowing them to offer low tuition fees. For example, a survey of private schools in Delhi by Tooley and Dixon (2007) revealed that the median monthly tuition fee at unrecognised primary schools was a little over USD 2, at the time about 5% of the monthly wage for a breadwinner on the minimum wage. Operating costs of unaided private schools are often considerably lower than public schools owing to much lower teacher salaries, which account for the largest share of costs. As the gap between public and private school teacher salaries appears to have widened, the cost advantage of private schools has likely risen (Kingdon, 2010). In rural Uttar Pradesh, public teachers' salaries were already estimated to be 12 times higher than the private sector equivalent prior to large increases for public teachers under the recent 6th Pay Commission. The strong demand from parents, even those of modest means, for private school education reflects dissatisfaction with public schools and a view that private schools offer higher-quality education. One specific reason cited by parents for sending their children to a private school is a perception that teachers are less absent and more committed in private schools (Desai *et al*., 2008). A second reason is that private schools offer more instruction in English, which has been shown to raise earnings potential. For example, Azam *et al.* (2010) find that in India, after controlling for levels of education and other personal characteristics, hourly wages for workers fluent in English are 34% higher than those who speak no English. Thus, they conclude that the economic return to English fluency is approximately equal to the return for finishing secondary school.

Perceptions concerning the superiority of private schools have been confirmed by a number of school surveys (Muralidharan and Kremer, 2007; Tooley and Dixon, 2007; Desai *et al*., 2008; and Goyal and Pandey, 2009). These indicate that the provision of essential facilities at private schools, such as drinking water, toilets and blackboards, is in general no worse, and sometimes better, than in public schools. Teacher attendance and teaching activity is generally found to be higher in private schools, despite the higher pay and better teaching credentials of public school teachers. Raw test scores also tend to be higher in private schools. Whether this reflects student and/or parent characteristics, which might influence test scores as well as the choice of schools, or the more effective delivery of education has been the subject of several empirical studies (Goyal, 2009; Wu *et al*., 2009; ASER, 2010; and French and Kingdon, 2010). Generally, the results show that, after controlling for student and family factors and teaching inputs, scores in private schools are higher, indicating that private schools may indeed offer superior quality education. However, this advantage does not always hold and varies in magnitude across studies. On average it may therefore be relatively small.

In higher education, in India, as in other countries, the expansion of private education has been particularly strong in disciplines where start-up costs are relatively low, returns to graduates are high and the supply response from the public sector sluggish (Levy, 2008). Degree-conferring private colleges now dominate in a number of professional disciplines, including engineering, information technology, management and some allied health disciplines such as pharmacy. In VET, growth in private industrial training centres has been much faster than public-sector industrial training institutes. As this expansion has largely been driven by market forces, it has enabled the supply of tertiary education providers to become more closely aligned with the demands of the labour market. For vocationally-oriented degrees, in particular, students typically opt for the private sector if they are unable to secure a place at a public university or college. Hence, private providers have acted to absorb excess demand and have expanded access to those who can afford to pay in areas where labour market prospects are good. Private unaided institutions typically receive no financial support from the government and rely heavily on tuition fees as the main source of revenue. Fees are guided by state committees and operate on a multi-tier basis whereby a minimum percentage of places are required to be made available to disadvantaged students at a lower rate and the remaining places at a capped rate. Committees tend to set fees based on input costs whilst allowing "reasonable" surpluses, despite the official non-profit policy. As disadvantaged students are cross-subsided, fees for students required to pay the top rate exceed costs and are typically high relative to average household incomes (Carnoy *et al.*, 2010).

Ensuring widespread benefits requires appropriate government intervention

The rapid expansion in enrolments at lower levels, together with rising household incomes and India's relatively youthful demographic distribution imply that demand for education will continue to rise strongly over the medium term at all levels, but especially at secondary and tertiary levels. Indeed, if the government is successful in reaching its enrolment rate targets in 2017, the number of secondary students will rise by over 10 million, a more than 20% increase, and the number of tertiary students by over 12 million, more than double the current figure. This increase in demand will require a continued rapid expansion in the number of schools, colleges and universities. A significant portion of this growth is likely to be provided privately given both the desire of some households to choose a private education and their increasing ability to pay, as well as limits on the ability of governments to expand public provision at an adequate pace.

In order for the government's objective of a continued rapid rise in education participation to be met in an environment where private education is expanding, policies need to be framed to ensure access across all segments of the population. As noted, although low-cost private schools provide alternatives to the public system for relatively low income households, private schools often cater to more affluent students. Moreover, those at the bottom of the income distribution cannot afford to pay even low fees and will remain dependant on government support (Harma, 2009). One of the most significant provisions of the Right to Free Education Act is a requirement that all private schools allocate at least 25% of places in first grade to government-funded students from disadvantaged backgrounds and ensure continued access on the same basis to these students until the completion of eighth grade. By allocating public funds to students rather than schools this provision has the hallmark of a voucher system which could improve choice and learning outcomes for a large number of disadvantaged students. Ultimately,

however, the impact of the private school quota provision will depend on how state governments implement this and other provisions in the Act.[4]

The reimbursements to private schools will be set at the lower of the equivalent cost incurred at a public school or the full cost incurred by the host private school. If private schools continue to operate on a lower-cost basis than public schools, as is the norm now, governments stand to reap savings as students move to private schools. Whether private schools are fully reimbursed will depend on their own cost structure. Schools with operating costs the same or lower than public schools will be covered while those with higher operating costs will face funding gaps that will ultimately be borne by the families of fee-paying students. Since the higher-cost private schools cater to students from relatively affluent households this system of funding will result in wealthier households cross-subsiding poorer students. However, other provisions in the Act require adherence to a range of minimum standards concerning school infrastructure (including the provision of playgrounds) and teacher salaries, which may raise costs for all private schools considerably. Schools catering to poorer households and those in built-up urban areas, including slums, will be most adversely affected and potentially many could be forced to close, reducing the supply of schools. Therefore, some of the requirements in the Right to Free Education Act need to be implemented flexibly.

Government-funded places at private schools will be allocated by a lottery open to eligible students and the extent to which disadvantaged students benefit will depend heavily on the precise formulation of eligibility criteria. So far the indications are that they will focus on minority group status and household income. The private schools provision will likely lead to an increased mixing of students from different socio-economic backgrounds, particularly where students are granted access to elite private schools. Ultimately, greater classroom diversity should be beneficial. However, it may present additional challenges in ensuring that the learning environment can effectively cater to all students, especially publicly-funded students who are susceptible to being at a disadvantage given the importance of household factors in shaping the early development of skills. To maximise the benefit from switching to a private school, the government could consider a base-plus formula for funding whereby the reimbursement is at least partly linked to the performance of students who take part in the scheme.

In higher education, the expansion of privately-financed institutions has led to a significant shift in cost sharing towards households. From an efficiency and equity perspective this might be justified on the grounds that returns to higher education, in particular, are skewed towards private agents (Kijima, 2006). However, high upfront fees present a challenge for ensuring access to credit-constrained individuals, of which there are many in India in part due to low levels of financial development (Chapter 4). The government has adopted a two-prong approach to promote access to private higher education. First, as noted above, it has required private providers to adopt a multi-tier pricing arrangement with reduced fees for students from disadvantaged backgrounds. Second, it has promoted a loans scheme which is based on a government-designed model and operates through the commercial banking sector.

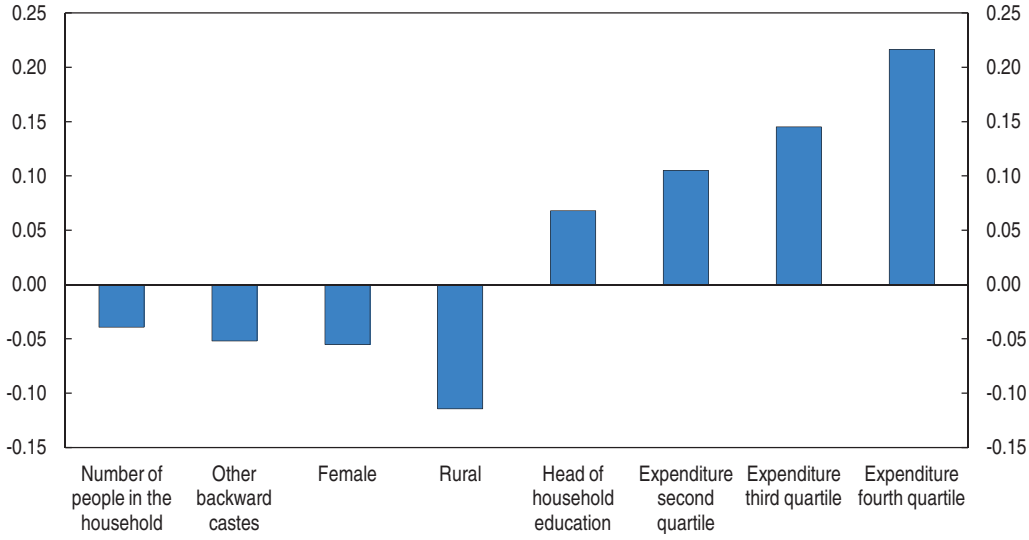
Under the loans scheme, all students who have gained admission to a recognised institution and course, as designated under official guidelines, are eligible to apply. The loans cover general and specialised undergraduate diplomas and degrees as well as post-graduate qualifications. However, access to loans for most VET courses is less assured

and subject to greater discretion by the banks. All students are assessed by individual banks against a range of creditworthiness criteria. The terms of loans are not based on strict commercial parameters but are less favourable to students than government loan schemes operating in a number of countries. Interest rates are set at the benchmark prime lending rate, which normally fluctuates between 10 and 15%, with a small penalty for larger loans, while the normal repayment period is between five and seven years. Loans of up to INR 400 000 (approximately USD 8 790) do not require collateral but do require a guarantor. A study of international student loan schemes by Shen and Ziderman (2009) confirms that the implicit subsidy of student loans in India, as reflected in the difference between what students receive and are required to repay, is relatively small. It was also found that the recovery ratio was relatively low, suggesting high default rates and/or inefficiencies in the management of loan portfolios.

Empirical analysis using 2007-08 NSS household data indicates that students from some officially designated minority groups (scheduled castes and tribes), are equally likely to progress to tertiary studies as their peers with similar socio-economic backgrounds, although students from other disadvantaged groups (other backward castes) are marginally less likely (Figure 5.6). However, for all students participation in higher education is strongly correlated with household affluence. Students from households in the top expenditure quartile are around 22 percentage points more likely to attend than those in the bottom quartile. Together these results suggest that policies have been effective in promoting access amongst some minority groups but that credit constraints may be

Figure 5.6. **Factors influencing the probability of tertiary attendance conditional on the completion of secondary school**

2007-08



Note: Columns represent marginal effects from a probit regression where the dependent variable is equal to one if a person is currently attending a tertiary course and zero if they have completed secondary but are not pursuing tertiary studies. All variables significant at the 10% level or higher are reported, except for state dummy variables. Dummy variables for scheduled castes, tribes and Muslims were found to be insignificant. Marginal effects for expenditure variables are based on dummy variables for monthly household expenditure quartiles. They indicate the marginal probability of attending tertiary studies for members of a household in higher expenditure quartiles compared to those in the lowest quartile. Analysis based on household data from *National Sample Survey* 64th Round.

Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932436480

imposing barriers to access for all students. Given the more commercial orientation of student loans in India the requirement of a guarantor likely prevents poorer students from obtaining finance. The government is considering increasing the implicit subsidy in loans by capping the applicable interest rate below market rates, with lower rates for students from low-income households, as well as providing loan guarantees. International evidence suggests that where tuition fees are deferred through a student loan scheme, participation is relatively insensitive to increases in tuition fees, indicating that the assurance of funding rather than the extent of subsidisation is most important for promoting access (Marcucci and Johnstone, 2009). The priority, for the government, therefore, should be to focus on removing barriers to finance, rather than lowering its cost. In this vein, the government could consider establishing a government loans system as an alternative to the existing scheme for some or selected students, including those seeking VET qualifications. Loan repayments could be made income-contingent, especially for qualifications that would likely lead to employment in the formal sector, including undergraduate and post-graduate degrees. A government loans system could expand access and provide greater flexibility to set eligibility criteria and the terms of repayment in order to meet access and cost-sharing objectives (OECD, 2007).

Improving school performance requires reforms as well as resources

Teacher accountability and incentives need to be improved

Teachers are critical in shaping learning outcomes and efforts to lift the overall quality of education need to consider ways to improve teacher effectiveness. In India high rates of teacher absence and low levels of effort have long been recognised as having a major deleterious impact on school learning (PROBE, 1999). Although teacher absence rates seem to be declining, they remain relatively high (ASER, 2011). As noted above, there appear to be significant differences in teacher attendance and observable efforts between public and private schools, which may largely reflect differences in employment arrangements. Whereas regular public school teachers are normally employed by state governments on permanent contracts, teachers in private schools are employed at the school level on fixed-term contracts. Teachers in private schools therefore face a stronger accountability mechanism: indeed, in a survey of 3 000 public schools there was only one instance of a head teacher dismissing a teacher for repeated absence, whereas in a sample of around 600 private schools, 35 head teachers had at some point dismissed a teacher for repeated absence (Muralidharan and Kremer, 2007). This difference in incentives may be compounded by the fact that private school teachers are more likely to hail from the local community and hence have a greater stake in ensuring positive outcomes for students.

Evidence on the impact of contract or "para-teachers", which have been recruited in large numbers by some state governments to fill shortfalls, is consistent with evidence on the effectiveness of private school teachers and further reinforces the importance of effective accountability mechanisms. Para-teachers are recruited locally, normally on a fixed-term contract, to work in public schools and typically have lower credentials, at least in terms of teacher qualifications (Pandey, 2006). Part of the rationale for recruiting para-teachers was to assist regular teachers but in practice para-teachers often perform the same function as regular teachers, despite being paid a fraction of regular teacher salaries. Atherton and Kingdon (2010) report that contract teachers are more effective than regular teachers in Uttar Pradesh and at least as effective in Bihar.

Moving away from permanent contracts and increasing monitoring for public school teachers would likely have a significant positive impact on teacher effort and ultimately the quality of education. Politically, however, this is likely to be very difficult. At the very least, mechanisms for dismissal due to repeated absence without sound reasons or unsatisfactory performance must be strengthened. For new teachers, longer probation periods involving progressively-longer fixed-term contracts, subject to continued strong performance, could also be implemented. Para-teachers could also be offered the same arrangement (and salaries), subject to a sufficient upgrading of qualifications and a proven track record, thereby providing a way out of the dual labour market in the public system which does not seem to be sustainable.[5] A long-running policy experiment in India has found that monitoring teacher attendance whilst also providing financial rewards for regular attendance and penalties for poor attendance can lead to significant improvements in both attendance and student learning (Duflo *et al.*, 2010). Given the already considerable advantage of public school salaries compared with private schools, offering additional financial rewards for regular attendance is difficult to justify. However, better attendance monitoring coupled with financial incentives for strong performance and penalties for poor performance, seems to be advisable.

Accountability can also be strengthened by increasing community involvement in school management and providing beneficiaries, including parents and other local members of the community, authority to play a role in selecting teachers as well as an appropriate mandate to punish or reward good performance. Such beneficiaries may have a considerable informational advantage over remotely located government officials in monitoring teacher performance and understanding the needs of local students. Under the *Sarva Shiksha Abhiyan* initiative the government promoted greater community involvement through the formation of school management committees (SMC), comprising parents, head teachers and village leaders. These bodies were empowered to monitor teacher performance, report back to government officials and request additional resources. The Right to Free Education Act builds on this by requiring all schools to have an SMC. Awareness of the functions of SMCs in India appears to vary widely and in some cases is very poor (Pandey *et al.*, 2008). Furthermore, policy experiments indicate that providing more information on the functions of SMCs as well as training may not be a panacea for addressing these problems (Banerjee *et al.*, 2010). This may reflect disillusionment linked to the limited remit of SMCs and evidence from other emerging economies indicates that empowering SMCs to make important decisions such as hiring teachers can lead to positive outcomes (Duflo *et al.*, 2007). Increasing the authority of SMCs should therefore be considered.

Ensuring effective tracking of student performance is also central to lifting the performance of teachers and the system more broadly. Diagnostic testing can help teacher effectiveness by identifying weaknesses in student learning, thereby enabling teachers to better focus their efforts. In addition, diagnostic information can help to improve teacher motivation through improved goal orientation and by providing evidence on student improvement. In some parts of India grade-ten exams, which were judged by the authorities to be creating undue pressure on students, have been scrapped and replaced with a system of continual and comprehensive assessment which is also increasingly being adopted at lower levels. These reforms have the potential to create a better atmosphere for learning, but it is essential that methods of assessment provide accurate information on learning progress to teachers, school administrators and, above all, students and parents.

The results from a policy experiment in India provide evidence on the effectiveness of low-stakes testing and performance pay (Muralidharan and Sundararaman 2010a, 2011). The impact of providing teachers with diagnostic information on students, designed to help teachers improve learning outcomes, and performance pay for teachers linked to student test scores was assessed. In schools where diagnostic information alone was provided no change in students test scores were observed, including amongst weaker and stronger students. In contrast, in schools where performance pay was introduced alongside the diagnostic information, student test scores improved significantly. Hence, improving diagnostic feedback to teachers may help, but only if accompanied by appropriate incentives to improve teacher effort. Reforms to assessment procedures may therefore need to be complemented with other changes to ensure their effectiveness.

Increasing resources can help improve instructional quality

Despite the strong rise in recruitment, the increase in the number of teachers in primary schools has failed to keep pace with the growth of the number of students, with the average student-teacher ratio rising from 43 in 2000-01 to 47 in 2007-08. In the coming years, the government intends to reduce it sharply, with the Right to Free Education Act stipulating a maximum student-teacher ratio of 30:1 in primary schools. The impact of class size on learning is a subject of keen debate, but recent international evidence points to a weak negative correlation between class size and student learning achievement (Hanushek and Woessmann, 2010). There is also evidence that the effects of class size vary across countries, with stronger adverse effects in less advanced economies where classes are generally larger and teachers less well trained (Altinok and Kingdon, 2009). Additional teaching resources could also contribute to building a more systematic and effective remedial learning system, which is needed in both government and private schools (Banerji and Mukherjee, 2008). The need is particularly acute given the continued push to reduce the number of out-of-school-children, which has led to a rise in the number of over-age children, particularly at lower levels of schooling.

A related issue important in the Indian context concerns the extent of multi-grading, where one teacher is required to teach two or more classes simultaneously. In India, average school sizes are small, reflecting low levels of urbanisation as well as long-standing policies of prioritising close access to elementary schools across the country (Kochar, 2007). Figures from the DISE database indicate that on average elementary schools employ 4½ teachers with around one quarter of schools having less than three teachers and one in ten only one teacher (NUEPA, 2010). Given chronic problems of poor attendance the effective number of teachers is likely to be considerably lower. Therefore many schools are insufficiently staffed to ensure at least one teacher for each grade, necessitating multi-grade classes. The national ASER Survey confirms that the incidence of multi-grading is high with second grade students sitting with children from other grades in over half of all schools surveyed (ASER, 2011). Other surveys indicate that in Uttar Pradesh and Bihar multi-grade classes are the norm and also that the incidence of multi-grade classes is unstable (Kingdon and Banerji, 2009). On repeated visits, around 49% of children were always sitting in classes that were multi-grade, a further 44% were sitting in either mono- or multi-grade classes and only 7% always in a mono-grade class. International comparisons confirm that the incidence of multi-grading is high in India compared with both advanced and other emerging economies (Mulkeen and Higgins, 2009).

Multi-grading can offer advantages for cognitive and social development by exposing students to more advanced material than would normally be the case in mono-grade classes and encouraging self-directed learning and increased learning and interaction with children of different ages (Little, 2006). However, on the downside, multi-grading can effectively reduce instructional time for individual students, particularly if teachers adopt a segmented approach to teaching where instructional time is effectively divided up between different grade curricula. There are several features of the Indian context which suggests multi-grading is likely to exert a deleterious effect on learning and results from empirical studies support this conjecture (Jacob *et al*., 2008; and Goyal, 2009). First, Indian school curricula tend to be text-book based and grade specific. This makes it more difficult for teachers to adopt inclusive, flexible methods in a multi-grade classroom and increases the likelihood of reductions in instructional time for any given grade. Furthermore, the significant proportion of very small schools means that many classes cover more than two grades, exacerbating this reduction in grade-specific instruction. Second, generally poor quality teacher training with inadequate attention to the specific challenges of multi-grade teaching are likely to mean many teachers are ill-equipped for the challenges of multi-grade classes. Third, although the availability of teaching aids is improving, Indian schools are still generally not well resourced, especially for grade-specific materials, reducing the extent to which teacher time can be substituted with other inputs. Moreover, some of the beneficial effects associated with peer learning are likely to be diluted on account of the relatively homogenous student populations in small rural schools (Kochar, 2007).

Evaluations of programmes in India indicate that additional teaching resources can have a significant positive impact. In a recent experiment in Andhra Pradesh an additional contract teacher was allocated to a sample of government schools and test scores of students monitored over a two-year period and then compared to students in similar schools that did not receive an additional teacher (Muralidharan and Sundararaman, 2010b). At the end of the trial it was found that scores at the schools benefitting from the additional teacher were on average 0.13 to 0.15 standard deviations higher. Improvements were larger amongst first-grade students and in more remote schools, where students are presumably more disadvantaged. A separate study examined the impact of a remedial education programme in Gujarat and Maharashtra which hired young local women with only secondary school qualifications to assist struggling students. The scheme was found to lift scores by around 0.28 standard deviations in the second year (Banerjee *et al*., 2007). Neither of these schemes made use of regular teachers and the instructors were paid a fraction of regular teacher salaries. This highlights the cost effective gains that can be achieved from employing non-specialist teachers. As governments seek to reduce student-teacher ratios it is important that they consider the cost effectiveness of achieving this objective with regular teachers against recruiting more remedial and contract teachers.

Teacher development pathways need to be made more accessible and more effective

While greater accountability would improve the effectiveness of teaching, indicators of poor skill development amongst teachers across the system suggest that the framework for teacher development needs to be strengthened. For example, one survey found that less than half of teachers could provide the correct definition of difficult words and meaningfully summarise fourth-grade text, while four out of five teachers admitted to having problems with their students' math queries (Kingdon and Banerji, 2009). The importance of better teacher education is further supported by empirical evidence from India indicating that

better-qualified teachers are more effective, conditional on the type of employment contract (Atherton and Kingdon, 2010). The Indian classroom is a challenging environment for even well-qualified teachers given large class sizes and the high proportion of first-generation learners. NSS figures indicate that in 2007-08 over half of all mothers of students were illiterate, suggesting that many students may not be receiving much additional academic assistance outside the formal education system. The diversity of students requires tailored interventions even when resources are lacking. Under the Right to Free Education Act the government is aiming to standardise the age profile for each school grade at the elementary level and has allocated funding for remedial education to accelerate the progression between grades for late starters. Over time this should result in greater age-grade standardisation, but multi-grading and a high proportion of first generation learners is likely to remain a reality in a large number of small schools. Many teachers are ill-prepared for the challenges, with 44% of teachers in India lacking any tertiary qualifications (Mehta, 2010). This is low not only by OECD standards, where all but a very small minority hold some kind of tertiary qualification, but also emerging economies such as Brazil and Malaysia, where 91% and 99% of teachers respectively hold tertiary qualifications (OECD, 2009).

The formal teacher education system, which provides pre-service training, faces a number of weaknesses that reflect broader problems with the tertiary education system (see below). A central body, the National Council for Teacher Education, has authority for setting national standards for teacher education but enforcement varies widely across states and in most states there is a shortage of training institutions (Rajya Sabha Secretariat, 2010). A recent survey highlighted a number of specific deficiencies in teacher training institutions (World Bank, 2009). Colleges are often poorly resourced and faculty tend to work in isolation and undertake very little research while the approach to training lacks innovation and students appear to show little initiative. A further problem is that curricula are often outdated and faculty lack appropriate qualifications and experience in the classroom to be effective teacher trainers. Wide-ranging reforms of the higher education sector focussed on lifting quality should go a considerable way to improving the quality of pre-service teacher training.

However, an effective professional development pathway for teachers must also incorporate access to continual training which focuses on learning activities pertinent to the classroom (OECD, 2005). The need for effective in-service training is particularly strong in India given the rapid expansion of the teaching workforce which has inevitably led to the recruitment of less qualified and experienced teachers. Under the *Sarva Shiksha Abhiyan* initiative funding has been allocated to provide in-service training of up to 20 days for all elementary teachers, as well as separate training for untrained teachers and an induction scheme for new recruits. However, only 35% of teachers in recognised schools reported that they had undertaken any in-service training in 2008-09 (NUEPA, 2010). Moreover, while welcoming the opportunity to undertake such training, teachers tend to find that techniques are not always suited to the realities of their classrooms, particularly with respect to over- crowding and multi-grading (Mooij, 2008). There is a need for governments to closely monitor, evaluate and alter current in-service programmes as required to ensure their effectiveness and access for all teachers, including in secondary schools. In addition, over the medium term, induction programmes should be expanded to incorporate a formal mentoring system, as exists in many countries, to help ease the adjustment to the classroom for junior teachers.

Lifting vocational and tertiary education quality requires wide-ranging reforms

More effective regulation is needed

The regulatory regime for vocational and higher education in India is complex and unwieldy. The large number of regulatory stakeholders has given rise to overlapping responsibilities, creating uncertainty and administrative burdens. Both the central and state governments have direct responsibilities for public universities and colleges, which are managed through their education and other ministries. The University Grants Commission (UGC), a central government statutory authority, has responsibility for nationwide standards setting and coordination for universities and non-specialised colleges, while the All India Council for Technical Education (AICTE) performs similar functions for technical colleges. In addition, several professional councils, some of which operate at both the central and state levels, have authority for specific disciplines including a number of vocational fields and medicine. Universities also play a direct oversight role. The very large number of public and private colleges are governed through a system of university affiliation whereby universities set the curriculum that colleges are required to adopt and have responsibility for setting and administering examinations. As all colleges offering degree level courses are required to be affiliated with universities, they are indirectly subject to the same government regulations covering universities. In the VET system standards are, for the most part, regulated by a central authority, the National Council for Vocational Training (NCVT) which operates under the auspices of the Ministry of Labour and Employment, as well as state-level counterparts. There would be merit in making the NCVT an autonomous authority so that accountability for enforcing standards is more clearly defined.

The regulatory system is also highly prescriptive. In tertiary education, over the years the main standard-setting agencies, notably the UGC and AICTE, have issued a number of regulations and rules covering a wide range of academic standards that all recognised institutions are required to meet (Agarwal, 2009). These include minimum qualifications for academic staff, requirements for staff promotion and workloads and standards of instruction. Such regulations have diluted accountability and promoted standardisation, thereby discouraging innovation and diversity. One manifestation of this is that curricula are often outdated and difficult to reform, even in the top universities. For example, in 2008 the syllabus for mathematics at Delhi University, one of the most prestigious universities in the country, was updated for the first time in over 18 years, despite the opposition of faculty members (Indiresan, 2009). At the same time the regulatory framework has had difficulty coping with the challenge of maintaining adherence to such rigorous norms in an environment where the number of institutions has expanded rapidly. Political interference and instances of corruption, especially concerning entry and changes in institutional status, have also been a problem (Kapur and Mehta, 2008).

Regulations governing the entry of new providers also need be reformed to avoid discrimination against the entry of larger institutions. A feature of the Indian higher education system is the very large number of small affiliated colleges, many of which have only a few hundred students. Given that the provision of higher education is often characterised by economies of scale and scope, this may be sub-optimal from the point of view of system-wide economic efficiency (Green and Johnes, 2009). A fragmented system such as the one in India may also impose higher oversight costs for regulators, given the

need to evaluate and monitor a larger number of providers. As it stands the regulatory framework discriminates against larger providers owing to higher entry barriers. Whereas an affiliated college can be established by approval of the relevant regulator, universities require an Act of the Parliament or State Legislature, a far more cumbersome process. This exacerbates high non-regulatory barriers for universities. A college can be established with little capital using rented office space and employing a handful of staff members, some of whom may be hired on a temporary basis. In contrast, universities require major investments in infrastructure and face the added burden of acquiring land, which is particularly difficult in urban areas (see Chapter 1). Moving towards a process where the entry of a university can be authorised through a regulatory, rather than a parliamentary instrument, could help shape a more efficient higher education system over the longer term. At the same time, governments could consider the scope for merging smaller public colleges, particularly in large urban and other well-served areas.

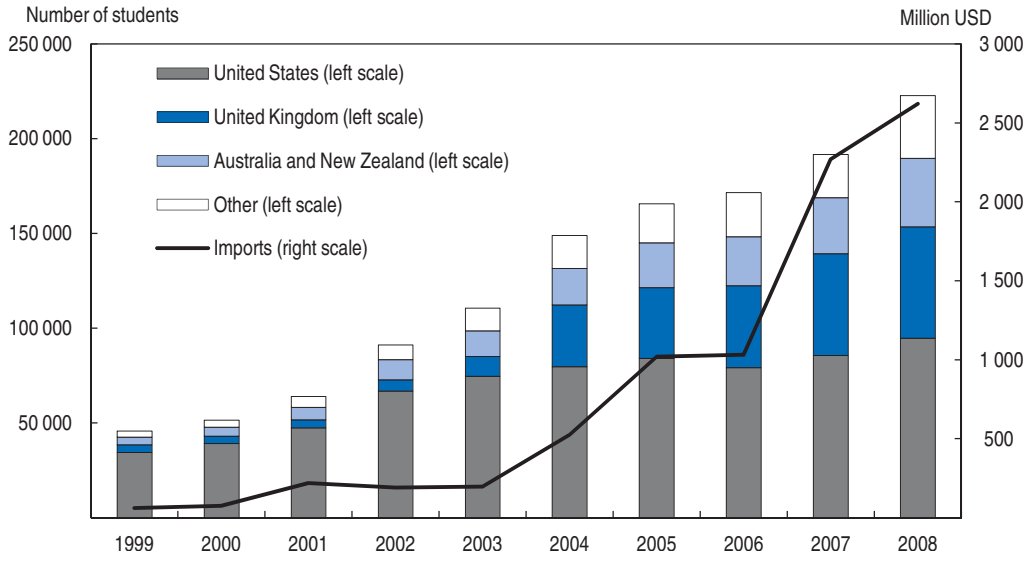
There is a need for greater institutional autonomy, which has been shown to be closely associated with university performance internationally – in fact, many world class universities operate with few regulatory constraints (Aghion *et al.*, 2010). Within India it is revealing that some of the strongest higher-education institutions, including the IITs and IIMs, operate within a much lighter regulatory framework. Reports from the National Knowledge Commission and more recently the Yash Pal Committee recommended that the government replace the existing multi-agency structure with a single national regulator. Legislation is presently before Parliament to create such an authority, the National Commission for Higher Education and Research (NCHER), which would merge the function of the UGC, AICTE and other associated authorities. While reducing regulatory overlap it is unclear that the establishment of the NCHER will address deeper issues concerning the need to reduce stifling regulation. The intention is that the NCHER will operate at a greater distance from government and adopt a less prescriptive approach but changes to limit the scope of regulation have not been legislated. Whether a different approach emerges under a new institutional arrangement remains to be seen.

The intention of the college affiliation system was to ensure that larger, better resourced universities could support the development of small, fledging institutions while ensuring common teaching and assessment standards; in theory, universities are required to provide affiliated colleges with assistance across a broad spectrum. In practice, with the rapid expansion of higher education, some universities now have up to 800 affiliated colleges, some of which operate at a considerable physical distance (UGC, 2011). Providing adequate support to effectively foster the development of all weaker colleges therefore poses a problem which will only worsen given the regulatory bias towards the entry of colleges. At the same time, the system is holding back those colleges which have the capacity to stand alone and push ahead with innovative courses and management practices. Recognising this problem, the government has granted some colleges a special autonomous status which provides them with greater freedom to set their own syllabi and conduct examinations. However, this process is evolving slowly: only 218 out of tens of thousands of colleges are currently classified by the UGC as autonomous, concentrated in a small number of states. Autonomous status needs to be offered to a larger number of stronger colleges, selected as those which scored well under national accreditation processes. Going further, autonomous colleges with a proven track record need to be given the opportunity to be upgraded to university status thereby moving to the maximum level of autonomy allowed under the regulatory system.

Lack of institutional autonomy is a particularly severe constraint on the development of a more dynamic and effective VET system. Government authorities have tended to adopt a hands-on approach to the running of industrial training institutes, which represent a major component of the VET system, leaving little scope or incentive for management to introduce innovations in curricula or course delivery (Majumdar, 2008). In this segment, institutional flexibility and close collaboration with industry is particularly important for ensuring quality and relevance (OECD, 2010b). This includes the need for effective "buy-in" from the private sector. Under the government's recent Centres for Excellence initiative it is seeking to devolve some authority and encourage stronger linkages to the workplace through management committees that comprise industry representatives. Critically, however, the government has retained controls over curricula, which is likely to slow efforts to modernise course offerings. In order to make the VET system more demand driven, and to lift quality more generally, the government should broaden the powers of management committees.

The government is also in the process of devising a regulatory structure for foreign education providers. Currently, 100% FDI in education is permitted but there is no framework for recognising foreign providers, effectively preventing their entry. The aim of reforms in this area is to entice high-quality universities to offer their own degrees in India. In doing so the government aims to benefit from the trend of foreign universities opening campuses abroad. Demand for foreign qualifications has been growing strongly amongst Indian students and India now ranks second only to China as a source of foreign students (Figure 5.7). The vast majority of these choose to study in English-speaking OECD countries with well developed markets for international education and high tuition fees, matching or exceeding the highest fees levied by private institutions in India (OECD, 2010a). Consequently,

Figure 5.7. **Indian students studying abroad and education service imports**



Note: Data presented on a calendar year basis. Imports of education services can take any of four modes as defined under the General Agreement on Trade in Services (GATS). Data on the value of each mode of education trade is unavailable but given the number of students travelling abroad and cost of fees charged to foreign students in advanced countries it is likely that trade under mode 2, consumption abroad, represents by far the most important category.

Source: OECD and RBI.

StatLink http://dx.doi.org/10.1787/888932436499

Indian imports of education services have been rising rapidly and amounted to USD 2.3 billion in 2009-10.

Under the proposed reforms, guidelines on the mode of entry for foreign universities are clear and regulatory barriers appear to be low. However, foreign providers are required to be non-profit institutions and must maintain a minimum INR 500 million (approximately USD 11 million) capital fund. Existing restrictions on the repatriation of capital have been maintained. Moreover, it is unclear how existing rules and regulations concerning the operation of domestic higher education institutions will be applied, in particular whether tuition fees would be subject to regulation. Together these restrictions and potential ambiguities, as well as the challenges that domestic institutions face in finding suitable land for development and high-quality faculty, are likely to discourage foreign institutions. This is particularly so for the top calibre universities which are often self-regulating in their home countries and have been offered significant incentives to establish branch campuses in other countries (Box 5.3). Even if there is some foreign entry into the market it is unlikely

Box 5.3. **Internationally mobile university campuses and programmes**

International student mobility continues to be the most important form of higher education internationalisation. However, international programme mobility, the second most common mode of cross-border higher education, and institutional mobility have both expanded rapidly since the late 1990s. Programme mobility typically involves the traditional face-to-face form of instruction which is either provided fully by a foreign institution or in partnership with local institutions. It may also involve students travelling abroad to undertake part of a programme at a foreign facility. Institutional mobility is a more nascent mode which represents a direct foreign investment by an education provider or company and includes the establishment of foreign branch campuses. For students, there are several attractions to these alternative modes of delivery, notably lower costs owing to both generally lower tuition fees and living expenses (which are invariably lower at home). Generally, programme and institutional mobility operates in accordance with government regulations where the student resides, to ensure compatibility with the local education system. Institutional mobility involves considerable financial costs and risks, given the substantial capital expenditure involved and the possibility of reputational damage if the venture is a failure, particularly for elite institutions. Direct financial costs are considerably lower for programme mobility. However, as the foreign institution is likely to lose at least some control over programme delivery the risk of reputational damage caused by poor quality may be high, particularly when the programme is undertaken through a franchise.

In some emerging economies, governments have actively encouraged universities with an international standing to establish partnerships with local universities and/or establish foreign campuses. This is motivated by a desire to leverage the research and teaching quality of foreign institutions to boost local capacity, both to expand opportunities for local students and increase the quality of local higher education institutions, sometimes with a view to creating an education industry that will ultimately attract foreign students. In this respect two of the most active countries have been the United Arab Emirates and Singapore, which has set a goal to attract 150 000 foreign students by 2015. In 2000, the government of Dubai established a "Knowledge Village" where several foreign universities have since established a campus. This initiative is located within a special economic zone that offers a number of financial incentives for foreign investors including 100% full repatriation of capital (including profits) and tax exemptions. In Singapore, the government has provided direct financial

Box 5.3. **Internationally mobile university campuses and programmes** *(cont.)*

support to attract foreign universities, including USD 310 million for a medical school collaboration between the National University of Singapore and Duke University. Despite governments providing considerable incentives for foreign campuses and other collaborations, these have not always been successful and in some cases costly. For example, in Singapore, the first private foreign university, which was established by the University of New South Wales with financial assistance from the Singapore government, closed after only two months due to a failure to meet student intake targets, resulting in financial losses for both the government and the university. Also in Singapore, a research facility established with Johns Hopkins University closed due to failures to meet research goals, despite financial support from the government, while Warwick University withdrew plans to establish a foreign campus citing concerns over academic freedom.

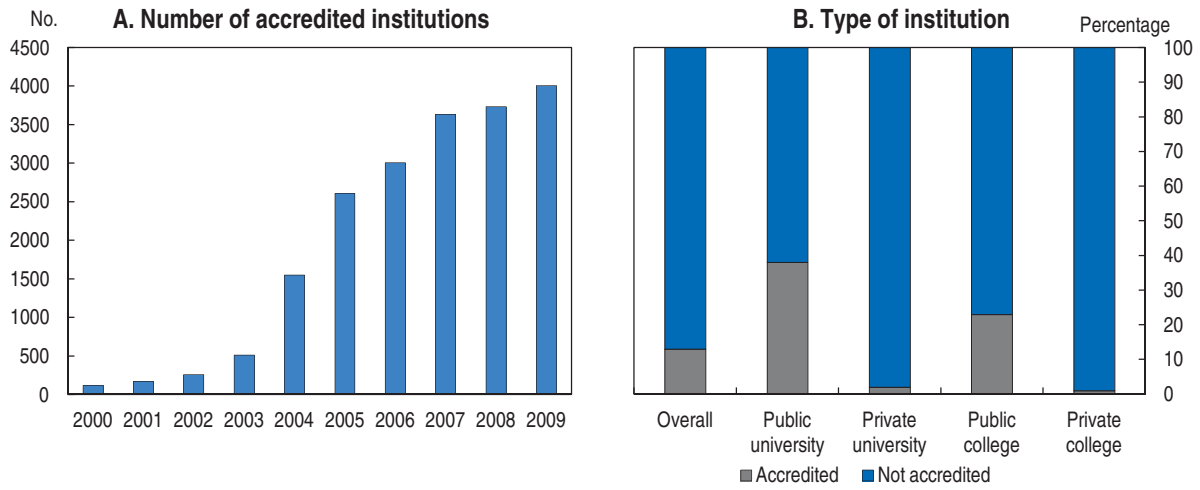
Source: Kapur and Crowley (2008); Vincent-Lancrin (2009); and Ng and Tan (2010).

that this will dramatically boost capacity or stem the outflow of students. There are many reasons why students choose to study abroad beyond the motivation to earn a foreign qualification, including the desire to gain international experience (IOM, 2008). A further motive, which appears to be strong in the case of Indian students, is to migrate (Baruch *et al.*, 2007). The reforms also fail to address a regulatory gap concerning the treatment of partnerships between Indian and foreign institutions, including joint programmes. A survey of these types of collaborations indicates that several Indian institutions offer foreign degrees in India, often outside the regulatory and quality assurance framework (UKIERI, 2008). Given the demand for foreign qualifications and the cost effectiveness of this mode of delivery, it is likely that these types of arrangements will proliferate; the government thus needs to ensure effective oversight.

Stronger quality assurance and better incentives are needed to boost performance

Effective quality assurance mechanisms are an important element of the policy framework, particularly in a country like India where the higher education sector is undergoing rapid change and expansion and there is a widespread need to lift teaching and research standards. They are also an important complement to reforms which decentralise control and provide greater autonomy at the institutional level by improving managerial accountability. In India a two-tier quality assurance framework exists whereby the entry of new institutions and/or programmes requires government approval and accreditation and assessment are provided by two principal quality assurance agencies, the National Accreditation and Assessment Council (NAAC) and the National Board of Accreditation (NBA). As in many other countries, the activities of these government accreditation agencies are complemented by demand-driven league tables published by media companies and other private organisations (Salmi and Saroyan, 2007). NAAC accreditation seeks to evaluate the standard of outputs as well as the effectiveness of processes and therefore provides a sound approach for improving quality. The number of assessed and accredited institutions rose sharply in the 2000s (Figure 5.8, Panel A). Nevertheless, as accreditation has not been made mandatory in all states, only around one third of universities and one fifth of colleges are covered (PRS, 2010). Moreover, coverage has been lowest amongst private colleges, the fastest growing segment of the market and the one where arguably independent evaluation is most needed (Figure 5.8, Panel B).

Figure 5.8. **Institutions assessed and accredited by the NAAC**



Source: Agarwal (2009) and NAAC.

StatLink http://dx.doi.org/10.1787/888932436518

The government is seeking a major overhaul of the quality assurance framework and has proposed new legislation that would result in a system of mandatory periodic assessment and accreditation. The structure of accreditation agencies would change significantly, moving away from the current reliance on two government agencies to one where new non-profit accreditation agencies would be free to enter the market, subject to registration and continual monitoring by a new statutory authority. Colleges and universities would be liable for covering the fees associated with accreditation and would be subject to financial penalties if found to be operating without accreditation. The proposed reforms have the potential to dramatically expand accreditation capacity and could give rise to specialisation in accreditation, which could improve effectiveness. Nevertheless, it is unclear whether large numbers of new accreditation agencies will in fact emerge, particularly given the absence of a profit motive. The government will need to closely monitor implementation and, if new accreditation agencies fail to materialise, ensure that the NAAC and NBA are sufficiently resourced to cope with the likely surge in demand.

Government funding arrangements need to be reformed to provide better incentives for stronger performance. Currently, most government funding for both VET and tertiary education is institution-based and input-driven. Public universities and colleges tend to be inefficiently managed with often high ratios of non-academic to academic staff (Agarwal, 2009). They also have little incentive to seek other sources of revenue as these are sometimes offset by lower public allocations. Public VET institutes are allocated the same funding irrespective of their teaching and research quality or drop-out rate (World Bank, 2008). Under the UGC's Colleges with Potential for Excellence Scheme, grants are offered to high-performing colleges with larger amounts available for NAAC-accredited institutions. However, the coverage of the scheme is low, offering funding to a maximum of 246 out of over 25 000 colleges. Moreover, there appears to be ambivalence towards the scheme on the part of management in some colleges.[6] To add impetus to changes in the higher education quality assessment framework in India the government should consider tying more funding to outcomes, as is the practice in a number of countries (OECD, 2008). Given the current heavy bias towards institution-based funding, increasing the proportion of competitive,

project-based funding, as is the growing trend in some OECD countries, would also likely lift research productivity (Box, 2010). In the VET sector, allowing more scope for institutions to provide commercial services would boost revenue and improve knowledge of industry needs.

Competition between higher-education institutions for students and funding is important to promote quality. On the surface, there appears to be intense competition in the tertiary-education sector in India, with a large number of private operators and relatively low barriers to entry, at least in the case of small colleges. In practice, competition is less intense and therefore less effective as a promoter of quality for two reasons. First, even with the rapid expansion in supply, the strength of demand and increase in enrolments has tilted the balance of market power in favour of providers, especially in the university sector. Second, the higher education market suffers from a number of imperfections that are particularly large in the Indian context. Chief amongst these are information asymmetries where consumers of education may not be well positioned to accurately judge the quality of the service on offer before making a commitment. It is difficult for Indian students to make informed decisions given the small size of colleges, especially when many have been in existence for only a short time and lack a proven track record.

Compounding this problem, private providers spend heavily on advertising, some of which has been found to be misleading.[7] The government has proposed new legislation designed to crack down on false advertising and other forms of malpractice. The AICTE recently introduced a mandatory public disclosure requirement for all institutions under its purview. The information is to be made available publicly and includes fees charged, pass rates for recent cohorts and background on faculty members. In the VET sector the government has established the National Vocational Training Information Service, an internet-based system that provides basic information on courses offered by industrial training institutes and centres. These types of initiatives ensure a minimum level of information is available to prospective students at a low administrative cost and should be expanded to all institutions and sectors. To reduce the cost of comparing institutions the government could collate information provided by all institutions in a national, publicly available database along the lines of the National Center for Educational Statistics in the United States.

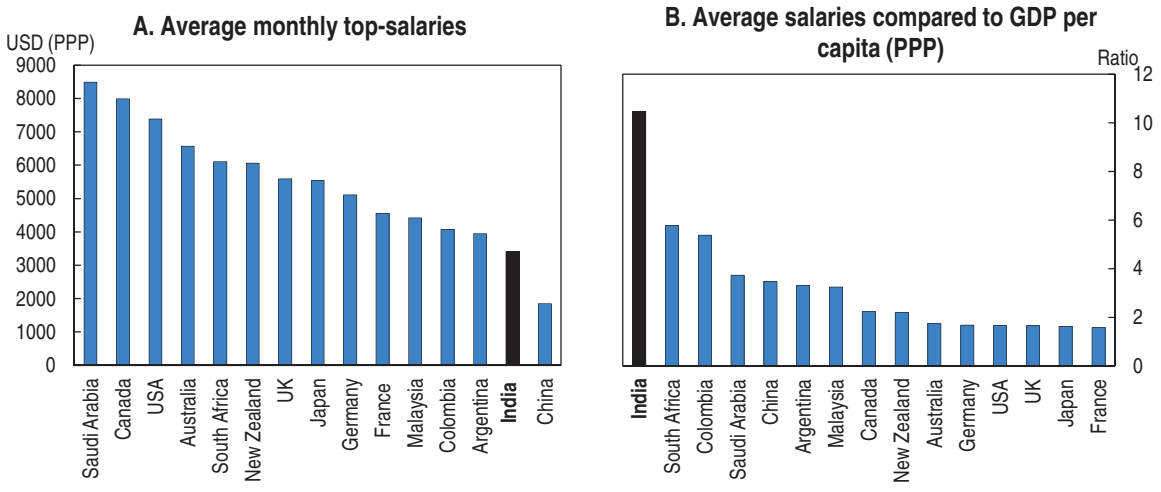
Academic workforce issues need attention

The quality of any higher education system depends heavily on its ability to attract and retain productive and committed academic staff. In India, the higher education system faces the dual challenge of lifting the productivity of academic staff, particularly with respect to research performance, whilst ensuring that institutions are adequately staffed and have access to an expanding pool of young academics to meet the growing demand for tertiary education. A recent survey indicates that significant faculty shortages already exist, with around half of all academic posts at universities found to be vacant, and similarly high vacancy rates in colleges, especially within the rapidly growing private unaided segment (Chadha *et al.*, 2008). This shortage has forced institutions to rely heavily on part-time and temporary contract workers to fill teaching vacancies, and around one in four university lectures are now employed on this basis. The proportion of contract lectures is even higher in colleges and many smaller colleges lack any kind of core faculty (Gupta and Parekh, 2009). Faculty shortages partly reflect the inability of the higher education system to provide adequate places for post-graduate training. Most colleges focus on undergraduate education and even in many universities research capacity is weak. Teaching loads are high, even for senior staff, and many of the most capable

researchers are located in specialised research institutions which largely operate in isolation from the higher education system (Basant and Mukhopadhyay, 2009).

Governments need to ensure that remuneration and working conditions in academia are competitive so as to attract high quality candidates into the profession. Like other public organisations, universities and colleges now face stiffer competition for skilled workers from the private sector, where salaries are rising rapidly. More attractive salaries and working conditions on offer in universities abroad compound the problem faced by Indian higher education institutions, particularly given the prevalence of English in the Indian system. Following the outcome of the 6th Pay Commission, the UGC recommended significant increases in academic remuneration at all levels. Even so, salaries compare poorly with those on offer in many other countries (Figure 5.9, Panel A). However, by domestic standards salaries appear to be attractive, being several multiples of average per-capita incomes (Figure 5.9, Panel B). The competitiveness of salaries, at least domestically, is confirmed by surveys which report that the outflow of academics from the education sector is generally low, although higher in some more market-oriented disciplines such as science and engineering and also amongst junior faculty (Chadha *et al.*, 2008). To improve international competitiveness authorities should consider implementing a special scheme with considerably higher remuneration and more flexible employment arrangements for internationally renowned scholars. Those employed under the scheme would provide leadership in research and post-graduate training, thereby boosting the pool of quality faculty over the longer-term, as well as lifting research capacity more generally. As the scheme would target a relatively small number of scholars it need not be particularly costly and could initially be run on a trial basis before being scaled up. Such initiatives have been adopted in other advanced and emerging economies, including in China where the leading universities have the flexibility to offer much higher salaries and in some cases allow staff to hold part-time appointments abroad (Altbach, 2009).

Figure 5.9. **International comparison of academic salaries**



Note: Average monthly top salaries based on professorial salaries. For India, average salaries are based on the average of assistant and full professor salaries. Salary data for India are based on UGC guidelines issued in 2008, following a review stemming from the 6th Pay Commission, and include basic additional academic and transport allowances but not rental assistance and other special allowances which depend on location. Salaries are calculated using World Bank PPP exchange rates. For other countries data refer to the period 2004 to 2007.

Source: Rumbley *et al.* (2008), and World Bank, *World Development Indicators*.

StatLink http://dx.doi.org/10.1787/888932436537

The current system of recruitment and promotion in India does not reward talent enough and needs to be reformed to promote greater meritocracy. A common practice in India is for universities to hire their own graduates which can create problems for building a productive and independent academic culture and in some cases applicants for academic jobs have been expected to provide payments to the hiring authority (Altbach, 2009). Experience is often a key factor determining promotion prospects, with UGC guidelines specifying minimum number of years of service as a key criterion for advancement at all levels. As part of broader reforms to provide greater institutional autonomy and accountability, control over recruitment needs to be decentralised to the institutional level where management will be better placed to reward effort. There also needs to be a move away from the current indiscriminate use of permanent contracts, as is the practice in an increasing number of OECD countries (OECD, 2009). Instead, better career pathways which provide opportunities and rewards for promising young academics need to be devised. One option is to fund more temporary post-doctorate positions, which enable younger workers to establish their research credentials before becoming eligible for longer-term contracts.

Box 5.4. **Summary of policy recommendations on education**

School education

- Participate in additional international surveys of learning achievement in order to facilitate international benchmarking of Indian school students in a larger number of states.
- Allow flexibility in the implementation of Right to Free Education Act standards so as not to force the closure of schools providing quality education. Enable longer phase-in periods for non-essential infrastructure requirements.
- Ensure that criteria for pupils' eligibility to participate in the private school quota system is targeted at the most needy and consider linking levels of reimbursement for private schools to student performance.
- Improve performance incentives for public school teachers by strengthening dismissal mechanisms for repeated absenteeism or unsatisfactory performance. Consider implementing a system of financial penalties and rewards together with enhanced monitoring. Strengthen School Management Committee effectiveness by granting them greater authority to select teachers.
- Explore options for introducing conditional cash transfers to help further boost enrolment and completion rates. Ensure an adequate increase in government funding to expand secondary schools in particular. Maximise the effectiveness of increased spending in the school sector by employing non-regular teachers to complement regular teachers where appropriate. Improve access to in-service teacher training for all teachers.

Vocational and tertiary education

- Improve the effectiveness of the Comprehensive Student Loan Scheme for promoting access to economically disadvantaged students by providing government guarantees and considering introducing a new government loans scheme to complement or substitute existing arrangements.
- Reduce prescriptive regulation concerning operation and management of vocational and tertiary education institutions. Increase the number of autonomous colleges by offering autonomous status to colleges judged to be performing strongly by independent accreditation agencies. Devolve more managerial responsibility to vocational training institutions and further strengthen industry linkages.

Box 5.4. **Summary of policy recommendations on education** *(cont.)*

- Improve incentives for stronger performance by making funding less input-based. Tie funding to accreditation and assessment outcomes and increase share of project-based funding for research.
- Reduce regulatory bias favouring the entry of colleges over universities. Encourage the entry of quality foreign higher education providers by minimising the regulatory burden and clarify regulatory arrangements for programmes provided jointly by Indian and foreign institutions.
- Reform promotion arrangements for academics by focusing more on performance to provide better incentives and ensure capable young faculty are not discouraged. Consider implementing special employment and remuneration packages to attract and retain internationally renowned scholars.

Notes

1. In contrast, factors reflecting key education "inputs" including distance to school and school infrastructure as well as inadequate numbers of teachers, which have been a key focus of government policy initiatives, were relatively unimportant in influencing the decision to drop out. For the age cohort corresponding to primary and middle school these input-related factors were cited as being most important in less than 1 and 3½ per cent of households respectively.
2. The Indian School of Business ranked twelfth in the 2010 Financial Times list of the top MBA programmes in the world *http://rankings.ft.com/businessschoolrankings/global-mba-rankings*.
3. Visva-Bharati University, a centrally-funded public university, recently attempted to increase tuition fees for undergraduate courses from around INR 216 (a little under USD 5) to INR 2100 (approximately USD 46) per year. Additional revenue was required to fund renovations following a rejection from the University Grants Commission for financial assistance. The announcement led to student strikes forcing university management to raise fees by only half the original target ("Visva-Bharati Bites Fee Bullet", *The Telegraph*, 18 June 2010; and "Visva Bharati Reduces Fee Hike by 50 Per Cent", *Indiaedunet*, 2 August 2010).
4. Most state government are finalising implementation details. The legal validity of the Right to Free Education Act has been challenged by a private schools association on the grounds that it impinged on their rights to admit students of their choice ("Pvt School Association Challenges Validity of RTE Act in SC", *Times of India*, 23 March 2010).
5. In late 2009, 142 000 para-teachers in Bihar, where many para-teachers have been recruited, went on strike demanding higher wages and better conditions ("Half-Baked Instructors", *Hindustan Times*, 30 December 2009).
6. "Few Colleges Apply for UGC Potential for Excellence Scheme", *The Times of India*, 7 October 2010.
7. Market analysis from AdEx India showed that education providers were the largest source of advertising revenue in the print media in the first half of 2010.

Bibliography

Afridi, F. (2010), "The Impact of School Meals on School Participation: Evidence from Rural India", *Indian Statistical Institute Discussion Papers*, No. 10-02.

Agarwal, P. (2009), *Indian Higher Education, Envisioning the Future*, Sage, New Delhi.

Aghion, P., M. Dewatripont, C. Hoxby, A. Mas-Colell and A. Sapir (2010), "The Governance and Performance of Universities: Evidence from Europe and the US", *Economic Policy*, Vol. 25, No. 61.

Altbach, P. (2009), "The Giants Awake: The Present and Future of Higher Education Systems in China and India", in OECD, *Higher Education to 2030, Volume 2: Globalisation*, OECD, Paris.

Altinok, N. and G. Kingdon (2009), "New Evidence on Class Size Effects: A Pupil Fixed Effects Approach", *CSAE Working Papers*, No. 2009-16.

ASER (2010), *Annual Status of Education Report (Rural) 2009*, Pratham Resource Centre, Mumbai.

ASER (2011), *Annual Status of Education Report (Rural) 2010*, Provisional, Pratham Resource Centre, Mumbai.

Atherton, P. and G. Kingdon (2010), "The Relative Effectiveness and Costs of Contract and Regular Teachers in India", *CSAE Working Papers*, No. 2010-15.

Azam, M., A. Chin and N. Prakash (2010), "The Returns to English-Language Skills in India", *CReAM Discussion Papers*, No. 02-10, University College London.

Banerjee, A.V., S. Cole, E. Duflo and L. Linden (2007), "Remedying Education: Evidence from Two Randomized Experiments in India", *Quarterly Journal of Economics*, Vol. 122, No. 3.

Banerjee, A.V., R. Banerji, E. Duflo, R. Glennerster and S. Khemani (2010), "Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in India", *American Economic Journal: Economic Policy,* Vol. 2, No. 1.

Banerji, R. and A. Mukherjee (2008), "Achieving Universal Elementary Education in India: Future Strategies for Ensuring Access, Quality and Finance", *Journal of Applied Economic Research*, Vol. 2, No. 2.

Baruch, Y., S.P.S. Budhwar and N. Khatri (2007), "Brain Drain: Inclination to Stay Abroad After Studies", *Journal of World Business*, Vol. 42, No. 1.

Basant, R. and P. Mukhopadhyay (2009), "An Arrested Virtuous Circle? Higher Education and High-Tech Industries in India", *Indian Institute of Management Ahmedabad Working Paper*, No. 2009-05-01.

Box, S. (2010), "Performance-based Funding for Public Research in Tertiary Education Institutions: Country Experiences", in OECD, *Performance-based Funding for Public Research in Tertiary Education Institutions, Workshop Proceedings*, OECD, Paris.

Carnoy, M., R. Dossani and J. Tilak (2010), "Understanding the Expansion and Quality of Engineering Education in India", Stanford University and NUEPA, *Working Draft*, September.

Chadha, G.K., S. Bhushan and V. Murlidhar (2008), "Teachers in Universities and Colleges-Current Status Regarding Availability and Service Conditions", in UGC, *Higher Education in India: Issues Related to Expansion, Inclusiveness, Quality and Finance*, UGC, New Delhi.

Das, J. and T. Zajonc (2010), "India Shining and Bharat Drowning: Comparing Two Indian States to the Worldwide Distribution in Mathematics Achievement", *Journal of Development Economics*, Vol. 92, Issue 2.

De, A. and T. Endow (2008), "Public Expenditure on Education in India: Recent Trends and Outcomes", *RECOUP Working Paper*, No. 18.

Desai, S., A. Dubey, R. Vanneman and R. Banerji (2008), "Private Schooling in India: A New Educational Landscape", *Brookings-NCAER India Policy Forum*, Vol. 5.

Desai, S. and V. Kulkarni (2008), "Changing Educational Inequalities in India in the Context of Affirmative Action", *Demography*, Vol. 45, No. 2.

Duflo, E., P. Dupas and M. Kremer (2007), "Peer Effects, Pupil-Teacher Ratios, and Teacher Incentives: Evidence from a Randomized Evaluation in Kenya", MIT, mimeo.

Duflo, E., R. Hanna and S. Ryan (2010), "Incentives Work: Getting Teachers to Come to School", MIT, mimeo, May.

Evans, D., M. Kremer and M. Ngatia (2008), "The Impact of Distributing School Uniforms on Children's Education in Kenya", Oxford University, mimeo.

French, R. and G. Kingdon (2010), "The Relative Effectiveness of Private and Government Schools in Rural India: Evidence From ASER Data", *Institute of Education University of London DOQSS Working Papers*, No. 10-03.

Goyal, S. (2009), "Inside the House of Learning: the Relative Performance of Public and Private Schools in Orissa", *Education Economics,* Vol. 17, No. 3.

Goyal, S. and V. Pandey (2009), "How Do Government and Private Schools Differ? Findings From Two Large Indian States", World Bank, South Asia Human Development Sector, Report No. 30.

Green, C. and G. Johnes (2009), "Economies of Scale and Mergers in Higher Education", in M. Tight, M.K. Ho Mok, J. Huisman and C. Morpher (eds.), *Routledge International Handbook of Higher Education*, Routledge, New York.

Gupta, S.A.K. and V. Parekh (2009), "Excellence in Higher Education in India: Way Forward", *Journal of Emerging Knowledge on Emerging Markets*, Vol. 1, No. 1.

Hanushek, E. and L. Woessmann (2008), "The Role of Cognitive Skills in Economic Development", *Journal of Economic Literature*, Vol. 46, No. 3.

Hanushek, E. and L. Woessmann (2010), "The Economics of International Differences in Educational Achievement", *NBER Working Papers*, No. 15949.

Harma, J. (2009), "Can Choice Promote Education for All? Evidence from Growth in Private Primary Schooling in India", *Compare*, Vol. 39, No. 2.

Indiresan, P.V. (2009), "Dream India: Is Its Education Competitive Enough?", in M. Agarwal, *India's Economic Future: Education, Technology, Energy and Environment*, Social Science Press, New Delhi.

IOM (2008), *World Migration 2008*, International Organisation for Migration, Geneva.

Jacob, V., A. Kochar and S. Reddy (2008), "School Size and Schooling Inequalities", *Stanford Center for International Development Working Papers*, No. 354.

Jayaraman, R., D. Simroth and F. de Véricourt (2010), "The Impact of School Lunches on Primary School Enrolment: Evidence From India's Midday Meal Scheme", Presentation delivered to CESifo Conference Centre, Munich, September.

Kapur, D. (2010), "Indian Higher Education", *in* C.T. Clotfelter (ed.), *American Universities in a Global Market*, University of Chicago Press, Chicago.

Kapur, D. and M. Crowley (2008), "Beyond the ABCs: Higher Education and Developing Countries", *Center for Global Development Working Papers*, No. 139.

Kapur, D. and P.B. Mehta (2008), "Mortgaging the Future? Indian Higher Education", *India Policy Forum*, Vol. 4.

Kijima, Y. (2006), "Why Did Wage Inequality Increase? Evidence from Urban India 1983-99", *Journal of Development Economics*, Vol. 81, Issue 1.

Kingdon, G. (2010), "The Impact of the Sixth Pay Commission on Teacher Salaries: Assessing Equity and Efficiency Effects", *RECOUP Working Paper*, No. 29.

Kingdon, G. and R. Banerji (2009), "Addressing School Quality: Some Policy Pointers from Rural North India", *Research Consortium on Education Outcomes and Poverty Policy Briefs*, No. 5.

Kingdon, G. and C. Monk (2010), "Health, Nutrition and Academic Achievement: New Evidence from India", *CSAE Working Paper*, No. 2010-14.

Kochar, A. (2007), "Can Schooling Policies Affect Schooling Inequality? An Empirical Evaluation of School Location Policies in India", *Brookings-NCAER India Policy Forum*, Vol. 4.

Kremer, M. and A. Holla (2008), "Improving Education in the Developing World: What Have We Learned from Randomized Evaluations?", Harvard University, *mimeo*.

Lavy, V. (2010), "Do Differences in School's Instruction Time Explain International Achievement Gaps in Math, Science and Reading? Evidence from Developed and Developing Countries", *NBER Working Papers*, No. 16227.

Levy, D. (2008), "Access Through Private Higher Education: Global Patterns and Indian Illustrations", University of Albany (SUNY), *PROPHE Working Papers*, No. 11.

Little, A. (2006), "Multigrade Lessons for EFA", *in* A. Little (ed.), *Education for All and Multigrade Teaching: Challenges and Opportunities*, Springer, Dordrecht.

Majumdar, S. (2008), *Workforce Development in India, Policies and Practices*, Asian Development Bank Institute, Tokyo.

Marcucci, P. and D. Johnstone (2009), "Tuition Fee Policies in a Comparative Perspective: Theoretical and Political Rationales", *in* M. Tight, M.K. Ho Mok, J. Huisman and C. Morpher (eds.), *Routledge International Handbook of Higher Education*, Routledge, New York.

Mehta, A.C. (2010), "Elementary Education in India, Progress Towards UEE", *Analytical Report 2007-08*, NUEPA and MHRD.

MHRD (2010), *Report to the People on Education 2009-10*, Ministry of Human Resource Development, Government of India, New Delhi.

Ministry of Labour and Employment (2010), *Annual Report, 2009-10*, Ministry of Labour and Employment, Government of India, New Delhi.

Miguel, E. and M. Kremer (2004), "Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities", *Econometrica*, Vol. 72, No. 1.

Mooij, J. (2008), "Primary Education, Teachers' Professionalism and Social Class: About Motivation and Demotivation of Government School Teachers in India", *International Journal of Educational Development*, Vol. 28.

Mulkeen, A. and C. Higgins (2009), "Multigrade Teaching in Sub-Saharan Africa: Lessons from Uganda, Senegal and the Gambia", *World Bank Working Papers*, No. 173.

Muralidharan, K. and M. Kremer (2007), "Public and Private Schools in Rural India", Harvard University, mimeo.

Muralidharan, K. and V. Sundararaman (2011), "Teacher Performance Pay: Experimental Evidence from India", *Journal of Political Economy*, Vol. 119, No. 1.

Muralidharan, K. and V. Sundararaman (2010a), "The Impact of Diagnostic Feedback to Teachers on Student Learning: Experimental Evidence from India", *Economic Journal*, Vol. 120, Issue 546.

Muralidharan, K. and V. Sundararaman (2010b), "Contract Teachers: Experiment Evidence from India", University of California, San Diego, mimeo.

NASSCOM (2009), *Perspective 2020: Transform Business, Transform India*.

NCERT (2009), *Learning Achievement of Class III Children*, Mid-Term Assessment Survey Under SSA, NCERT, New Delhi.

Ng, P.T. and C. Tan (2010), "The Singapore Global Schoolhouse: An Analysis of the Tertiary Education Landscape in Singapore", *International Journal of Education Management*, Vol. 24, No. 3.

NUEPA (2010), *Elementary Education in India, Progress Towards UEE: Flash Estimates DISE, 2008-09*, NUEPA, New Delhi.

OECD (2005), *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, OECD, Paris.

OECD (2007), *OECD Economic Surveys: India*, OECD, Paris.

OECD (2008), *Tertiary Education for the Knowledge Society*, Vol. I, OECD, Paris.

OECD (2009), *Creating Effective Teaching and Learning Environments: First Results from TALIS*, OECD, Paris.

OECD (2010a), *Education at a Glance*, OECD, Paris.

OECD (2010b), *Learning for Jobs*, OECD, Paris.

Pandey, P., S. Goyal and V. Sundararaman (2008), "Public Participation, Teacher Accountability, and School Outcomes: Findings from Baseline Surveys in Three Indian States", *World Bank Policy Research Papers*, No. 4777.

Pandey, S. (2006), "Para-Teacher Scheme and Quality Education for All in India: Policy Perspectives and Challenges for School Effectiveness", *Journal of Education for Teaching*, Vol. 32, No. 3.

Planning Commission (2010), *Mid Term Appraisal for Eleventh Five Year Plan 2007-2012*, Planning Commission, Government of India, New Delhi.

PROBE (1999), *Public Report on Basic Education in India*.

PRS (2010), "The National Accreditation Regulatory Authority for Higher Educational Institutions Bill, 2010", *PRS Legislative Brief*.

Rajya Sabha Secretariat (2010), "Report on the National Council for Teacher Education (Amendment) Bill 2010", New Delhi.

Rumbley, L., I. Pacheco and P. Altbach (2008), *International Comparison of Academic Salaries: An Exploratory Study*, Centre for International Higher Education, Boston College.

Salmi, J. and A. Saroyan (2007), "League Tables as Policy Instruments: Uses and Misuses", *Higher Education Management and Policy*, Vol. 19, No. 2.

Sethi, R. and R. Somanathan (2010), "Caste Hierarchies and Social Mobility in India", Columbia University, mimeo.

Shen, H. and A. Ziderman (2009), "Student Loans Repayment and Recovery: International Comparisons", *Higher Education*, Vol. 57, No. 3.

Tooley, J. and P. Dixon (2007), "Private Schooling for Low-income Families: A Census and Comparative Survey in East Delhi, India", *International Journal of Educational Development*, Vol. 27, No. 2.

UGC (2011), "Higher Education in India, Strategies and Schemes During the Eleventh Plan Period (2007-2012) for Universities and Colleges", University Grants Commission, Government of India, New Delhi.

UKIERI (2008), "Foreign Education Providers in India: Report on Collaborative Arrangements", UK-India Education and Research Initiative.

Vincent-Lancrin, S. (2009), "Cross-Border Higher Education: Trends and Perspectives", *in* OECD, *Higher Education to 2030, Volume 2: Globalisation*, OECD, Paris.

World Bank (2008), *Skill Development in India, the Vocational Education and Training System*, World Bank, Washington.

World Bank (2009), *Secondary Education in India: Universalizing Opportunity*, World Bank, Washington.

Wu, K.-B., P. Goldschmidt, C. Boscardin and S. Deepa (2009), "International Benchmarking and Determinants of Mathematics Achievement in Two Indian States", *Education Economics*, Vol. 17, No. 3.

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Spain, December 2010
Sweden, January 2011
Switzerland, December 2009
Turkey, September 2010
Ukraine, September 2007
United Kingdom, March 2011
United States, September 2010

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