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Comparing IIP 1993-94 with IIP 2004-05

Central Statistical Organisation (CSO) just released Index of Industrial Production (IIP) based on new base year of 2004-05. This has been a much awaited release as IIP index was based on 1993-94 and Indian economy has undergone many changes since then. The release was important as it brings all the major data series (GDP, WPI Inflation etc) on a common base of 2004-05. This paper does a quick review of the two time series.

I. Composition of the New IIP

IIP index is classified in two ways – sector wise and use-based. Table 1 compares the weights in the two series.

Table 1: Change in IIP Sector Weights

	1993-94	2004-05	Change
Sector-wise			
Mining	104.7	141.6	36.9
Manufacturing	793.6	755.3	-38.3
Electricity	101.7	103.2	1.5
IIP	1000.0	1000.0	--
Use-based			
Basic Goods	355.7	456.8	101.1
Capital Goods	92.6	88.3	-4.3
Intermediate Goods	265.1	156.9	-108.2
Consumer Goods	286.6	298.08	11.48
Consumer Durables	53.7	84.6	30.9
Consumer Non Durables	233	213.5	-19.5
IIP	1000	1000	--

Source: CSO

- In Sector-wise, we see weight of manufacturing declining equaling the rise in weights of mining and electricity sub-sectors. Hence, manufacturing sector is likely to impact IIP growth lesser than it used to impact earlier. Though its contribution in IIP still remains high at 76%.
- In use-based classification, we see changes in all the categories. The weight rises in basic goods and decline in capital and intermediate goods. In consumer goods, we see rise in weight of consumer durables and declines in weight of non-consumer durable goods. This implies changes in basic goods would impact the overall IIP growth more than it was seen in previous time-series. Likewise, one would see lesser impact of intermediate goods compared to previous time-series.

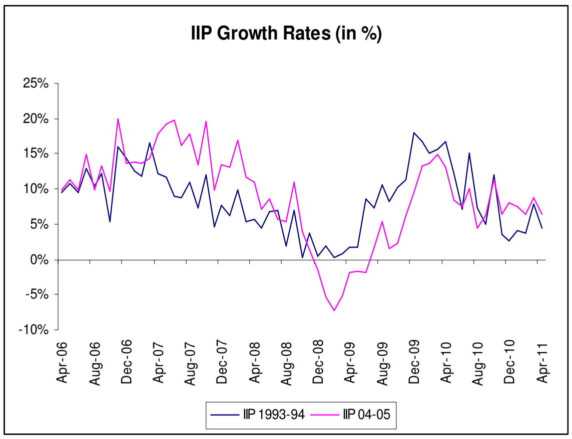
Another comparison is changes in weights of manufacturing sub-sectors. IIP 1993-94 series had further divided manufacturing into 17 sub-sectors. IIP 2004-05 series has changed this composition and increased it to 22 sub-sectors. Hence one cannot really compare the two series based on this classification barring a few categories. The list of sectors in the two series is given in Appendix 1.

II. Comparing growth rates in the two series

The markets had expected IIP growth in new series to be higher than the 1993-94 series. This was because new series would include items which are currently in demand and outdated items from the old series would be deleted.

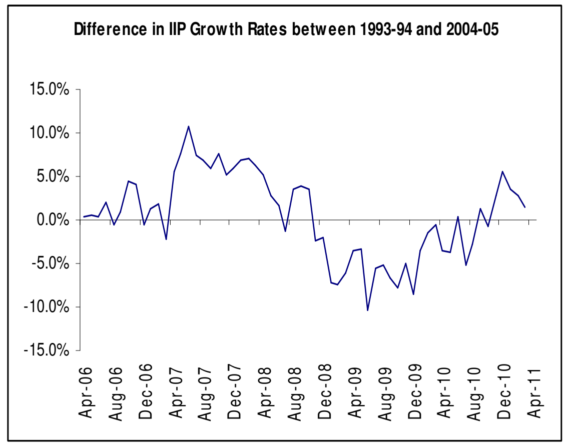
Figure 1 compares the growth rates between 1993-94 and 2004-05 series. We can see that growth rates are generally higher in IIP 04-05 from Apr-06 to Dec-08. From Apr-09 to Aug-10, growth rates are higher in 93-94 series. Since then, growth rates are higher in IIP 04-05 compared to IIP 93-94 series. This indicates that during expansions IIP 04-05 series shows higher growth rates but has shown lower growth rates during the global crisis phase.

Figure 1



Source: CSO

Figure 2



Source: CSO

This has important implications as if we had IIP 04-05 base-year earlier, it might have shown more robust industrial growth in high growth phase of 2006-08. It would have also shown more sluggish growth in crisis phase. This could have then had policy implications as well. It might have led to more policy rate hikes during previous expansion phase and more support for industry during global recession.

If we look at the average growth rates based on two series, we get a better picture.

Table 2: Sector – wise growth rate (in %)

	1993-94				2004-05			
	Mining	Manufacturing	Electricity	IIP	Mining	Manufacturing	Electricity	IIP
2006-07	5.2	12.8	7.3	11.8	5.1	14.9	7.3	12.8
2007-08	5.2	9.3	6.4	8.8	4.7	18.7	6.4	15.7
2008-09	2.6	3.5	2.7	3.4	2.6	2.9	2.8	2.9
2009-10	9.8	10.8	6.0	10.4	7.9	4.9	6.1	5.3
2010-11	6.2	8.5	5.6	8.1	5.4	8.9	5.5	8.2

Source: CSO, STCI PD Research

- As analysed above, we see higher growth rates during expansion phase of 2006-07 and 2007-08.
- In 2007-08, average growth rates are nearly double based on 2004-05 compared to 1993-94 time-series. The main revision is in manufactured sector growth which has been revised upwards from 9.3% to 18.7%.
- Based on 2004-05 base, average growth rates are lower in 2008-09 and 2009-10. In 2009-10, growth rates are half based on 2004-05 series compared to 1993-94. This is because of lower growth in both manufactured and mining sectors.
- In 2010-11, growth rates based on new base are only slightly higher than old base. This is again surprising as markets expected much higher growth rates in 2010-11. In H1 2010-11, industrial growth is lower as per new base and is higher than the old base in H2 months.

Use-based classification would give a more clear idea on what drives distinct growth patterns especially in 2007-08 and 2009-10. In Table 3, we look at just the differences in growth rates between 2004-05 and 1993-94 series for simplicity.

Table 3: Differences in growth rates between 2004-05 base and 1993-94

	Basic Goods	Capital Goods	Intermediate Goods	Consumer Goods	Consumer Durables	Consumer Non Durables
2006-07	-1.2%	1.9%	0.0%	6.0%	17.1%	1.5%
2007-08	1.9%	28.8%	-1.5%	12.1%	35.0%	2.4%
2008-09	-1.0%	5.3%	2.0%	-4.4%	7.4%	-10.8%
2009-10	-2.2%	-16.4%	-7.3%	0.5%	-6.1%	0.0%
2010-11	-0.4%	1.3%	-1.6%	0.7%	-7.3%	1.7%

Source: CSO, STCI PD Research

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- Basic goods have lower growth rates in each of the 5 years as per the new base year except 2007-08.
- Capital goods growth rates are on higher in new base year in all four years except 2009-10. Infact, higher growth in capital goods is a main reason for higher IIP growth in 2007-08 and lower IIP growth in 2009-10. As per the new base year, capital goods is even more procyclical with the business sentiment than the previous series.
- Trends in intermediate goods growth is mixed with lower growth in three out of the five years. It is lower in the last two years.
- In consumer durables, we see some surprises. First, the growth is higher in first three years and lower in last two years in the new base year series. Infact in 2007-08 growth is at a positive 33.3% compared to a decline of 1.7% in the old base year series. This implies nearly a difference of 35% in the two time-series. Then in 2009-10 and 2010-11 growth rates are lower compared to old series which is surprising. One would assume growth rates to be atleast on par if not higher in the new series.

  The reason is growth in consumer durables was seen as the major driver of growth in IIP in both 2009-10 and 2010-11. The reason given then was that the growth in consumer durables is because of the fiscal stimulus given during global financial crisis which led to more incomes in the hands of people (via NREGA and sixth pay commission). This led to higher consumption of consumer durables. However, this is not really the case as per the new base year data where growth rates are much lower. Though, average growth rates based on new series is still in double digits (Consumer durables average growth in 2009-10 and 2010-11 is 18.7% and 14.2%), it is much lower than reported in 1993-94 series (24.8% in 2009-10 and 21.5% in 2010-11). This has led to lower overall IIP growth in 2009-10 and has dampened the growth rate in 2010-11 as well.

This indicates that first consumer durables did not really rise as sharply due to fiscal stimulus measures. Second, higher interest rates in 2010-11 seems to be having some impact on consumer durables growth compared to very little impact derived from earlier figures.

- In consumer non-durables, one sees higher growth rates as per new base year in all years except 2008-09 where growth is lower by 10.8%.

Overall, one can say changes in IIP average annual growth in the new base year is mainly because of changes in growth of capital and consumer durables goods. They form large part of manufacturing sector as well, leading to changes in the same.

III. Comparing Volatility in the two series

The previous IIP index was criticized for being highly volatile and huge changes month over month were difficult to analyse. Volatility analysis shows that overall IIP volatility is lower in 2004-05 series compared to 1993-94 series. In sector-wise we see lower volatility in all the three sub-indices. In use-based, two sub-sectors have higher volatility (intermediate and consumer non-durables) and the other three have lower volatility.

Table 4: Volatility in Indices (in %)

	1993-94	2004-05
Mining	7.8	7.4
Manufacturing	7.3	6.4
Electricity	6.0	6.0
IIP	7.0	6.1
Basic Goods	5.5	5.6
Capital Goods	23.6	17.9
Intermediate Goods	4.8	5.2
Consumer Goods	6.0	6.0
Consumer Durables	8.8	7.6
Consumer Non Durables	7.5	8.6

Source: CSO, STCI PD Research

Based on this, new base year has lower volatility especially in capital goods sector. However, declines are just marginal in few sectors and even in capital goods it remains high. Overall, index design has improved but still volatility levels are higher compared to desired levels.

IV. IIP for Apr-11 at 6.3%

IIP index in Apr-11 was at 167.8 implying a growth of 6.3% (2004-05 base year). As per the old base year, growth rate was at 4.4% lower than market expectations of around 5%-6%. We will only discuss the trends based on new base year as it will form the basis for policy ahead.

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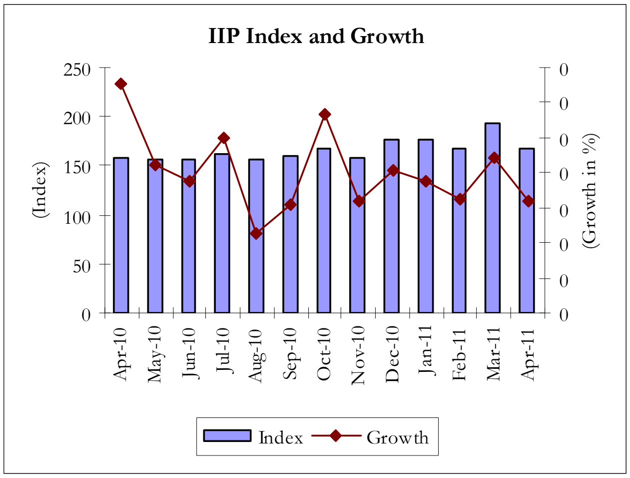
Figure 3



Source: CSO

Sector-wise: All the three sub-sectors grew at a slower pace in Apr-11 compared to Apr-10 (Table 5). Within manufacturing, sixteen out of twenty-two industries have shown positive growth in Apr-11.

Table 5: IIP – Sector-wise (Growth in %)		
	Apr-10	Apr-11
Mining	9.2	2.1
Manufacturing	14.5	6.8
Electricity	6.5	6.5
IIP	13.0	6.3
Source: CSO		

The industry group Office, accounting & computing machinery has shown the highest growth of 96.5%, followed by 22.9% in Motor vehicles, trailers & semi-trailers and 22.3% in Fabricated metal products, except machinery & equipment. On the other hand, the industry group 'Furniture' has shown a negative growth of 15.0% followed by 13.5% in 'Wood and products of wood & cork except furniture; articles of straw & plating materials'.

Use Based Classification: Except basic goods, lower growth is seen in all sub-sectors compared to Apr-10.

Table 6: IIP – Use Based Classification (Growth in %)		
	Apr-10	Apr-11
Basic Goods	6.7	7.3
Capital Goods	35.5	14.5
Intermediate Goods	11.8	3.5
Consumer Goods	13.8	2.9
Durable	23.3	3.8
Non -Durable	6.7	2.1
Source: CSO		

Capital goods growth is lower but is still in double digits showing investment demand is still present. As per the CSO press release, important items of capital goods showing high growth during the Apr-

11 include Heat exchangers, Computers, Sugar machinery, Textile machinery etc.

Consumer durables growth in Apr-11 is much lower than Apr-10. This as explained above is because of the new base-year which has shown much lower growth in consumer durables industry compared to older base. For instance, as per 1993-94 base year growth in Apr-11 is much better at 9.2%. One is seeing a higher impact of interest rate increases and lower growth sentiment on consumer durables. This is the main point of the IIP analysis based on the new series.

V. Summing Up

The new base year shows there was higher industrial growth in previous high-growth years of 2006-08. However, it also shows lower growth in crisis years of 2008-10. The changes in IIP growth rates are mainly driven by changes in growth of capital goods and consumer durables growth which is higher for both in growth years and lower during global crisis years. In Apr-11, one sees a higher growth rate compared to old base year but it is because of higher growth rate in capital goods but lower growth in consumer non-durables. As consumer non-durables has a higher weight than capital goods, former has depressed overall growth rates more than latter could boost it.

Overall base year comparisons show wide divergence in growth patterns. This was expected as Indian economy has undergone many changes. It points to more frequent revisions to base-year as then only we will get better trends of Indian industry. The data will also lead to revisions in GDP data and will likely lead to higher growth rates in 2006-08 and lower growth rates in 2009-10. For 2010-11, growth could be revised marginally upwards as IIP data has been revised upwards as well

This new base year has interesting policy implications. It shows capital goods growth remains high showing companies are demanding higher capital goods based on rising industrial/consumer demand. However, consumer durables growth is much lower showing people are not consuming as much and have lowered their expectations. In old base year we were seeing the reverse.

Based on this, it seems RBI will continue to raise policy rates though both the quantum and frequency of rate hikes is going to be limited. We expect RBI to increase policy rates by 50 bps in remaining period of FY 2011-12.

Appendix 1: Manufacturing Sub-Sectors (Weights in %)					
	2004-05 series			1993-94 series	
1	Food Products & Beverages	72.76	1	Food Products	90.83
2	Tobacco Products	15.7	2	Beverages,Tobacco and related Products	23.82
3	Textiles	61.64	3	Cotton Textiles	55.18
4	Wearing apparel; dressing and dyeing of fur	27.82	4	Wool, silk and man made fibre textiles	22.58
5	Luggage, handbags, saddlery, harness & footwear; tanning and dressing of leather products	5.82	5	Jute and other veritable fibre textils	5.9
6	Wood and products of wood & cork except furniture; articles of straw & plating materials	10.51	6	Textile products including wearing apparel	25.37
7	Paper and paper products	9.99	7	Wood and wood products (furniture & fixtures)	27.01
8	Publishing, printing & reproduction of recorded media	10.78	8	Paper, paper products, printing and allied industries	26.52
9	Coke, refined petroleum products & nuclear fuel	67.15	9	Leather and leather and fur products	11.39
10	Chemicals and chemical products	100.59	10	Basic Chemicals & Chemical Products (except products of Petroleum & Coal)	140.02
11	Rubber and plastics products	20.25	11	Rubber, Plastic, Petroleum and Coal Products	57.28
12	Other non-metallic mineral products	43.14	12	Non-Metallic Mineral Products	43.97
13	Basic metals	113.35	13	Basic Metal and Alloy Industries	74.53
14	Fabricated metal products, except machinery & equipment	30.85	14	Metal Products and Parts, except Machinery and Equipment	28.1
15	Machinery and equipment n.e.c.	37.63	15	Machinery and Equipment other than Transport equipment	95.65
16	Office, accounting & computing machinery	3.05	16	Transport Equipment and Parts	39.84
17	Electrical machinery & apparatus n.e.c.	19.8	17	Other Manufacturing Industries	25.59
18	Radio, TV and communication equipment & apparatus	9.89			
19	Medical, precision & optical instruments, watches and clocks	5.67			
20	Motor vehicles, trailers & semi-trailers	40.64			
21	Other transport equipment	18.25			
22	Furniture; manufacturing n.e.c.	29.97			
	Manufacturing	755.3			793.6

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