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## GDP Data Revisions

The Central Statistical Organization (CSO) recently revised GDP data for 2008-09 and 2009-10. Interestingly, there was no supporting press release or notification informing of these changes. The data was simply changed in the database that CSO puts up on its website. The changes are large and wide with growth rates in some quarters being revised upwards significantly.

In its end note CSO says that data has been revised upwards taking into account estimates from New Series of Index of Industrial Production (IIP). Hence, the data has been revised upwards for 2008-09. The GDP and other aggregates from the years 2009-10 is as per press release issued on May 31, 2012. As data has been revised for 2008-09, growth rates in 2009-10 have also undergone a change.

### I. Analysis

In 2008-09, GDP (at Factor Cost) was earlier pegged at Rs 41, 62,509 Cr which has been revised lower to Rs. 41, 58,676 Cr. This implies that GDP growth in 2008-09 has been revised lower from 6.8% to 6.7%. Subsequently, GDP growth for 2009-10 has been revised upwards from 8.3% to 8.4%.

If we look at sectoral breakup, we see upward revisions in Agriculture and Mining & Quarrying. Downward revisions are seen in Manufacturing and all the three Services sub-sectors except construction. This implies in 2008-09, growth rate of Agriculture, Industry, and Services is at 0.1%, 4.1% and 9.3% compared to earlier data of -0.1%, 4%, and 9.5%. In 2009-10, we see the opposite with growth rate revised lower for agriculture and industry but higher for services because of base-effect.

Overall, on annual basis there are not many changes in the revised data compared to provisional data.

<b>Table 1: GDP Data Revision (in %)</b>				
	<b>Old</b>		<b>New</b>	
	<b>2008-09</b>	<b>2009-10</b>	<b>2008-09</b>	<b>2009-10</b>
Agriculture forestry & fishing	-0.1	1.3	0.1	1.0
Industry	4.0	9.1	4.1	8.9
Mining & quarrying	1.3	7.2	2.1	6.3
Manufacturing	4.2	9.8	4.3	9.7
Electricity, Gas & Water supply	4.9	5.9	4.6	6.3
Services	9.5	9.8	9.3	10.0
Construction	5.4	7.0	5.4	7.0
Trade, hotels & restaurants	7.5	10.1	7.2	10.3
Financing insurance real estate & bus. Services	12.5	8.9	12.0	9.4
Community social & personal services	12.7	11.9	12.5	12.0
<b>Gross Domestic Product</b>	<b>6.8</b>	<b>8.3</b>	<b>6.7</b>	<b>8.4</b>

*Source: CSO*

However, on quarterly basis one sees large changes. GDP has been revised upwards in Q1 2008-09 and Q2 2008-09 and revised lower in Q4 2008-09. In Q3 2008-09, there are changes in sector-wise growth rates but overall GDP growth remains unchanged. Interestingly despite large changes in



quarterly growth numbers, annual growth numbers change only marginally. So, the changes in quarters just seem to net out on an annual basis.

GDP for Q1 2008-09 and Q2 2008-09 has been revised upwards from 7.9% and 7.7% to 9.8% and 8.5% respectively. On the other hand, growth for Q4 08-09 has been revised sharply lower from 5.9% to 3.5%. This is the lowest quarterly growth numbers in the time series. This indicates economy had grown at a much higher rate in H1 2008-09. This was also the phase when RBI was increasing policy rates to lower inflation and reign in demand side pressures. It also shows that unlike previous data, Indian economy growth rate bottomed out in Q4 08-09 and not Q3 2008-09 as assumed previously. This was the also the phase when RBI was easing policy rates in the aftermath of the Lehman crisis. It is possible that if policymakers knew the revised growth rate of 3.5% in 2008-09 itself, the policy stimulus could have been much larger.

**Table 1: Quarterly GDP Estimates- Old Data (in %)**

	2008-09				2009-10			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture, forestry & fishing	2.0	0.8	-3.3	1.2	1.6	2.5	-1.4	3.3
Industry	6.1	5.9	2.8	1.4	5.7	8.5	9.8	12.0
Mining & quarrying	2.3	1.3	2.5	-0.6	7.5	7.0	5.4	8.8
Manufacturing	7.0	6.6	2.6	1.3	5.4	8.9	11.3	13.2
Electricity, Gas & Water supply	4.3	5.3	5.0	5.1	5.9	7.0	4.0	6.7
Services	10.1	9.7	10.0	8.5	9.5	11.7	9.3	8.8
Construction	9.4	6.7	0.7	5.3	4.4	5.8	9.2	8.4
Trade, Hotels & Restaurants	9.8	9.4	5.4	5.8	8.4	10.3	10.6	10.9
Financing, Insurance, Real estate & Business Services	11.8	11.4	12.3	14.3	11.2	10.6	8.3	6.0
Community, Social & personal services	8.9	10.0	23.6	8.9	13.0	19.3	8.0	8.4
<b>Gross Domestic Product</b>	7.9	7.7	5.8	5.9	7.5	9.8	7.4	8.6

*Source: CSO*

**Table 1: Quarterly GDP Estimates- New Data (in %)**

	2008-09				2009-10			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture forestry & fishing	2.9	1.1	-3.7	1.6	0.6	2.2	-1.0	2.9
Industry	10.2	7.7	3.2	-3.6	1.8	6.6	9.5	17.9
Mining & quarrying	3.0	2.3	3.4	0.1	6.7	6.0	4.4	8.0
Manufacturing	12.1	8.9	2.9	-5.2	0.5	6.6	10.9	21.0
Electricity gas & water supply	3.9	4.9	4.7	4.7	6.2	7.4	4.4	7.1
Services	11.5	10.3	9.9	6.2	8.2	11.1	9.5	11.2
Construction	9.3	6.6	0.6	5.2	4.5	5.8	9.2	8.5
Trade, hotels & restaurants	13.5	11.3	5.4	1.0	4.9	8.6	10.8	16.6
Financing insurance real estate & bus. Services	11.4	10.9	11.8	13.8	11.7	11.1	8.7	6.5
Community social & personal services	8.9	9.8	23.8	8.4	13.2	19.5	7.9	8.6
<b>Gross Domestic Product</b>	9.8	8.5	5.8	3.5	5.7	9.0	7.5	11.2

*Source: CSO*



Based on sharp quarterly revisions in 2008-09, one sees higher revisions in 2009-10 as well. In Q1 and Q2 2009-10 growth has been revised lower indicating a much slower recovery from the crisis than previously assumed. On the other hand the growth rate in Q4 2009-10 has been sharply revised to 11.2% from 8.6% based on old data. This is the highest quarterly growth rate registered by the Indian economy indicating a sharp recovery in Q4 2009-10 from the lows of 3.5% in Q4 2008-09.

This higher revision in Q4 2009-10 leads to policy issues like those seen in 2008-09. RBI began to raise policy rates from Mar-10 onwards. Economists have criticized that RBI was not as aggressive in raising policy rates in the early phases of rate tightening cycle of 2010-12. RBI has been defending saying that it was unsure of the growth trajectory in early 2010 and hence raised policy rates in “baby steps” of 25 bps in each policy. It is highly likely that RBI would have increased policy rates much more aggressively if it knew that growth rates were around double digits, which were clear signs of overheating.

In expenditure-wise analysis, major changes are seen in investments category. One sees higher revision in investments (Gross Fixed Capital Formation) in Q1 2008-09 and Q2 2008-09 and lower revision in Q4 2008-09. This leads to opposite changes in same quarters of Q4 2009-10. So, overall the analysis remains the same. However the sharp discrepancies in calculating GDP using two approaches viz. product-wise and expenditure-wise GDP still remain.

## **II. Conclusion**

The recent GDP data revision once again highlights several problems in reporting of economic statistics in the Indian economy. GDP growth numbers is a recent addition to these changes and frequent revisions in other economic data like inflation, core sector, IIP, External trade etc. Apart from the changes, CSO did not even inform market participants about the changes in the data. In the first release of it's excel file, it did not mention the reason for the change which was added only later on. These sudden and dramatic data revisions lead to multiple problems for analysis and policymaking as also highlighted above. RBI Governor, Dr. D. Subbarao in a speech given on July 17, 2012 had highlighted multiple challenges with respect to measurement and interpretation of statistics in the country. There is an urgent need to review and update the reporting system given the large size and increasing complexity of the Indian economy.



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