Firm Performance during Global Economic Slowdown: A View from India

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Abstract: This study has analyzed the relative growth performance of Indian firms under the current economic slowdown and explored factors helping certain Indian companies to do relatively better even in this crisis period. It has been observed that the overall growth and stability of the global economy has become extremely important for the growth performance of Indian firms. In fact, sales and profitability growth of some 450 Indian manufacturing and IT firms were significantly reversed with the condition of global market turning adverse since late 2008. It is interesting that those Indian firms were relatively young in age and more focused on global market have been better off in terms of sales and profit growth than other firms. Also large firms and those having higher advertising intensities have enjoyed higher profit growth in this period. The concern for policy markers is that Indian companies have significantly reduced their technological activities due to falling sales and profit growth under the slowdown, besides their slashing of resource allocation for advertising and labour.

JEL classification: E32; L10; O53.
Key words: Economic Slowdown; Firm Growth; India.

1. Introduction

India, like many other emerging markets has been adversely affected by the global economic slowdown since 2008. Its real gross domestic product (GDP) growth fell to 5.3 per cent in October-December 2008 and marginally improved to 5.8 per cent in January−March 2009, recording the most dismal performance since 2005. Fiscal and monetary stimuli injected into the economy have hardly succeeded in boosting domestic demand, supporting export-oriented sectors and even stabilizing the economy. The delayed and deficient monsoon in the current year is likely to further stifle India's overall growth by damaging both the agricultural sector and rural demand. While all or most small, medium and large enterprises are faced with the problem of declining demand in the affected sectors/sub-sectors inter-firm growth performance is sure to vary considerably, due mainly to firm-specific heterogeneity in competitive capabilities, financial strength and sources of demand.

It is commonly postulated that innovation is a key to success of firms in the pre-slowdown period and acts as a survival strategy in the slowdown phase. Thus, unlike innovative firms that continue to offer new products and services, non-innovative firms are likely to face relatively greater growth loss. Similarly, firms that have heavily invested in differentiating

themselves and building brand loyalty are expected to suffer less from the crisis than firms with weak differentiation in the market place. The sudden downturn in demand and general liquidity shortages in the economic system would seriously affect firms that generally have large short-term and other liquid liabilities to meet relative to their current assets. Export-dependent Indian firms are likely to be more vulnerable to the falling export opportunities than their domestic market-oriented counterparts. The growth difference between younger and older firms or, for that matter, large and small firms may also be influenced by the experience factor in the business and scale of operation, respectively.

A close examination of the growth performance differential among firms can reveal role of possible factors that helps companies to do reasonable business under slowdown. Moreover, this could help identify aspects of business and potentially vulnerable enterprises which might require urgent policy support. In the above context, the present study seeks to analyze a sample of 450 Indian manufacturing and information technology (IT) companies during 2006−09 and examine their growth disparities by selected firm characteristics. Since the crisis is still underway, the study is essentially a preliminary and exploratory one.

This study is organized as follows. The following section summarizes relative growth performances of various categories of Indian firms between pre-slowdown and slowdown periods and across 11 broad sectors of manufacturing and the IT sector. It is followed by an attempt to develop and estimate an empirical framework to explain the inter-firm growth differential between the pre-slowdown and slowdown periods. The next section presents a descriptive analysis of the changes manifested in the corporate allocation for R&D, royalty, advertising, and wages. A summary of main findings concludes the study.

2. Relative Growth Performance of Firms across Sectors

Did different types of Indian firms do differently under the economic crisis? To analyze this question, 12 categories of firms were classified based on subjective critical values of selected six firm-specific characteristics and a descriptive analysis of their relative growth performance was undertaken. The approach has been to calculate relative growth

performance — the ratio of firms' growth in the slowdown year (2008−09) to their growth in the immediate recent pre-slowdown period (2005−06 to 2007−08) — for different categories of firms and to identify the immediate-recent categories of firms those may have suffered comparatively less than others during the economic slowdown.

The categories of the firms are the following:

(i) R&D firms vs. low-R&D firms: Indian firms that have done consistent R&D during 2005−08 and spent at least an average of 0.5 per cent of sales on such activities are designated as R&D firms. Firms reporting zero R&D or had sporadic R&D expenses are taken as low-R&D firms. The R&D activity of Indian firms has traditionally been low with their R&D intensity for a sample of firms estimated at 75th percentile is just 0.32 per cent during 2005−08 (Table1).

(ii) Advertising firms vs. low-advertising firms: Advertising/differentiated firms are taken to be those that have consistently undertaken advertising and marketing activities during 2005−08 and allocated at least 3 per cent of their sales on them. Firms are labeled as low-advertising/undifferentiated firms if they have reported irregular advertising activities and/or advertising intensity falling below 3 per cent mark. The 75th percentile value for advertising intensity of the sample firms during 2005−08 is estimated to be 3 per cent (Table 1).

(iii) Exporting firms vs. non-exporting firms: Exporting firms are defined as those having regular export activities during 2005−08 and deriving at least 20 per cent of their sales from exports and others are designated as domestic enterprises. The export-intensity distribution of sample firms' shows that 75th percentile value is 29 per cent, although the mean value is 20 per cent (Table 1).

(iv) Large firms vs. small and medium firms: Following the Micro, Small and Medium Enterprises Development (MSMED) Act, firms whose cumulative investment in plant and machinery including computers and electrical installation is above Rs. 100 million in 2008 (US$ 2.5 million) are said to be large enterprises and others (with plant investment of less than $2.5 million) are identified as small and medium enterprises (SMEs).

(v) Young firms vs. old firms: Young firms are taken to be those born after early 1980s (i.e., firm age ≤25 years as by 2008) and firms started prior to 1984 are classified as older firms (i.e., firm age >25 years).

(vi) Liquid firms vs. low-liquid firms: If the ratio of current assets minus inventory to current liabilities of a firm (i.e., quick ratio/acid-test) is more than one, then the firm is said to be a liquid firm since it has sufficient current liquidity to meet short term obligation without undue difficulty. Firms with quick ratio of less than one indicate that they have more current liabilities than current assets net of inventory and are, thus, defined as low-liquid firms.

Table 1 Selected Characteristics of Indian Firms, 2005−2008.

Statistics	R&D Intensity (%)	Advertising Intensity (%)	Export Intensity (%)	Quick Ratio
25th percentile	0.000	0.423	0.684	0.460
50th percentile	0.005	1.315	7.307	0.720
75th percentile	0.320	3.126	28.729	1.090
Mean	0.605	2.702	20.112	1.085
Standard Deviation	2.723	4.075	27.807	3.401
No. of observations	2241	2241	2241	2250

Source: Computation based on a sample firms from Prowess database, CMIE, India.

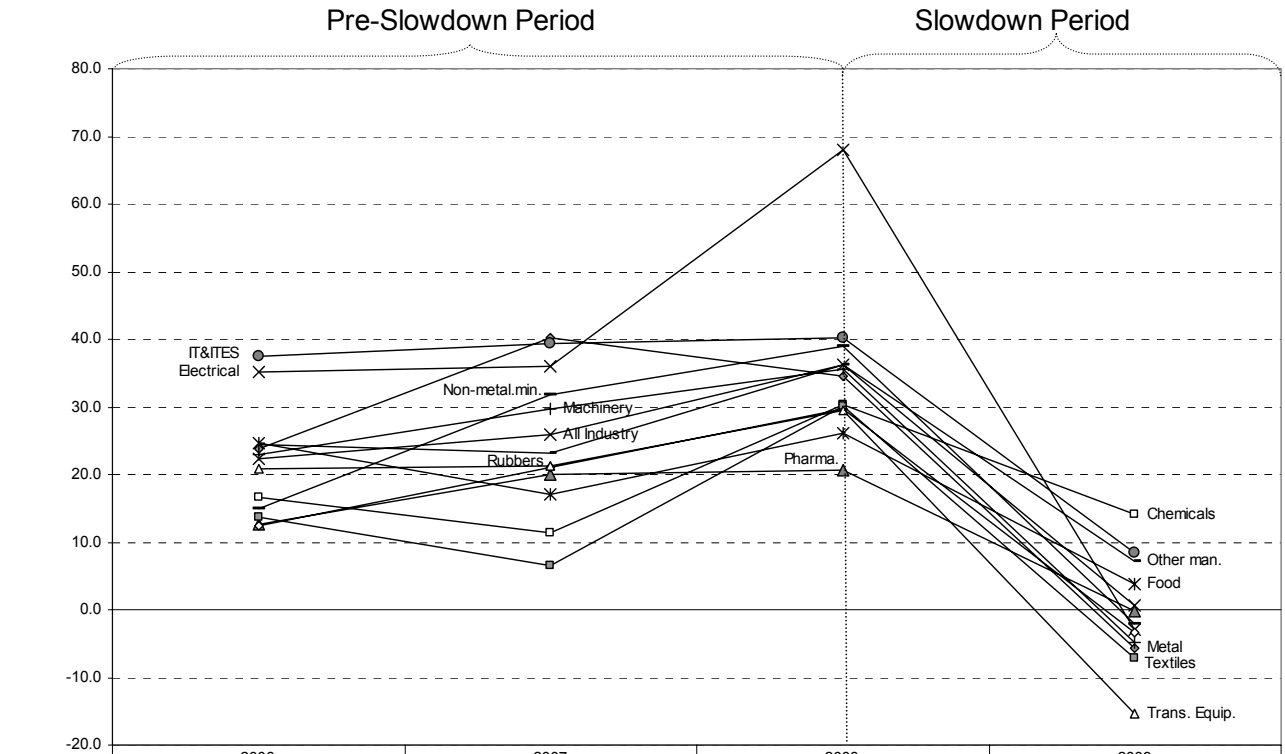
2.1. Overall firms' growth by sector

As a first step in assessing industry performance at a disaggregated level, tracking of growth rates of both sales and profits on an annual basis could be a meaningful approach. In Figure 1, sales growth by industry group for the four (financial) years entering the global economic slowdown/crisis since 2008 has been plotted. An almost unmistakable collapse of sales since 2008 across industry groups is too obvious to state. That in a number of cases, such growth has been negative points to the severity of the impact. Similarly, in Figure 2, with a few exception like the textiles, where the decline in profits had set in even before 2008, the negative growth of profits (saving the food industry) for all industry groups post-2008 only reinforces the observations regarding the tough times the Indian organized manufacturing business (or, more certainly, a certain section of it) had to go through during the global economic crisis.

With this brief background, the ensuing analyses of relative growth performance sales and profits have been undertaken with special reference to industry characteristics. The entire

study follows a broad division of the reference period into two sub-periods, namely the pre-slowdown period (2005−06 to 2007−08) and slowdown period (2008−09).

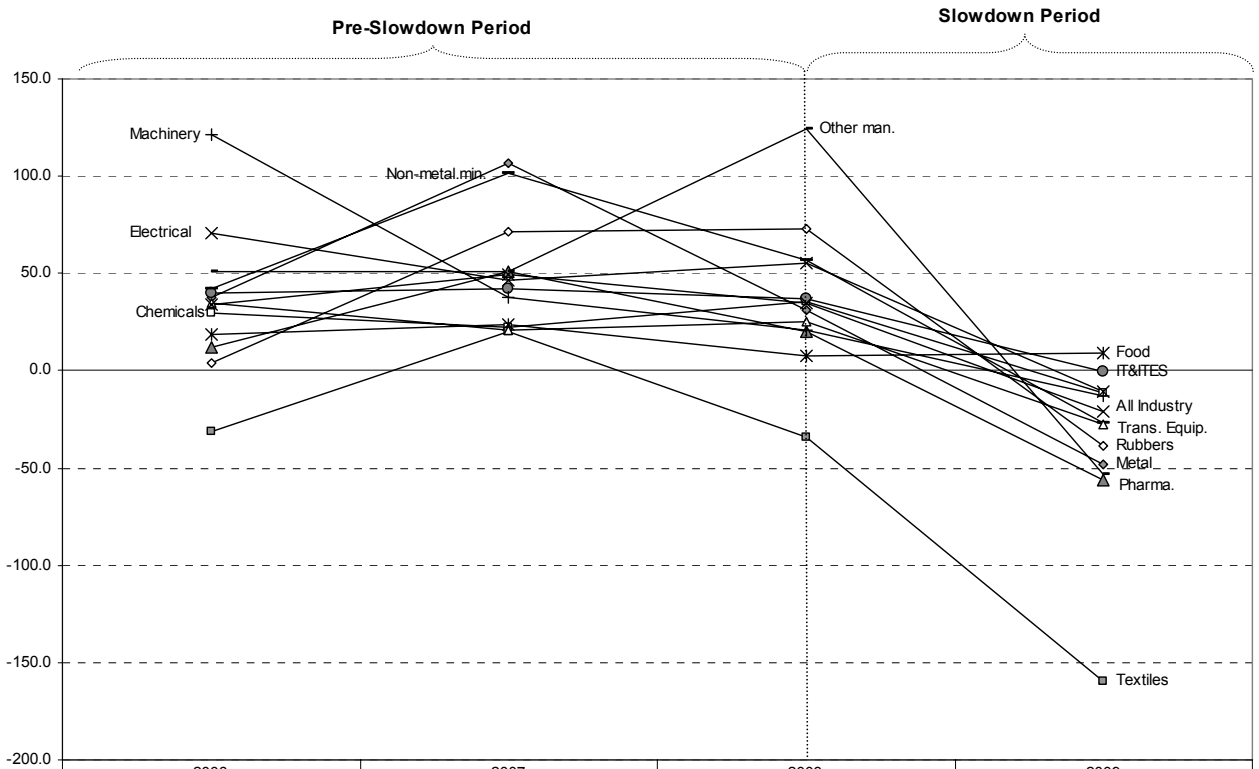
Figure-1: **Industry-wise Sales Growth of Indian Firms (%), 2006−2009**



	2006	2007	2008	2009
Metal	23.7	40.1	34.6	-5.8
Chemicals	16.6	11.4	30.4	14.1
Pharma.	12.6	20.1	20.6	-0.2
Electrical	35.2	35.9	68.0	-2.9
Food	24.5	17.1	26.1	3.9
IT&ITES	37.5	39.4	40.3	8.5
Machinery	23.0	29.8	35.6	-4.8
Other man.	24.3	23.1	36.3	7.1
Non-metal.min.	14.9	31.8	38.9	-2.1
Rubbers	12.5	21.1	29.7	-3.3
Textiles	13.7	6.4	30.2	-7.1
Trans. Equip.	20.8	21.3	29.5	-15.3
All Industry	22.4	26.0	36.2	0.6

Source: Same as Table-1.

Figure-2: Industry-wise Profit Growth of Indian Firms (%), 2006−2009



	2006	2007	2008	2009
Metal	37.4	106.4	30.8	-47.8
Chemicals	30.0	22.0	35.4	-11.5
Pharma.	11.8	51.1	19.9	-56.1
Electrical	70.4	46.7	55.7	-10.6
Food	18.3	23.7	7.9	9.2
IT&ITES	39.7	42.3	36.8	-0.2
Machinery	121.6	37.7	20.5	-12.6
Other man.	50.9	51.1	124.1	-53.0
Non-metal.min.	42.4	101.3	56.6	-26.9
Rubbers	3.9	71.4	73.1	-38.5
Textiles	-30.9	20.4	-34.3	-159.3
Trans. Equip.	34.6	21.2	25.1	-27.7
All Industry	34.3	49.3	35.0	-21.1

Source: Same as Table-1.

The growth performance of Indian firms has been disquieting in the current slowdown year (2008−09); their sales in current US dollars rose by just 0.6 per cent, as compared to the whopping 28.2 per cent growth achieved during the pre-slowdown period, 2006–08 (Table 2). This stagnating sales performance in the slowdown period has been accompanied by a sharp decline in their profits. The profit growth of Indian firms has fallen from 40 per cent in the pre-slowdown period to -21 per cent in the slowdown period. In addition to poor sales growth caused by the global economic crisis, large decline in exports, liquidity difficulty,

overcapacity and increased competition appear to have led to this dramatic squeeze on the profits of Indian firms.

Among individual industries, a large plunge in sales growth can be seen in transport equipment, textiles and metal sectors, while chemicals, other manufacturing, food products and IT&ITES have been relatively more resilient sectors. The trouble in the overseas automotive sectors, as may be exemplified by the dramatic fall in automobile sales in the US and Europe and bankruptcy of global firms such as the General Motors, Chrysler LLC, Karmann, etc., seems to have badly affected Indian automotive parts suppliers[1]. The falling demand for metals, especially from the emerging countries like China, downward plunge in metal prices and growing idle capacity have severely affected the growth of the Indian metals sector. The Indian textile firms also turned out to be quite vulnerable to the slowdown of global consumer spending and dwindling retail trade in the wake of the economic crisis.

Although the collapse of the global financial institutions like Lehman Brothers and Merrill Lynch and telecom firms like Nortel Networks brought down sales growth of Indian IT firms significantly to just 8.5 per cent during the crisis period, this falling growth is much better than that of many other sectors. The strategy of Indian IT firms to diversify their geographical focus to emerging markets, exploring domestic opportunities and improving efficiency kept them relatively less affected under the global crisis than Indian firms from other sectors. With the continuing food price inflation in India, firms in the food products have remained relatively insulated. However, the reversal in profit growth has been widespread among sectors with major contractions seen in pharmaceuticals, transport equipment, metal, rubber & plastics, and chemicals.

[1] *Hindu Business Line* (2008) 'Auto parts makers see sharp drop in orders from US, Europe', October 12.

Table-2 Industry-wise Growth Performance of Indian Firms

Industry	Growth (%)				Relative growth (Ratio)		No. of firms
	Pre-slowdown Period (2005–06 to 2007–08)		Slowdown Period (2008–09)				
	Sales	Profit	Sales	Profit	Sales	Profit	
Basic metal & metal products	32.8	58.2	-5.8	-47.8	-0.18	-0.82	45
Chemicals & chemical products	19.5	29.1	14.1	-11.5	0.72	-0.40	69
Drugs & pharmaceuticals	17.8	27.6	-0.2	-56.1	-0.01	-2.03	34
Electrical & optical equipment	46.4	57.6	-2.9	-10.6	-0.06	-0.18	38
Food products, beverages & tobacco	22.6	16.7	3.9	9.2	0.17	0.55	46
IT & ITES	39.1	39.6	8.5	-0.2	0.22	-0.01	43
Machinery & equipment	29.5	59.9	-4.8	-12.6	-0.16	-0.21	55
Other manufacturing	27.9	75.4	7.1	-53.0	0.25	-0.70	13
Other non-metallic mineral products	28.6	66.8	-2.1	-26.9	-0.07	-0.40	28
Rubbers & Plastics	21.1	49.5	-3.3	-38.5	-0.16	-0.78	18
Textiles & textile products	16.8	-14.9	-7.1	-159.3	-0.42	10.67	26
Transport equipment	23.9	27.0	-15.3	-27.7	-0.64	-1.03	35
All Industry	28.2	39.6	0.6	-21.1	0.02	-0.53	450

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

2.2. R&D and firms' growth

The industrial patterns of firms' relative growth by R&D categories have been summarized in Table-3. It is apparent that relative growth performances of both these categories of firms have been quite mixed at individual industry levels. The decline in growth of sales in the slowdown period relative to pre-slowdown period growth has been worse for low-R&D firms than R&D firms in industries such as drugs & pharmaceuticals, electrical & electronic equipment, IT&ITES, food products, metals and non-metallic mineral products. But low-R&D firms suffered relatively less as compared to R&D firms in the case of chemicals, machinery, transport equipment, textiles and plastics. For the total industrial sector, low-R&D firms generally confronted much less reversals in their relative sales growth than R&D firms. This result may at first sight appear to be contrary to the general perception that R&D firms are relatively more insulated than low-R&D firms under slowdown period. But it may not be so unless one control for the effect of firm size. Since R&D firms are market leaders in exporting and domestic market, any reversal in global demand in the initial phases of recession is likely to affect them more than smaller firms. The first shock of demand slump is always damaging to large innovative firms but in the subsequent period non-R&D firms are likely to go sliding more on growth than R&D firms. Therefore, the present study with just

one year information of the current slowdown period is unlikely to capture such dynamic behaviour of firms' growth.

Table-3 Relative Growth of Firms by R&D

Industry	Relative growth ratio				Number of Firms	
	Sales		Profits			
	Low-R&D firms	R&D firms	Low-R&D firms	R&D firms	Low-R&D firms	R&D firms
Basic metal & metal products	-0.179	0.144	-0.832	0.481	44	1
Chemicals & chemical products	0.919	0.172	-0.420	-0.159	53	16
Drugs & pharmaceuticals	-0.246	0.034	-0.724	-2.072	14	20
Electrical & optical equipment	-0.062	-0.056	-0.200	0.065	33	5
Food products, beverages & tobacco	0.169	0.209	-0.345		43	3
IT & ITES	0.193	0.273	-0.064	0.085	39	4
Machinery & equipment	-0.010	-0.309	-0.299	-0.109	41	14
Other manufacturing	0.254		-0.704		13	
Other non-metallic mineral products	-0.092	0.199	-0.416	-0.178	27	1
Rubbers & Plastics	-0.152	-0.588	-0.679	-29.713	17	1
Textiles & textile products	-0.416	-3.223		-3.208	25	1
Transport equipment	-0.384	-0.708	-0.200	-1.279	26	9
All Industry	0.063	-0.131	-0.535	-0.527	375	75

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

2.3. Advertising and firms' growth

Table-4 presents the relative growth patterns of Indian firms by advertising behavior. In the overall industrial sector, the relative sales growth of low-advertising firms declined by 0.07 times between the pre-slowdown period and slowdown phase but sales growth turned negative for advertising firms in the downturn. All the technology-intensive manufacturing industries like pharmaceuticals, chemicals, electrical & electronic equipment, machinery and transport equipment and two low technology industries like textiles and other manufacturing witnessed advertising firms done worse than low-advertising firms in terms of relative growth. However, only in metal, food products, other non-metallic mineral products, plastics and IT&ITES that advertising firms did suffer less in relative growth than low-advertising firms. The relative profit growth is also worse off in the case of advertising firms than low-advertising firms at the aggregate industrial sector. Why has advertising firms' relative growth fallen more than low-advertising firms in the crisis? It is suspected that the major reason offered in the case of R&D firms' weak relative growth may also be true in this case.

Advertising and market share of firms go together. Therefore, initial demand contraction in the slowdown period is likely to affect more advertising firms than low-advertising firms with brand-conscious global buyers postponing their buy orders.

Table-4 Relative Growth of Firms by Advertising

Industry	Relative growth ratio				Number of Firms	
	Sales		Profits			
	Low-advertising firms	Advertising firms	Low-advertising firms	Advertising firms	Low-advertising firms	Advertising firms
Basic metal & metal products	-0.179	0.110	-0.829	1.533	42	3
Chemicals & chemical products	1.396	0.149	-0.544	-0.237	46	23
Drugs & pharmaceuticals	0.448	-0.068	-1.681	-2.039	11	23
Electrical & optical equipment	-0.043	-0.118	-0.137	-0.247	28	10
Food products, beverages & tobacco	0.152	0.236	0.718	0.185	35	11
IT & ITES	0.207	0.353	-0.027	0.294	34	9
Machinery & equipment	0.055	-0.516	-0.170	-1.794	40	15
Other manufacturing	0.357	0.218	-0.435	-0.384	5	8
Other non-metallic mineral products	-0.099	0.167	-0.465		24	4
Rubbers & Plastics	-0.261	0.000	-1.102	-0.190	15	3
Textiles & textile products	-0.329	-0.582		-9.676	20	6
Transport equipment	-0.202	-1.748	-0.745	-2.889	30	5
All Industry	0.073	-0.140	-0.476	-0.753	330	120

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

2.4. Exports and firms' growth

The relative sales growth performance of exporting and non-exporting firms is evenly divided by the number of industries (Table-5). Exporting firms were observed to have received more reversals in their relative sales growth in a total of six industries, namely, pharmaceuticals, food products, IT&ITES, machinery, plastics and transport equipment and in the rest six industries, non-exporting firms sustained less decline in their relative sales growth than exporting firms. At the level of the total industrial sector, exporting firms suffered 0.16 times decline in relative sales whereas sales decline in absolute term for non-exporting firms. With Indian manufacturing exports continuing to decline consecutively on a monthly basis during October 2008 to July 2009 and software exports continuing to be under pressure due to growing failures of financial institutions and banks, exporting Indian firms suffering relatively less than non-exporting firms suggests to the phenomenon of double

whammy for a beaten sector. Non-exporting firms, which are suffering from current domestic recession, are also facing increasing competition for domestic market as exporting firms are attempting to offset their export revenue loss by focusing aggressively on domestic market. Since exporting firms are relatively efficient and technologically more dynamic than other firms just operating in local markets, it is not surprising to see negative sales growth for purely domestic market-oriented Indian firms. This intense struggle among firms to survive on a shrinking domestic demand has resulted in negative profit growth for both exporting and non-exporting firms but the former has suffered relatively more.

Table-5 Relative growth of firms by exporting

Industry	Relative growth ratio				Number of Firms	
	Sales		Profits			
	Non-exporting firms	Exporting firms	Non-exporting firms	Exporting firms	Non-exporting firms	Exporting firms
Basic metal & metal products	-0.147	-0.181	-8.094	-0.653	31	14
Chemicals & chemical products	0.867	0.157	-0.429	-0.186	45	24
Drugs & pharmaceuticals	-0.208	0.093	-0.236	-2.995	16	18
Electrical & optical equipment	-0.061	-0.180	-0.181	-0.287	35	3
Food products, beverages & tobacco	0.101	1.634	0.547	0.602	42	4
IT & ITES	-0.283	0.230	-0.060	-0.004	12	31
Machinery & equipment	-0.265	0.378	-0.286	0.555	43	12
Other manufacturing	0.298	0.016	-0.673	-1.537	11	2
Other non-metallic mineral products	-0.073	-0.059	-0.405	-2.629	26	2
Rubbers & Plastics	-0.217	0.293	-0.742	-0.728	14	4
Textiles & textile products	-0.421	-0.415	-695.010		17	9
Transport equipment	-0.655	-0.500	-1.009	-1.055	29	6
All Industry	-0.024	0.106	-0.509	-0.559	321	129

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

2.5. Size and firms' growth

As per our reasoning advanced earlier that large firms would be more affected in the initial year of recession than SMEs, there is evidence in Table-6 to show that this appears to be the case indeed. SMEs' relative sales growth has fallen by 0.15 times in the slowdown period as against 0.02 times fall in relative sales growth of large firms. The observation that the large firms tend to suffer more than SMEs can also be reached in case of relative profit growth. SMEs relative sales growth is less affected than large firms in metal, electrical and

electronics, machinery, textiles and other manufacturing whereas large firms experienced relatively lower growth setback in chemicals, pharmaceuticals, IT&ITES and transport equipment. It appears that Indian SMEs' serving niche products and rural markets and possessing flexibility to reduce output quickly under slowdown to cut costs are less affected than their large counterparts. However, such may not be the case across board as SMEs largely dependent upon imports for raw materials and/or jobwork have been found to be hard-hit by the global economic crisis (Das, 2009).

Table-6 Relative growth of firms by size

Industry	Relative growth ratio				Number of Firms	
	Sales		Profits			
	SMEs	Large firms	SMEs	Large firms	SMEs	Large firms
Basic metal & metal products	-0.336	-0.176		-0.819	4	41
Chemicals & chemical products	-0.089	0.725	0.235	-0.386	3	66
Drugs & pharmaceuticals	-0.309	-0.009	0.474	-2.042	5	29
Electrical & optical equipment	0.371	-0.071	-0.018	-0.187	6	32
Food products, beverages & tobacco	0.201	0.170		0.553	2	44
IT & ITES	-0.083	0.220	-0.711	-0.004	11	32
Machinery & equipment	0.489	-0.169	1.889	-0.227	7	48
Other manufacturing	0.403	0.251	-0.719	-0.687	2	11
Other non-metallic mineral products		-0.073		-0.404		28
Rubbers & Plastics	-50.401	-0.159		-0.780	1	17
Textiles & textile products	-0.242	-0.417	-0.456		2	24
Transport equipment	-1.518	-0.637	-0.370	-1.031	3	32
All Industry	0.151	0.020	-0.454	-0.534	46	404

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

2.6. Age and firms' growth

The economic slowdown appears to have inflicted much less damage on the relative sales and profit growth of young firms than that of old firms. While old firms witnessed absolute fall in their sales in the slowdown period, young firms' sales growth has fallen by just 0.18 times (Table-7). Both old firms and young firms saw negative profit growth but the extent of fall in profit growth has been larger in the former's case. Except chemicals and IT&ITES, the relative sales growth of young firms has been relatively less impacted across the individual industries. Barring metal, food products, IT&ITES and textiles, old firms' relative profit growth has been relatively more affected under crisis than that of young firms.

Table-7 Relative growth of firms by age

Industry	Relative growth ratio				Number of Firms	
	Sales		Profits			
	Young firms	Old firms	Young firms	Old firms	Young firms	Old firms
Basic metal & metal products	0.126	-0.436	-1.355	-0.587	22	23
Chemicals & chemical products	0.229	0.864	-0.225	-0.421	26	43
Drugs & pharmaceuticals	0.256	-0.207	-1.023	-2.082	13	21
Electrical & optical equipment	-0.029	-0.071	-0.157	-0.171	22	16
Food products, beverages & tobacco	0.919	-0.077	0.048	0.661	16	30
IT & ITES	0.188	0.245	-0.037	0.030	34	9
Machinery & equipment	-0.146	-0.165	-0.204	-0.205	14	41
Other manufacturing	0.288	0.223	-0.481	-0.477	4	9
Other non-metallic mineral products	0.087	-0.111	-0.163	-0.446	7	21
Rubbers & Plastics	0.324	-0.181	0.183	-0.869	6	12
Textiles & textile products	-0.378	-0.404	-7.961		9	17
Transport equipment	-0.213	-0.692	-0.873	-1.041	13	22
All Industry	0.177	-0.049	-0.471	-0.556	186	264

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

2.7. Liquidity and firms' growth

The patterns of firms' relative growth by liquidity suggest that Indian firms with higher current liquidity have experienced relatively lower deceleration in sales and profit growth as compared to firms with low current liquidity (Table-8). Firms with comfortable current liquidity have seen lower growth setbacks on sales and profit front than firms with unfavorable current liquidity in industries such as pharmaceuticals, IT&ITES, machinery, other non-metallic mineral products and transport equipment. Low-liquid firms in three industries, namely metal, plastics and other manufacturing managed to have relatively less deceleration in sales growth but suffered more on profit growth. Clearly, this result may indicate that Indian companies that had favorable liquidity position to meet likely demand from short term creditors and other needs arising from business uncertainty on the eve of economic crisis are relatively insulated than other companies.

Table-8 Relative Growth of Firms by Liquidity

Industry	Relative growth ratio				Number of Firms	
	Sales		Profits			
	Liquid firms	Low-liquid firms	Liquid firms	Low-liquid firms	Liquid firms	Low-liquid firms
Basic metal & metal products	-0.529	-0.026	-0.502	-1.344	12	33
Chemicals & chemical products	0.333	0.795	0.086	-0.421	18	51
Drugs & pharmaceuticals	0.089	-0.148	-0.943	-4.316	16	18
Electrical & optical equipment	-0.030	-0.068	-0.234	-0.128	14	24
Food products, beverages & tobacco	-0.185	0.186		0.709	4	42
IT & ITES	0.237	0.024	0.074	-0.451	31	12
Machinery & equipment	0.177	-0.298	-0.022	-0.188	18	37
Other manufacturing	0.010	0.302	-2.367	-0.636	4	9
Other non-metallic mineral products	0.096	-0.090	-0.211	-0.420	3	25
Rubbers & Plastics	-0.536	-0.131	-0.388	-0.762	5	13
Textiles & textile products	-0.560	-0.411	-41.844		6	20
Transport equipment	-0.040	-0.805	0.297	-1.758	8	27
All Industry	0.083	-0.011	-0.293	-0.740	139	311

Note: Growth rate is based on series converted into US$ million; profit is profit after tax (PAT).
Source: Same as Table-1.

3. What Determines Higher Firm Growth Even in the Crisis?

The foregoing descriptive analysis indicates that the relative growth of Indian firms between slowdown and pre-slowdown period varies depending upon different firm-specific characteristics. To further substantiate these findings, this section undertakes a firm-level quantitative analysis of the factors that influence the nature of firm growth in India between the slowdown and pre-slowdown period. Here Indian firms have three categories based on their nature of relative growth, “highly growing firms”, “poorly growing firms” and “negatively growing firms”. The highly growing firms are taken to be those that experienced positive growth rates in both the slowdown and pre-slowdown period but former period growth rate is more or equal to the latter period growth. The poorly growing firms are define to be those that had positive growth rates in the slowdown period but lower than their positive growth rates in the pre-slowdown period. The negatively growing firms or shrinking firms are those faced with negative growth rates in the slowdown period as compared to their positive growth rates in the pre-slowdown period. From the sample database used for the empirical analysis, a total of 45 highly growing firms can be identified as against 159 poorly growing firms and 243 shrinking firms based on sales growth. Their respective numbers are

45, 69 and 225 in the case of profit growth. This suggests that hardly 10 per cent of Indian firms could sustain their sales growth in the slowdown period, another 36 per cent decelerated in their growth and a whopping 54 per cent witnessed negative growth. In terms of profit growth, the percentage of firms shrinking in slowdown period increased to 66 per cent. Clearly there exists wide disparity among these groups of firms in terms of their relative growth between the slowdown and pre-slowdown period.

The basic purpose is to identify variables that best increase the probability of Indian firms to be among highly growing firms rather than among poorly growing or shrinking firms. Given that there is a multiplicity of factors that may simultaneously affect a firm's probability to be in the group of highly growing firms, a multivariate empirical framework is developed and estimated in the following sub-sections.

3.1. Framework of analysis and hypotheses

Drawing upon the existing theories on and empirical determinants of firm growth, the probability of Indian firms to be in the highly growing category is postulated to be dependent upon a host of firm-specific factors and sectoral characteristics. In addition to the traditional determinants of firm growth, namely, firm size (*FSize*) and firm age (*FAge*), other relevant variables such as firms' technological efforts like R&D intensity (*RDint*) and royalty intensity (*RYint*), advertising intensity (*AVint*), export intensity (*EXint*), foreign ownership dummy (*FDum*) and quick ratio (*QRatio*) are included as probable factors affecting Indian firms' probability of being highly growing firms. A group of sectoral dummies (*SDum*) are also incorporated to account for sectoral dynamics of firm growth.

Among the above determinants of firms' growth, *FSize* has been the earliest theoretical postulation offered by Gibrat (1931). According to him, firm growth is a random process and, thus, is independent of initial firm size. There has been an extensive empirical literature on *FSize* (see, Sutton, 1997; Coad, 2007) and empirical results since the mid-1980s and for the manufacturing sector have overwhelmingly suggested a negative relationship between firm size and growth (Hall, 1987; Evans, 1987; Dunne and Hughes, 1994; Goddard *et al*., 2002). As smaller firms grow faster than large firms, empirically there has been a rejection of

Gibrat's Law in most cases. Although large firms are better placed to face business uncertainty like the current slowdown due to their higher intangible assets bundle, scale economies and greater financial leverage, small firms are not necessarily at a great disadvantage. Small firms can, in fact, be less affected in the initial period of economic downturn because they can reduce their output quickly (Penrose, 1995) and benefit from lower inventory overheads than their large counterparts. Small firms may also be less affected because they serve the niche or missing domestic markets. As a result of these diverging factors, a *priori* the possible role of *FSize* on firms' probability to be a highly growing one is predicted to be ambiguous.

In Jovanovic's learning model of industrial and firm dynamics, *FAge* is predicted to be inversely related with firm growth (Jovanovic, 1982). Incumbent older and experienced firms in the industry are more likely to witness stable growth due to their accumulated learning over the past. However, new entrants (i.e., young firms) with their initial ignorance are expected to have high rates of growth as they revise their initial sub-optimal level of operation upward due to learning from the consecutive gap in expected costs relative to true costs. The empirical findings on firm age are observed to be mostly negative in line with the prediction of learning model of firm growth (Evans, 1987). Therefore, *FAge* is expected to have a negative impact on firms' probability to be in the group of highly growing firms.

Technological activities are known to be a crucial factor affecting firms' growth and competitiveness. They enable firms to achieve new process development, improved quality of existing products, introduction of new products, etc. at significant cost reduction. On the eve of the slowdown crisis, firms engaged in technological activities like in-house R&D and acquisition of new technological resources from external sources are expected to be relatively less affected on growth, keeping all other things constant.

Other factors like advertising, exporting, foreign ownership and quick ratio can also impact firms' probability to do relatively well (i.e., to be among highly growing firms). Firms with product differentiation activities like advertising and marketing are likely to have loyal customer base and due to this they may be less affected when demand contraction with

slowdown keep setting in. Since the current global slowdown originated in overseas markets, exporting firms are expected to be more affected in their growth than non-exporting firms. Firms' growth can also be affected by foreign ownership because foreign affiliates are postulated to have different sets of firm specific assets and behaviours than their domestically-owned counterparts. Foreign firms with their powerful brand names, strong innovation capabilities and large resource base as compared to domestic firms are likely to face lower decline in relative growth than the latter. Firms with relatively better current liquidity are expected to be less adversely impacted than other firms because they can meet short term expenses and debt efficiently.

In the above background, the following form of empirical framework has been used in this study:

$$g_i = \alpha + \beta_1 FSize_{it^*} + \beta_2 FAge_{it} + \beta_3 RD\,\mathrm{int}_{it^*} + \beta_4 RY\,\mathrm{int}_{it^*} + \beta_5 AV\,\mathrm{int}_{it^*} + \beta_6 EX\,\mathrm{int}_{it^*} + \beta_7 FDum_{it^*} + \beta_8 QRatio_{it^*} + \sum_j SDum + u_i \quad (1.1)$$

Where detailed measurements of the dependent and independent variables are as follows:

g_i: The ordinal categorical variable that assumes two for *i*th firm if it is a highly growing firm [i.e. its sales (profits) growth in the slowdown period (2008−09) is positive and less than corresponding positive growth in the pre-slowdown period (2005−06 to 2007−08)], one if it is a poorly growing firm and zero otherwise.

$FSize_{it^*}$: Average sales of *i*th firm in the pre-slowdown period.

$FAge_{it}$: The average age of *i*th firm in number of years in the pre-slowdown period.

$RDint_{it^*}$: Total R&D expenditure as a percentage of total sales of *i*th firm in the pre-slowdown period.

$RYint_{it^*}$: Expenditure incurred on royalties, technical and other professional fees by *i*th firm as a percentage of sales in the pre-slowdown period.

$AVint_{it^*}$: Advertising and marketing expenses incurred by *i*th firm as a percentage of sales in the pre-slowdown period.

$EXint_{it^*}$: Exports of goods and services by *i*th firm as a percentage of sales in the pre-slowdown period.

$FDum_{it*}$: Foreign ownership dummy taking one if at least 10 per cent equity stake of a *i*th firm with foreign promoters and zero otherwise in the pre-slowdown period.
$QRatio_{it*}$: Current assets minus inventory of *i*th firm as a percentage of current liabilities in the pre-slowdown period.
SDum: Sectoral dummies.
u_i: the random error term.

3.2. Estimation results and inferences

Empirical model (1.1) has been estimated by the ordered logistic regression for a sample of Indian firms drawn from the firm level Prowess database of the CMIE. Of the total selected 449 firms, 407 are manufacturing companies and 42 are IT firms. These firms are selected based on the availability of data for all the required variables consistently for all the years during 2005–09. However, the number of firms in the estimation for profit growth got reduced to 342 firms. As it is well known that the coverage of the Prowess dataset is overwhelmingly dominated by Indian companies *listed* in the Indian stock markets and largely represents the organized sector. Moreover, this database does not include the largest chunk of Indian manufacturing and IT activities that occurs in the domain of informal or unorganized sectors.

Table-9 summarizes the maximum likelihood ordered logit estimates with robust standard errors obtained from STATA statistical package. In addition, X-standardized coefficients have been provided to determine relative importance of independent variables in influencing the likelihood of Indian firms to experience high growth rather than poor or negative growth. Various diagnostic tests were conducted for model specification error, multicollinearity and influential observations in the sample. The *linktest* for model specification suggests that the estimated used model is properly specified and includes relevant explanatory variables for explaining both sales and profit growth. The maximum computed VIF (variance inflating factor) is 3.04 pointing to the fact that multicollinearity is not a problem for the sample. The Hosmer and Lemeshow *Delta-D* influence statistic estimated for simple logit model (assigning zero for negatively growing firms and one for the rest of firms) suggests that sales and profit growth, respectively, had two and three influential observations with the criterion

of its value more than or equal to 7. These observations are eliminated in the final estimation of ordered logit regression. Given that data are pooled across heterogeneous sectors and firms, robust standard errors are estimated to take account of the possible heteroscedasticity in the error variance. Overall, both the estimated ordered logit regressions for sales and profit growth are statistically significant. This is illustrated from very small p-values of their likelihood ratio chi-squares.

Sales growth

Among the firm-specific explanatory variables, *FAge* came out with a significantly negative sign. This tends to corroborate earlier findings that older firms grow slower than younger firms. It is interesting to note that younger Indian firms have high probability to be in the group of highly growing firms (vs poorly or negatively growing firms) than their old counterparts even in the crisis period. It is not clear if this indicates that young Indian entrepreneurs are more informed, dynamic and prone to implement latest organizational and technology measures to cut costs in slowdown period.

FSize has a positive coefficient but not significantly different from zero. The firm size, therefore, does not appear to be an important factor for firms being a highly growing firm during the slowdown period. None of the technological variables like R&D and royalty expenses and the advertising factor turn up with any statistically significant effects. So also the foreign ownership dummy and quick ratio did not perform significantly.

Firms' export intensity, *EXint*, was found to have a strong positive and significant effect on the probability of Indian firms being in higher growth categories. Hence, aggressively exporting Indian firms are more likely to be less affected in their sales growth, controlling for other factors. As argued in the exploratory discussion before, exporting firms have focused more on the domestic market in the wake of losses in the export markets caused by the global crisis and seem to be successful in their efforts.

Majority of the sectoral dummies representing differential intercept from the IT firms comes up with coefficients that are not statistically significant. This indicates that the sales growth

behaviour of Indian firms across majority sectors is not very different under the crisis period. Two exceptional sectors are textiles and transport equipments that have significantly negative signs indicating that they have high probability to be in the worse performing firms category. Apparently, Indian firms from the textile and transport equipment segments are the most affected due to the slowdown than their counterparts in the other sectors.

Table-9 Determinants of Firms' Sales and Profit Growth

Independent Variables	Sales growth		Profit growth	
	Coefficients (Robust Z-value)	Semi-standardized coefficient	Coefficients (Robust Z-value)	Semi-standardized coefficient
FAge	-0.011033** (2.21)	-0.7772	-0.011022* (1.82)	-0.7796
FSize	0.000033 (0.22)	1.0154	-0.001301*** (2.95)	-0.5185
RDint	0.027943 (0.38)	1.0467	-0.035975 (0.51)	-0.9377
RYint	-0.052023 (0.39)	-0.9630	-0.045682 (0.27)	-0.9659
AVint	0.018064 (0.64)	1.0658	0.066062** (2.11)	1.2836
EXint	0.007609* (1.75)	1.2326	0.010658** (2.03)	1.3164
QRatio	0.012158 (0.36)	1.0245	-0.226609 (1.55)	-0.8235
Fdum	-0.281782 (1.01)	-0.8952	0.478558 (1.41)	1.2178
Sdum_Metals	-0.379145 (0.84)	-0.8921	-0.229991 (0.46)	-0.9307
Sdum_Chemicals	0.399806 (1.05)	1.1556	0.365069 (0.73)	1.1487
Sdum_Pharmaceuticals	-0.465796 (1.03)	-0.8837	0.038737 (0.06)	1.0111
Sdum_Electrical & electronics	-0.075056 (0.17)	-0.9793	-0.702812 (1.08)	-0.8188
Sdum_Food	0.518225 (1.12)	1.1707	0.412533 (0.85)	1.1184
Sdum_Machinery	0.050919 (0.11)	1.0169	-0.122837 (0.24)	-0.9577
Sdum_Other mfg.	0.839975 (1.41)	1.1518		
Sdum_Other non-metallic mineral	0.130698 (0.26)	1.0322	-0.379408 (0.53)	-0.9071
Sdum_Rubbers	-0.813872 (1.32)	-0.8520	-1.790082* (1.82)	-0.7279
Sdum_Textiles	-1.076995** (2.18)	-0.7806	-0.471690 (0.49)	-0.9164
Sdum_Transport equipments	-1.702620*** (3.02)	-0.6364	-1.329504* (1.69)	-0.6931

Log likelihood	-390.75755		-269.56864	
Wald χ^2	50.36		45.06	
Prob> χ^2	0.0001		0.0004	
Pseudo R2	0.0602		0.0798	
Obs. with high growth	45		45	
Obs. with poor growth	159		69	
Obs. with negative growth	243		225	
Observations	447		339	

Note: (i) * significant at 10%; ** significant at 5%; *** significant at 1%; (ii) Semi-standardized coefficients [exp(b*SD of X)] = factor change in odds for standard deviation (SD) increase in X; (iii) IT firms are treated as the base category among sectoral dummies; (iv) Other manufacturing firms were not included in the estimation for profit growth as their dummy predicts failure perfectly.

Profit growth

FAge has a predicted negative and significant coefficient in profit growth regression as well. This tends to suggest that older Indian firms are more likely to have worse profit growth performance, other things held constant. Firms with relatively younger age have managed to show superior profit growth advantage during the economic slowdown. *FSize* also comes up with a significant negative effect on profit growth, thus, indicating that SMEs are relatively less affected under the global crisis than large firms.

As observed in the case of sales growth, none of the technological variables turns out with any significant effect on profit growth. This confirms that R&D investments or other technological spending are relatively less important factors for observed inter-firm differences in growth in the initial period of slowdown. Rather firm growth is determined by other factors such as firm age, firm size, export intensity, advertising, and sectoral characteristics.

Avint is observed to exert a statistically significant and positive effect in the case of profit growth. This variable was positive in the sales growth regression but failed to attain any acceptable level of significance. This corroborates that advertising and marketing activities of firms increase their probability to have higher growth, at least with regard to profitability. In other words, brand royalty might not help firms to continue with high sales growth during the crisis period but it particularly helps them to be relatively insulated from large reduction in profit margin caused by growing competition.

The role of export as a determinant of firms' higher growth performance is further evidenced in the case of profit growth. *EXint* has a positive and significant coefficient in both sales and profit growth regression. This finding is because export-oriented firms are generally successful to tame the negative effects of global slowdown by refocusing on domestic markets. They not only have higher probability of sales growth but also more profit growth.

Fdum and *Qratio* are not significant either in sales or profit growth. Among the sectoral dummies capturing sector-specific shifts in the order logit model for profit growth vis-à-vis the IT sector, only two have significant coefficients. The rubber and plastic industry and transport equipments have a significant negative effect in profit growth. It appears that Indian firms in both these sectors are worse off and have lower probability to have higher profit growth than firms from other sectors including IT.

Overall this empirical analysis reveals that relatively younger and export-oriented Indian firms emerged with higher sales and profit growth and in the particular case of profit growth, SMEs and advertising intensive firms have also done relatively better.

4. Slowdown Impact on Different Corporate Allocation

As the Indian firms started feeling the negative effect of global economic crisis with growth turning negative for many of them, the question arises as to how these firms are behaving in allocation of resources for technological activities, advertising, wages and salaries. In the early 2000s Indian firms rapidly expanded into global economy by virtue of their achievements in improving the competitive advantages in a number of manufacturing sectors like pharmaceuticals and automotives, and, notably, the IT sector. So it is important to examine how have these firms are adjusting their competitive policies in response to the economic crisis.

4.1. Investment in technological activities

The sharp decline in corporate sales and profit growth on account of economic slowdown appears to have negatively affected Indian firms' allocation on technological activities.

Between the pre-slowdown and slowdown period the proportion of sales allocated by Indian firms for in-house R&D and investment in external technologies has, respectively, fallen by more than 45 per cent and 59 per cent (Tables 10 and 11). Although the fall in allocation for in-house R&D is relatively less than that for spending on external technologies, the magnitude of plunge in R&D allocation could be serious given that Indian firms are already spending very low on R&D activities. However, it is important to note that much of the decline in R&D allocation has come from low technology sectors like rubber and plastics, other manufacturing, textiles, food products and from the skill-intensive IT sector. Otherwise, high technology sectors like chemicals, transport equipment, pharmaceuticals, machinery, electrical and optical equipment have reported a jump in allocation for R&D. This fact of technology-intensive Indian firms allocating more for R&D may represent their long term R&D commitment. However, this fact may result merely if Indian firms *a priori* decided to spend a steady amount per year for R&D and which they have been adhering since the pre-slowdown period but the percentage allocation might have gone up with sales falling in the slowdown period.

Table-10 R&D Allocation of Indian firms

Industry	R&D investment (As a per cent of sales)		Growth (%)	No. of firms
	Pre-slowdown Period (2005–06 to 2007–08)	Slowdown Period (2008–09)		
Basic metal & metal products	0.088	0.131	48.3	45
Chemicals & chemical products	0.395	1.115	182.2	69
Drugs & pharmaceuticals	6.806	8.071	18.6	34
Electrical & optical equipment	0.223	0.245	10.1	38
Food products, beverages & tobacco	0.292	0.269	-7.9	46
IT & ITES	0.418	0.386	-7.7	43
Machinery & equipment	0.549	0.620	13.0	55
Other manufacturing	0.050	0.036	-29.3	13
Other non-metallic mineral products	0.112	0.137	22.5	28
Rubbers & Plastics	0.277	0.128	-53.9	18
Textiles & textile products	0.079	0.069	-12.3	26
Transport equipment	1.415	2.423	71.3	35
All Industry	0.781	0.425	-45.6	450

Note: Calculations are based on series converted into US$ million
Source: Same as Table-1.

The sharp decline in allocation for buying external technologies during the crisis can be seen in the basic metals, machinery, other manufacturing, and other non-metallic mineral

products. It is interesting to note that some sectors like basic metals pharmaceuticals, electrical & optical equipment, machinery, and other non-metallic mineral products that have increased R&D allocation over the slowdown period due to their continued research efforts, are also the ones to reduce allocation for procuring external technologies. Clearly, these set of Indian firms are more inclined towards 'make' than 'buy' of technologies. The 'buy' decision appears to dominate over that to 'make' for low technology sets of firms from food products, rubber and plastics, textiles and for firms from skill-based IT industry. These firms began to allocate more for buying technologies while reducing allocation for making them through in-house R&D.

Table-11 Indian Firms' Allocation for Technology Purchase

Industry	Technological spending (other than R&D) (As a per cent of sales)		Growth (%)
	Pre-slowdown Period (2005–06 to 2007–08)	Slowdown Period (2008–09)	
Basic metal & metal products	1.12	0.62	-44.3
Chemicals & chemical products	0.30	0.30	0.9
Drugs & pharmaceuticals	0.07	0.06	-3.3
Electrical & optical equipment	0.56	0.52	-8.1
Food products, beverages & tobacco	0.40	0.44	9.9
IT & ITES	0.08	0.08	4.9
Machinery & equipment	0.44	0.38	-13.5
Other manufacturing	0.14	0.13	-12.8
Other non-metallic mineral products	0.69	0.62	-10.1
Rubbers & Plastics	0.19	0.24	29.0
Textiles & textile products	0.00	0.01	338.0
Transport equipment	0.17	0.23	35.6
All Industry	2.98	1.21	-59.4

Note: Calculations are based on series converted into US$ million
Source: Same as Table-1.

4.2. Investment in advertising activities

In the crisis period, Indian firms' allocation for advertising and marketing expenses has been significantly reduced due to the pressure of declining sales and profitability (Table-12). In normal situations, firms would have increased their advertising allocation to counter their falling sales and beat growing competition. But the overall slowdown in the domestic and global economy appears to have made Indian firms cautious on their advertising strategy and even reversed allocation to such activities as a cost-cutting measure. Therefore, it is not

surprising to find that Indian firms in all the sectors, except food products, pharmaceuticals and basic metals, effected reduction in their proportion of sales allocated to advertising. In the case of basic metals, this proportion remained stagnant.

Table-12 Advertising Allocation of Indian firms

Industry	Advertising and marketing expenses (As a per cent of sales)		Growth (%)
	Pre-slowdown Period (2005–06 to 2007–08)	Slowdown Period (2008–09)	
Basic metal & metal products	0.74	0.75	1.1
Chemicals & chemical products	6.21	5.44	-12.3
Drugs & pharmaceuticals	6.93	7.68	10.8
Electrical & optical equipment	2.18	1.69	-22.3
Food products, beverages & tobacco	2.92	3.15	7.9
IT & ITES	1.00	0.80	-19.9
Machinery & equipment	2.38	2.20	-7.5
Other manufacturing	3.71	3.69	-0.5
Other non-metallic mineral products	2.37	2.26	-4.4
Rubbers & Plastics	2.23	2.08	-6.6
Textiles & textile products	3.45	3.19	-7.6
Transport equipment	3.00	2.80	-6.6
All Industry	0.41	0.15	-62.9

Note: Calculations are based on series converted into US$ million
Source: Same as Table-1.

4.3. Allocation on labour

The share of wages and salaries in sales of Indian firms has suffered significantly in the eve of the global economic crisis. The wage share for all industries decreased by more than half during the slowdown period relative to the pre-slowdown period from 9.5 per cent to 4.4 per cent (Table-13). However, this drive to reduce labour costs to remain competitive during slowdown has been prevalent among Indian firms in chemicals, electrical and optical equipment, rubbers and plastics, other manufacturing, and other non-metallic mineral products. Rest of the sectors, however, increased spending on wages indicating that their firms might be adopting other strategies to keep their competitive advantages.

Table-13 Indian firms' Allocation on Labour

Industry	Wages and salaries (As a per cent of sales)		Growth (%)
	Pre-slowdown Period (2005–06 to 2007–08)	Slowdown Period (2008–09)	
Basic metal & metal products	2.89	3.14	8.5
Chemicals & chemical products	3.97	3.54	-10.9
Drugs & pharmaceuticals	8.30	8.97	8.1
Electrical & optical equipment	3.91	3.69	-5.5
Food products, beverages & tobacco	4.15	4.24	2.2
IT & ITES	41.06	41.94	2.2
Machinery & equipment	5.54	5.63	1.7
Other manufacturing	4.59	4.42	-3.6
Other non-metallic mineral products	3.95	3.89	-1.6
Rubbers & Plastics	3.97	3.80	-4.2
Textiles & textile products	6.53	6.85	4.9
Transport equipment	5.74	6.38	11.1
All Industry	9.50	4.44	-53.3

Note: Calculations are based on series converted into US$ million
Source: Same as Table-1.

5. Concluding Observations

With the onset of global economic slowdown, competition among firms to survive has been intensified ever more. While different sectors and different firms are acknowledged to be asymmetrically affected under global slowdown, a more formal analysis of this issue is not available. The present study has made a preliminary attempt to examine relative growth performance among Indian firms and sectors between the pre-slowdown and slowdown period and to explore factors underlying such performances. It is emphasis again that this study is essentially exploratory in nature and deals with a short reference period as the slowdown is still underway. The findings of the analyses, needless to add, would read better being qualified in keeping with the variety of sectoral specificities and concomitant responses to global economic crisis. At the cost of the impropriety to generalize, a few observations could be made.

Firms' relative growth and determinants

In general, global economic crisis has been most damaging to firm growth in India. The little or zero sales growth in the slowdown period and a substantial negative profit growth for the industrial sector is testimony to the severity of negative shocks emanating from global economic slump. Cleary, Indian firms' growth potential across sectors is appear to be deeply linked to the certainty and stability in the global markets apart from the domestic business cycles. Weak growth in overseas demand, declining exports, dwindling capital markets and liquidity shortages on account of global financial crisis all appear to have affected Indian firms' growth maneuverability in the current crisis (Pradhan, 2009).

The descriptive analysis reveals that different categories of Indian firms and across different sectors have done differently in the slowdown period. At the aggregate level, initial demand contraction due to global slowdown has been more adverse to the sales and profit growth of Indian firms with relatively older age, large size (higher market share), exclusively focused on domestic market and had inadequate short term liquidity. This implies Indian firms performed relatively better (as between the pre-slowdown and slowdown period) with reference to growth in sales as well as profits if those pursued greater export orientation, were younger in age of establishment, had a higher current liquidity and spent much less on advertising or promotional activities. Interestingly, SMEs with a focus on niche markets could do well even as large R&D intensive firms performed unimpressively, may be very much so in the short run.

However, further investigation through quantitative analysis has limited the causes of inter-firm relative growth differentials to just firm age, firm size, market focus and advertising activities. Empirical results suggested that Indian firms with younger age and global market focus (i.e. high exporting activities) tends to have higher sales and profit growth performance even in the slowdown period. In addition, large firm size and advertising intensiveness are advantages for firms to have reaped better profitability growth.

Firms' technological, advertising and labour allocation

The sales and profitability setbacks received by Indian firms due to global slowdown appears to have deep impact on their resource allocation for different corporate strategies. Sharp fall in the proportion of sales allocated for in-house R&D and purchase of external technologies in the slowdown period relative to boom period has been observed for India firms. This is likely to raise serious concern on the impact of global slowdown on the technological activities of Indian firms. Also slowing sales growth and falling profits have seen to forced Indian firms significantly reduced their resource allocation for advertising activities and labour as cost cutting measures.

These diverse growth performances of different sectors and different firms in the slowdown period and significant reduction in allocation towards technological activities and labour is clearly a critical issue in the industrial policy of any economy intending at shaping technologically dynamic sectoral specialization and competitive market structure. Therefore, these findings only call for undertaking detailed sector specific studies that would underscore policy strategies to sail through the global economic slowdown.

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