DOI : 10.18843/ijms/v5i2(4)/01
DOI URL :http://dx.doi.org/10.18843/ijms/v5i2(4)/01

Iron-ore Export Behavior and Performance of Goan Exporting Firms

Manasvi M. Kamat,

Principal and Associate Professor,
SSPES's Goa Multi-Faculty College,
Dharbandora, Goa, India.

ABSTRACT

This paper attempts to enquire whether firms differ systematically in the nature of their output markets and operational efficiency by pointing out their relative differences in performance. Using panel date it is examined whether the choice of markets influences the firms and as to how their performances differ to influence aggregate regional exports. The reasons for firms' relative performance are measured to successfully summarize their individual performance and resultant contribution to the state's export distribution direction in Goa. It is found that any exogenous force such as use of technological advancement or labour or working efficiency can easily impact positively and more or less uniformly on the performance level of the companies and the resultantly on aggregate export performance of a region.

Keywords: Iron-ore, Export behavior, Firm performance, Market share, Goa.

INTRODUCTION:

Through the use of panel data this study measures the inter and intra-firm performance involved in Goa's iron-ore industry to quantify several relationships along their relative competitive strength, export behavior and in terms of their export market share. We provide a firm-level assessment of historical position, the time-series and cross-sectional performance of individual iron-ore exporting firms from Goa *visa vie* the aggregate export behavior of the region. The organizing framework for our inquiry is a class of theoretical models of industry dynamics that have been developed to explain the diverse patterns of firm growth observed in micro data. A high extent of concentration in firm-level export destinations is revealed. It is found that that there exist significant differences in the level of performance between large companies and the companies with relatively smaller level of economic activity and that the choice of export markets depend on the contacts of the individual exporters, the ability to compete with global firms and meet the requirements in terms of export quantity and desired quality standards. A composite index of export performance for each export firm is computed based on mundane indicators of production activity over the years.

The key implication that follow are that for any exogenous shock including policy measures, the Goan companies in the iron-ore export business react very similarly though not to the same extent. It is also realized that any exogenous force such as use of technological advancement or labour or working efficiency can easily impact positively and more or less uniformly on the performance level of the companies and the resultantly on aggregate export performance of a region.

The analysis of firm-level export performance is important for several reasons. Firstly, the industry cost and demands conditions can vary across firms leading to differences in industry market structure, including the distribution of output and competitiveness across firms. One possible way of increasing exports at a national level is through stimulating individual exporting companies to export more and it thus follows that the export performance of current exporters is an area of legitimate interest, and such studies can be of importance to both public and private sector administrators concerned with future export development and success. Secondly it is noted that,

across iron-ore exporting firms in the industry there are a number of significant differences in the organization of their firms and ownership structure within the State and the relationship between market structure and performance of these firms in general, and micro-level performance in particular, has been less clearly identified.

Since the adoption of an export approach based on marketing capability is intrinsic to export performance, it is essential that substantial export marketing skills be augmented and maintained among those firms pursuing regular export operations. Further, exporting firms are more likely to perform well in export markets when they commit adequate resources to undertaking export marketing research. Despite the difficulties and costs involved, the adoption of such activities would be tantamount to reducing the relatively high level of uncertainty which is likely to surround international marketing decisions. Managerial commitment to exporting activities is likely to have a particularly strong impact on the export behavior and success of firms. This is primarily attributed to the existence of considerable differences in market characteristics between the firms domestic market and the markets of the more industrialized countries, traditionally the main export market targets for these firms as Katsikeas and Piercy (1990) point out. To ensure export survival and maintain regular exporting operations to such overseas markets, it is important that Goa's firms understand different buying attitudes and employ more sophisticated marketing practices in comparison with those in the domestic market. In developing such a capability, resource commitment to exporting, reflected in such activities as export department organization, export planning and control, export marketing research and regular export market visits, is likely to be of major importance as Beamish *et al.,* (1993), Bonaccorsi (1993) and Cavusgil and Naor (1987) demonstrate.

It is recognized that firms within iron-ore export industry have idiosyncratic differences in their efficiency of production and export performances. This underlying market share and market leadership heterogeneity, when embedded in a market framework, generates a size distribution of producers, distribution across firms, an endogenous exit decision for incumbent firms based on their productivity and ability to sustain, and an endogenous flow of new entering firms. Hence we find significant numbers of entry/exit of firms engaged in export of iron-ore in the year-wise data on exporters we resort in this study, obtained from the Goa Mineral Ore Exporters Association. A key parameter in many of this industry structure is the sunk cost that must be incurred by a new firm entering the market. It is documented that the top performing firms have been innovators in some respect or another in their relative performance. Our empirical findings also indicate that, relative to their counterparts new firms are characterized by less concentrated market structure, are less competitive, are smaller within-industry production, are dispersed, possess a smaller percentage of plant/activity operating at low productivity levels, and smaller productivity differentials between surviving and failing exporters. These patterns are consistent with strong competitive pressures in Goa that lead to market selection based on export performance differences. Relatively newer firms seem to have a disadvantage in building export-competitiveness in relatively high technology industries presumably and thus are devoid of the need for greater flexibility, specialization, core competencies and innovativeness that are crucial for succeeding in the international markets in these industries. Hence, entry of new highly specialized firms in high technology areas may be facilitated by easy availability of venture capital and other facilities. Fiscal incentives and tax concessions (as captured by the role of profitability) do play a role in prompting Goan enterprises to export. Furthermore, these incentives may also be required to compensate for relatively high cost of capital and other inputs applicable in India.

The dramatic GDP and iron-ore export growth from the state of Goa over the last decade forms a marked contrast with that of its nearest neighboring states in India. The post-statehood decades witnessed rapid growth in the volume of exports from Goa. Goa accounts for almost 50% share in the total ore exports from India and contribute a share of nearly 4% in the global iron-ore export trade. The significant growth of export sales from Goa is also accompanied by marked changes in the composition of exporters. The percentage of iron-ore export volume from Goa to the World shot up to 5 percent in the year ending 2011 compared to 3.65 percent in the year 1987 (the year in which Goa attained its statehood) whereas the percentage of iron-ore exports from Goa to that of India increased over 48 percent in the year 2011 compared to 41.93 percent in the year 1987. Though this grossly meant that iron-ore export performance of Goa has increased in recent years; the year to year changes however report gross variations.

REVIEW OF LITERATURE:

Bearing in mind that export performance represents the outcomes of export behavior under different organizational and environmental conditions as Diamantopoulos (1998) points out, a large part of export related research like that by Bilkey (1978), Madsen (1987), Aaby and Slater (1989), GemuÈnden (1991), Fraering (1996) and Zou and Stan (1998) soughts to identify the organizational, managerial, environmental and strategic antecedents of export performance. Literature into the determinants of export performance can be traced back

since the work of Bilkey (1978), Aaby and Slater (1989), Zou and Stan (1998) and recently by Leonidou *et. al.* (2002). The bulk of research in this area focuses on key features shared by these countries and specific industries, such as their strong orientation towards the export market and their high rates of capital investment and relies on evidence derived from aggregate or sectoral data.

The literature on the firm level export behavior for less developed countries is even sparser. *Among a few others*, Roberts and Tybout (1997) and Clerides *et. al.* (1998) carried out studies on Colombia, Mexico and Morocco. The firm level studies on Indian export include those conducted by Kumar and Siddharthan (1994), Patibandala (1995) and Hassan and Raturi (2002). These studies mostly focus on the effect of firm size and R&D expenditures on export performance. Studies like that by Srinivasan (1996), Joshi and Little (1998), Forbes (2001) and Rajan and Sen (2002) have analyzed the impact of India's economic reforms initiated in 1991 on the productive efficiency of India's manufacturing sector. These studies have provided valuable insights into the impact of liberalisation, principally liberalization of controls over trade. Agarwal (1988) analyzes India's export performance during 1965-80 by comparing it to 13 developing countries with both industrial sector and manufactured exports. Export performance is studied using Constant Market Share Model (CMS). Sachdev (1993), attempts to analyze Indian comparative advantage of trade in agricultural products by using Hecksher-Ohlin Model. Patiabandla (1996) argues that, the elements of Prebisch and Singer Hypothesis questioned by a dominant part of development economics literature by citing the East-Asian experience are still valid for developing economies while Sharma (1996) carried out a study to analyze India's export performance for the years 1996-1999 and finds export performance is better in the post reform period both in terms of quantum and value of exports.

A comparative analysis study done by Srinivasan (1996), on India's export performance find that, India does not seem competitive in number of commodities in comparison with other countries particularly China. Majumdar and Chimber (1998) evaluates the effects of foreign ownership on the exporting behavior of the firm by using firm level data and finds that different categories of foreign ownership have varying impact on Indian firm's export performance. Tendulkar (2000) studies the economic performance of India in respect of export earnings and economic growth in the Asian perspective provided by 9 countries over a period from 1980-1996 marked by depressed condition in World trade (1980-87) followed by depressed conditions (1987-96) and finds that during 1980-96, the growth of India's export earning turned out to be above the world average. Kumar (2001) in his study attempted to provide a mapping of different factors that are likely to shape the patterns and magnitudes of India's exports and imports over the coming two decades. Ratnesh (2001) analyzes intra-SAARC trade and major impediments to the trade flows in SAARC countries**.** In a recent study Das and Bandyopadhya (2003) use panel data of 572 Indian firms over a period of 1989-1997 to study the export performance. The study tries to capture various signals of firm's quality and reputation to check quality matters in the export market.

In the context of this research we also find enough evidence to support that export performance enhances due to diversification of markets. In the Indian context the studies like that of Kumar and Singhal (1999) for the 1970-80 using Coppock's instability index, Kumar and Vaidya (2000) for the 1976 –1996 period using Herfindhal index and revealed comparative Advantage, Munireddy and Tirkey (2001) for 1991-2000 using standard deviation and coefficient of variance while the EXIM Bank of India (2001) using a sample of 32 firms found evidence for increased exports due to diversification.

DATA SOURCES AND TECHNIQUES:

The study uses secondary and primary sources of data. The secondary data over 1987-2007 period on Goa's firm-level iron-ore exports is drawn from Goa Mineral Ore Exporters Association (GMOEA), Panjim-Goa. For the periods and parameters the data was not available, was compiled from the archives of the said association and respective firms.

Composite Index of Performance:

A Composite Index (or Measure) of Performance (CIP) for each iron-ore exporting company is computed based on more mundane indicators of production and export activity. The index involves conversion of all the production/export ratios into a distance measure from an ideal (or benchmark point) defined from within the group. The methodology basically consists of converting all the original indicators; each indicator is called a characteristics dimension of performance into standardized scores. For a set of N units, each unit is characterized by M feature (characteristics) of performance. These N units with M characteristics can be represented by a matrix of $N*M$ dimension. In view of the variability in units of measurement, the characteristic feature of N units are converted into standard normal varieties first to remove scale effect. The standardized

characteristic components would then constitute the *M*-dimensional vector space. Conceptually this makes sense as any composite index of performance should be defined from within the groups of the *n* units. In effect, in the standardized matrix with the *N* units as *N* rows and *M* characteristics as *M* columns, the distance between any two vectors can be measured.

The interest lies in the distance vector of the i^{th} unit from an ideal vector of units in the set. The ideal is defined for each characteristic as the highest standardized value of the positive features and the least standardized value for negative features of performance. The length of the distance vector from the ideal for unit *i* is then measured by

$$d_i = [\sum_{j=1}^{m}(Z - Z_o)^2]^{1/2} \quad \text{.....(3.27)}$$

where Z_{oj} is the standardized score on feature *i* for the ideal unit. The lower the d_i value, the closer the position of unit i to the ideal components vector, and the lesser the distance from the ideal. In order to make this into a comparable composite index the performance measure is defined as

$$P = 1 - [d_i / d + 3sd)] \quad \text{.....(3.28)}$$

Where $d = \sum_{i=1}^{n} d_i$ is the mean and *sd* is the standard deviation of d_i. In this 99% of the time the *N* – unit d_i values lies within the positive 3-*sd* distance of *d*. Thus higher *P* denotes better performance of the company and *vice-versa*. The performance *'P'* lies between zero and unity. In the distance measure d_i the distance of the actual vector from the ideal could be modified further by giving differential weights to the *M* features. In this study however, equal weightage (for unity) has been given.

The measurement of Convergence/Divergence in export performance across top 12 exporting companies through use of a simple regression analysis for the every three year period gap starting from 1987 through 2007 and where $P = P_i - P_j$, *i*= 2007 and *j* takes the years 2005, 2003, 2001, 1999, 1997, 1995, 1993, 1991, 1989 and 1987 respectively. The regression model using OLS method is specified as follows

$$P_{ij} = \alpha + \beta P_j + \mu_i \quad \text{..... 2.}$$

RESULTS AND DISCUSSIONS:

The results are separately analyzed in this section to discuss the relative performance of Goa's firms engaged in iron-ore exports over the 1987-2003

Cross-sectional Results:

The cross-sectional pattern of individual firms with respect of iron-ore export performance is separately discussed in five parts and is presented as follows.

Contribution of Individual Iron-ore Exporting Firms:

The composition of Goa's exports as contributed by individual firms over 1987 through 2007 periods is presented in table 1.

Table 1: Contribution (Share) of Individual Firms in Goa's Total Exports 1987 through 2007

Firms (1)	1987		1992		1997		2002		2007	
	Rank (2)	% (3)	Rank (4)	% (5)	Rank (6)	% (7)	Rank (8)	% (9)	Rank (10)	% (11)
Chowgule & Co. Ltd	3	17.38	3	14.41	2	21.72	2	11.17	5	10.62
Damodar Mangalji & Co. Ltd	8	3.47	11	2.16	10	1.99	12	1.22	8	2.40
Dempo Mining Corporation Ltd	0	0	14	0.45	14	0.37	13	1.17	0	0.00
Mandovi Pellets	0	0	8	3.05	9	2.22	14	0.39	0	0.00
Orient (Goa) Private Ltd	9	3.20	7	4.60	7	7.20	9	2.45	11	0.08
Others	5	8.80	9	3.03	13	1.07	4	8.07	1	32.67
Salgaocar Mining Industries Ltd	0	0	6	6.17	5	11.64	6	6.24	7	4.31
Sesa Goa Ltd	1	20.34	1	25.97	1	23.29	1	16.39	2	15.54
Sociedade De Fomento Industries Ltd	6	8.43	5	7.00	6	8.26	7	5.64	6	6.48
Timblo Ltd.	10	2.85	10	2.33	8	6.39	8	4.43	9	2.18
Vasantram Mehta & Co. Pvt Ltd	7	3.93	12	1.26	12	1.34	10	1.75	10	0.17
V M Salgaocar & Bros. Ltd	2	17.77	4	12.36	4	13.16	5	7.99	4	10.69
V M Salgaocar Sales International	0	0	13	1.23	11	1.36	11	1.43	9	2.01
V S Dempo & Co. Ltd	4	13.81	2	15.98	3	14.45	3	10.05	3	12.92

Source: Compiled from data obtained from the Goa Mineral Ores Exporter's Association, Panjim Goa, Various Issues.

The relative ranks for each firm (with 1st rank for the largest exporter in the respective year, *and so on*) are displayed in the even columns and the contribution of firms in the total exports of the State (in percentages) are tabulated in the odd columns. The performance of 13 majors firms that have consistently exported are included in the analysis, while the firms that export only in certain years are classified as "Others". These exports of all the firms netted and classified as "others" have recorded an impressive export performance over last decade. A significant observation worth noting is that these small exporters that randomly appear/disappear put together contributed 33% of Goa's exports in the top most rank in the year 2007, significantly improving their relative position from 13th largest exporter in 1997, 4th largest in 2002 to the topmost rank in 2007. As it is observed in other developing countries by Pack (1992) and Levy (1991), the dense network of subcontractors and export traders has lowered the costs of entry into and exit from the export market, particularly for small firms corporation, reducing their initial investment costs and secondly the ever increasing import demand from Asian economies have triggered the export drive in small firms drastically increasing their export contribution. The total exports of these firms are the largest in the latest year 2007. Consistently over the periods but 2007, Sesa Goa emerges and maintains its position as the largest exporter iron-ore in the State exports contributing 16-21% of the total exports put by all the firms accounted together. Other mature exporting firms like V. S. Dempo Ltd, V. M. Salgaocars, and Chowgule and Co. Ltd, in that order top the largest exporters' list with an export share of 13%, 10.65%, and 10.64% respectively in the latest period 2007 for which data is currently available. The firms like Damodar Mangalji & Co., Timblo Ltd. and V. M. Salgaocar Sales International contribute around 2% each in the total exports while firms like Vasantram Mehta & Co. Pvt Ltd and Orient (Goa) Private Ltd contribute less then 1% each in composition of that state's exports.

We find evidence of decreasing concentration and consolidation in export market share by the firms in the periods under study. The export market share contribution of the top exporters like Sesa Goa Ltd, Chowgule and Co. Ltd, V. S. Dempo ltd, and V. M. Salgaocars in the total exports of the State decrease significantly by 43, 50, 40 and 50% respectively in the year 2007 compared to the 1997 periods for self evident reasons. Firstly due to the better export performance of the laggards firms listed above and secondly due to the consolidated affect of the small and randomly appearing firms in the sample categorized as "Others".

Performance of Iron-ore Exporting Firms:

Table 2: Absolute and Relative Performance of the Individual Iron-Ore Exporting Firms, 1987 through 2011

Shippers	Export by Firms to Goa's Total Exports Ratio	Average Exports	Standard Deviation	Composite Index of Performance (CIP)
Chowgule & Co. Ltd	16.39	5.90	1.56	0.74
Damodar Mangalji & Co. Ltd	2.90	5.64	2.47	0.73
Mandovi Pellets	0.28	6.13	11.59	0.79
Orient (Goa) Private Ltd	2.98	5.74	2.15	0.65
Salgaocar Mining Industries Ltd	6.66	0.67	3.76	0.69
Sesa Goa Ltd	25.21	6.12	0.93	0.75
Sociedade De Fomento Ind. Ltd	8.06	5.83	0.64	0.80
Timblo Ltd.	2.55	6.02	5.24	0.72
Vasantram Mehta & Co. Pvt Ltd	1.63	5.20	3.63	0.71
V M Salgaocar & Bros. Ltd	14.58	5.78	0.78	0.65
V M Salgaocar Sales International	1.45	8.33	4.25	0.65
V S Dempo & Co. Ltd	15.48	6.01	0.85	0.70
Total	**100.00**	**6.01**	**0.86**	**0.72**

Source: Same as in Table 1

The trend in absolute and relative export performance amongst the firms over the 1987-2006 periods is measured and presented in table 2. The old and mature firms have been the market leaders and significant drivers of State's export. Sesa Goa, Chowgule & Co. Ltd and V S Dempo & Co. Ltd and V. M. Salgaocar Ltd., record the largest contribution of 25.21, 16.39 15.48% and 14.58% respectively in State's aggregate export performance, while Chowgule & Co. Ltd, V S Dempo & Co. Ltd & Co Ltd and Sesa Goa in that order, mark the highest standard deviation indicating relatively larger turbulence in export behavior. All these firms have a greater access to technology, have a large scale business activity, and are pioneers in the ore business in their

respective ways. The export performance of Mandovi Pellets is highly unstable with largest standard deviation but on an average has exported the lowest (less then half) percent of the total ore globally marketed by all the firms put together. This company started its export business in the year 1989 and emerged in the year 1997 after a gap of 7 years in 1998 to export almost 48% of its total exports in the year 1999 alone.

A Composite measure (Index) of export Performance (CIP) for each export firm is computed based on mundane indicators of production activity. The index involves conversion of production in all years in to a distance measure from an ideal. The performance measure lies between 0-1, with higher performance index indicating relatively better performance. From within the group Sociedade De Fomento Industries Ltd, turned out to be the best export performer with a CIP of 0.80. During the full period under study this company exported 8% of the total iron-ore exported by the State. Exporters like Mandovi Pellets Ltd., Sesa Goa Ltd., Chowgule & Co. Ltd, Damodar Mangalji & Co. Ltd and Timblo Industries followed Fomento Ltd. with CIP of 0.79, 0.75, 0.74 and 0.73 respectively. The CIP of 6 exporters among 12 analyzed was below the average index of all the firms put together for the full period understudy. Prominent amongst them are V S Dempo & Co. Ltd and Salgaocar Mining Industries Ltd.

Firm-wise Composition of Exports:

The firm-wise composition of the total exports categorized as direct and canalized (indirect), relative to the aggregate direct and canalized export of the State respectively for 1987-2007 periods is documented in table 3.

During the major periods and across majority of the exporting firms, direct exports comprise significant proportion of total exports. Sesa Goa Ltd. owing its status as the largest exporter in the state exports a significant portion of the states total indirect exports which roughly stands at 15, 39, 38 and 37% of the total canalized exports in the year 1987, 1992, 2002 and 2007 years respectively. Among other firms, Timblo ltd. exported a larger proportion of state's indirect export firms for three out of the 4 years analyzed, while Damodar Mangalji & Co. Ltd, Orient (Goa) Private Ltd, Sesa Goa Ltd, Salgaocar Mining Industries Ltd and Vasantram Mehta & Co. Pvt. Ltd relatively exported larger ore through the indirect route for two out of the four years analyzed compared to the relative share of Goa's direct exports. The small and irregular exporters classified as "others" that exported 26% of the states indirect exports, now prefer to directly export their produce rather then the canalized route. In the recent year 2007, Sesa Goa Ltd and Salgaocar Mining Industries Ltd exported around 70% of the states' canalized exports, compared to 32% exports through the direct route. Overall the results suggests that the composition of canalized exports is relatively more concentrated among 2/3 firms as compared to the relative composition of direct exports.

Table 3: Composition of the Iron Ore Exports of Individual Firms to Total Exports of the State, 1987 through 2007 (In Percentages)

Firms	1987		1992		1997		2002		2007	
	Direct	Canalized	Direct	Canalized	Direct	Canalized	Direct	Canalized	Direct	Canalized
Chowgule & Co. Ltd	21.20	1.05	17.96	0.00	14.60	0.00	23.22	0	20.74	0.00
Damodar Mangalji & Co. Ltd	1.94	10.01	1.44	24.07	2.18	0.00	2.13	0	1.81	0.00
Dempo Mining Corporation Ltd	0	0	0.47	0.00	0.45	0.00	0.40	0	0.34	0.00
Mandovi Pellets	0	0	3.75	0.00	3.09	0.00	1.52	12.30	1.29	11.46
Orient (Goa) Private Ltd	3.17	3.32	1.77	24.80	4.66	0.00	7.69	0	6.39	0.00
Others	4.88	25.60	3.00	7.51	3.07	0.00	1.14	0	0.97	4.97
Salgaocar Mining Industries Ltd	0	0	5.23	0.00	5.37	67.05	10.24	31.91	8.70	29.12
Sesa Goa Ltd	21.48	15.48	22.39	38.75	26.31	0.00	22.26	38.24	19.92	36.60
Sociedade De Fomento Industries Ltd	9.02	5.94	9.43	0.00	7.09	0.00	8.51	4.60	7.23	4.93
Timblo Ltd.	1.58	8.32	2.24	4.86	2.36	0.00	5.93	12.95	5.04	13.01
Vasantram Mehta & Co. Pvt Ltd	0.40	19.06	0.30	0.00	0.85	32.95	1.43	0	1.22	0.00
V M Salgaocar & Bros. Ltd	20.87	4.46	16.69	0.00	12.52	0.00	14.07	0	11.96	0.00
V M Salgaocar Sales International	0	0	0.20	0.00	1.25	0.00	1.45	0	1.23	0.00
V S Dempo & Co. Ltd	15.45	6.77	15.12	0.00	16.19	0.00	15.45	0	13.16	0.00

Source: Same as in Table 1

Destination-wise Cumulative Export Direction:

The firm-wise cumulative export performance index measured as per their respective export destinations reveals very high extent of concentration of export destinations as presented in table 4.

Table 4: Direction-wise Composite Index of Performance (CIP) of Individual Iron-ore Exporting Firms 1987 through 2011

Firms	Japan	S. Korea	Rest Asia	Europe	Middle East	Others	China
Chowgule & Co. Ltd	0.93	0.00	0.00	0.02	0.00	0.00	0.05
Damodar Mangalji & Co. Ltd	0.86	0.00	0.00	0.00	0.04	0,01	0.07
Mandovi Pellets	0.35	0.00	0.08	0.00	0.00	0.00	0.63
Orient (Goa) Private Ltd	0.87	0.00	0.00	0.00	0.00	0.02	0.10
Others	0.00	0.00	0.00	0.95	0.00	0.00	0.04
Sesa Goa Ltd	0.42	0.00	0.07	0.45	0.03	0.02	0.09
Sociedade De Fomento Ind. Ltd	0.88	0.00	0.03	0.00	0.06	0.00	0.12
Timblo Ltd.	0.88	0.00	0.08	0.02	0.00	0.00	0.09
Vasantram Mehta & Co. Pvt Ltd	0.87	0.00	0.06	0.00	0.01	0.01	0.08
V M Salgaocar & Bros. Ltd	0.54	0.40	0.00	0.06	0.00	0.00	0.03
V M Salgaocar Sales International	0.00	0.61	0.08	0.00	0.00	0.00	0.23
V S Dempo & Co. Ltd	0.81	0.00	0.00	0.06	0.00	0.00	0.10
Salgaocar Mining Industries Ltd	0.73	0.00	0.00	0.04	0.01	0.01	0.20
Total	**0.61**	**0.07**	**0.02**	**0.14**	**0.01**	**0.06**	**0. 16**

Source: Same as in Table 1

The analysis of 13 Goan iron-ore exporters reveal that as much as 10 exporters preferred Japan as favored export destination. China and Europe respectively are the second and the third best preferred markets while the local exports are not relatively competitive in the Rest Asia and the Middle East markets. Chowgule & Co. Ltd has been the number one exporter to Japan over the period under study while V. M. Salgaocar International and other small exporters preferred South Korea and Europe as their most competitive markets respectively. The choice of export markets depend on the contacts of the individual exporters, the ability to compete with global firms and meet the requirements in terms of export quantity and desired quality standards.

V. M. Salgaocar demonstrated its capacity to explore and efficiently tap markets in South Korea, Rest Asia, and China while Chowgule & Co. Ltd and Mandovi Pellets Ltd. pioneered and exploited the potential of Japanese and Chinese markets respectively. Apart from Chowgule & Co. Ltd., Sociedade De Fomento Industries Ltd and Vasantram Mehta & Co. Pvt. Ltd. found exporting to Japan competitive, the performance index of V M Salgaocar Sales International and V M Salgaocar & Bros. Ltd. demonstrate that exports of both these companies comprised the total exports of Goa to South Korea. China has emerged as the favorite export destination for all the companies analyzed in the periods with CIP within a range of 0.07 (Damodar Mangalji & Co. Ltd) to 0.23 (V. M Salgaocar Sales International), with 0.63 (Mandovi Pellets) as the largest value. Among all companies the exports of Sesa Goa seem well diversified with its export presence in all major global iron-ore markets. However, this company derives more value by their most competitive exports to Europe {Cumulative Index of Performance (CIP) of 0.45}, Japan (CIP 0.42), China (CIP 0.09) and Rest Asia (CIP 0.07).

Convergence/Divergence in Exports by Individual Firms:

Despite the trends reported in the previous sections, it is of interest to verify whether or not the export performance across 12 companies was moving towards a convergence. This verification is done in terms of a simple regression analysis for every three year period gap starting from 1987 through 2007. The regression was not estimated for 1988 simply to verify the evidence beyond one year distance from 1988. The regression results for the equation 2 are reported in table 5.

The estimated results demonstrate that the performance levels of the 12 iron-ore exporting firms were converging at 5% or better than 5% levels in 5 out of the 10 cases. Two important policy implications of this convergence/divergence results are; for any exogenous shock including policy measures, Goan companies in the iron-ore export business react very similarly though not to the same extent, it is also an indication that any exogenous force such as use of technological advancement or labour or working efficiency can easily impact

positively and more or less uniformly on the performance level of the companies and the iron-ore export industry, and secondly there exist significant differences in the level of performance between large companies and the companies with relatively smaller level of economic activity. Generally speaking the export performance of 12 companies appears to be converging during the 1987 through 2007 periods.

Table 5: Convergence / Divergence in Firm-level Export Performance 1987-2011

Period	Intercept (t Statistic) P-values	Coefficient (t Statistic) P-Values	Adjusted R^2 and (F-Statistic)
i = 1987 j = 1989	0.70 (0.67) 0.52	-0.13 (-0.79) 0.44	0.29 (0.62)
i = 1989 j = 1991	2.63** (2.33) 0.04	-0.69* (-3.83) 0.00	0.51 (14.65)
i = 1991 j = 1993	3.41* (3.16) 0.01	-0.78* (-3.59) 0.00	0.48 (12.91)
i = 1993 j = 1995	1.18 (0.80) 0.44	-0.02 (-0.05) 0.96	0.83 (0.00)
i = 1995 j = 1997	7.15* (9.36) 0.00	-1.19* (-9.75) 0.00	0.88 (95.0)
i = 1997 j = 1999	-3.06 (0.67) 0.52	0.64 (1.51) 0.16	0.90 (2.29)
i = 1999 j = 2001	6.10* (3.55) 0.00	-0.89* (-3.95) 0.00	0.52 (15.58)
i = 2001 j = 2003	3.00 (0.89) 0.39	0.12 (-0.25) 0.81	0.70 (0.06)
i = 2003 j = 2005	4.27* (3.21) 0.01	1.01 (-0.29) 0.46	0.69 (0.07)
i = 2005 j = 2007	5.02 (0.89) 0.54	-0.91* (-3.22) 0.00	0.61 (12.58)

Notes: * and ** denote significance at 1 and 10% respectively.

SUMMARY AND CONCLUSIONS:

At the firm-level, measurement of export performance has become increasingly vital for the assessment of corporate prosperity and long-term commercial viability. For Goa's iron-ore exporting firms it is argued that firm characteristics act as potential predictor of export performance, pointing out to the importance of internal resource capabilities in determining export performance. Such a finding hints about the differences in the firm level export performances among the new/mature firms, and the competitive/ uncompetitive firms. In this study we use panel data for firms in iron-ore export industry in Goa (India) to identify a number of systematic differences in firm's export performance within the State. Specifically this paper attempts to enquire whether firms differ systematically in the nature of their output markets and operational efficiency and what the differences in performance among firms are given that the other competitors within the state share a common geographical situation. We also find whether Asian and European markets influence the firmand as to how their performances of different iron-ore exporting firms converge/diverge over different periods. We inquire the reasons of firms's relative performance using the panel data and summarize several aspects of an industry's turnover, composition, and its resultant contribution to the state's export distribution direction in Goa.

We reveal a high extent of concentration in firm-level export destinations. Among the thirteen Goan iron-ore exporters' analyzed as many as ten exporters prefer Japan as their favored export destination. China and Europe respectively are the second and the third most preferred markets, while local exports are not relatively competitive in the Rest Asia and the Middle East markets. Chowgule and Co. Ltd has been the number one exporter to Japan over the period under study, while V. M. Salgaocar International and other small exporters preferred South Korea and Europe as their most competitive markets respectively. The choice of export markets depend on the contacts of the individual exporters, the ability to compete with global firms and meet the requirements in terms of export quantity and desired quality standards.

The cross–section distribution of output and exports show that Sesa Goa emerges and maintains its position as the largest exporter iron-ore in the State exports, contributing around 20% of the total exports put by all the firms accounted together. Other old and mature exporting firms like Chowgule and Co. Ltd, V. S. Dempo Ltd, and V. M. Salgaocars in that order top the largest exporters' list with an export share of 11%, 10%, and 6% respectively in the latest periods for which data is currently available. A significant observation worth noting is that the small exporters that randomly appear / disappear put together contribute 8% of the States exports in the latest, significantly improving their relative position compared to the past. The dense network of subcontractors and export traders has lowered the costs of entry into and exit from the export market, particularly for small firms reducing their initial investment costs. Secondly, the ever increasing import demand from Asian economies has triggered the export drive in small firms drastically increasing their export contribution.

A composite measure (index) of export performance for each export firm is computed based on mundane indicators of production activity over the years. From within the group, Sociedade de Fomento Industries Ltd turned out to be the best export performer. The composite measure of 6 exporters among the 12 analyzed was below the average index of all the firms put together for the full period under study and prominent amongst them are V. S. Dempo and Co. Ltd and Salgaocar Mining Industries Ltd. The estimated regression results demonstrate that the export performance levels of the 12 iron-ore exporting firms converge at 5% or better then 5% levels in 5 out of the 10 points of time. Three important implications of this convergence/divergence results are; for any exogenous shock including policy measures, the Goan companies in the iron-ore export business react very similarly though not to the same extent, it is also an indication that any exogenous force such as use of technological advancement or labour or working efficiency can easily impact positively and more or less uniformly on the performance level of the companies and the iron-ore export industry, and thirdly there exist significant differences in the level of performance between large companies and the companies with relatively smaller level of economic activity.

Since the adoption of an export approach based on marketing capability is intrinsic to export performance, it is essential that substantial export marketing skills be augmented and maintained among those firms pursuing regular export operations. Further, exporting firms are more likely to perform well in export markets when they commit adequate resources to undertaking export marketing research. Despite the difficulties and costs involved, the adoption of such activities would be tantamount to reducing the relatively high level of uncertainty which is likely to surround international marketing decisions. Managerial commitment to exporting activities is likely to have a particularly strong impact on the export behaviour and success of firms. This is primarily attributed to the existence of considerable differences in market characteristics between the firms domestic market and the markets of the more industrialized countries, traditionally the main export market targets for these firms as Katsikeas and Piercy (1990) point out. To ensure export survival and maintain regular exporting operations to such overseas markets, it is important that Goa's firms understand different buying attitudes and employ more sophisticated marketing practices in comparison with those in the domestic market. In developing such a capability, resource commitment to exporting, reflected in such activities as export department organization, export planning and control, export marketing research and regular export market visits, is likely to be of major importance as Beamish *et al.,* (1993), Bonaccorsi (1993) and Cavusgil and Naor (1987) demonstrate.

It is documented that the top performing firms have been innovators in some respect or another in their relative performance. Our empirical findings also indicate that, relative to their counterparts new firms are characterized by less concentrated market structure, are less competitive, are smaller within-industry production, are dispersed, possess a smaller percentage of plant/activity operating at low productivity levels, and smaller productivity differentials between surviving and failing exporters. These patterns are consistent with strong competitive pressures in Goa that lead to market selection based on export performance differences. Relatively newer firms seem to have a disadvantage in building export-competitiveness in relatively high technology industries presumably and thus are devoid of the need for greater flexibility, specialization, core competencies and innovativeness that are crucial for succeeding in the international markets in these industries. Hence, entry

of new highly specialized firms in high technology areas may be facilitated by easy availability of venture capital and other facilities. Fiscal incentives and tax concessions (as captured by the role of profitability) do play a role in prompting Goan enterprises to export. Furthermore, these incentives may also be required to compensate for relatively high cost of capital and other inputs applicable in India.

It is recognized that firms within iron-ore export industry have idiosyncratic differences in their efficiency of production and export performances. This underlying market share and market leadership heterogeneity, when embedded in a market framework, generates a size distribution of producers, distribution across firms, an endogenous exit decision for incumbent firms based on their productivity and ability to sustain, and an endogenous flow of new entering firms.

REFERENCES:

Ahmad, J., and A. C. C. Kwan, (1991). Causality between Exports and Economic Growth, *Economic Letters*, Vol. 37, pp. 243-248.

Balassa, B., (1965). Trade Liberalization and Revealed Comparative Advantage, *Manchester School of Economic and Social Studies*, Vol. 33, No. 2.

Cavusgil, S. T. and J. Naor, (1987). Firm and Management Characteristics as Discriminators of Export Marketing Behaviour, *Journal of Business Research*, Vol. 15 No. 3, pp. 221-35.

Clerides, S. K., S. Lach, and J. R. Tybout, (1998). Is Learning by Exporting Important? Microdynamic Evidence from Colombia, Mexico, and Morocco, *Quarterly Journal of Economics*, pp. 903-947.

Clive, W. R., (1979). *Policy Alternatives for a New Industrial economic Order*, New York: Praeger.

Edwards, S. (1992). Trade Orientation, Distortions and Growth in Developing Countries, *Journal of Development Economics,* No. 1, 31-57.

Engle, R. E., and C. W. J. Granger, (1987). Cointegration and Error-correction: Representation, Estimation and Testing, *Econometrica*, Vol. 55, pp. 251-276.

Feder, G., (1983). On Exports and Economic Growth, *Journal of Development Economics,* Vol. 12, Nos. 1-2, pp. 59-73.

Das, S. K., and A. Bandyopadhya, (2003). Quality Signals and Export Performance: Micro-Level Study 1989-97, *Economic and Political Weekly*, Vol. XXXVIII, No 39, pp. 4135-4143.

Forbes, N., (2001). Doing Business in India: What has liberalization changed? Center for Research on Economic Development and Policy Reform Working Paper, No. 93, Stanford University.

Fraering, M., (1996). Explanatory and Predictive Indicators of Export Performance: A Synthesis of Findings, *Enhancing Knowledge Development in Marketing*, Vol. 7, American Marketing Association, Chicago, IL, pp. 104-5.

GemuÈnden, H. G., (1991). Success Factors of Export Marketing: A Meta-analytic Critique of Empirical Studies, in Paliwoda, S.J. (Ed.), *New Perspectives on International Marketing,* Routledge, London, pp. 33-62.

Hassan, R., and M. Raturi, (2002). Does Investing in Technology Affect Exports? Evidence from Indian Firms, *Review of Development Economics* (forthcoming).

Johnston, W. J., and M. R. Czinkota, (1982). Managerial Motivations as Determinants of Industrial Export Behavior, in Czinkota, M. R. and Tesar, G. (Eds), *Export Management: An International Context,* Vol. 3-17, Praeger Publishers, New York, NY.

Joshi, V., and I. M. D. Little, (1998). *India's Economic Reforms 1991-2001*, Clarendon Press, Pp xiii +282, ISBN 0-19-829078-0.

Kamat, Manasvi and Kamat Manoj (2012). Export Elasticity, Intensity and Firm Characteristics, in the (Eds), Management Arena Innovations, *Opportunities and Challenges,* pp: 3-13**.**

Kumar, G. A., et al. (2000). *India's Export Competitiveness & Finance, India Development Report,* Ed. by Kerit Parekh, Indira Gandhi Institute of Research & Development, New Delhi, pp. 177-190.

Kumar, N., (2001). India's Trade in 2020: A Mapping of Relevant Factors, Paper presented for the Committee on Vision 2020 for India, *Planning Commission,* Government of India.

Kumar, N., and K. C. Singhal, (1999). India's Export Instability, *The Indian Economic Journal,* Vol. 36, No 3. Jan-March, pp. 72-79.

Leonidou, L., C. Katsikeas, and J. Hadjimarcou, (2002). Executive Insights: Building Successful Export Business Relationships: A BehaviouralPerspective, *Journal of International Marketing*, Vol. 10 (3), pp. 96-115.

Levy, B., (1991). Transactions Costs, the Size of Firms and Industrial Policy: Lessons from a Comparative Case Study of the Footwear industry in Korea and Taiwan, *Journal of Development Economics*, Vol. 34, pp. 151-178.

Madsen, T. K., (1987). Empirical Export Performance Studies: A Review of Conceptualizations and Findings, in Cavusgil, S. T. (Ed.), *Advances in International Marketing,* Vol. 2, JAI Press, Greenwich, CT, pp. 177-98.

Majumdar, S. K., and P. Chimber, (1998). Are Liberal Foreign Investment Policies Good For India, *Economic and Political Weekly,* Vol. XXXIII, No 6, Feb 7, pp. 267-270.

Pack, H., (1992). New Perspectives on Industrial Growth in Taiwan, in Gustav Ranis (ed.), *Taiwan From Developing to Mature Economy,* Westview Press.

Patibandala, M., (1995). Firm Size and Export Behavior: An Indian Case Study, *Journal of Development Studies*, Vol. 31(6), pp. 868-882.

Piercy, N. F., (1981). Company Internationalisation: Active and Reactive Exporting, *European Journal of Marketing,* Vol. 15, No. 3, pp. 26-46.

Piercy, N., A. Kaleka, and C. S. Katsikeas, (1998). Sources of Competitive Advantage in High Performing Exporting Companies, *Journal of World Business*, Vol. 33 (4), pp, 378 – 392.

Rajan, R. S. and K. Sen, (2002). A Decade of Trade Reforms in India: How it Compares with East Asia, *World Economics*, Vol. 3 (4), pp.1-14.

Ratnesh, K., (2001). *Trade Link in South Asia: An Empirical Study of Post-SAARC Period, 1986- 87, International Trade and Business,* Edited by Jwitesh Kumar Singh, New Delhi: Deep Publications Pvt Ltd.

Roberts M. J., and J. R. Tybout (1997). The Decision to Export in Colombia: An Empirical Model of Entry with Sunk Costs, *American Economic Review*, Vol. 87, No. 4, pp.545-564.

Rumelt, R. P., (1991). How Much Does Industry Matter?, *Strategic Management Journal*, Vol. 12, 167-185.

Sachdev, S., (1993). International Competitiveness and Agriculture Export of India, *Indian Economic Review*, Vol. XXVIII, No. 2, pp. 203-217.

Sharma, O. P., (1996). Performance, Policy Issues and Prospects of India's Exports, *Economic and Political Weekly,* Vol. XXXI, No. 41 & 42, October 12-19, pp. 2817-2822.

Srinivasan, T. N., (1996). *India's Export Performance: A Comparative Analysis, India's Economic Reforms and Development,* Edited by Isher Judge Aluwalia and I.M.D. Little, New Delhi: Oxford University Press, Chapter 9, pp. 197-228.

Styles, C., and Amber, T., (1994). Successful Export Practice: The UK Experience, *International Marketing Review*, Vol. 11, No. 6, pp. 23-47.

Tendulkar, S. D., (2000). *Indian Export and Economic Growth Performance in Asian Perspective,* EXIM Bank of India Occasional Paper, No. 81, December, Mumbai: Quest Publication.

Zou, M., and S. Stan, (1998). The Determinants of Export Performance: A Review of the Empirical Literature between 1987-1997, *International Marketing Review,* Vol. 15, No. 5, pp. 333-356.

Zou, S., C. R. Taylor, and G. E. Osland, (1998). The EXPERF Scale: A Cross-national Generalized Export Performance Measure, *Journal of International Marketing*, Vol. 6 No. 3, pp. 37-58.
