departmental commercial enterprises. Public authorities include government administration and "departmental enterprises", which are essentially commercial government enterprises that are not corporatized (e.g. railways), and "non-departmental enterprises" are the corporatized public sector enterprises. As a consequence of the fiscal stimulus of 2008-09, savings turned distinctly negative after having become mildly positive at 0.5 per cent of GDP in 2007-08, which was a remarkable turnaround from (-)5 per cent in 2000-01. This broadly corresponds to the revenue deficit of the Centre and States combined. Interestingly, both departmental and non-departmental public enterprises have maintained consistent positive saving rates of between 3.5 and 4.5 per cent of GDP over the past decade and a half. With the slow unwinding of the fiscal and revenue deficits, government savings have remained in negative territory, though some improvement has taken place in the last couple of years. With such a correction, not only will public sector savings improve but the crowding out of the private sector would also be reversed. It is essential that the envisaged fiscal correction does take place over the next 2-3 years: as the revenue deficits of both central and state governments approach zero, government savings could again attain positive levels as in 2007-08. Only then will it be become feasible for private sector investment to increase to the magnitudes projected. Accordingly, we have projected overall public sector savings to increase from the current level of just over 1 per cent of GDP to 3 per cent in 2017-22, rising to 3.4 per cent by 2027-32. It is possible that even greater improvement can take place, particularly if the overall tax/GDP ratio can be improved over the years.

The plausible projections of savings enhancement made above in each of the three main segments, the household sector, the private corporate sector, and the public sector, yield a good possibility of gross domestic savings increasing from the current 31-32 per cent level to about 36 per cent in 2017-22 and 41 per cent in 2027-32.

External Savings

In recent years, there has been a great deal of stress laid on mobilizing external savings to finance Indian investment for growth, particularly in infrastructure. In estimating the maximum feasible level of external savings that can be mobilized to finance overall investment in India, it is important that such external capital flows should be sustainable from the point of view of servicing such inflows over time. This was done in the NTDPC modeling framework by utilizing a debt sub model which projects the implications of debt flows servicing needs over time. For a country with an increasing size of its economy as projected, even relatively small proportions of its GDP start assuming large absolute magnitudes from the point of view of international capital markets.

Net capital flows that are absorbed by the economy as a whole are identically equal to the CAD. Considerations for sustainability indicate that the CAD should not exceed around 2.5 percent of GDP on a continuous basis. As the CAD increased to levels exceeding 4 per cent of GDP in 2012-13, we have already seen the kind of instability that can be caused by adverse developments in international financial markets.

Indian exports have grown at a healthy pace since 2002, significantly faster than world exports. In fact, the total exports of goods and services almost doubled as a share of GDP between 1998-2002 and 2008-12, reaching a level of about 22 per cent of GDP. Except for 2008-09 and 2009-10, which were crisis years for global trade, Indian exports of goods and services have been growing at 20-25 per cent per year since 2002. In view of the

protracted current slowdown in global trade, and the low probability of a revival of the high growth rates achieved earlier, we are projecting a relatively slower pace of growth at 11-12 per cent between 2017 and 2032. Even at this pace, exports of goods and services would increase from the current level of about 25 per cent of GDP to about 30 per cent of GDP in 2017-22 and 38 per cent in 2027-32. By way of comparison, the current level of exports of goods and services of China amounts to about 31-32 per cent of its GDP. Imports of goods and services are projected to grow correspondingly while keeping a sustainable level of CAD at about 2.5 per cent of GDP. Such projections of exports and imports will not be feasible without the corresponding growth in all aspects of investment in transport, logistics, ports and airports.

As India's external account expands in the manner projected, and as India's economy and its financial markets become more open, it will be necessary to build foreign exchange reserves in a prudent manner, so that financial stability can be maintained even in the face of the inevitable capital flow volatility. Foreign exchange reserves have been posited to be maintained at a level of about 6 months of imports of goods and services on a consistent basis. The projections suggest that this would imply an increase in foreign exchange reserves from the current 16 per cent of GDP to about 19-20 per cent in 2017-22 and rising to 22 per cent in 2027-32. (At present, Chinese forex reserves amount to about 18 months of imports and 41 per cent of GDP). Such an expansion of reserves would also be consistent with the required expansion of base money, the Reserve Bank of India's balance sheet, which is necessary to fuel the monetary expansion consistent with GDP growth. Thus, the consistent need for accretion to forex reserves implies that net capital flows will need to be in the region of about 4.5 per cent of GDP during 2017-32, if the CAD is kept at a level of about 2.5 per cent of GDP. This would allow annual reserve accretion amounting to about 2 per cent of GDP over the period. In absolute terms, the implications of such a scenario are that net annual capital flows will need to be about $135 billion in 2017-22, rising to about $330 billion in 2027-32 (at 2012-13 prices). From an external sustainability point of view, and given the more volatile nature of debt flows, the projections assume that the equity component will dominate, at 60-65 per cent of net capital flows, with debt flows (35-40 per cent) being the residual. These proportions are also broadly consistent with the prevailing debt equity ratios in the Indian corporate sector.

The key lesson from this exercise is that even if the CAD is kept at a modest range of around 2.5 per cent of GDP, total net capital flows that will be needed amount to large and growing magnitudes over the medium term. There will, therefore, be a need to ensure high external confidence in the Indian economy so that such external capital flows are forthcoming.

Infrastructure Investment

Achieving a high sustained rate of economic growth requires corresponding investments in infrastructure, including all aspects of transportation. If industrial growth is to be ratcheted up to growth rates of around 10 per cent, and if there is to be the kind of trade growth projected, the demands for the provision of power, transportation and logistics will also grow commensurately. The continued expansion of trade requires corresponding investments in ports, airports, and in all forms of domestic transport linkages.