

# Seeds of Doubt on New GDP Numbers

## Private Corporate Sector Overestimated?

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The estimates of the private corporate sector in 2012–13, using a new data set, seem to account for a substantial part of the upward revision of the economic aggregates in the new series of National Accounts Statistics. This brief note poses a few questions about their veracity.

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The revised series of the National Accounts Statistics (NAS) with 2011–12 as the base year (new series, hereafter), replacing the earlier series with the base year 2004–05, has attracted widespread criticism. For instance, the growth rate of the gross domestic product (GDP) for 2013–14 according to the new series was 6.6%, compared to 4.7% in the earlier series. The new and higher figure seems quite at odds with other economic indicators such as the growth in bank credit, the Index of Industrial Production and corporate performance. Many policymakers seem uneasy with the new series and have expressed a desire to continue using the older series for now.

The Central Statistics Office (CSO) says that the higher estimates of gross value added (GVA), savings and gross fixed capital formation (investment for short) in 2013–14 are on account of the use of an improved database (known as MCA-21) for the private corporate sector, in place of the Reserve

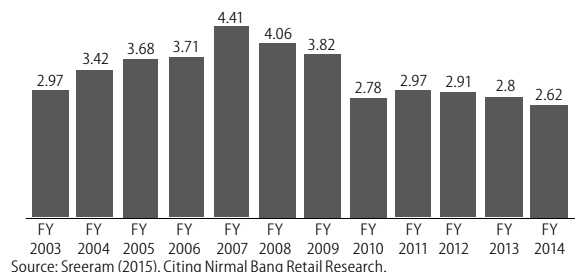
Bank of India's (RBI) thin sample of large firms with a high paid-up capital. To quote:

The more complete corporate sector database helps us describe corporate value addition in all the segments of the economy. The new series also describes growth in value added better, through its greater use of value linked indicators (CSO 2015: 7).

Prima facie, the change is welcome, as MCA21 is based on the corporate sector's statutory filing of financial returns with the Ministry of Corporate Affairs (MCA). But the question is, how accurate and representative is the new database, and what is the justification for the procedures used to arrive at the estimates. This note raises some questions about the veracity of the new estimates.

The scepticism can be buttressed with two pieces of evidence. Figure 1 shows the aggregate NIFTY stock's asset–turnover ratio—that is, revenue generated

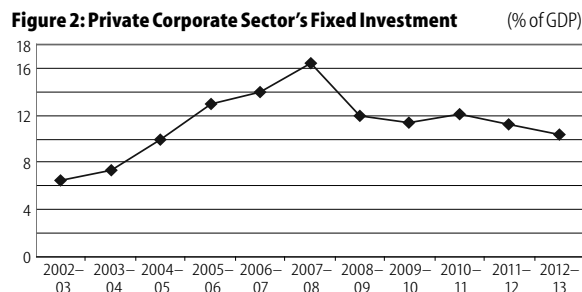
Figure 1: Asset–Turnover Ratio of Aggregate NIFTY Stocks



per unit of asset, a measure of capacity utilisation. It shows that the ratio has steadily declined from 4.41 in 2007 to 2.26 in 2014. As asset (or capacity) utilisation has declined, the investment rate

has come down, from 16% of GDP in 2007–08, to 10% in 2012–13 (Figure 2). Hence, the corporate sector's output growth is believed to have decelerated.

The CSO periodically revises the base year of the NAS to account for output diversification and for incorporating newer databases and improved estimates to better capture economic activity.



Source: National Accounts Statistics, various issues.

Hence, such revisions usually lead to a small change in the levels (absolute magnitudes) of the estimates, even at current prices. Seldom, however, is the case when the growth rates (in current or at constant prices) vary with the base year revision. This basic tenet of economic statistics has apparently been violated in the recent revision, causing serious apprehension among data users.

To understand the underlying statistical discrepancy, this article will briefly describe, in Section 1, the long-held and widely admitted infirmities in the estimates of the non-financial private corporate sector (PCS for short), and go on to demonstrate, in Section 2, the reasons for scepticism about the new series.

## 1 Context

The National Statistical Commission (2001) which had C Rangarajan as chairman had categorically stated:

There are more than five lakh companies registered in the Registrar of Companies (ROCs) but the actual number of companies, which are operating, is not known. This situation seriously affects the reliability of various estimates. An exercise conducted in March 1999 indicated that about 47% of the registered companies filed their balance sheet for the year 1997–98 with the ROCs. RBI studies on Company Finances are based on the annual reports and balance sheets of certain sample companies. In the absence of a reliable population frame, the RBI is not in a position to apply suitable sampling techniques. Further, the RBI is also constrained

by the poor response from companies and non-receipt of annual reports directly from the ROCs. The RBI's findings are thus based mainly on the data of responding companies and the Fact Sheets prepared by the DCA. The reliability of the estimates of gross savings and investment in the private corporate sector arrived at by blowing up the sample results available from the RBI's studies in proportion to the coverage of the paid-up capital (PUC) of the sample companies to the PUC of all companies has been questioned time and again (Vol 2, Annex 12, Section 12.1.8).

The foregoing shortcomings were substantiated by many investigations, two of which are mentioned here.

Examining the inconsistencies in the NAS and the Annual Survey of Industries data, Rajakumar (2003) had shown that the actual level of investment in the PCS for the 1990s was roughly one-half of the official estimates (Figure 3).

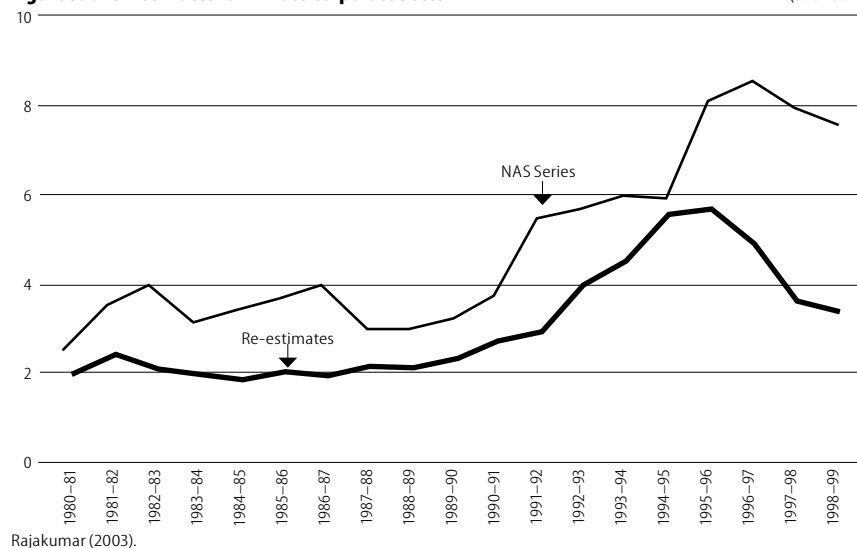
Comparing the estimates of value-added in PCS (implicit in the NAS) with alternative estimates derived using the Centre for Monitoring Indian Economy's (CMIE) corporate sector data, Nagaraj (2009) has contended that the official figures were significantly overestimated. For instance, for 2004–05, the official estimates were close to 18% of the net domestic product (NDP), while the alternative estimate was just about one-half of this ratio (Figure 4).

**Table 1: Estimates of Savings in Non-financial Private Corporate Sector** (current prices, in Rs crore)

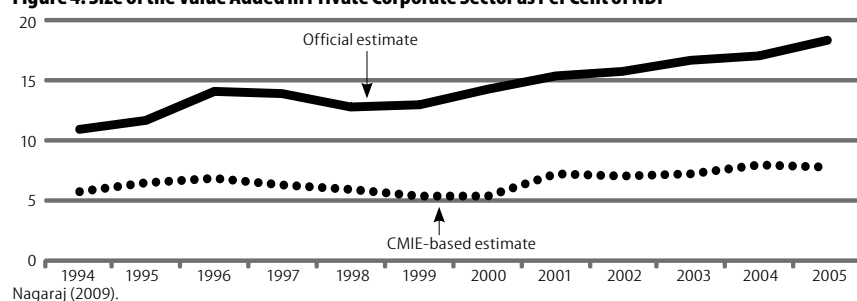
Item	2011–12		2012–13	
	2014 Edition	2015 Edition	2014 Edition	2015 Edition
Total non-financial PCS	2,08,672	6,75,278	2,09,467	7,48,047
Difference between 2014 and 2015 edition (%)		224		257
Estimated savings of NFPCS as per NAS 2014	6,30,391		6,89,273	
Change in level using MCA 21 over NAS 2014 (%)	-67	7.1	-69.6	8.5

Sources: *The Report of the Sub-Committee on Private Corporate Sector including PPPs* (Part I), dated 16 September 2014, Table 6.3, pp 25–26; *Final Report of the Sub-Committee on Private Corporate Sector including PPPs*, dated February 2015, Table 6.3, pp 24–25.

**Figure 3: GFCF Estimates for Private Corporate Sector** (% of GDP)



**Figure 4: Size of the Value Added in Private Corporate Sector as Per Cent of NDP**



**Table 2: Estimates of GFCF in Non-financial Private Corporate Sector** (at current prices, in Rs Crore)

Item	2011-12				2012-13					
	MCA-21		NAS 2014		MCA-21		NAS 2014			
	2014 Edition	2015 Edition	Difference with NAS 2014 in Per Cent		2014 Edition	2015 Edition	Difference with NSA 2014 in Per Cent			
Total non-financial PCS	7,24,118	7,99,215	8,44,795	-14.3	-5.4	7,15,891	9,58,722	8,46,382	-15.4	13.3
Difference between 2014 and 2015 edition (per cent)	10.4				33.9					

Sources: *The Report of the Sub-Committee on Private Corporate Sector including PPPs* (Part I), dated 16 September 2014, Table 6.5, pp 25–26; *Final Report of the Sub-Committee on Private Corporate Sector including PPPs*, dated February 2015, Table 6.5, pp 24–25.

**Table 3: Estimates of GVA in Non-financial PCS for 2012–13** (at current prices, in Rs crore)

Sector	MCA-21			NAS 2014	Difference with NAS 2014 (%)	
	2014 Version	2015 Version	Difference between the Two Versions of the Sub-committee Report (%)		2014 Version	2015 Version
1	2	3	4	5	6	7
Agriculture and allied	13,718	10,291	-25.0	38,729	-64.6	-73.4
Mining and quarrying	58,618	50,968	-13.1	13,573	331.9	275.5
Manufacturing	5,27,465	1,09,8741	108.3	8,20,160	-35.7	34.0
Elec, gas and water	27,261	60,099	120.5	23,059	18.2	160.6
Construction	1,09,895	1,43,969	31.0	1,05,742	3.9	36.2
Trade	48,776	99,261	103.5	2,94,352	-83.4	-66.3
Hotel and restaurants	16,514	21,449	29.9	42,907	-61.5	-50.0
Transport, storage and communication	1,94,527	1,83,900	-5.5	1,03,591	87.8	77.5
Real estate, renting and business services	4,01,284	4,79,948	19.6	4,00,507	0.2	19.8
Education	6,311	7,463	18.3	58,304	-89.2	-87.2
Health	24,389	25,186	3.3	24,418	-0.1	3.2
Other services	25,979	52,707	102.9	87,395	-70.3	-39.7
Total non-financial	14,73,532	2,23,3985	51.6	20,12,737	-26.8	11.0
Services sector sum total	7,36,574	8,69,915	18.1	10,11,474	-27.2	-14.0

Sources: *The Report of the Sub-Committee on Private Corporate Sector including PPPs* (Part I), dated 16 September 2014, Table 6.1, pp 25–26; *Final Report of the Sub-Committee on Private Corporate Sector including PPPs*, dated February 2015, Table 6.1, pp 24–25.

## 2 Veracity of New Series

It is in this context that one needs to appraise the veracity of the new series. The CSO's Sub-Committee on Private Corporate Sector including PPPs, while recommending replacing the RBI sample data with the MCA database in the new series, in its last meeting in September 2014 had finalised estimates for the sector that were significantly lower than the estimates published in NAS 2014 (based on the RBI sample data). The sub-committee approved the estimates for the PCS in light of the well-known shortcomings of the earlier estimates (as mentioned above).

However, the sub-committee's final report (CSO 2015a), now available in the public domain, has reported figures that are quite at variance (if not diametrically opposite) with the estimates reported in its 2014 version (not available in the public domain).

A comparison of the two versions of the sub-committee's report forms the basis for our doubts about the accuracy of the published figures. To be sure, both the versions of the sub-committee report are based on the same methodology, using roughly similar sample size—that is, 5.24 lakh and 5.23 lakh companies in the 2014 and 2015 versions, respectively.

Table 1 (p 15) shows the estimates of savings from various reports. For 2012–13, in the 2014 version of the subcommittee report, the PCS's savings were lower than the corresponding NAS 2014 estimate by 70%. But in the 2015 (final) version of the sub-committee report, PCS's savings were higher than the corresponding estimate in NAS 2014 by 8.5%. In other words, between the two versions of the sub-committee report, PCS savings shot up by an incredible figure of 257%! Can such a revision

be deemed reliable without prior careful verification?

A similar comparison for investment is reported in Table 2. For 2012–13, in the 2014 version of the sub-committee report, investment was lower than the corresponding figure in the NAS 2014 by 15 percentage points, but in the 2015 (final) version of the sub-committee report, the investment numbers are higher by 13.6%. In other words, the revision of estimates between the two versions boosted investment for the same year by 34%!

Likewise, for 2012–13, the GVA in manufacturing (which accounts for the bulk of PCS) has more than doubled (108% to be precise) in the 2015 version of the sub-committee report compared to the 2014 version. In comparison to NAS 2014 estimates, MCA-21 figures swing from –36% in the 2014 version of the report to +34% in the 2015 version. Detailed sector-wise variations are reported in Table 3.

In other words, the major factor underlying the improved GDP growth rates reported in the new series is apparently the result of a steep upward revision of the PCS estimates, as reported in the sub-committee's final report. But a wide gap between the publicly available PCS estimates and the previous version (that was approved by the sub-committee) gives rise to doubts about the veracity of the final estimates.

Quite possibly, the latter version of the report has corrected for probable errors in the earlier version. But how sure can one be about these numbers in the absence of credible verification?

The wide swings in the estimates obtained between the two versions using the same methodology with a roughly similar sample size, lead one to have doubts about the numbers. This is particularly so as the final estimates were not whetted or scrutinised by any independent expert body.

If the doubts expressed above are reasonable, then the onus is on the CSO to convince data users of the correctness of their methods and procedures to arrive at the estimates, and to account for such extreme swings in the estimates from one version of the report to another. In the interests of the credibility of

these most widely-used economic statistics, it would be eminently desirable for an independent professional review and statistical audit of the entire set of procedures.

It would also perhaps be a good idea to release the MCA-21 database in a suitable form to independent academic bodies for verification and validation.

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