

Business Expectations Survey: Analysing Indian Data

*Sunil K. Sinha
National Council of Applied Economic Research, New Delhi, India
Parisila Bhawan,
11, I P Estate, New Delhi 110002
India
Email: ssinha@ncaer.org*

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I. Introduction

Business 'Expectations' or 'Confidence' surveys are now a regular feature in several countries. In India, apart from NCAER, some industry associations also carry out such surveys. Essentially these surveys attempt to assess the prevailing business conditions as faced by the firms and therefore act as barometer of the economy in the short run. The National Council of Applied Economic Research began conducting Business Expectations Surveys (BES) on quarterly basis since early 1991. A uniform methodology for calculating Business Confidence Index (BCI) was adopted in July 1993 (Round 7) and has been in use since then. The latest round of the survey for which data is available is 45th round and was conducted in July 2003.

II. Questionnaire and the Sample

There are about ten questions in each round. Options for each question are provided in the questionnaire and the respondent chooses the appropriate option. First section of the questionnaire collects information about the respondents name, designation, company name, address, industry segment, type of company (public, private etc.) and size. BCI is calculated on the basis of responses to four question namely overall economic conditions in the next six months, financial position of the firm in the next six months, present investment climate and the current levels of operation of the firm vis- à- vis its optimal capacity. There is one set of questions each seeking firm's response on conditions of labour (wage rate and employment across different skills) and costs of production. Another set of question is on the cost of funds today as also six months from now. Question is also asked on current and ideal level of inventory and sales orders. Question relating to prospects about sales, production, exports, imports and profits in six months from today is also asked from firms. Besides these regular nine questions, in every round one or two special questions are also asked. These questions vary and could be on investment, on impact of a particular policy change or a happening in the economy.

The canvassing of the questionnaire is done by post as also by personal interviews. Around 550 questionnaires are sent by post and an additional 500 are to be filled by personal interviews. The NCAER field offices and its networking institutions take up the job of canvassing the schedule through personal interviews in five cities namely Delhi, Mumbai-Pune, Calcutta, Chennai and Bangalore. Each field office or networking institution is expected to get 100 schedules filled. The sample for canvassing questionnaire is selected randomly from the Confederation of Indian Industry membership list and our own database. The list is updated from time to time. While selecting the firms an attempt is made to ensure representation for each sector and region in the sample. In case field offices or networking institutions are compelled to select industries outside the list to meet the target they make sure that balanced

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representation of firms in terms of size and sector is maintained in the sample. The response rate for schedules sent by post are around 10 per cent. An overview of the sample used for various rounds of the survey number of respondents in different categories is presented in Tables 1-3.

Table 1 : Survey Periods and Total Sample Size for Round 32 to Round 45		
Round No.	Month and Year	Sample Size
32	Apr-00	621
33	Jun-00	574
34	Oct-00	587
35	Dec-00	601
36	Apr-01	597
37	Jul-01	624
38	Oct-01	616
39	Jan-02	629
40	Apr-02	614
41	Jul-02	626
42	Oct-02	622
43	Jan-03	620
44	Apr-03	460
45	Jul-03	579

Table 2 : Distribution of Sample across Sectors and Regions (Average of Rounds 32 - 45)					
	East	West	North	South	Total
Sectors	Percentage of Respondents				
Cons.durables	10.4	12.6	24.1	12.1	15.3
Cons.Non-durables	21.1	15.4	16.4	9.5	14.4
Intermediates	29.9	39.5	28.3	35.8	33.5
Capital goods	11.9	23.9	13.1	24.6	19.3
Services	26.6	8.7	18.0	18.0	17.6
Total	16.1	19.3	27.8	36.9	100.0

Table 3 : Distribution of Sample across Sectors and Size Class (Average of rounds 32 - 45)						
	< 1	1 - 10	10 - 100	100 - 500	> 500	Total
Sectors	Percentage of Respondents					
Cons.durables	16.8	14.8	14.5	15.6	17.2	15.3
Cons.Non-durables	10.2	11.0	15.6	19.0	24.2	14.5
Intermediates	29.7	36.5	37.7	28.4	19.5	33.5
Capital goods	19.2	21.9	19.3	14.4	18.0	19.3
Services	24.1	15.9	12.9	22.6	21.0	17.4
Total	14.2	32.6	31.9	13.9	7.4	100.0

III. Estimation and Interpretation of Business Confidence Index

The NCAER Business Confidence Index is based on responses to four questions. Viz. overall economic conditions in the next six month, financial position of the firm over the next six months, investment climate now as compared to six months back and present level of capacity utilization relative to its 'optimal' level. The BCI is simply an aggregation of the 'positive' responses across respondents and scaling them to a 'base' or 'reference' level. A positive response for each of the four questions means that the respondent is assessing the situation to be 'better' as compared to 'same' or 'worse'. Until the 33rd round of the survey, the BCI used to be calculated as a simple average of the positive responses. In the 33rd round an attempt has been made to calculate the index based on a weighted average of the responses: the weights used are a mixture of GDP and IIP weights. Since service sector is also covered in the sample, responses from services and manufacturing are aggregated based on GDP from the two sectors. Within manufacturing, responses are aggregated based on IIP weights (1993-94 base). The sub-sectors in manufacturing are (1) Consumer durables, (2) Consumer non-durables, (3) Intermediates including basic goods and (4) Capital goods. Within the services, the respondents are mainly from the 'business services' segment and hence the GDP weight (1993-94) relevant for this sector is used for aggregation.

The BCI for unweighted and weighted alternatives is specified as,

$$BCI_UW_t = 100 * \{ (\sum_i \sum_j \sum_m PR_{ijmt}) / (N^s + k_i + N^q) \} / \{ (\sum_i \sum_j \sum_m PR_{ijm0}) / (N^s + k_i + N^q) \}$$

$$BCI_W_t = 100 * \{ (\sum_i w_i \sum_j \sum_m PR_{ijmt}) / (N^s + k_i + N^q) \} / \{ (\sum_i w_i \sum_j \sum_m PR_{ijm0}) / (N^s + k_i + N^q) \}$$

Where,

BCI_UW = unweighted BCI,

BCI_W = weighted BCI,

PR= 1 if the response to the m'th question by j'th respondent of i'th sector is 'positive' and zero otherwise,

w = weight attached to a sector,

k_i = number of respondents from i'th sector,

N^s = number of sectors into which the respondents are classified (5),

N^q = number of questions posed to the respondents for construction of BCI (4),

t = subscript to identify the 'round' number; value zero is attached to the 'base' or 'reference' period.

The index attaches equal weight to all the questions in the two alternatives that is weighted and unweighted. Further, based on a reclassification of the responses, unweighted BCI is also estimated at the sectoral, regional and 'size-class' level. This is done to discern the patterns at a more homogeneous grouping of the respondents. In each case, the 'base' level index used is the percentage of positive responses out of all responses.

The unweighted BCI is a simple average of all the positive responses in a particular 'round' of the survey relative to such responses in the 'reference' round. If the BCI increases, it is due to

the larger proportion of positive responses. The positive responses may increase for a specific question, sector or region. Thus, if the change in responses is sufficiently large, it can lead to change in the BCI relative to its level in any other round. A higher level BCI reflects greater 'optimism' of the business sector about the performance of the economy. In other words, BCI reflects the expectations of the business sector in the short-term future. A 'better' outlook for the economy in the next six months, a 'better' financial position of the firm in the next six months, a 'better' climate for investment now and 'better' level of capacity utilization relative to 'optimal' level now, all imply an 'optimistic' assessment of the economy. Such a situation can be expected to prevail when the firm itself is doing well, and the industry at a general level (across several sectors) is also doing well. A 'pessimistic' scenario, on the other hand, can prevail when either the firm or across several sectors other firms are not 'doing well'. In general, BCI is expected to be high when the economy is in an expansionary phase and lower when there is a declining growth and uncertainty of growth. Also a situation may arise where the current levels of capacity utilization is below its 'optimal' level, investment climate is poor, but there may be signs of improvements that the respondents 'perceive' in terms of overall economic conditions, the BCI may rise relative to the previous period. This is when the BCI can be a 'leading indicator' of the economic activity.

BCI at the sectoral level or regional level or at the level of a size-class reflects the experience or expectations of a more homogeneous group of respondents. For example, the regional level BCI would capture the more 'uniform' macro environment faced by the respondents in terms of local infrastructure, social-political situation and regional level policies. It should also be noted that while a 'region' has the connotation of a large geographical coverage, the survey is limited mainly to large cities: such as Pune-Mumbai in West, Chennai and Bangalore in the South, Delhi and its neighbourhood in the North and Calcutta in the East. There are respondents from other areas but the bulk of the responses are from the cities noted above. Hence, the regional level BCI does indeed capture a more uniform overall business environment. In the case of 'sectoral BCI', the demand and price conditions faced by the firms are likely to be more uniform. While firm-level efficiency may vary, there would be greater uniformity in the market conditions faced by the respondents. Finally, the size-wise distinction is useful as it captures the impact of policies that may have a 'size' orientation. For example, credit policies treat small enterprises differently from the larger enterprises. Tax policies affect smaller and larger firms differently. Also firms may vary in technical efficiency across size-class due to different factors. The survey results are, therefore, examined at the level of regions, sectors and size-groups.

Comparison of the weighted and unweighted BCI at the aggregate level shows that the two series for the 14 rounds of the survey move nearly identically (Fig 1). Turning points in the unweighted index are matched by the weighted index in all the rounds that are considered. The simple correlation coefficient between the two BCI works out to 0.935. In other words, for all the 14 rounds, both the weighted and unweighted BCI provide the same estimate of the 'business confidence'.

IV. Variations in the Business Expectations

Trends in BCI

The similarity between the weighted and unweighted overall BCI suggests that the expectations or assessments of the economic conditions in different sectors may be the same

or uniform. While such similarities can be the outcome of the predominance of the macro level conditions, the business conditions would differ at the sectoral or firm level. In Table 4, therefore, we present the mean and coefficient of variation of the BCI for different sub-groups of the respondents.

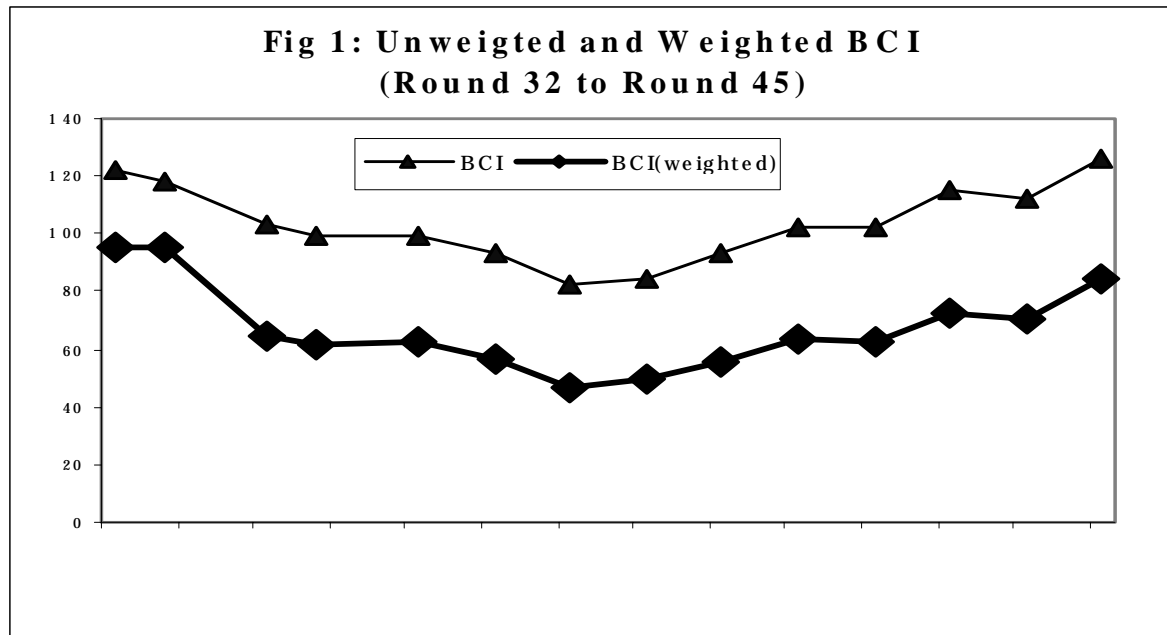


Table 4 : Patterns of BCI Between Round 32 and Round 45			
Sub Group	Mean	Standard Deviation	CV
Sectors			
CND	92.8	20.1	0.216
CD	90.1	18.0	0.199
Intermediates	81.5	22.4	0.275
Capital Goods	85.3	22.6	0.265
Services	102.4	23.7	0.231
Region			
East	84.3	17.5	0.207
West	79.2	25.9	0.328
North	100.7	21.8	0.217
South	87.1	21.7	0.249
Size			
<1	70.7	21.5	0.304
1-10	80.5	21.1	0.263
10-100	93.5	22.2	0.237
100-500	101.2	24.5	0.242
>500	106.5	24.1	0.227

In terms of the 'level' of business confidence or the BCI, there are variations within and across the selected sub-groups of the respondents. Within sectors, the average BCI is the highest in the case of services followed by consumer non-durables. The high level of BCI in services is consistent with the growth of services sector in last three years. Variability over the

rounds, measured by the coefficient of variation, is the highest in the case of intermediate goods sector, followed by the capital goods sector. The variability is the least in the consumer durable sector. Combined with reasonably high BCI and low variability, consumer durable segment of manufacturing has experienced consistently more stable business conditions. In the case of intermediates and capital goods, large variability suggests business conditions have fluctuated substantially over the different rounds.

Across regions, BCI has been highest in the North and followed by South. However, the variability in BCI is lowest in the East followed by South. Across size groups, larger firms have generally higher BCI and lower variability.

Trends in Domestic sales, Production, Exports and Import of raw material

As the business conditions vary for different subgroups it would be worthwhile to analyse the variability of the positive responses of firms with respect to domestic sales, production, exports and import of raw material at the sectoral level (Table- 5).

Table 5 : Pattern of Domestic Sales, Production, Exports and Imports between Round 32 and 45			
Sector	Mean	Standard Deviation	CV
Domestic Sales			
Consumer Durable	71.9	4.59	0.064
Consumer Non-Durable	68.2	4.74	0.070
Intermediates	63.0	6.57	0.104
Capital Goods	63.9	6.14	0.096
Services	66.2	7.40	0.112
All Sectors	65.9	4.59	0.07
Production			
Consumer Durable	70.9	3.49	0.05
Consumer Non-Durable	68.0	4.07	0.06
Intermediates	64.3	5.99	0.09
Capital Goods	65.0	6.34	0.10
Services	56.2	10.91	0.19
All Sectors	65.5	4.11	0.06
Exports			
Consumer Durable	54.1	8.00	0.15
Consumer Non-Durable	55.7	6.14	0.11
Intermediates	48.9	4.79	0.10
Capital Goods	46.4	8.49	0.18
Services	53.0	4.35	0.08
All Sectors	50.7	3.63	0.07
Imports			
Consumer Durable	42.9	9.85	0.23
Consumer Non-Durable	44.3	6.71	0.15
Intermediates	38.8	3.84	0.10
Capital Goods	39.9	7.77	0.19
Services	40.5	6.95	0.17
All Sectors	40.4	3.39	0.08

In the case of domestic sales, the average positive response over the round is found to be highest for consumer durable sector followed by consumer non-durables. Also the variability over the rounds for domestic sales is lowest for these two sectors. On the other hand, the coefficient of variation for domestic sales is highest for services sector. Relatively higher variability in the positive responses for domestic sales is indicative of the uncertain prospects faced by the IT firms due to overall melt down in IT and IT related activities in the years 2000-01 and 2001-02.

With regard to production the scenario is broadly similar to domestic sales. Once again the consumer durables and consumer non durables show higher average positive response and lower variability indicating that on both domestic sales and production front they experienced relatively more stable business conditions as compared to other sectors between round 32nd to 45th of BES Survey.

Although consumer durables and non-durables show higher average positive response even in the case of exports and imports of raw material they also show relatively higher variability. In fact in the case of import of raw material consumer durable sector shows highest variability. The other sector that shows relatively higher variability not only for exports and imports of raw material but also for domestic sales and production is capital goods. With investment slowing down since mid nineties and yet no signs of the same picking up in spite of industrial growth showing healthy growth in 2002-03 as also H1: 2003-04, capital goods sector has been facing uncertain future. Moreover, constant and arbitrary changes in the customs duty structure during the past few years for importing capital goods has only added to the uncertainty plaguing this sector. For example, an abrupt reduction of customs duty on textile machinery from 25 per cent to 5 per cent in the budget 2003-04 on the one hand has made the investment of the recent past in textile machinery unviable and on the other hand it has also made some of the domestic textile manufacturers uncompetitive.

Interdependence between BCI and Its Component

While the four questions would be inter-related with the over all BCI, the responses to each of the four questions may also be inter-linked to each other when there is a continuation of the trend in business conditions over time. However, when the business conditions are changing, there may be differences in the judgement relating to overall or macro conditions and the firm level or micro level environment. The correlation between the responses to different questions and BCI both at the aggregate level as also at sectoral level is presented in Table 6.

The simple correlation coefficient between the overall BCI and its four components suggest that each of the four components is fairly closely related with the BCI. But, relatively the capacity utilization is less important in judging the overall BCI. This however is not at the desegregated level. In the case of consumer durable and intermediate goods sector the correlation between the BCI and its four components is highest for capacity utilization.

Table 6 : Correlation Coefficient between BCI and its Components					
Sector / BCI Component	Economic Condition	Financial Position	Investment Climate	Capacity Utilisation	BCI
	A1	A2	A3	A4	A5
Overall					
A1	1.000	0.940	0.935	0.853	0.978
A2	0.940	1.000	0.912	0.919	0.977
A3	0.935	0.912	1.000	0.826	0.965
A4	0.853	0.919	0.826	1.000	0.918
A5	0.978	0.977	0.965	0.918	1.000
Consumer Non-Durable					
A1	1.000	0.774	0.812	0.350	0.762
A2	0.774	1.000	0.623	0.699	0.922
A3	0.812	0.623	1.000	0.132	0.598
A4	0.350	0.699	0.132	1.000	0.855
A5	0.762	0.922	0.598	0.855	1.000
Consumer Durable					
A1	1.000	0.760	0.673	0.594	0.820
A2	0.760	1.000	0.373	0.663	0.800
A3	0.673	0.373	1.000	0.238	0.526
A4	0.594	0.663	0.238	1.000	0.933
A5	0.820	0.800	0.526	0.933	1.000
Intermediates					
A1	1.000	0.919	0.966	0.444	0.796
A2	0.919	1.000	0.908	0.592	0.872
A3	0.966	0.908	1.000	0.538	0.850
A4	0.444	0.592	0.538	1.000	0.893
A5	0.796	0.872	0.850	0.893	1.000
Capital Goods					
A1	1.000	0.838	0.870	0.160	0.628
A2	0.838	1.000	0.814	0.280	0.747
A3	0.870	0.814	1.000	0.323	0.836
A4	0.160	0.280	0.323	1.000	0.697
A5	0.628	0.747	0.836	0.697	1.000
Services					
A1	1.000	0.926	0.738	0.694	0.906
A2	0.926	1.000	0.885	0.688	0.923
A3	0.738	0.885	1.000	0.494	0.775
A4	0.694	0.688	0.494	1.000	0.906
A5	0.906	0.923	0.775	0.906	1.000

Further, when we look at the correlation coefficients only among the four components of BCI we find that there is relatively closer interdependence between the responses to economic conditions, financial position and investment climate. The link between capacity utilisation and the economic conditions or the investment climate is relatively weak. This pattern is true even at the sectoral level.

Table 7 : Correlation Coefficient between BCI, Domestic Sales, Production, Exports and Imports					
Sector	BCI	Domestic Sales	Production	Exports	Imports
	A1	A2	A3	A4	A5
Overall					
A1	1.000	0.889	0.852	0.733	0.669
A2	0.889	1.000	0.934	0.760	0.646
A3	0.852	0.934	1.000	0.613	0.557
A4	0.733	0.760	0.613	1.000	0.833
A5	0.669	0.646	0.557	0.833	1.000
Consumer Non-Durable					
A1	1.000	0.628	0.756	0.309	0.482
A2	0.628	1.000	0.934	0.760	0.646
A3	0.756	0.934	1.000	0.613	0.557
A4	0.309	0.760	0.613	1.000	0.833
A5	0.482	0.646	0.557	0.833	1.000
Consumer Durable					
A1	1.000	0.547	0.712	0.231	0.358
A2	0.547	1.000	0.934	0.760	0.646
A3	0.712	0.934	1.000	0.613	0.557
A4	0.231	0.760	0.613	1.000	0.833
A5	0.358	0.646	0.557	0.833	1.000
Intermediates					
A1	1.000	0.682	0.802	0.394	0.485
A2	0.682	1.000	0.934	0.760	0.646
A3	0.802	0.934	1.000	0.613	0.557
A4	0.394	0.760	0.613	1.000	0.833
A5	0.485	0.646	0.557	0.833	1.000
Capital Goods					
A1	1.000	0.729	0.850	0.431	0.491
A2	0.729	1.000	0.934	0.760	0.646
A3	0.850	0.934	1.000	0.613	0.557
A4	0.431	0.760	0.613	1.000	0.833
A5	0.491	0.646	0.557	0.833	1.000
Services					
A1	1.000	0.762	0.873	0.443	0.476
A2	0.762	1.000	0.934	0.760	0.646
A3	0.873	0.934	1.000	0.613	0.557
A4	0.443	0.760	0.613	1.000	0.833
A5	0.476	0.646	0.557	0.833	1.000

Interdependence between BCI, Domestic sales, Production, Exports and Import of raw material

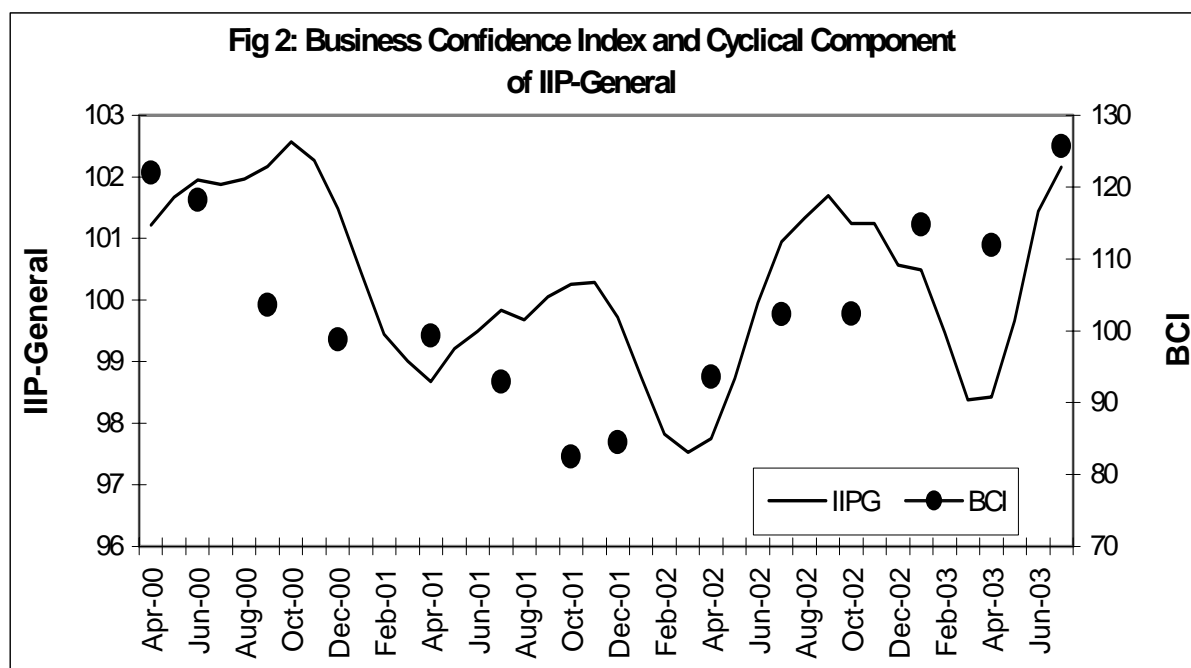
The firm's prospects about domestic sales, production, exports and imports of raw material are likely to be inter-linked with each other as also with BCI if the business conditions over the different rounds of survey broadly remain similar and vice versa. Table-7 presents the correlation between BCI and the positive responses of the respondents to domestic sales, production, exports and imports of raw material.

At the aggregate level, relatively there is a closer interdependence between BCI and positive responses to domestic sales and production. The positive responses to exports and imports of raw material are, however, relatively less correlated with BCI. This pattern is also visible at the sectoral level. Since the BCI largely reflects the domestic business environment faced by the firms, its correlation with domestic sales and production is higher as compared to exports and imports, which are more, guided by the external environment.

Again, when we look at the correlation coefficient only among the positive responses to domestic sales, production, exports and imports of raw material, we observe that the correlation between domestic sales and production is higher as compared to exports or imports of raw material. This indicates that it is the level of domestic sales that largely guides the firm's level of production. This also indicates that in spite of decade old reforms, which exposed the Indian firms to global markets, the domestic market still plays a dominant role in determining the level of production.

V. BCI: Leading Indicator of Industrial Growth

The BCI is a good indicator of upturn in the economic conditions, particularly industrial production. This is expected considering the fact that business confidence is more reflective of conditions in industry than anywhere else. The movement in BCI and index of industrial production (IIP) over the period April 2000 to June 2003 shows that BCI broadly predicts the upturns and downturns in IIP (Fig-2). It leads the IIP by three to six months. An interesting feature is that BCI does not capture short time ups or drops in IIP, as opposed to longer time drops or ups in IIP. This suggest that short time upturn or downturn in IIP may not be worrying factor if the BCI has not declined as well. Another interesting feature is that the BCI high's and low's last for a longer length of time than the overall IIP.



VI. A comparison of Business Expectations Survey and Business Tendency Survey

A comparison of Business Expectations Survey (BES) and Business Tendency Survey (BTS) was carried out by NCAER in 2001. Both the surveys were compared at the level of aggregate indicators namely Industrial Confidence Indicator (ICI) from BTS and Business Confidence Index (BCI) from BES and also for certain specific questions that are comparable in the two surveys.

Interestingly, business expectations as reflected by Business Confidence Index constructed by using BES method and Industrial Confidence Indicator constructed by using BTS method for the same period moved in the opposite direction. Aggregate index also suggested that the responses in the NCAER survey were a bit more optimistic than the Business Tendency Survey.

At the specific question level, only those questions were compared where the query was about the same aspect of the firm but could be different in terms of period covered, or the form of question or its content. Out of seven comparable questions (future production, existing stock of finished goods, future expectations for selling price, employment in future, current rate of capacity utilisation, financial position of firms and future business situation) business expectations in the BES as compared to BTS reflected greater optimism in six of these questions. This shows that perhaps firms make a distinction in the outlook for a very short-term future and a slightly longer-term future.

A statistical analysis of responses to four questions revealed that there would be differences in the responses when the questions are framed differently and when there is a difference in the future time horizon that is evaluated by the respondent. The questions related to business situation, selling price and financial position of the firm are all futuristic questions. The time period for which evaluation was made was three months in the Business Tendency Survey and six months in the Business Expectations Survey. Respondents in the BES were found to be more optimistic compared to the respondents in the BTS. Since the sample characteristics were similar, this difference could be attributed to the format of questions asked in the two surveys. However, it is difficult to suggest which format is better.

The fact that the two surveys provide different results point to the need for harmonising the surveys for comparison. However, it is important to carry out the surveys for a few more rounds to validate such a finding.

VII. Summing Up

Data used in the present analysis covered the latest 14 rounds. The analysis indicates that BCI is not uniform across various types of respondent groupings. While across the sectors variability in BCI between rounds 32 to 45 is highest for intermediate goods, across the region and size class it is highest for the western region and for the firms belonging to than Rs 1 Crore category respectively.

The analysis of interdependence between BCI and the positive responses to the four dimensions of business outlook reveals fairly high interdependence between BCI and its four components. However, among the four components overall economic outlook, investment climate and financial position of the firm are relatively more closely interrelated. The level of capacity utilization is somewhat less correlated with BCI or the overall economic outlook,

investment climate and the financial position of the firm. Also the BCI is found to be relatively more closely related with the positive responses to domestic sales and the level production as compared to exports or imports of raw material. All this suggests heterogeneity in the responses of the firms on different aspects of their activities or their perception about the prevailing business conditions. In an economy, which is, still experiencing deregulation and associated restructuring such heterogeneity in responses of the firms is not surprising. Nevertheless, by predicting the upturns and downturn in IIP at least three to six months ahead BCI is a leading indicator of industrial growth trends.

VIII. BES - The Next Step

1. Improvement in geographical coverage of the survey
2. Improvement in the sectoral coverage so that the sample becomes more reflective of the changes witnessed by the Indian economy due to a decade old reforms. For e.g. inclusion of more services sector firms in the sample as now more than 50 per cent of the contribution to GDP in the Indian economy is coming from services sector.
3. Streamlining the survey procedure so that the same respondent fills up the responses of the firms in each of the round wherever possible. This may to an extent eliminate the subjective biases.
4. Explore the possibility of using modern communication technology for conducting Business Expectations Survey. This may eliminate the data entry work and reduce the processing time considerably.
5. More effectively use the BCI data for short term forecasting.