

Special Topics

INFRASTRUCTURE FINANCING

No discussion on financial sector reforms in India can be complete without reference to how they will help infrastructure finance. First, it is well recognized that significant improvement in infrastructure is required not only to sustain the growth momentum but also to distribute the benefits of higher growth to a larger population. Financial sector reforms therefore cannot be oblivious to the requirements of such a critical segment of the economy. Second, infrastructure creates certain special demands on the financing system. Infrastructure projects are capital intensive with long gestation periods; their revenues accrue over a long period of time; they involve higher sunk costs; and their output is non-tradable. These characteristics translate into certain demands on the financial system (in terms of scale, tenor, and risk) that are very different from those of other goods and services.

Given the criticality of infrastructure and its peculiar demands on the financing system, it is important to know the quantum of India's infrastructure financing needs and how are they going to be met. A consultation paper by the Planning Commission has envisaged an investment in infrastructure of Rs. 20.3 trillion (at 2006/07 prices) or US\$ 494 billion during the Eleventh Plan (April 2007 to March 2012), substantially above the realized investment in the Tenth Plan (Rs. 8.8 trillion at 2006/07 prices) in order to sustain a real GDP growth rate of 9 per cent.¹ Of this, about 20 per cent would be spent exclusively on rural infrastructure. Some of the salient points made by the paper are:

1. Gross capital formation in infrastructure is envisaged to grow rapidly from 5.6 per

cent of GDP in 2006/07 to 9.2 per cent of GDP in 2011/12, the last year of the Eleventh Plan and be sustained at that level from then on.

2. The share of private sector will rise from 20 per cent of total infrastructure investment in 2006/07 to about 30 per cent in 2011/12.
3. The budgetary support in total infrastructure investment, would gradually decline (from 43 per cent of total infrastructure investment in 2006/07 to 31 per cent in 2011/12), implying that user charges will play an increasingly bigger role in financing infrastructure.
4. Budgetary support would be directed 'largely towards rural infrastructure and the North East, leaving little room for funding other infrastructure projects'.

If the current savings trend growth continues into the medium term, much of this need can be financed domestically, provided other sources of investment demand do not increase rapidly also. But, adequacy of domestic financial savings is not enough; they have to be intermediated into infrastructure on a scale that would achieve the investment target. This is where the problem is expected to arise, as some of the deficiencies of the current financial system may not allow the intermediation to be scaled up to the required level.²

For the most part, until quite recently, India's spending on infrastructure investment was low enough (about 3–5 per cent of GDP) to be financed largely from budgetary allocations and the internal resources of infrastructure-focused government enterprises. Under these conditions, infrastructure financing placed little demands on the financial system. It is only now that infrastructure spending has picked up enough momentum that the financial system must cope with new and enlarged demands, for which it is arguably under-prepared.

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At the institutional level, constraints have emerged for all three major classes of domestic financing institutions: commercial banks, NBFCs and insurance companies. With rapid increase in exposure in recent years, commercial banks are now the predominant financiers of infrastructure.³ They may not, however, be able to sustain the growth rates recorded in the past, primarily due to the fact that long duration infrastructure projects create significant maturity mismatches for banks, given the essentially short-term nature of bank financing. Also sectoral caps⁴ and limits on single and group borrower exposure (emerging because of the enormity of project size relative to bank capital size) will place further constraints on financing. While it might be tempting to relax prudential norms in the cause of infrastructure, this would simply be wrong—infrastructure finance can be risky, and it would be short-sighted to sacrifice the health of the banking system on the altar of infrastructure finance. Instead, banks need to raise capital. Particularly constrained here are the public sector banks, since more capital means either a dilution of the government stake or further investment by the government.

Specialized NBFCs have begun to play an important role in infrastructure development; but their future growth may be constrained by banks' growth potential, since banks are the primary source of funding for NBFCs and there are limits on bank exposure to NBFCs.⁵ Though insurance companies are well suited to finance infrastructure because of their long-term liabilities, they have been constrained due to their own risk aversion and preference for government, or government backed paper, restrictive investment guidelines and the lack of liquidity in the market for longer term corporate bonds. In addition, a number of insurance companies will have to develop their own capacity to evaluate infrastructure projects.

Infrastructure requirements are too large for the risk of associated financing to be concentrated directly or indirectly in the banks. In this context, the need for a well functioning, deep and liquid corporate bond

market at the longer end of the maturity spectrum cannot be overemphasized. By tapping the growing pool of long-term funds available with the insurance and pension funds, as also foreign investors, the corporate bond market can significantly benefit infrastructure investment, by (i) better distributing the risk of financing such investments more widely across the financial system, and (ii) facilitating a better match between the maturity profile of infrastructure assets and the liabilities needed to fund them. This can only lend stability to the financial system.

Second, the scale of banks' balance sheets needs to expand to keep pace with the scale of infrastructure financing requirements. This is an important underpinning for the Committee's call for a more liberal approach to consolidation in the banking system. Consolidation would mean more efficient use of infrastructure risk appraisal skills (which are limited and whose distribution is skewed), and at the same time, greater opportunities to use unutilized exposure limits.⁶

Third, the banks need access to more instruments to manage the interest rate risk for infrastructure lending induced ALM mismatches. The Committee's recommendation of a more enabling regulatory environment towards instruments such as credit default swaps and interest rate futures is key to helping this process along.

Fourth, steps to nurture the evolution of a variety of institutional forms, including hedge funds and private equity, would help the financial system cater better to the complexity of the financing requirements for the infrastructure sector which needs not only long-term debt financing, but also significant equity capital.

Finally, initiatives that help investors better manage the credit risk associated with infrastructure financing deserve special attention. Infrastructure lending is typically cash flow based, not asset backed. The Committee's suggestion for strengthening the rights of unsecured lenders would help reduce losses in the event of default for infrastructure loans, make it easier to securitize such assets or

borrow in the bond markets against them. Not only will this reduce the direct costs of infrastructure finance, the added liquidity for infrastructure-backed loans could help Asset Liability Management for financial intermediaries engaged in infrastructure finance.

OLD AGE PENSIONS

The problem

With the elongation of longevity, individuals have to plan for living for decades after they have ceased working for a living. Changing social mores have reduced the extent to which children satisfactorily solve this problem. Hence, households critically require a way to obtain consumption in old age. This is where formal pension provisions come in.

Back of the envelope calculations show that the amounts of pension wealth required by a household, to support consumption for two or more decades, vastly exceed the sums of money involved in issues such as spells of unemployment or ill-health. Hence, the most important reason why ordinary households require the financial system is preparing for old age. In a well functioning financial system, pension-related savings is a large part of the savings of household, and pension funds are amongst the largest pool of investible assets.

The problems of defined benefits pensions

One strategy that can be adopted to address the problem of consumption in old age is to socialize the problem; to require the State to make payments to all old people. The numbers involved in this are substantial. A modest pension of Rs. 1,000 per month, paid to 20 crore people, works out to a cost of Rs. 240,000 crore per year.

This approach, with payments made by the State or underwritten by it, was used with civil servants for the traditional civil servants

pension, and with employees of firms with over 20 employees through EPFO. Many problems were encountered in this path.

The fiscal liability on account of civil servants alone—who make up a tiny fraction of the workforce—exceeds 65 per cent of GDP. Hence, this strategy is not scalable to the general population. Attempts at funding have been made: the Employee Pension Scheme (EPS) which is run by EPFO is a defined benefit programme which requires payments by participants and has some assets. However, defined benefit systems tend to suffer from inherent political problems. There is an incentive to make generous payments, to cut corners on the required contributions, and to make improper asset management decisions thus leading to poor asset returns. As a consequence, the unfunded liability of EPS has steadily built up over the years, as has happened with defined benefit pensions all over the world.

In countries where there are large defined benefit pension systems, where promises have been made about future pension payments to a large fraction of the population, this yields a difficult combination of fiscal stress and political intractability. Fiscal stability requires cutting back benefits, while populism pushes in the opposite direction. In Europe and Latin America, where there is the longest experience with defined benefit pensions, these difficulties have exerted considerable pressure on both politics and economics.

Defined contributions, individual accounts

In response to these experiences, there has been a worldwide shift towards 'individual account, defined contribution' pension systems, which avoid the political and governance problems of defined benefit systems. Under an individual account defined contribution pension system, individuals hold a pass book, much like a bank account. The individual makes payments into the pension account every month, but is prohibited

from withdrawing money from this until he reaches old age. This money is invested by pension fund managers. The value of pension wealth is strictly based on the net asset value of the investments made by the pension fund managers. At all points in time, the individual can see how much pension wealth has been created, and can adapt his savings rate in order to achieve desired consumption in old age.

Prefunding pensions—as opposed to making promises about payments by the State deep in the future—is particularly feasible in India given where India is in the demographic transition. A vast army of young people will come into the labour force between 2008 and 2025. The dependency ratio will only start worsening from 2025 onwards. This suggests that policy decisions on pension reforms by 2010 have an opportunity to make a substantial dent on the problem, by catching young people early in their careers, and helping them build up pension wealth in time. In countries such as China, where the dependency ratio will start rising from 2010, such an opportunity for prefunding does not exist. The space for policy in India is, thus, luckily greater.

Investment management for DC pensions

From the investment management perspective, the two central insights on how these assets should be managed are: (i) Equity investment and (ii) International diversification.

Economic reasoning, and the empirical evidence from all countries, suggests that over long time-periods, equity investment yields the highest returns. For a person who is saving money from age 20 to age 65, which will yield consumption from age 65 to age 85, the time horizons are long indeed. Looking forward, assuming a full array of macroeconomic policy reforms are undertaken, India might experience stable inflation of 2 per cent, the nominal return

on government bonds might work out to roughly 5 per cent, and the nominal return on the equity index might work out to 13 per cent on average. This equity premium of eight percentage points makes a massive difference to pension wealth, given the long time horizons involved. There will, of course, be substantial swings in the stock market index from year to year. But the returns to an equity index will outperform investing in government bonds, over a 25 year horizon, with high probability.

The swings in the stock market index from year to year can be significantly alleviated by spreading pension assets all across the world. A portfolio spread across indexes from all over the world has a volatility which is roughly half of a portfolio invested only in an Indian index. There is, thus, a powerful case for equity investment, into stock market indexes from all across the world, in pension fund management in India.

Simple-minded pension reforms do not work

The application of these ideas might suggest a simple-minded strategy of establishing a regulatory framework through which citizens obtain their own pension products in a decentralized way from financial firms. This approach has run into difficulties in many countries, and is particularly inappropriate in India.

If private financial firms offer defined benefit (DB) pension products, then there is a difficult regulatory problem attached to it. For a young person, a DB pension makes promises about payments 40 to 65 years into the future. Over 40 to 65 year horizons, in a healthy and competitive financial system, most financial firms normally exit the business through acquisition or bankruptcy. DB pensions sold by financial firms thus require a considerable apparatus of State regulation, and inevitably involve messy problems for the State when the firm experiences bankruptcy. This underlines the

importance of defined contribution pensions where there are no such problems.

The central difficulty with ‘simple minded pension reforms’ lies in the high fees and expenses charged by financial firms. In some countries, as much as a third of the lifetime contributions end up as payments to financial firms. Financial firms have an incentive to spend a lot of money on marketing and distribution, which helps them gain market share, and this money is paid by the pension accounts of their customers. Individuals worldwide have tended to be remarkably uninformed about the size of payments being made to their fund managers. Fund managers have an incentive to devise a large number of non-comparable products, so as to evade accountability through comparison of returns, and to confuse customers with high-pressure sales campaigns which encourage customers to buy each of these products.

These problems—of financial firms spending a lot of money on marketing and distribution—are alive and well with Indian mutual funds and particularly insurance companies. They illustrate the pitfalls of simple-minded pension reforms.

Another source of costs is the inevitable transactions costs and administrative costs. Transactions inevitably involve costs, and these costs generally have a fixed rupee value. When the transaction size is small, the rupee value of the transactions cost looms large. In India, where a large number of small-value customers would engage in a large number of small-value transactions, this is an onerous challenge. Similarly, each pension fund manager would inevitably suffer administrative and record-keeping costs. These costs would be large, in percentage terms, when there are small value account balances.

Put together, the implementation of individual accounts in India through simple-minded pension reforms suffers from daunting problems where a large fraction of the contributions would be used up for transactions, recordkeeping, administration, distribution, and marketing costs.

The new pension system (NPS)

In the late 1990s, the Ministry of Social Justice and Empowerment set up ‘Project OASIS’, which led to the New Pension System. The key ideas of the NPS are the centralization of recordkeeping, standardization of fund management products and competitive procurement of fund managers.

On the core tasks of transactions and recordkeeping, there are economies of scale. Instead of each fund manager maintaining a client database, it is cheaper to have a single centralized database. This is termed the ‘Central Recordkeeping Agency’ (CRA) in the NPS. Contribution flows from all individuals go up to the CRA, where netting takes place, and pension fund managers only get a single big transaction every day. This reduces costs of transacting and administration. The CRA also plays a useful function in enabling competition: through a single computerized instruction, a customer can switch from one fund manager to another. This is much easier, and cheaper, than the switching process seen with mutual funds or insurance companies today.

An extensive literature in financial economics suggests that the dominant determinant of investment performance is the asset allocation, and not security selection. The NPS envisages exactly three kinds of asset allocations. Scheme ‘A’ would have mostly government bonds, and a small share in corporate bonds and corporate equities. It would look similar to the existing EPFO-style asset allocation. Scheme ‘B’ would have a greater emphasis on corporate bonds and equities. Scheme ‘C’ would have a further emphasis on corporate bonds and equities. All fund managers selected into the NPS would produce exactly three products. Equity investment within all three schemes is expected to be implemented using index fund investment, thus yielding reduced cost and regulatory complexity.

From the viewpoint of the consumer, this simplification would simplify decision-making. Fund managers would be forced to

compete on performance and not on advertising, given the head-on comparability of performance. There is a lower role for high-pressure marketing when there are only three products.

Fund managers are recruited into the NPS through auction. Bidders are required to pre-commit a consolidated number for the grand total of fees and expenses that they would charge. A small number of lowest bidders would be the fund managers of NPS. So far, very low bids of 3 to 5 basis points per year have been obtained in these auctions. These prices compare favourably with the lowest prices seen worldwide in pension fund management.

Through these innovations, the NPS appears to be headed to becoming one of the lowest-cost individual account pension systems in the world. In an interesting and parallel set of developments, ideas much like the NPS were put into the 'Thrift Savings Plan' (TSP) in the United States which was set up in recent years for civil servants.

The NPS has been adopted by the centre and almost all state governments for new recruits after 1 January 2004. Three fund managers have been recruited through an auction, and a private firm (NSDL) has been contracted for construction of the Central Recordkeeping Agency. The NPS is expected to come to life in late 2008.

In 2008 and 2009, the primary task is that of making the NPS work, and of bringing in all employees recruited by central and state governments after the cut-off date. By 2010, the NPS should be fully operational. At that point, it should be possible for the State to reduce its pension liability by giving employees recruited before 1 January 2004 an option to shift into the NPS. Employees who choose to do this would be paid a certain amount into their NPS account on the first day, reflecting the pension wealth that they would have built up in the NPS if they had been part of it all along from their date of recruitment. This will further increase the size of the NPS, and reduce the pension liability of the State, albeit at the cost of a one-time payment.

Reaching into the unorganized sector

The NPS solves the problem of the pension liability of civil servants. However, civil servants are a small part of India's labour market. The real significance of the NPS lies in the fact that in the process of building the NPS for civil servants, some valuable institution building is taking place, and economies of scale are being achieved. The most important benefits of the NPS will come when it is scaled up to reach into the vast unorganized sector. Here, it will play a role in addressing the inclusion agenda, of bringing sophisticated finance to help improve the lives of millions of households.

In the unorganized sector, the NPS would, for the first time, offer an efficient mechanism for transferring consumption into old age. However, there are onerous difficulties of distribution, of reaching out to households all over India. The international experience suggests that voluntary participation in individual account pension systems is low. If the NPS uses the sales practices of mutual funds and insurance companies, then it would lose its core attributes of low cost. If the NPS does not use these sales practices, it might obtain few customers.

A few elements of a strategy for bringing the NPS into the vast unorganized sector can be outlined:

Outreach will be critically enabled by harnessing occupational groupings. As an example, UTI has established a pilot involving dairy farmers in Bihar. When the farmer sells milk to his cooperative, 10 per cent of the price for milk is deducted and sent upstream into a pension account. Organizations such as Sewa Bank have been active in carrying the idea of a pension account to their audience. They can be a valuable intermediary through which accounts are opened and contributions collected. These approaches would avoid the low cost of selling to individuals and interacting with them.

At a conceptual level, when a micro-finance firm such as Sewa Bank interacts with a household, it would require a series

of financial products through which various problems of risk management and consumption smoothing of the household are addressed. NPS constitutes the upstream infrastructure through which one element of this—pension planning—can be delivered by Sewa Bank to households at a low cost.

The government runs many welfare programmes, and generally faces daunting problems of achieving effective delivery of these programmes. The administrative strength of the NPS gives an alternative through which money can be delivered at a very high efficiency. This can best be done through co-contribution by the government.

Roughly speaking, if a person in the unorganized sector brings in a contribution of Rs. 500 a month, the government could come through with a co-contribution of Rs. 50. If a person brings in lower or higher contributions, he would not be eligible for this co-contribution. There would be leakages to the extent that some rich people would harness this benefit. However, it constitutes a transfer of only Rs. 600 per person per year and constitutes a small leakage. Such a co-contribution strategy has been used with much success in countries such as Mexico in increasing participation in the formal pension system on the part of individuals in the unorganized sector. This expenditure can be seen as replacing the direct poverty-alleviation expenditures that the State might have to otherwise undertake if the same individuals are destitute in old age.

The expansion of NPS into the unorganized sector through such methods would inevitably take time. Policymakers have to have fortitude in patiently applying these strategies to obtain results over time. There are no quick results to be had, and the short-cuts through which (say) 1 crore accounts can rapidly come about in the unorganized sector generally do violence to the essence of the NPS.

Over the years, a combination of low costs, equity investment and international diversification will yield superior results for households, and this message will go out by word of mouth. The tremendous price advantage—where charges such as 3 to 5 basis points in the NPS are 20 to 50 times smaller than those seen with mutual funds and insurance companies—will gradually influence the views of households.

The NPS has a great asset in terms of having millions of civil servants who are part of it, who will experience it and talk about it to their friends and colleagues. Civil servants are spread all over the country and are respected in their community. Over the long haul, patient communication with users of the NPS, and with the unorganized sector at large, will yield results in terms of expansion.

SUGGESTIONS FOR IMPROVING INDIAN DATA COLLECTION

Introduction

In a vast, diverse, largely rural country, the challenge of gathering information that is both relevant and accurate is daunting. These challenges have become even more complex with faster economic growth, the shift to greater deregulation of the economy (particularly in infrastructure and manufacturing) and with increased international openness in trade, finance, investment, and human movement.

This is not to suggest that the Indian data system has not been responsive to the changing needs of the economy. Over the last decade, the Indian data system has undergone significant changes in terms of institutional structure, improved methodology, reduced time lags, and expanded coverage.

In this regard, two recent landmark events have been the report of the National Statistical Commission chaired by Dr. C. Rangarajan (2001, see Box 1) and India's subscription to the Statistical Data Dissemination Standards of the IMF on 27 December 1996. Each of these initiatives has led to a large work programme to improve the statistical base of the Indian economy; and these efforts continue.

These initiatives have been complemented by continuing domestic efforts to modernize standards in corporate accounting (through SEBI and the Institute of Chartered Accountants of India (ICAI)) and in government

Box 1: Organizational Reforms Proposed by National Statistical Commission (Chair: Dr. C. Rangarajan)

The Report of the National Statistical Commission (2001) made a number of suggestions for improving the administration of the statistical system in India.

The Commission recommended the setting up of permanent apex statutory body 'National Commission on Statistics' which would be an independent statistical authority. The NCS was expected to be responsible for policy making, coordination and maintaining quality standards in statistical data. NCS was set up by an act of Parliament in 2006.

The Commission also made recommendations on organizational aspects of the Central CSO and NSSO as well as methodological issues related to statistical data generation to make them more effective. They had

proposed a methodological unit in NSSO to conduct studies in order to improve survey methodology.

The Committee emphasized the need to enhance the professional capabilities of staff that produces national statistics and recommended a number of steps towards achieving it.

One of the critical requirements of a good statistical data is strong legal backing for collection of data. Lack of this is now seriously impacting collection of key statistics like industrial production and wholesale price index. The Committee had recommended changes to the Collection of Statistics Act, 1953 to give it effective while taking into account the informant's right to privacy.

Source: Report of National Statistical Commission.

accounting (through the Government Accounting Standards Advisory Board, which is supported by the Office of the Controller and Auditor General). Both the World Bank and the International Monetary Fund remain deeply engaged with India's data collection institutions.

Given the span of issues covered in the present report, one can distinguish the following purposes and constituencies which would benefit from improved data.

First, there is a continuing need for a range of timely and credible leading and concurrent indicators of the cyclical position of the economy. These are essential both for sound policymaking and to help the financial markets to take a view of the likely future path of the economy, and price this view into financial instruments.

A second broad group of indicators has to do with risk management and the vulnerability of the economy. These are the indicators typically needed for multilateral (and financial market) surveillance. As such they are covered by the IMF's SDDS, and a review of the current status of these indicators is provided in the IMF's 2007 Article IV Consultation Staff Report.⁷

A third broad group of indicators has to do with the economic and distributional impact of government policy, of particular importance in an environment where

'inclusive growth' is an established overall goal of economic policy. These needs are substantially met by the various surveys of the National Sample Survey Organisation, which now also undertakes the All-India Debt and Investment Survey previously conducted by the Reserve Bank of India.

However, as noted below, the huge share of informal employment in total employment, and the growing share of the services sector in total output mean that infrequent surveys, no matter how careful, leave large gaps in our understanding of the mechanisms by which policy actions translate into household welfare. These gaps can only partially be filled by the efforts of data-gathering organizations outside government, commendable though these efforts are.

A related and much commented upon issue, is the widening gap between parameters (such as personal final consumption) estimated from household surveys, and their equivalent in the national accounts statistics (NAS).

Fourth, for planning development of new products, the business sector has a need for timely, geographically differentiated data on a range of topics. While some of this can be gathered by private enteritis, information is better treated as a public good, where the raw material is best financed by government, with subsequent analysis being performed by private firms.

Business cycle indicators

For effective decision making by investors, managers and policymakers information on business cycles (their leading, lagging and coincident indicators) is essential. The main leading indicators presently available come from the financial sector. Even here information on some key indicators, such as the actual rate of interest paid by the borrowers is missing; what are available are the prime lending rate (largely ignored by commercial banks in actual loan pricing) and a range of interest rates on treasury instruments. Despite the enormous

importance of informal finance to the bulk of India's economic agents, data that formerly was reported on cost of credit in informal financial markets has been discontinued.

A major lacuna in the leading indicators for the economy is the lack of seasonally-adjusted time series. While this can be done mechanically by many econometric packages, it is useful to have uniformly produced, official data for analysts.

Availability of data on consumption, investment, employment, capacity utilization, inventories and housing starts help to identify cyclical movements in the economy. Some issues in this regard are pointed out below.

- Private Final Consumption Expenditure data from the national accounts is now available at quarterly frequency with a three-month lag (Source: CSO). A monthly series (e.g., retail sales) with a shorter time lag would be desirable.
- Inventory/stock data is available at broad sectoral and manufacturer level but not at the retail level. Also the sales data on most variables is available at the manufacturer level and not at retail level. Data on retail orders for consumer durables or orders for new construction or for new machinery are not available on a monthly basis/quarterly basis. Deficiency of such data hinders the identification/prediction of turning points in industry.
- In case of construction, which has been an important driver of growth in recent years, there is no systematic information on housing-starts or housing prices. The information on housing loans provides only a partial coverage of the construction activity. Collating information on housing stocks, housing starts and housing prices should be given top priority. Regular collection of a few series on rural housing would also be helpful given the enormous importance of this sector for rural activity, employment, and the demand for such important industrial products as steel and cement.
- The lack of a comprehensive and reliable indicator of inflation is widely recognized. The existing measures of inflation (WPI, CPI and GDP deflator) differ with respect to coverage, time-lag, associated markets and purpose of use, but none of them can be considered as a representative measure of inflation in India. The key measure of

headline inflation—WPI—misses out on over 50 per cent of the economy. The need for a representative, comprehensive, and timely measure of inflation from the point of view of monetary policy targeting as well as financial market participants is very critical. Efforts have been on to construct a Producer Price Index (PPI) and a comprehensive CPI for urban and rural areas for quite some time. These efforts need to be intensified as existing measures of inflation are losing their relevance. The suggestions made by the National Statistical Commission are documented in Box 2.

Economic activity, employment, and asset behaviour

The unorganized sector forms an important part of the Indian economy, and bears the brunt of cyclical adjustment in the economy. Despite this importance, information on this sector's output is only available through the five-yearly Economic Census and the Enterprise Surveys conducted by the NSSO. The National Account Statistics do bring out estimates of value added for both the unregistered and registered parts of the manufacturing sector but not for the other sectors of the economy.⁸

Data gaps are equally serious in the services sector, which is now the largest and

Box 2: Recommendations of the National Statistical Commission for Improving Price Statistics

Currently the Wholesale Price Index is the measure of headline inflation in India. The latest data covers 435 commodities with 1993–94 as the base. The Commission had recommended frequent revision of base year to capture the changes in the structure of the economy, particularly the industrial structure. Since services sector which accounts for over 50 per cent of GDP is not covered by WPI, NSC had recommended a separate indicator for the services sector. No progress has been made on these suggestions.

The Committee had stressed the need to bring about uniformity in WPI compiled by various state governments and Union Territories in terms of base year, number of items, weighting diagram, data sources etc.

The Consumer Price Index (CPI) is used for a variety of purposes including the increments in wages. There are four different CPI measures in India; CPI-Industrial workers, CPI-Urban Non-manual Employees, CPI-Agricultural labourers, CPI-Rural Labourers. Coverage of each measure is limited to specific part of the population and none of them can serve as an all-India measure of inflation. The commission had recommended development of all-India consumer price index for rural and urban areas in 2001. It is yet to be released.

In the absence of legislation for collection of price data, the Commission had recommended that possibility of bringing it under the umbrella of Collection of Statistics Act, 1953 should be explored.

Source: Report of National Statistical Commission.

fastest-growing part of the economy. In many cases, output is indirectly estimated (such as in the estimates of value-added from trading activity). Even the value added from transportation is based on indirect estimates as direct information is available only for the registered sector. There are difficulties in collection of data through the Follow-up Enterprise Surveys of Economic Census for the household and unregistered sector which constitutes all unincorporated enterprises including proprietorship and partnerships run by individuals. The services sector includes a large segment of business and professional services. Moreover, newer services are coming into existence very rapidly which further complicates collection of data on this sector (see Box 3).

Reliable estimates of value-added at the sub-national level (state and district) consistent with national estimates of GDP published by the CSO would fill a major data gap. The need for sub-national GDP data is also being increasingly felt by businesses to facilitate their decision making, and would be of particular interest to modern, service-oriented small and medium enterprises who might wish to concentrate their activities only to a small geographic area. Coordination between state statistical departments and the

CSO would need to be improved for timely compilation and release of these statistics.

At present, the following important data gaps exist at the level of most states, particularly the poorer ones:

- No state-level data on savings and investment are available.
- Only partial data on export and import are available (inter-state).
- There are no official input/output tables.
- Time series estimates of GDP and Value of output at two or three-digit level for manufacturing (organized and unorganized) are not available.
- Sectoral Disaggregated GSDPs are missing.
- Government Final Consumption Expenditure data are only available at the aggregate level.

As noted below, the introduction of state-level Value-added Taxes (VAT), the expansion of the coverage of the Service Tax and the move to an integrated Goods and Services Tax (GST) generates data that might be used to fill out these gaps.

Public finance data

Emerging markets have been prone to a range of so-called 'capital account crises', largely stemming from perceived inconsistencies and mismatches of various agents in the economy. In India, according to the IMF source cited earlier, the external trade and finance accounts are reasonably transparent, although some issues remain in regard to remaining maturity of external debt and trade credit.

Weak public finances and a high gross public debt stock even though largely denominated in rupees, are known sources of vulnerability, and this vulnerability may well increase with further liberalization of the capital account. In such a situation, transparent disclosure can be an important mitigating factor, while also assisting in the deepening of the market for public debt. Some of the issues related to inadequate disclosure are highlighted below. Absence

Box 3: Data on Employment, Productivity, and Skills

In a country like India where the share of population in the working age group is already very high and is projected to rise in future, careful monitoring of both the employment situation and availability of skilled manpower is indispensable. This information is critical for designing policies, which will match skills and opportunities to generate sustained increases in productivity and growth.

The NSSO's Employment–Unemployment Surveys are the standard source of structural change in the employment picture. These are only undertaken at intervals of five years. Non-availability of employment data at shorter frequency is an important gap in the existing data set for effective policy/business decision making. Related to the employment is the information regarding education level/skill set of the workforce/prospective workforce. While the Population Census and the NSSO

does provide some information on these aspects, frequency of updates remains a serious issue. A data set on an annual basis is definitely needed/desirable.

Today we are faced with a situation where a large part of population is virtually unemployable due to the lack of requisite skill sets, in other areas there is a severe shortage of skilled manpower. For instance, the surplus labour from agriculture is potentially unemployable in the manufacturing sector and a large part of the services sector due to lack of skills. Without doubt the availability of a large workforce is inconsistent with emerging formal and sophisticated work environment. At the same time the financial sector is facing manpower shortage, which is pushing up wages. Availability of information on supply and quality of labour can facilitate a timely policy response to such a situation.

of such information also constrains fiscal analysis at both national and sub-national levels:

- Finances are maintained on a cash-flow, instead of accrual, basis. This militates against any objective assessment of operating efficiency of the governments, i.e., the parameters like collection efficiency, debtors, etc. cannot be ascertained.
- There is an inadequate segregation of transactions relating to revenue and capital expenditure. The problem is compounded by the fact that there is limited accountability of end-use of funds received towards a specific purpose.
- Project-level budgeting is absent, resulting in inadequate project monitoring and control over cost-over runs, if any.
- For many entities financial accounts are not audited for years together; as a result, the correct position of opening and closing balances are not available. In many instances, even the financial accounts are not prepared on a regular basis.
- Overall, lack of adequate transparency in financial disclosure reflects and reinforces low accountability in utilization of public funds.
- No disclosures are done with respect to public assets, their economic use, market value etc. The level of detail on both on-balance-sheet and off-balance sheet liabilities could be significantly enhanced.
- The estimates of debt at different levels of governments are also available with varying time lags. The debt of the public sector enterprises is not provided along with the government debt. The off-balance sheet borrowing is also only now beginning to be disclosed at the central government level. Corporate debt data are not available at more frequent intervals.
- Public accounts standards need to be reviewed and standardized to ensure that the data at the central government, state government and the local government and governmental bodies are consistent and follow fair accounting standards. The degree of divergence seen in treatment of accounting heads even between revenue and capital classification leads to disharmony and undependable data on public finance currently. (As already noted, a work programme to generate relevant standards in this area is currently underway under the auspices of GASAB.)

Data useful for financial product design and innovation

A critical organizing framework for any financial system is the flow of funds matrix for the economy. The flow of funds data captures the movement of financial flows from the sectors that serve as sources of capital through intermediaries like banks, mutual funds to the sectors that use capital to acquire assets. This is an essential tool to understand the relationship between financial sector and the real economy. The flow of funds accounts open up possibilities of examining the wealth effect and savings behaviour. In US, the Federal Reserve Board produces the flow of funds data. The flow of funds data was being reported for India till 1995–96. Its publication needs to be revived.

Although income data are collected by the NSSO for households earning wage and salary income, the standard indicator of household well-being collected by the NSSO is household consumption expenditure. As already mentioned, there are large and increasing gaps between growth in per capita household consumption as measured in the survey data and growth in per capita private final consumption in the national accounts.

While difficulty in collecting income data is understandable, consumption data alone cannot help much where income data becomes crucial for decision making. For example, decision-making with regard to insurance/health policy or products can be more effective only if income data is available. Regular time series data, preferably annual would be an important addition to the existing data set. Some surveys could also be specially designed to capture high income categories.

Other data issues

The split of the population as between urban and rural is reported only at the time of the

decennial census. It would be helpful if these data could be periodically updated based on purposive surveys.

With suitable privacy safeguards, there is need to put in place a system to capture the identity and key statistics of each citizen. A robust information infrastructure based on unique personal identifiers is critical to many areas of economic and financial activity such as directed citizen programmes (like food subsidy or unemployment benefit) and security perfection and repossession. Priorities include a system to capture the identity of nationals (like the social security number in the US), and a system to digitize land records (as done by the NSDL for equities).

With increased globalization, it is also essential that data on Indian securities and currencies that are held actually or nominally overseas be tracked through effective licensing of Indian leg of the transactions.

Another important issue relates to the reliability of data. With the liberalization of the economy, the inducement to industry to furnish regular and timely data to the government has reduced with adverse implications for quality and timeliness of data, particularly industrial production data. More teeth should be provided to the official data collection agencies to get the required data.

Harmonization of the data classification across activities, e.g., harmonization of National Industrial Classification (NIC) codes with trade data classification, would greatly enhance the combined utility and value of the data system.

A number of new initiatives/reforms in the last few years are generating a lot of useful information. The framework for centralization and integration of databases should be strengthened to ensure that new sources of information are captured in the database regularly and are also integrated with other databases. One prominent example is the introduction of the Value-added

Tax (VAT). It is important to integrate the information collected through VAT filing with other data bases in the economy. For example the VAT data base should be integrated with customs, excise, income tax, credit data from banks, etc., to improve its usefulness. This will facilitate efficient decision making and help in plugging revenue leakages.

Given rapid development of the financial system, and simultaneous divergence in service levels and penetration levels of various financial sectors, it is essential to formally track the provision of financial services to the entire population. The segments of population not serviced by basic financial services such as banking, insurance, pension and investment need to be tracked both in the urban and the rural sectors. This would be critical in shaping policy and direction of financial sectors' evolution towards more inclusive growth.

NOTES

1. See 'Projections of Investment in Infrastructure during the Eleventh Plan', Planning Commission, Government of India, October 2007.
2. According to our estimates, which use optimistic assumptions about India's savings performance, the share of financial savings to be channeled into infrastructure would have to rise from 23 per cent in 2006/07 to 33 per cent in 2011/12.
3. Between March 2001 and March 2007, commercial banks' infrastructure credit outstanding has grown at a CAGR of 53 per cent, partly due to a small starting base.
4. Many banks are close to cap on power projects, for example.
5. NBFCs can and do have access to mutual funds and insurance companies, but such access is typically limited.
6. Several banks in India have little or no exposure to infrastructure.
7. IMF Country Report No. 08/51, February 2008. Annex. V. www.imf.org.
8. For a more extended discussion of Indian output and employment data, and their implications for estimates of economic growth and productivity, please see, Barry Bosworth, Susan M. Collins and Arvind Virmani, 'Sources of Growth in the Indian Economy', in *India Policy Forum 2006/07*. Sage, New Delhi, 2007.