

India's solar power initiative is both audacious and laudable but could do with a little fine-tuning

Solar power is emerging as India's flagship renewables programme. The Modi government has taken the country's solar strategy to an entirely different level by ramping up the earlier National Solar Mission target of 20,000 MW by 2022 — which, five years ago, seemed more ambitious than realistic — to an eye-popping 100,000 MW. But an astonishing surge in investment interest in the last year makes even this audacious target seem not entirely unrealistic. The Adani group's plans to set up a 10,000 MW in Rajasthan with State government help are only the latest in a series of impressive proposals. These include the Bharat Heavy Electricals and PowerGrid Corporation's joint plans to set up a 4,000 MW solar park in Rajasthan, a 6,000 MW solar project by Reliance Power, a 1,000 MW proposed investment by the Hindujas, apart from expressions of interest by US-based Sun Edison and First Solar Inc, and China's Trina Solar (the world's largest maker of photovoltaic modules). A dramatic drop in per unit costs of electricity has brightened prospects. The increase in silicon cell capacity worldwide, with China and US being the chief producers, has led to a drop in solar power costs from ₹10-15 a unit about a decade ago to just ₹6-7 a unit now. India's natural advantage of 300 days of sunlight in a year and vast areas of wasteland in some States (even as 1 MW capacity needs five acres) makes large-scale generation of solar power an exciting option. The fact that a solar installation entails virtually no maintenance cost or logistical hassles associated with handling heavy equipment and materials, adds to the attraction. Policy incentives in the form of land on long-term lease as well as tax breaks and generation incentives, some of which are already in place, can work as a sweetener.

There is no disputing the economies of scale large projects provide. This is because even with falling silicon cell costs, installation and battery costs per unit are defrayed with size. However, the grid-connected solar could end up leaving out the last mile — which in India's case, could be a huge

All about a short-lived slowdown

And a pretty quick recovery. The new numbers on national income tell two stories about growth and investment

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The new numbers on national income have sprung a surprise. The data released at the end of January showed that the rate of growth of the Indian economy in 2013-14 was 6.6 per cent. The earlier estimate was 4.7 per cent (Table 1). The manufacturing growth in 2013-14 was 5.3 per cent as against the earlier estimate of (-) 0.7 per cent.

These data mean that the slowdown was more short-lived than thought and also that the recovery was quicker. The data made available on February 9, 2015, indicated that the growth rate in 2014-15 could be as high as 7.5 per cent which is not far below the potential rate of growth of the economy. For the first quarter of 2014-15, the growth rate has been revised to 7.0 per cent and for the second quarter to 7.8 per cent much above the 5.7 and 5.3 per cent respectively as per the previous estimates.

According to the old estimates, the growth rate in the second quarter was lower than in the first. The new estimates put it the other way round.

Needless to say, these are encouraging numbers. However, there is some scepticism because they do not match the ground-level perceptions. Some of the data such as those relating to new investments

also do not provide corroborating evidence.

Factors behind revision

The revision to national income numbers has come as a consequence of the change in the base year from 2004-05 to 2011-12 and because of revisions in the methodology of compilation and the inclusion of new data sources. The change in the base year always provides some shifts in the time series.

The shift this time appears to be deeper. The inclusion of new data sources is welcome. It should be noted that there have been considerable doubts about the level of manufacturing activity that was being reported.

In fact, the preliminary estimates based on the index of industrial production had to be revised substantially after the data on Annual Survey of Industries became available. This was in particular evidence in the sharp revisions made to national income estimates for 2009-10 and 2010-11.

The reports of the Economic Advisory Council to the Prime Minister on more than one occasion had pointed to the discrepancy between the two. Certainly, the incorporation of data from the annual accounts of companies is an extremely useful step. However, in the period of slowdown of the Indian economy, it was the corporate sector which was complaining bitterly about the decline.

Table 1
Growth rate of GDP & GVA (at constant prices)

Year	Old series GDP at factor cost	New series GVA at basic prices
2011-12	6.7	--
2012-13	4.5	4.9
2013-14	4.7	6.6

Given the overwhelming salience of the large sector, it is not possible that the growth was delivered by the small sector. However, if we were to take a deeper look at the manufacturing sector, we would find that the growth rate at constant prices of output in 2012-13 was (-) 1.8 per cent and that in 2013-14 was 4.3 per cent. These growth levels are easier to reconcile with the anecdotal experience.

Unclear reasons

Notwithstanding the wider coverage, at current prices, GVA at basic prices in 2011-12 series is lower than the GDP at factor cost in the 2004-05 series, in both 2011-12 and 2012-13. The aggregate is more or less the same in 2013-14.

Since we do not yet know what the outcome of the new methodology is for the years previous to 2011-12, it is not possible to identify what may have been the reasons for this.

However, in constant prices, the new series gives a higher growth rate than the old series because of the fall in the implicit GDP deflator. It may also be noted that in both 2012-13 and 2013-14, for the economy as a whole, at both current and constant prices, the increase in the value of input has lagged that of output. From this it has been argued that one of the reasons for the higher growth rate in the new series is due to improvement in the efficiency reflected in a higher proportion of value added to the total output.

Is there any other external evidence to support the thesis of greater efficiency in the use of material inputs? If this is a structural change, when did it happen? Apart from the change in growth

Table 2
Growth rate of GDP & GVA (at constant prices)

Item	2009-10	2010-11	2011-12	2012-13	2013-14
Gross fixed capital formation	31.7	30.9	31.8	33.6	30.4
Private corporate sector	10.2	10.4	9.4	11.2	8.5
Public sector	8.4	7.8	7.1	7.4	7.8
Household sector	13.2	12.7	15.2	15	14.1

rates which itself alters prior understanding of the recent trajectory of the economy, there is a significant change in the data relating to gross fixed capital formation and savings.

According to the new series, the gross fixed capital formation rate in 2011-12, 2012-13 and 2013-14 were 33.6, 31.4 and 29.7 per cent of GDP (Table 2). Thus, there was a decline in investment rate of nearly 4 percentage points of GDP during this period. But the most significant thing to note is that gross fixed capital formation rate in the private corporate sector remained more or less the same. It stood at little above 11 per cent of the GDP: it is the household sector (including unincorporated business) investment which declined from 15 per cent in 2011-12 to 10.6 per cent in 2013-14.

On the savings front However, the fact that in the previous series the private corporate sector had showed a decline in the fixed investment rate (from 9.4 per cent in 2011-12 to 8.5 per cent in 2012-13), the trajectory is actually reversed, going up from 11.2 to 11.8 per cent.

One of the explanations offered earlier for the slowdown in the growth rate was the decline in the private corporate sector's gross fixed capital formation rate from a peak of 14.3 per cent in 2007-08 to 8.5 per cent in 2012-13.

Of course we do not know what the new series would tell us about 2007-08. Perhaps the fixed investment ratio in 2007-08 by the private corporate sector was higher than

Table 2
Gross fixed capital formation at current prices (% GDP)

Item	2009-10	2010-11	2011-12	2012-13	2013-14
Gross fixed capital formation	31.7	30.9	31.8	33.6	30.4
Private corporate sector	10.2	10.4	9.4	11.2	8.5
Public sector	8.4	7.8	7.1	7.4	7.8
Household sector	13.2	12.7	15.2	15	14.1

reported in the previous series. There is some reason to suspect that this may have been so, as data gaps noted by a committee that I chaired on investment and savings some years earlier and the recommendations made may have been more fully reflected in the methodological changes introduced in the new data series.

Asimilar difference may be noted with respect to savings. Within the aggregate, only savings of the household sector show a decline as per the new series on account of the reduction in physical savings of the sector which is the contra entry from the investment side (Table 3). The private corporate sector savings rate is higher at 10.0 per cent of the GDP in 2012-13 as against 7.1 per cent under the old series. Gross financial savings of households are reported to have increased slightly, even as household liabilities rose in 2013-14, resulting in net financial savings of households of 7.0 to 7.3 per cent of GDP in 2011-12, 2012-13 and 2013-14 which are only marginally higher than in the previous data series.

It will be possible to get a clear picture of what happened only when CSO releases data on national income for the years prior to 2011-12 using the new base and changed methodology. As of now, there are two stories about growth and investment. With the currently available information, it is not easy to reconcile the two.

The writer was chairman of the Economic Advisory Council to the Prime Minister and governor of the RBI

Table 3
Domestic saving by type of institutions at current prices (% GDP)

Item	2009-10	2010-11	2011-12	2012-13	2013-14
1. Household sector	25.2	23.1	22.8	21.9	20.18
1.1 Gross financial savings	15.1	13.5	10.2	10.6	10.3
1.2 Less financial liabilities	3.1	3.6	3.2	3.3	3.3
1.3 Savings in physical assets	13.2	13.2	15.8	15.1	14.8
2. Private corporate sector	8.4	8	7.3	9.7	7.1
3. Public sector	0.2	2.6	1.2	1.4	1.2
Gross domestic savings (1+2+3)	33.7	33.7	31.3	33.9	30.1