Position of Order Books, Inventories and Capacity Utilisation for the Quarters during October 2011 to September 2012*

Introduction:

The Reserve Bank of India while formulating its monetary policy stance considers several macro variables to assess the aggregate demand-supply position in the economy. Movements in order books, level of capacity utilisation and inventory level of corporates are among them. Higher growth in new orders, increase in the level of capacity utilisation and lower level of inventories are indicative of expansionary phase of the economy and *vice-versa*. Further, level of capacity utilisation above a threshold may be a sign of incipient inflationary pressure.

The Reserve Bank has been conducting the Order Books, Inventories and Capacity Utilisation Survey (OBICUS) of Indian manufacturing companies on a quarterly basis to gather this information. Among other central banks, Federal Reserve Board, USA tracks capacity utilisation in manufacturing, mining and electric and gas utilities, based largely on the Quarterly Survey of Plant Capacity Utilisation (Box-1)[1]. In the absence of a

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Box 1: Quarterly Survey of Plant Capacity Utilisation - USA

The Quarterly Survey of Plant Capacity utilisation is conducted by the US Census Bureau which is co-funded by the Federal Reserve Board and the Department of Defence. The purpose of the Survey is to provide statistics on the rates of capacity utilisation for the US manufacturing and publishing sectors on a quarterly basis. The Survey collects the plant's actual production, the estimated value of production at full production capability, and the estimated value of production at emergency production capability. Rates of capacity utilisation in US manufacturing and publishing plants are calculated. An industry's full utilisation rate is the ratio of actual value of production to the level of production at full production capability. A similar ratio is created for emergency production capability. It also collects data on work patterns by shift including number of days and hours worked, and number of production workers.

Survey Methodology

- The sample of manufacturing companies is selected from the list of manufacturing companies which is based on the Economic Census conducted by US Census Bureau. The latest available list contained approximately 210,000 manufacturing establishments and 13,000 publishing establishments. The list is updated every five years.

- The sample size is approximately 7500 establishments in each quarter.

- Sampling probabilities for the survey are assigned proportionate to a measure of size that approximates total annual value of shipments.

- The full production utilisation rate for an industry is estimated based on those plants in the industry reporting both the actual value of production and the full production estimate. Simple weighted estimates of the two variables are formed by applying the plant's sample weight to its respective values and adding these weighted values across the reporting plants.

- The utilisation rate for a particular industry group is formed as the ratio of the actual production weighted sum to the full production weighted sum for that given industry. Source: US Census Bureau - https://www.census.gov/manufacturing/capacity/index.html

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* Prepared in the Division of Enterprise Survey of Department of Statistics and Information Management. The previous article on the subject based on the 18th survey round (April-June 2012) was published in November 2012 Bulletin. The survey results are based on the replies of the respondents and are not necessarily shared by the Reserve Bank of India.

1   For a more detailed country experience, a reference may be made to the RBI Working Paper (No.5/2012) – Estimation of Capacity Utilisation in Indian Industries: Issues and Challenges.

comprehensive Business Register in Indian context, the sample for OBICUS is purposive and the companies are selected so as to get a good size-mix of industries. The survey schedule is canvassed among a fixed panel of 2,500 manufacturing companies sector which is common in many business tendency surveys. The information collected in the survey includes quantitative data on new orders received during the reference quarter, backlog orders at the beginning of the quarter, pending orders at the end of the quarter, total inventories with breakup of work-in-progress and finished goods (FG) inventories at the end of the quarter and item-wise production in terms of quantity and values during the quarter *vis-à-vis* the installed capacity from the targeted group. The level of capacity utilisation (CU) is estimated from the above data as per the selected methodology[2].

This article analyses the position of order books, inventories and capacity utilisation of the Indian corporate sector for the quarters during October 2011 to September 2012. As per the current methodology, analysis in each survey round is done based on data of a *common set of companies* for 13 quarters (including the survey quarter) to facilitate comparability. However, the survey being voluntary in nature, cannot ensure responses from the same set of companies every quarter and this leads to some variation in the data reported for the same quarter in different rounds.

In this article, analysis is based on the data obtained in the latest round (Round 19) of the survey covering the period Q2: 2012-13 (Section I). However, data for the same quarter from previous 4 survey rounds[3] are also presented to gauge the robustness of the analysis (Section II).

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[2]   The survey schedule and methodology used for the analysis have been provided in the article Quarterly Order Books, Inventories and Capacity Utilisation Survey: April-June 2011 (Round 14) in December 2011 Bulletin.

[3]   The analysis of the data for the survey quarters, Q3:2011-12, Q4:2011-12 and Q1:2012-13 were already published in the RBI monthly Bulletin, May 2012, August 2012 and November 2012 respectively.
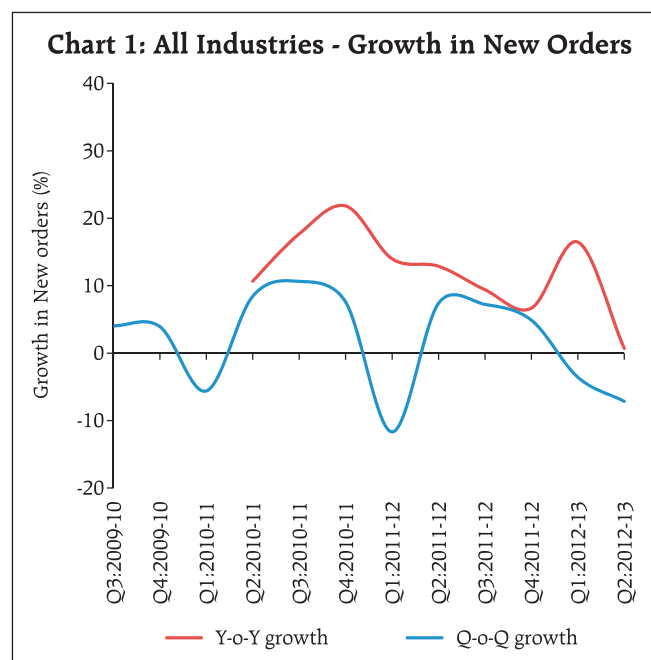
Section I: Findings of the Survey

This section presents the trends in survey parameters based on responses of the companies which reported in the 19th survey round and were common for the last 13 quarters (*i.e.*, Q2:2009-10 to Q2:2012-13). The related data tables are presented in **Annex.**

I.1 Order Books Growth Moderated

Growth (y-o-y) of new orders moderated in the recent period barring an intermittent spike in Q1:2012-13. In Q3 and Q4 of 2011-12 as also in Q2: 2012-13, the growth was lower than in the corresponding quarter of the previous year. High growth reported in Q1:2012-13, however, is not supported by the sales growth of listed companies. The Quarter-on-Quarter (Q-o-Q) growth in new orders, was also lower in Q4:2011-12, and it turned negative during the first two quarters of 2012-13 (Q1 depicting a seasonal trend) (Chart 1, Table 1).
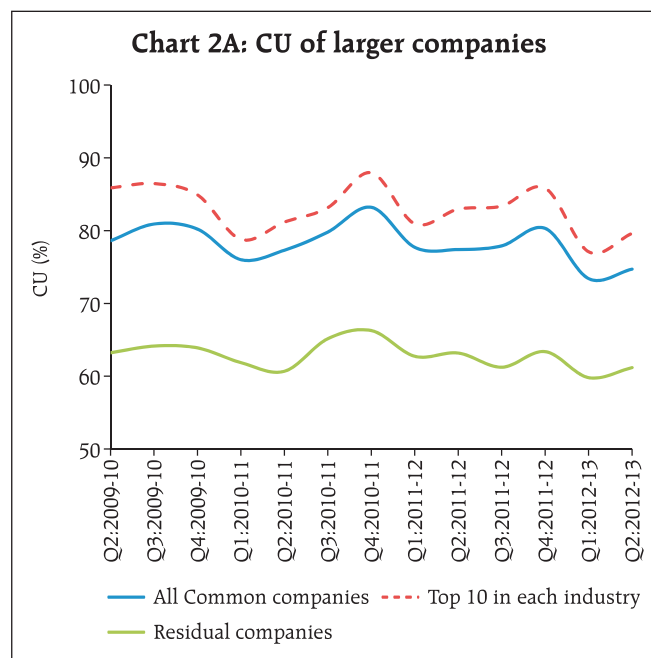
Disaggregated analysis revealed that larger companies (top 50 companies, which constitute of about 71 per cent of total order books in the sample) witnessed more contraction with 10 per cent decline in order books during Q2:2012-13.

Chart 1: All Industries - Growth in New Orders

I.2 Capacity Utilisation has remained lower

Capacity Utilisation level of Indian corporates depicts a seasonal behaviour with an upturn in the third quarter coinciding with festival season and peak in the last quarter of financial year, in line with the peaks seen in other major output indicators like real Gross Domestic Product (GDP) and Index of Industrial Production (IIP). During the period Q3:2011-12 to Q2:2012-13, CU level remained lower than that in the corresponding quarters a year ago. However, sequentially CU increased marginally in the latest quarter. The movements in CU are broadly in line with the movements in the de-trended IIP for manufacturing sector (Chart 2, Table 2).

A further disaggregated size-wise analysis of data indicates that CU levels were higher for larger companies in all the quarters. Taking top 10 companies from each industry-group (based on value of production in the latest survey round), it is observed that CU level for these group was nearly 20 percentage points higher than CU level of residual companies (Chart 2A and Table 2). There was also wide variation in CU level across companies. While about 20 per cent of the respondent companies having 45 per cent

Chart 2: Capacity Utilisation & De-trended IIP (Mfg)

weight to total value of production (VoP) had more than 90 per cent CU in Q2:2012-13, about 40 per cent of the respondent companies had CU level below 60 per cent in Q2: 2012-13 (Table 3).
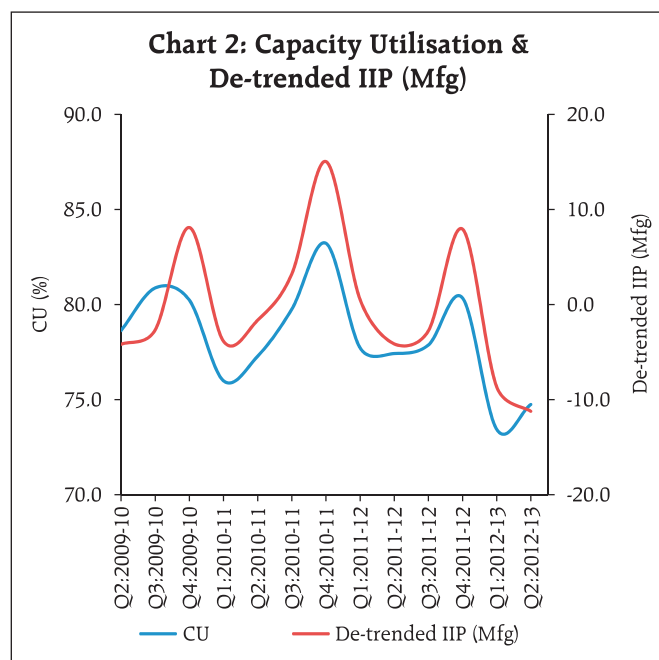
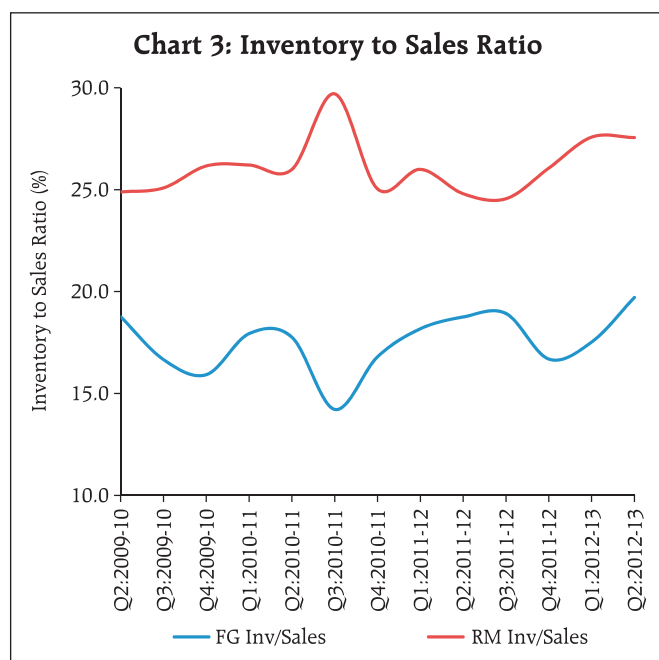### I.3 Finished Goods (FG) Inventories at Elevated Level

During the latest four quarters (Q3:2011-12 to Q2:2012-13), the average raw material (RM) inventory-to-sales ratio ranged between 25 per cent in Q3:2011-12 and 28 per cent in Q2:2012-13. The RM-inventory levels in the last two quarters were higher than those in the corresponding quarter of the previous year. As regards the FG-inventory-to-sales ratio, it remained higher in two out of four quarters under reference, confirming lower offtake (Chart 3, Table 4).

Section II: Validation of results of different rounds of Surveys (Round 16 to Round 19)

As already mentioned, estimated survey parameters undergo some change from one round to another due to change in constituent sample of companies. However, the above changes may not pose any problem as long as the trend observed earlier is retained.

The new orders growth (y-o-y) reported in rounds 16 to 19 of the survey varied the most in Q3:2011-12

Chart 3: Inventory to Sales Ratio

(Table 5). However, the observation that new order growth in Q3 and Q4: 2011-12 remained lower than the corresponding quarters of the previous year remained valid based on the results of all the rounds.

Similarly, capacity utilisation at the aggregate level in round 16 to 19 for the quarters Q3:2011-12 to Q2:2012-13 confirm that the CU level declined in the latest period from that in the corresponding quarter of the previous year (Table 6).

The FG inventory to sales ratio for the last four rounds of survey is provided in Table 7. It was observed that there were small variations due to change in the constituent set of companies and the broad conclusion remains valid.

Section III: *Concluding Observation*

The weakening growth of new orders, lower level of CU and/or high level of FG inventory to sales ratio indicate weak demand conditions in the manufacturing sector in the latest period.

The lifetime of OBICUS since 2007-08 so far has been characterised by unusually large macroeconomic fluctuations in the wake of the global economic crisis with attendant impact on the domestic economy. While the survey is intended to capture movements in critical business cycle indicators, it cannot be said with confidence at this stage that the Indian economy has witnessed a complete business cycle (peak-to-peak or trough-to-trough) during the survey's existence, and the future path of the Indian manufacturing sector is still evolving. Typically, in periods of relatively low growth and higher uncertainty, order books dwindle and capacity utilisation is low. This leads to postponement of investment for increasing capacity. In recovery phase, order books would increase and as economy gets closer to fuller capacity output with supply constraints leading to investment demand. The order-books and capacity are yet to revert to their pre-crisis peak levels.

Annex -Data Tables

Table 1: Order Books (Q2: 2009-10 to Q2: 2012-13) – Based on Round 19

Quarter ended	Amount in ₹ Billion			Q-o-Q growth (per cent)			Y-o-Y growth (per cent)		
	Avg Backlog order (466)	Avg New Order book (466)	Avg Pending order (466)	Avg Backlog order	Avg New Order book	Avg Pending order	Avg Backlog order	Avg New Order book	Avg Pending order
Q2:2009-10	1.49	1.04	1.53	-	-	-	-		-
Q3:2009-10	1.53	1.08	1.56	2.8	4.1	2.1	-		-
Q4:2009-10	1.57	1.12	1.57	2.6	3.9	0.3	-		-
Q1:2010-11	1.53	1.06	1.54	-2.5	-5.6	-1.7	-		-
Q2:2010-11	1.54	1.15	1.59	0.5	8.4	3.2	3.4	10.7	4.0
Q3:2010-11	1.59	1.27	1.67	3.4	10.6	4.8	4.0	17.7	6.7
Q4:2010-11	1.67	1.36	1.69	5.0	7.6	1.4	6.5	21.8	7.9
Q1:2011-12	1.67	1.20	1.66	0.0	-11.7	-1.9	9.2	14.0	7.7
Q2:2011-12	1.66	1.29	1.63	-0.8	7.4	-1.7	7.8	12.9	2.5
Q3:2011-12	1.63	1.39	1.70	-1.9	7.2	3.9	2.2	9.4	1.6
Q4:2011-12	1.70	1.46	1.67	4.2	4.9	-1.5	1.5	6.7	-1.2
Q1:2012-13	1.67	1.40	1.71	-1.8	-3.6	2.1	-0.4	16.5	2.8
Q2:2012-13	1.71	1.30	1.65	2.4	-7.1	-3.1	2.8	0.7	1.3

*Figures in brackets are number of companies reporting order books.

Table 2: Capacity Utilisation & Index of Industrial Production (Manufacturing) (Base: 2004-05=100) – Based on Round 19

Quarter	Q2: 2009-10	Q3: 2009-10	Q4: 2009-10	Q1: 2010-11	Q2: 2010-11	Q3: 2010-11	Q4: 2010-11	Q1: 2011-12	Q2: 2011-12	Q3: 2011-12	Q4: 2011-12	Q1: 2012-13	Q2: 2012-13
CU(per cent)	78.6	80.9	80.2	76.0	77.3	79.8	83.2	77.7	77.4	77.9	80.3	73.4	74.7
IIP MFG (Qtly avg : Base 2004-05)	158.1	162.0	175.1	165.4	169.8	176.8	190.7	178.2	175.5	178.8	191.4	176.7	176.0
De-trended Qtly-IIPMFG	-4.2	-2.7	8.1	-3.9	-1.7	3.2	15.0	0.5	-4.1	-2.8	7.9	-8.7	-11.2
CU of Large Companies	85.9	86.5	84.9	78.8	81.2	83.2	88.0	80.9	83.0	83.4	85.8	77.1	79.6
CU of others Companies	63.2	64.1	63.9	61.9	60.7	65.2	66.3	62.7	63.2	61.2	63.4	59.8	61.2

Table 3: Variation in CU across companies – Round 16 to 19

CU Range per cent	Weight per cent	Per cent of Total Respondent Companies (Round 19)	Per cent of Total Respondent Companies (Round 18)	Per cent of Total Respondent Companies (Round 17)	Per cent of Total Respondent Companies (Round 16)
		Q2:2012-13	Q1:2012-13	Q4:2011-12	Q3:2011-12
Above 90	45	21	20	28	25
80 to 90	14	13	14	14	15
70 to 80	16	14	16	13	13
60 to 70	9	13	12	11	13
Below 60	16	39	38	34	35

*Weight per cent is based on Value of Production of Companies in Q2:2012-13.

Table 4: Average Sales and Inventories and their ratios (Q2: 2009-10 to Q2: 2012-13)- Based on Round 19

Quarter ended	Amount in ₹ Billion					Ratio (per cent)		
	Avg Sales (891)	Avg Total Inv (891)	Avg FG Inv (891)	Avg WiP Inv (891)	Avg RM Inv	Total Inv/Sales	FG Inv/Sales	RM Inv/Sales
Q2:2009-10	2.88	1.48	0.54	0.22	0.72	51.4	18.8	24.9
Q3:2009-10	3.08	1.52	0.51	0.24	0.77	49.4	16.7	25.1
Q4:2009-10	3.30	1.62	0.53	0.23	0.86	49.0	15.9	26.2
Q1:2010-11	3.23	1.68	0.58	0.25	0.85	52.0	17.9	26.2
Q2:2010-11	3.38	1.75	0.60	0.27	0.88	51.7	17.8	26.0
Q3:2010-11	3.63	1.86	0.52	0.27	1.08	51.3	14.2	29.7
Q4:2010-11	4.07	2.02	0.68	0.31	1.02	49.6	16.8	25.0
Q1:2011-12	4.07	2.10	0.74	0.30	1.06	51.6	18.2	26.0
Q2:2011-12	4.10	2.12	0.77	0.33	1.02	51.7	18.8	24.8
Q3:2011-12	4.36	2.23	0.83	0.34	1.07	51.2	18.9	24.6
Q4:2011-12	4.80	2.41	0.80	0.36	1.25	50.2	16.7	26.1
Q1:2012-13	4.59	2.45	0.80	0.39	1.27	53.5	17.5	27.6
Q2:2012-13	4.77	2.64	0.94	0.39	1.31	55.4	19.7	27.6

FG: Finished Goods. WiP: Work in Progress RM: Raw Material
*Figures in brackets are number of companies reporting inventory.

Table 5: Order Books Y-o-Y growth Q3:2011-12 to Q2:2012-13 – Round 16 to 19

Quarter	Round-16 (548)	Round-17 (468)	Round-18 (467)	Round-19 (466)
Q3:2010-11	22.1	15.6	18.7	17.7
Q4:2010-11	21.2	22.2	22.8	21.8
Q1:2011-12	15.6	17.8	15.6	14.0
Q2:2011-12	17.7	16.0	12.9	12.9
Q3:2011-12	19.0	15.0	8.6	9.4
Q4:2011-12		9.0	3.5	6.7
Q1:2012-13			19.4	16.5
Q2:2012-13				0.7

*Figures in brackets are number of companies reporting order books.

Table 6: CU level for Q3:2011-12 to Q2:2012-13 – Round 16 to 19

Quarter	Round-16 (1207)	Round-17 (1167)	Round-18 (1154)	Round-19 (1135)
Q3:2010-11	75.9	75.7	78.0	79.8
Q4:2010-11	79.9	79.8	81.9	83.2
Q1:2011-12	74.9	75.0	76.3	77.7
Q2:2011-12	73.9	74.7	75.8	77.4
Q3:2011-12	75.9	75.6	76.2	77.9
Q4:2011-12		79.6	79.0	80.3
Q1:2012-13			72.9	73.4
Q2:2012-13				74.7

*Figures in brackets are number of companies reporting CU.

Table 7: Finished Goods inventory to Sales for Q3:2011-12 to Q2:2012-13 – Round 16 to 19

Quarter	Round-16 (933)	Round-17 (894)	Round-18 (906)	Round-19 (891)
Q3:2010-11	17.2	15.5	14.2	14.2
Q4:2010-11	15.9	17.4	16.6	16.8
Q1:2011-12	17.7	18.7	18.0	18.2
Q2:2011-12	17.9	19.6	18.8	18.8
Q3:2011-12	16.8	18.7	18.8	18.9
Q4:2011-12		16.5	16.4	16.7
Q1:2012-13			19.0	17.5
Q2:2012-13				19.7

*Figures in brackets are number of companies reporting inventory.