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Strategic Positioning of the Firms, Market Competition and Economic Recession in India: A Cross-Sectional Analysis

Dr. K. Shanmugan,
Associate Professor, Department of Business Economics, Faculty of Commerce, The Maharaja Sayajirao University of Baroda, Vadodara
Email: shanmuganmsu@gmail.com

Dr. Vishal Javiya,
Assistant Professor, Department of Commerce and Business Management, Faculty of Commerce, The Maharaja Sayajirao University of Baroda, Vadodara

Dr. Darshna Joshi,
Assistant Professor, Department of Commerce and Business Management, Faculty of Commerce, The Maharaja Sayajirao University of Baroda, Vadodara

Abstract
History of business economic cycles suggests that the market economy is subjected to fluctuations and that can be observed and predicted more meaningfully for the understanding of behavioral interactions of economic agents including institutions.Considerable amount of empirical analysis pertaining to firms' growth, expansion and survival during recession has demonstrated growth potentials of the firms which are ideally synchronized with all the operational areas of the firm's conducts and performances while focus has been laid down more on production, labor productivity and market share. Our proposed agenda is to examine how strategies have influenced the competition and competitiveness under broad scenario of recession in India nearly for five years and more particularly after the impact of covid-19. The simultaneous equation model is constructed which comprises of structural specifications consistent with the theory by netting the framework that are compatible and coherent. Persistent dynamics produced in the market by consumer, producer and retailer has a long bearing on firms' behavior both in terms of its strategy and long-term objectives. Although, combinations of strategies adopted during recession reveal both price and non-price competition strategies have been followed aggressively, as per our estimates, cut throat price competition strategies have evolved in complementing the firms' strategic positioning and market competition.

Keywords: Strategy, Competition, Recession, Simultaneous Equation, Covid-19.

I. INTRODUCTION

Economic growth and development areinevitable backdrops within which consumption, production and distribution can be more effectively organized provided that different players in the markets are in tandem with general equilibrium framework. History of business economic cycles suggests that the market economy is subjected to fluctuations and that can be observed and predicted more meaningfully for the understanding of behavioral interactions of economic agents including institutions. Downward and upward movements in growth rates are the major complexities in economic cycles whichplay critical role in expansion and contraction of economic activities not only at aggregate level but also in major

sub-classifications. Boom and doom are the realities connecting both recession and recovery in a manner that forms business cycle of irregular intervals. The most painful and serious economic situation can be experienced and articulated in terms of recession and depression. Depression takes the individuals, firms and economies to the bottom of economic activities in which growth and employment falls to the bare minimum. It is this which is very important for the firms to study and operate in the both short-run and long-runin order to achieve desirable levels of perceived goals while consistently moving towards long term objectives. Firms and corporate world face enormous challenges in fostering opportunitiesfor potentially exploring production, marketing and consumption activities. It is important to note that the competition in this scenario becomes very intense and short-run existence of the firms goes well withdynamically changing strategies.

Considerable amount of empirical analysis pertaining to firms' growth, expansion and survival during recessionhas demonstrated growth potentials of the firms which are ideally synchronized with all the operational areas of the firm's conducts and performances while focus has been laid down more on production, labor productivity and market share. Particularly,reaping the benefits of both internal and external economies of scales, while increasing the labor productivity and market share, are fundamental strategies of any ideal business entity irrespective of economic fluctuations. This becomes more pronounced when the firms will have to survive and compete in the recession. Firm's strategy and strategic management can have wide range of perspectives and it is the combination and permutation of strategic planswhich can be potentially useful, not only to integrate the firm's functions but also to ensure appropriate place in the level playing ground. Strategies can be varying depending upon the types of competitions, markets and the international exposures of the firms. Profit maximization continues to play an important and integral role in the multiple objectives of corporate entities ever since market economy has been organized for both competitions and social objectives. In fact, some of the corporate entities keep social objective as a corporate goal irrespective of their economic and financial performances and this goal has been explicitly pronounced in their conducts and performances. It could be considerably sufficient to say that sales maximization subjected to minimum profit constraint while categorically planning to push the market share in the long run could be the ideal way of looking at firm's plan but it is the combination and permutation of these objectives that make firms to differ from each other. This idea becomes quite complex during economic recession. It is against this backdrop that this article attempts to understand strategic positions of the firms during recession under intense market competitions.

II. BACKGROUND

Global economic recession and persistent fall in the GDP growth rates have been experienced since last five years in most of the countries globally including India. Covid-19pandemic very seriously impacted the growth and prosperity of economic processes not only at aggregate level but also across the firms, putting enormous stress on part of the attempts of the firms to expand their sales and profitability. In fact, official statistics show that there are negative quarterly growth rates for almost all countries and most of the industries losing their profitability and market share while production and logistics have been becoming unsolvable mysteries. India is not exception to this rule.Growth of industrial and service sectors fell down sharply and a large number of the firms have experienced major lock down or restriction in the procurement of inputs that the production cost became suddenly very high, which led to negativeprofit marginsometimes. Industrial activities on an average have experienced all time unpleasant recession and firms have adjusted to new norms to compete in the survival mode even when recovery is not completely evident. Theoretical and

empirical evidenceson various outcomes on the conducts and performances of the firms across industries and business cycles are inconclusive and contradictory and, therefore, there is no clear-cut evidence on the achievement of singlelong-term goal.The growth performances of the firms are clear strategies and use of resources have become complex, leading to varying performances of firms**.** Efficiency and productivity have played critical role both in production function and marketing. The competitive strategies, which we can think of ideally through the best of literature that are available, can be classified into five important dimensions under recession or depression. First, firm does not take any risk and continue to operate with existing capacity only. Secondly,the firms increase the operational efficiencieswithout expanding the capacity and plant size.Thirdly,firms can also try to optimize the cost while expanding the capacity provided that markets are favorable for sales. Fourth, reorganizing the human resources to generate shift in the efficiency coefficients while making no changes elsewhere in the firms and lastly, changing the capital structure and reducing the fluctuations in the sales promotion activities. In fact, these five strategic issues cannot be thought of functioning independently and it is the permutation and combination of all these five propositions which could be meaningful to implement. The attempt made here plans to investigate the dynamics of strategicdecisions of firms and their positioning in the markets includingthe level of competition in the context of falling economic activities in India.

III. EVIDENCES

Strategic analysis and practicing of strategic decisions have grown enormously over a period of time both in the dimensions of theoretical model building and empirical analysis. Considerable amount of works can be traced back mostly in the context of developed economies and the scenarios of international marketing. The economic fluctuations keep playing a deterministic role in changing and shaping the strategic policies and practices and therefore long-term evolution of business policy has become either consistently evolving or deviating based on discretionary actions.We would like to document some key important empirical evidences on the topic narrated here.Strategy is not a new idea either for economic science or for management domain. The idea of strategy started from Adam Smith where he introduced both domestic and international division of labor to increase the productivities of the companies and thereby achieving shift in the economic growth trajectory. Subsequently Classical, Austrian and Neo-Classical including new Classical and new Keynesian have brought extensive theoretical and empirical works related to strategic issues and theory of firm. The aim of present study is not to highlight ideas, models, agreements and disagreements across various schools of thought but to very briefly synthesize the narratives on this topic to shape our propositions for empirical analysis. Internationally acclaimed classical idea of comparative cost model proposed business policies which are compatible to the competitive atmosphere if not fully across range of markets but, for perfectly competitive market. It is equally true that the international market during classical era was dominated by major elements of intense competition but there was some doubt on full information processing. This is where firms could not handle the implementation of their business policy as market structure gradually moved to the competition where producers are less but competition is invisibly intensive. After Austrian school of thought and famous Schumpeterian innovation model, it is Michael Porter (1980,1985) who revolutionized Theory of International Trade by essentially focusing firm’s strategy and strategic decisions in the context of International Competitiveness of firms across large group of intra-industry trade. Subsequently Porter’s work formed the basis for both internationally competing firms and for those firms which wanted to increase the market share domestically to interpret the

firm's actions and performances in terms of mixof permutation and combination of strategies across various functional classifications and also within the industry.

Povolna (2019) claimed that implementation of innovation strategy by small and medium size enterprises should be designed according to economic cycle. Author studied the business cycles for the years 2003-2017 and their findings suggested that the investment decisions and funding for innovation essentially depend on the variations in the business cycle. Olusegun Moses and Ekanem Daniel (2018) examined 5 manufacturing firms out of 20 through simple randomized sampling regarding differentiation, cost leadership and focus strategies to survive and improve business performance during the economic recession. Out of various strategic options, the study concluded, through applying structured questionnaire and exploratory data analysis, focus strategy has been very effective during the recession under the scenario of Nigerian economic downfall. According to Bamiatzi and Bozos (2016), "Recessions and their impacts on firm's performances have been the focal point of discussion in several scholarly papers in the past. Some of their key features such as the prolonged drop in GDP and consumer demand, shortage of resources, unemployment, wage cuts, reduced efficiency and moral hazard problems have been particularly and directly linked to poor performancesof firms (Greenwald & Stiglitz, 1988, Pearce II & Michael, 2006, Richardson et al., 1998). However, nowadays plethoras of evidences suggest that the 2008 crisis had considerable direct and indirect influences not only on firm's performances but also on the formal institutions of several countries (Schwarzer, 2012). Using neo-institutional economics as our main theoretical pillar, we hence posit that a global economic shock, such as the 2008 recession, can bring about seismic effects to the institutional environment and markedly change both the formal and informal 'rules of the game' (Butter, 2012, Chakrabarti et al., 2007, Schwarzer, 2012), and consequently the role of the firm, industry and country effects on performance". Authors have brought out considerable amount of theoretical background on the resource utilization, production performance and competitive advantage while actually bringing out very detailed discussion on the background approach for their hypothesis. They strongly feel that firm's effects will be stronger in recessionary economic periods compared to expansion, industry effects will be weaker in the recessionary period compared to that of expansion and finally with reference to emerging markets they observed that country effects will be weaker during recession compared to expansion.

Notta and Vlachvei (2015) demonstrated changes in marketing strategies of Greek Food manufacturing companies during economic crisis which started in 2010. With the aid of semi structured interviews from 161 established company managers they have identified promotional orientation, new product orientation, seller orientation, advertisement orientation, cost price orientation, discount orientation and B2B orientation and they found companies have followed different orientations at different levels and also at different time. They also observed that there are no uniform patterns and the strategies followed.

Paul Tansey et al. (2013) proposed the analytical framework of critical review on response strategies adopted by construction companies during recession. They have compiled various issues pertaining to the survival strategies of construction companies and their responses to economic recession by articulating papers from 79 notified important journals and this study gives a good taxonomy of issues pertaining to creating, designing and implementing response strategies. The study has quoted prominent academicians and policy planners on the topic starting from Michael Porter till 2012 evidences which are taken for investigation. From their review analysis they found four different strategies which were adopted across many firms in the industry that can be further classified into two broad stratifications:

Technology/Innovation and Marketing. Savrul and Kilic (2011) observed that globalization has changed economic geography, polity and economy and ultimately evolving country into a part of global markets through demographic and socio-economic factors which has led to structural changes in the economy. This dynamic process has created considerable number of fluctuations in competitiveness, productivity and demand. Study also investigated the relationship between E-Commerce and the companies' economic performance during recovery and they found trade volumes and the levels of E-Commerce activities have considerably moved up.

Gurkov and Settles (2011) proposed a study on strategic stretch to analyse mismatch between organizational structure and firm level strategy, and their finding suggest that the organizational inertia is the clear driver of organizational structure and societal organizational culture drives strategic misfit. The practical implications of the study place higher emphasis on specific impact of societal organizational culture. In order to eliminate misfit between existing structures and current strategies, effective stretch is made so as to follow intended strategies.Polat and Nergis (2011) went to the details of recession and its impact on the strategic adjustment that a firm or a group of firms can make dynamic alterations in the short-run strategies particularly from the perspective of marketing. The study also gives considerable emphasis on review of literature concerning the recession during 2007 and 2009. According to Polat and Nergisthe classified literature review takes care of various purposes for which the studies were undertaken such as market orientation and resources adjustment, production and economies of scale, asymmetric information and branding, competitive advantage analysis, internal marketing, social effects of marketing and strategic positioning of smaller firms, particularly start-ups. Authors' summary is quite useful in drawing concise propositions and analysis for quicker understanding of the issues.

Scott Latham (2009) throws light on how economic recession reduced threats of survival of firms and subsequently concluded that smaller sized firms and start-up firms have failed as compared to large companies in their performance during recessions by surveying 137 software executives on strategic responses. It is also further noted that start-up organizations were keen on revenue generating strategies than cost reductions. Huu Le and Do Nhu (2009) pointed out that how retailers can survive in recession by following the combinations of competitive strategy which includes low-cost focus and differentiation focus,and further more recommended that the same should be followed with reference to specific context by considering issues on logistic, production, input combinations and creative innovation. Kamota (2009) portrays clinical analysis by elucidating the effects of uncertainty, tacit collusion and product differentiation on strategic investment policy. As investment plays critical role in production of technology and capital goods industries,the mathematical model shows the way in which competitive investment strategies pertaining to simultaneous investment of firms can collude on their output. In addition to this view,the model examines the compatibility of sustainability of investment with respect to volatility of future demand, low profitability and high degree of product differentiation.

The literature pertaining to the topic chosen here is enormously extensive which iscutting across firms, industry and country considerations. Some of the studies narrated here clearly show that firm's specific strategies are quite dynamic that depends on the considerations pertaining to business cycles and duration of the same. In particular recession has thrown unbelievable challenges invariably related to profitability, market expansion and firm's growth.

IV. THE OBJECTIVES AND EMPIRICAL PROPOSITIONS

The study sets out the issue of analyzing,model buildingand implementation of various strategic combinations of firms in the context of competition from the Indian markets and the same is analyzed through the reflections of responses of sellers and buyers and their opinions. In fact, we have excluded the producer in the attempt to define seller and only pronouncing wholesalers, retailers and consumers as a point of inquiry to know the best efforts of the firms that can be noticed in the sales performances and marketing plans. Our trials predominantly include consumers whose reactions are articulated in the buying process which are indicative of firms' intention to strengthen competitiveness via the strategies that they follow and this reverse process of capturing strategies of the firm could be more interesting and meaningful as information pertaining to the purchasing experience can be unbiased.At the most it could be subjected to variations but the central ideas of expression of consumers on an average can be taken as true reality of strategies that are implicitly followed across the firms. Pandemic Covid-19 brought enormous complicationsto the planningof consistent strategies and maintaining of the market share. Voluntary unemployment of labor, preferences to leisure and collective bargaining made firms more susceptible to their conducts and performances particularly after outbreak of Covid-19. Considering both fundamental and natural recessions and the impact of Covid-19, the study plans following propositions to be investigated with the help of cross section data:

1. Recession and Covid-19 pandemic have reduced income earning opportunities and purchasing power.
2. Limited options for borrowing in the context of weak repaying capacity and falling consumption levels have pushed sales and profitability downwards.
3. Availability of considerable number of varieties of goods and services even when sales promotions are effectively available for consumers, market expansion and sales are constrained by recession.
4. Advertisements and sales promotions have not effectively worked in increasing sales activities.
5. Product differentiations, additional offers and quantity discounts seem to be weak in raising both sales and profitability.
6. Quality of information on products and services, retailers'behavior and relationship with customers and add-on features have larger bearing on both marketing of the products and increasing the profitability even under falling economic activities.

Comprehending the impact of recession on firms' performances and strategy is not limited to the objectives and propositions drawn here.Rather it is very complex and requires voluminous empirical attempts to unearth various facets of performances of the firms under recession. Though the endeavor made here is quite limited to the above propositions or hypotheses, the structural model building takes care of multidimensional aspects of the subject under investigation which could revolve around the short-run and long-run objectives of the firms.Uncertainties surrounding the firm's income and its market position can be very unstable when competitionis intense. In competitive atmosphere when there are few firms, it can lead to fall in the prices due to cut throat competition.

Apart from the decrease in the prices due to recession, it is this cut throat competition which is very important and can be quite difficult for sales promotion activities as two-way decrease in the prices can considerably reduce the profit margin. Obviously, firms can withstand such a scenario in the short-run provided their competitive edge in the market is in the form of market leadership, or otherwise, firms may collapse leading to shut downand unemployment of resources. By and large the expansion of plant size, long term investment and market

discovery are extremely limited options during recession.However, there can be thin opportunity with which firms can settle down to dominate the market.

V. MODEL BUILDING AND DATA ISSUES:

Frame of the study and data collectionchosen connect either directly or indirectly unlimited population and therefore sample space is enormous and, more importantly all the stake holders in the population domain are limited to the Indian nationals whom we considered critical for analyzing the research issues in the Indian context. The data that are collected assumesome specific characteristics of population and the collection methodology is carried out only through online mode. Online Google form link was shared across emails, contact groups and various other platforms. This is done specifically to make information accessible and further, it can be convenient to meaningfully organizethe data in quick time. In the end, reasonably, we have achieved this target. Given the population we have randomly selected 1700 respondents as a group of sample and finally we have received 80 percent of the responses. We have included all the possible age groups and income groups to analyze multidimensional aspects of the issue under debate.

The questionnaire method that we have used was classified into six important parts. First part was devoted to obtain personal and other related information about respondents.Section two of the questionnaire dealt with considerable information gathering process about the ongoing recession while third section covered overall marketing aspect under recession. Fourth, an analysis of information regarding sales promotional activities and that fifth wasdevoted to get data on consumer, seller and producer relationships. Last sectionwas devoted to information gathering on the process of competition and competition per se. After properly processing and collecting the information across all sections, data were organized on stratified probability sampling basis and finally, randomization was done to get the best possible information from 1250 respondents. Small set of respondents consisting of around two percent were selected for interviewing to get more deeper understanding of the issues and the same had been conducted along with questionnaire and accordingly information from them have beenincluded. The collected data were properly coded and organized for both applied statistical analysis and model building.

VI. ANALYTICAL PERSPECTIVES ON DESCRIPTIVE STATISTICS:

The theme of this paper requires to be analyzed by applied statistical perspectives through the estimates of descriptive statistics in order to gauge the foundation of distributional characteristics particularly variance and skewness. It is important to note that the significance of individual means of concerned scale variables are tested for its significance before examining various issues pertaining to exploratory nature of data. Table-1 gives this viewpoint and column 1 produces the variables as such measured in the survey questionnaire. Importantly, these variables are converted into empiricaland theoretical notations for all kinds of statistical and econometric analysis. It is clearly evident from Table-1 that mean values range from 2.97 to 3.75 in the framework of five-point scale. This clearly indicates that scale variables could have moveddiscreetly within 1 to 5 but not outside, and given this narrow range, the variations across estimates of mean can be considered substantial and, therefore, variances play critical role in examining the spread within the scale given. It is noteworthy to point out that all t-values are highly significant for all the variables irrespective of values of standard error and standard deviation.

Table-2 gives very interesting observations on how responses can be grouped and classified depending upon the theoretical assumptions that we make on the measurement of variables.

Most of the responses are in line with theoretical expectations. The column 4 and 5 of Table-2 put together give a strong dimension for stated variables whose responses are more than 50%. Interestingly, column 1 and 5 which contain information on strongly disagreed and strongly agreed respectively, have weak responses in terms of percentage of respondents. Incidentally, column 3 and 4 which denote neutral and agreed responses have very strong bearing as most of the respondents chose to opine. More interesting point is issues on neutral positions. Some of the variables have very high responses in neutral column indicating that respondents at sample points are intrinsically not very sure about short-run directions of course of movements of variables. Accordingly, it allows us with some degree of freedom to have expectations on neutral responses and such expectations play critical role in not only understanding the theoretical underpinning of the issues but also to meaningfully move the propositions consistent with data distributional characteristics.

Classifications of expectations and their groupings are placed into three broad categories by considering the nature of investigation into simultaneous equation modeling; these are strong theoretical expectations, strong policy expectations and weak policy expectations. Under the scenario of strong theoretical expectations, it is allowed that both agreed and strongly agreed to advance in tandem so that the direction of movements is not affected and the theoretical propositions whichhave been made remain valid. We were tempted to pronounce the emphasis placed on neutrality as instrument that could have a strong trend which can reinforce agreed and disagreed, if one interprets various corporate and government policy options to play prudent role in the dynamic market scenario and accordingly column 7 is grouped. One has to be very careful in interpreting the scale variables as the numerical values are not absolute and it only gives direction of movements of variables in terms of percentage. Lastly, column 8 proposes diagonally opposite measurement and scenario wherein the multiple policy options are considered to be very weak and even in the weak scenario some of the variables have very high responses which are more than 50%. For all analytical purposes and empirical estimates last three columns of Table-2 are critical from the standpoint of theory.

Multi-dimensional analytical view on specific distributional characteristics of concerned variables is produced in Tables 3 and 4. Though, descriptive statistics are being organized in the perspective of age groups and income levels, the actual distribution of the variables under the scaling framework is presented. The variables mentioned in the Table 3 and 4 are all block specific and thereby representing joint distributions rather than individual characteristics. A very strong assumption that study makes is related to the very foundation of population distribution of variables and given the nature of scaling which has been employed, it is expected that some presence of skewness and excess kurtosis are unavoidable. Accordingly, Table 3 suggests that the estimates of skewness and kurtosis are negative. The negative skewness outweighs the negative kurtosis and presence of positive kurtosis in most of the cases only exemplifies the excess kurtosis even under negative skewness. This is consistent with our a priori theoretical expectations. Similar observations can be made from Table 4 on income groups.

Incidentally, most of the estimates of kurtosis are positive and seems to be significant while there is large negative skewness. Spread of the distribution, given the means across the variables, appears to be not having stronger influence on the distributional characteristics. Mean values of most of the variables across the age groups exhibit moderate variations which are further reconfirmed by considerable variability noticed in the estimates of standard deviation. For example, the recession related issues, although it is a block variable consisting

of group of variables whose average is reflected through combined mean, suggest a noticeable difference in the mean especially for the age group 41-50 and, has considerable excess kurtosis which is equal to 1.33 and negative skewness which is estimated to be-1.06. Negative kurtosis is very large for the age group 61-70 indicating that responses are spread very widely and unevenly while skewness suggests a departure which is negligible to claim normality. Similar patterns can be observed in various income groups and only difference being that variation in the mean values for recession block is noticed to be marginal and that of variability in the estimates of standard deviation is considerably very high, ultimately leading to differences in the reliabilities of the averages.

The block means for explaining market structure and related issues also vary across the age and income groups but variations in the age groups seem to be substantial. Again, the age group 41-50 has maximum mean value while exhibiting both negative skewness and kurtosis. This indicates relatively high variability in the responses. For the same variable, the estimates of mean being almost similar, higher variations in the standard deviation differentiate the spread of the distribution. Similar pattern of distribution is observed for block variables such as sales and price competition and competitiveness and competition. The block variable pertaining to consumer, retailer and producer relationship interestingly shows very low mean and standard deviation values while that of kurtosis worked out to be large negative almost equivalent to -2.0.Undoubtedly, sales and price competition including that of competitiveness and competition follow similar frame work in the income groups, whereas consumer, retailer and producer relationship produces very small mean value and moderate standard deviation for the income group 100000-150000.

By considering the joint distributional characteristics of block variables across income and age groups there is no unique pattern which can be observed by the estimates of descriptive statistics. In fact, theoretical expectations allow skewness and kurtosis to vary across the variables not only for statistical reasons but also for the phenomena of dynamic nexus among business and managerial constructs of scaling of variables. It is standard assumption to understand the probability of joint distribution that concerned variables are structurally interdependent in the focal phenomena of investigation. Coincidently, most of the individual variables are negatively skewed and the patterns of distributions seem to be similar and thereby enabling us to properly model joint distributions. A very interesting reflection on the responses pertaining to neutral observations brings responses somewhat proximately closer to the normality but cannot be claimed as normal. Probably, even if sample size is increased, efficiency may improve but consistency continues to remain the same. Information pertaining to weak policy expectations produces huge variability in the distributional characteristics and subsequently posing serious difficulties in producing the estimates of joint probability distribution for the reasons which are well-known in statistical sense of the term and thereby putting severe distributional constraints for analysis.

VII. MODELING ISSUES

Strategy and competitiveness are the key elements that pertain to the dynamism of the firms in the context of ongoing backdrop of economic growth process and inflation. Strategy is a deliberate action through appropriate changes in the objectives pursued for the short run and competitiveness is the outcome of the strategy. The measurement of the competitiveness can be widely discussed through more complex evaluation of analysis and structure, and, presumably the competitiveness pertaining to the performance of company into the market is critical element.Therefore, the study proposes the competitiveness as the focal point. Without going into much disagreement across cross sections of studies on the topic, the issue is dealt

very prominently for structural modeling by framing a simultaneous equation model. Our proposed agenda is to examine how strategies have influenced the competition and competitiveness under broad scenario of recession in India nearly for five years and more particularly after the impact of covid-19. The simultaneous equation model is constructed into five blocks and each comprises of giving specificationsconsistent with the theory by netting the framework that are compatible and coherent.The rank and order conditions are used for identifying the equations in the system. Accordingly, the system is neither over identified nor under identified and therefore the system is parsimonious. The parsimoniousness is evolved based on the empirical propositions and objectives that are identified. In the larger context, econometric formalities in the process of identification have generated the compactness of the system. In what follows, the analytical hypotheses are proposed in the form of block wise equations.

A. RECESSION BLOCK

Recession is the phenomena of growth rates falling consistently and it could be negative as well. The idea of recession captured in the study prominently takes the information from scale responses and therefore time series construction is avoided so as to link the scale responses with other blocks at cross sectional space. Equation 1 describes the composite measurement of recession from the block variables narrated in the Appendix- II. CRES represents measurement of combined factors on recession by using principal component analysis and factor variances as their weights and it is modeled as dependent on IPP (Increasing Prices ofPetroleum products), SIPS (Subsidy versus Increasing Prices), CMS (Composite variable for Market Structure and relatedInformation), FCM (Fluctuating Consumers in the Market), AQD (Availability of Quantity Discount), PD (Product Differentiation), SIA (Sales Influenced by Add-on Features), ICA (Impact of Competing Advertisements) and DP (Declining profits) of firms. This specification is based on, though it is well identified also checked for specification biases, profits, information in the market, advertisement and petroleum prices,which play key role in identifying and examining the ongoing recession at cross-sectional level.

The dependent variable CRES being composite variable captures intensity, depth and severity of recession in the direction in which preferences of the scales are indicated. Equation 2 captures the income earning opportunity of individuals at broader labor markets during recession so that the ability to spend is examined and accordingly CRES, DP, IES (Investment Expectations and Sales) and RSR (Relevance ofSocial Responsibility) are proposed as independent variables. It is expected that the prospects available for the individual to get better opportunity in the job market are weak and also presumably the social responsibility of the firms reinforces the intention of retaining labor rather than retrenching. As a result of decreasing sales and profitability, investment is likely to fall and therefore there are possibilities of unutilized capacity and resources. This may strongly reduce investment and therefore restrict income earning opportunity even when logistic is accumulated. Stock management could be a serious problem in the recession and therefore further production and investment are likely to be restricted. The predominant impact on individual consumer could be purchasing power in the context of recession. Purchasing power is affected by falling income level, rising prices and opportunity to get the possible loans and hence purchasing power of the consumer is influenced negatively throughthe recession, and it is in this context that both purchasing decisions of buyers and strategic sales promotion activities have to be dealt with. Accordingly, Equation 3 is specified.

1. RECESSION BLOCK

$$\text{Log CRES} = \beta_0 + \beta_1\text{LogIPP} + \beta_2\text{LogCMS} + \beta_3\text{LogFCM} + \beta_4\text{LogAQD} + \beta_5\text{LogPD} + \beta_6\text{LogSIA} + \beta_7\text{LogICA} + \beta_8\text{LogDP} + \varepsilon \quad (1)$$

$$\text{Log IEO} = \alpha_0 + \alpha_1\text{LogCRES} + \alpha_2\text{LogDP} + \alpha_3\text{LogIES} + \alpha_4\text{LogRSR} + \varepsilon \quad (2)$$

$$\text{Log DPP} = \lambda_0 + \lambda_1\text{LogIEO} + \lambda_2\text{LogIP} + \lambda_3\text{LogDP} + \lambda_4\text{LogQIR} + \lambda_5\text{LogTOC} + \lambda_6\text{LogSHC} + \varepsilon \quad (3)$$

2. MARKET STRUCTURE BLOCK

$$\text{Log FCM} = \theta_0 + \theta_1\text{LogDPP} + \theta_2\text{LogIEO} + \theta_3\text{LogTC} + \theta_4\text{LogICA} + \theta_5\text{LogPC} + \theta_6\text{LogSBA} + \nu \quad (4)$$

$$\text{Log VGS} = \beta_0 + \beta_1\text{LogCBA} + \beta_2\text{LogDRC} + \beta_3\text{LogQIR} + \beta_4\text{LogPC} + \beta_5\text{LogICA} + \beta_6\text{LogFCM} + \nu \quad (5)$$

$$\text{CBA} = \text{IEO} + \text{SHC} + \text{RSR} + \text{DRC} + \text{HGP} \quad (6)$$

3. SALES AND PRICE COMPETITION BLOCK

$$\text{Log AQD} = \alpha_0 + \alpha_1\text{LogCCR} + \alpha_2\text{LogICA} + \alpha_3\text{LogDP} + \alpha_4\text{LogTOC} + \omega \quad (7)$$

$$\text{Log PD} = \beta_0 + \beta_1\text{LogCRES} + \beta_2\text{LogFCM} + \beta_3\text{LogQP} + \beta_4\text{LogMCB} + \omega \quad (8)$$

$$\text{Log DDE} = \lambda_0 + \lambda_1\text{LogDP} + \lambda_2\text{LogUGP} + \omega \quad (9)$$

4. CONSUMER, RETAILER AND PRODUCER RELATIONSHIP

$$\text{Log CCRPR} = \beta_0 + \beta_1\text{LogICA} + \beta_2\text{LogASS} + \beta_3\text{LogCRES} + \beta_4\text{LogUGP} + \beta_5\text{LogQIR} + \nu \quad (10)$$

$$\text{Log RB} = \alpha_0 + \alpha_1\text{LogLSA} + \alpha_2\text{LogMCB} + \alpha_3\text{LogASS} + \nu \quad (11)$$

$$\text{Log FCI} = \lambda_0 + \lambda_1\text{LogQP} + \lambda_2\text{LogDDE} + \lambda_3\text{LogMCB} + \lambda_4\text{LogGEA} + \lambda_5\text{LogIP} + \nu \quad (12)$$

$$\text{Log QIR} = \theta_0 + \theta_1\text{LogUGP} + \theta_2\text{LogFCM} + \nu \quad (13)$$

5. COMPETITIVENESS AND COMPETITION BLOCK

$$\text{Log PC} = \beta_0 + \beta_1\text{LogCADI} + \beta_2\text{LogTOC} + \beta_3\text{LogFCI} + \beta_4\text{LogPD} + \varepsilon \quad (14)$$

$$\text{Log TCP} = \lambda_0 + \lambda_1 \text{LogQIR} + \lambda_2 \text{LogSAP} + \varepsilon \quad (15)$$

$$\text{Log DP} = \alpha_0 + \alpha_1 \text{LogCADI} + \alpha_2 \text{LogCRES} + \alpha_3 \text{LogPD} + \varepsilon \quad (16)$$

NOTES:

1) All the equations are behavioral equations except equation (6).
2) For detailed description of respective variables, one can refer to Appendix-II.
3) Composite variables are worked out by principal component method while variances of the factors served as weightages.

B.MARKET STRUCTURE BLOCK

The aim of analyzing market structure lays on the fact that understanding consumer behavior and general market dynamism including factors influencing same while taking into accountthe availability of goods and services. The two structural equations are formulated to capture the buyer's behavior, availability of various goods and services that can take care of influences of advertisements and price behavior. Equation 4 describes fluctuations in the entry and exits of consumers in the markets and varieties of goods and services that are available vis a vis the influences of advertisements, stagnant business activities and decreased repayment capacities in the context of quality of information available. Purchasing convenience and quality of information play critical role in determining the sales opportunities of varieties available in the market while actually number of consumers fluctuate across the products. This nexus is properly captured in both the equations4 and 5. Therefore, the market structure block generates a fundamental linking causation for estimating parameters simultaneously with a view to understand strategy and competition.

C.SALES AND PRICE COMPETITION BLOCK

The structural design of this block aims at analyzing price and non-price competitions that possibly aggressively take place across the firms while dealing with main objective of attaining profit maximization. It is important to mention that in the short-run profit maximization may not be an ideal strategy especially in the recession and, therefore, firms proceed to promote aggressive sales policies subjected to minimum profit constraint. It is this which is very important in the recession. Presumably firms compete for consumer income which is diminishing in real terms in the backdrop of conditions such as severe effects of covid-19 coupled with recession. Price competition cuts the profit margin even if the firms follow cost-plus pricing and therefore scope of clearing stock and trying for increasing the market share become very limited. The equations7, 8 and 9 are evolved to capture quantity discounts, product differentiation and more importantly dissatisfactory durability by consumer's expectations. These three important variables seem to be predominantly playing the critical role on the basis of information from our empirical survey and accordingly the factors determining them are presented. Product differentiation is influenced by FCI (Firm-Customer Interaction), QP (Quality of Product), MCB (Methods of Contacting Buyers)and more importantly composite factor on recession. Other variables in our study seem to be having insignificant impact on product differentiation in the context of recession.

The quantity discounts offered at different levels seem to be largely influenced by, at least in analytical sense, combined variable for Customer Relationship, (ICA) Impact of Competing Advertisement, (DP) Declining Profit and (TOC) Government Taxation Policy. The equation 9 describes the phenomenon on (DDE) Dissatisfactory Durability by consumer's Expectations. In fact, durability has become a critical issue even for consumer durables when we compare characteristics of productsacross the space. Increasingly consumers feel that

decrease in the prices of the goods and services are accompanied by a considerable compromise in the quality, particularly durability. Given the structure of the model it is plausible to assume that the dissatisfactory durability is composed of (DP) Declining Profitand(UGP) Uncertainties regarding Good Performances at market level. The exercise here is restricted to only three structural equations so as to link the other blocks as well to take care of the competition aspect.

D. CONSUMER, RETAILER AND PRODUCER BLOCK

The entire structural aspect of this exercise is crucially dependent on this block which is modeled by four equations,from equations10 to 13. Equation capturing CCRPR (Composite variable on Consumer, Retailer, Producer Relationship) is explained by explanatory variable ICA (Impact of Competing Advertisements), ASS (After-Sales Support), composite variable for Recession, Uncertainties regarding Good performance and QIR (Quality of information). The equation critically examines the role of information, advertisement, uncertaintiesand composed structure for CRPR in the context of recession. Equation 11plays a role in examining (RB) Retailers' Behavior and subsequently that is determined by CADI (Combined factor for Influence of Advertisement), LSA (Low Sales Activities), MCB (Methods of Contacting Buyers) and ASS (After-Sales Support).Probably the estimation can show the dominance of these factors in explaining the retailer'sbehavior. Equation 12is proposed to examine consumer and producer relationship by incorporating QP, DDE, MCB,GEA(General Economic Activity) and IP (Incentive by Producers). The last equation in this block enumerates the importance of UGP and FCM. Maximum of structural equations are placed in this block as against other blocks which indicates the vitality of the relationships that can simultaneously cut across the structural formation.

E.COMPETITIVENESS AND COMPETITION BLOCK

It is very important to distinguish the fundamental meaning in both theoretical and empirical senses which will enable to draw meaningful interpretations. Competitiveness refers to firms' ability and strength that emulate from inside the organization, whereas competition refers to a situation of firms competing for the markets. In order to analyze competitiveness and competition three equations are proposed. Equation 14 examines price competition. The variables such as CADI, TOC, FCI and PD explain specification**.** Equation 15 describesTCP (Tacit Collusion for Profits) probably by few sellers who dominate the markets. This is being explained by QIR (Quality of Information) and SAP (Satisfaction after Purchase). The last equation of this block examines declining profit in the recession empirically and this process is determined by CADI, CRES and PD.

Simultaneity involved across all blocks can be understood by the determination of endogenous variables vis a vis exogenous variable. Though, each block is evolved to capture block specific phenomenon, space interactions at simultaneous equation scenario produces interdependency. It is also important to state that the parameterizationexcept intercepts can be proposedinto many hypotheses despite a general framework of hypotheses analyzed above. Exogeneity of random errors is taken care of while framing block modeling. The model is expected to work in a complex and multidimensional perspective to understand how recession can have an impact on key variables concerning the firm level functioning, particularly on competitiveness, competition, sales and consumer behavior. In other words, study proposes to explore how competitiveness and competition can cut across heterogeneous consumers, retailers and wholesale markets to achieve the firms' objectives by using appropriate strategies. In fact, model elucidates considerable feedback structure in locating

the strategies by looking into the outcomes that are visibly observable in the markets through the players of the market.

VIII. ESTIMATED SIMULTANEOUS STRUCTURAL MODEL

The structural working of the model has been examined above by considering both theory underlying phenomenon under investigation and issues pertaining to econometric specifications. Simultaneous Equation Model requires proper identification to avoid simultaneous equation bias and structuring of parsimonious character. Accordingly, the identification was carried out by rank and order conditions and it is found that the structure is not underestimated. The usage of scale variables for building econometric model requires dimension of the variables to be understood for proper interpretation and the estimation assumes strong normative approach wherein sound policy expectations are followed as has been given in the Table 2. The coefficients under considerations should be accordingly interpreted.

The Model is expressed in double natural logarithmic form so as to get the proper understanding of the elasticity of concerned relationship apart from their sign and size of the coefficients. The narratives pertaining to the working of the model, though explained above, can be stated toreinforcethe understanding of estimated model. Primarily the simultaneous equation system links the phenomenon of recession, competitiveness and firms' strategy through behavioral interaction of variables concerning the market structure,sales and price competition, and produces dynamics among consumers, retailers and producers. The fundamental aspect of the model is to uncover strategies across the firms which can be observed and located through outcomes in the market behavior of sales and price competitions, and can be extracted from the behavioral interactions of consumers, retailers and producers. This also leads to the identification of the competitiveness and competition that group of firms cutting across all products can face. The entire modeling process, specification and conceived propositions on theoretical underpinning are analyzed in the context of recession. All the equations are estimated by using two stages least squares method as it was found empirically efficient compared to other alternatives. Considering the fact that the data obtained are through the cross-section survey on scale variables, it is expected that equations may not produce very high R^2. The estimates of Durbin-Watson (D.W.) statistics are also reported to analyze autocorrelations in the space.We have encountered considerable amount of heteroscedasticity as data comes from cross section perspectives. In order to adjust theheteroscedasticity across all equations, White's Robust standard error is calculated to obtain all 't'-values.

1. RECESSION BLOCK

$$\begin{aligned}\text{Log CRES} = {} & -0.74 + 0.251\text{LogIPP} - 0.851\text{LogCMS} + 1.62\text{LogFCM} + 0.53\text{LogAQD} \\ & (0.44)\quad (2.84)\qquad (5.31)\qquad (3.42)\qquad (4.10) \\ & + 0.27\text{LogPD} + 0.64\text{LogSIA} + 0.38\text{LogICA} + 0.34\text{LogDP} \qquad (17) \\ & (0.48)^*\qquad (2.01)(2.86)\quad (1.24)^*\end{aligned}$$

$R^2 = 0.65$ F = 45.61 D.W. = 2.05

$$\begin{aligned}\text{Log IEO} = {} & 0.47 - 1.361\text{LogCRES} - 0.580\text{LogDP} + 0.245\text{LogIES} + 0.283\text{LogRSR} \qquad (18) \\ & (0.93)\quad (4.88)\qquad (2.31)\qquad (6.64)\qquad (3.32)\end{aligned}$$

R^2 = 0.58 **F = 12.45** **D.W. = 1.98**

Log DPP = -2.21 + 0.014LogIEO + 0.851LogIP + 0.026LogDP–0.37LogQIR
(0.55) (6.51) (2.38) (0.554)* (4.31)

-0.49LogTOC + 0.857LogSHC (19)
(2.37) (3.32)

R^2 = 0.74 **F = 19.6** **D.W. = 2.21**

2. MARKET STRUCTURE BLOCK

Log FCM = -1.84 + 1.38LogDPP + 0.45LogIEO + 2.46LogTC + 0.35LogICA
(0.41) (3.85) (5.51) (1.85) (1.55)

+ 1.64LogPC + 0.04LogSBA (20)
(2.25) (0.35)*

R^2 = 0.55 **F = 6.34** **D.W. = 1.88**

Log VGS = 0.042 + 0.628LogCBA-0.32LogDRC + 0.95LogQIR + 2.28LogPC
(0.02) (5.32) (1.98) (0.83)* (4.78)

+ 0.054LogICA+ 0.024LogFCM (21)
(2.11) (0.33)*

R^2 = 0.62 **F = 24.48** **D.W. = 1.95**

CBA = IEO + SHC + RSR + DRC + HGP (22)

3. SALES AND PRICE COMPETITION BLOCK

Log AQD = -0.47 + 0.454LogCCR –0.058LogICA + 0.26LogDP –1.52LogTOC (23)
(0.18) (2.31)(4.32) (2.85) (1.97)

R^2 = 0.73 **F = 13.54** **D.W. = 1.87**

Log PD = -0.034 + 0.48LogCRES–0.05LogFCM + 0.65LogQP + 0.85LogMCB (24)
(0.32) (1.86) (2.34)(3.31)(2.62)

R^2 = 0.55 **F = 8.32** **D.W. = 2.08**

Log DDE = -2.43 + 0.841LogDP +1.45LogUGP (25)
(2.11) (3.26) (1.95)

R^2 = 0.81 **F = 24.56** **D.W. = 2.01**

4. CONSUMER, RETAILER AND PRODUCER RELATIONSHIP

Log CCRPR = -0.42 + 0.241LogICA + 1.34LogASS -0.57LogCRES -0.024LogUGP
(0.94) (0.39)* (4.11) (1.85) (0.98)*

+ 1.02LogQIR (26)
(2.21)

R^2 = 0.85 **F = 17.5** **D.W. = 2.11**

Log RB = 2.85 + 0.85LogLSA + 1.03LogMCB + 0.51LogASS (27)
(3.04) (3.21) (2.51) (1.78)

R^2 = 0.68 **F = 8.64** **D.W. = 1.95**

Log FCI = 0.73 + 1.42LogQP –0.73LogDDE + 1.04LogMCB + 0.26LogGEA
(4.12) (2.32) (1.98) (2.42) (3.08)

+ 0.31LogIP (28)
(0.58)*

R^2 = 0.58 **F = 4.81** **D.W. = 1.80**

Log QIR = 0.32–0.451LogUGP –0.782LogFCM (29)
(1.58) (2.45) (2.21)

R^2 = 0.65 **F = 10.28** **D.W. = 1.90**

5. COMPETITIVENESS AND COMPETITION BLOCK

Log PC = -0.78 + 0.24LogCADI–0.842LogTOC + 0.14LogFCI + 0.943LogPD (30)
(0.32) (2.81) (3.12) (2.26) (2.43)

R^2 = 0.64 **F = 4.36** **D.W. = 1.82**

Log TCP = -3.42 + 1.26LogQIR + 0.24LogSAP (31)
(0.44) (2.05) (3.26)

R^2 = 0.65 **F = 13.6** **D.W. = 2.24**

Log DP = 0.42 + 0.23LogCADI-1.851LogCRES + 0.531LogPD (32)
(2.15) (1.95) (4.38) (1.85)

R^2 = 0.81 **F = 8.45** **D.W. = 1.85**

Notes:

1) '*' indicates insignificant 't' ratios for concerned coefficients.
2) All the intercepts except for equation 25, 27, 28, 29 and 32 are insignificant.
3) Critical values for both t and F statistics are two tail values.

Estimated equations in the recession block turned out to be excellent in terms of both R^2 and F-statistics. Equation 17explained the phenomena both in terms of expected signs of coefficients and significance of the model. Product Differentiation does not seem to be working during the recession. The information on recession used as dependent variable in equation 17 is composed of single quantity so as to have proper cross-sectional dynamics. It seems that persistent increase in prices of petroleum products during recession and pandemic seems to have worsened the process of recession. Information pertaining to market structure (CMS),fluctuating consumers in the market and add-on features of the products explain the recession strongly indicating that even during recession these three variables have a strong influence in the markets for the goods and services. Equation pertaining to income earning

opportunities is well captured by the structural estimation. Recession and declining profit have very strong negative influence on income earning opportunities while expectations on investment and sales and corporate social responsibility produces positive feedback. This also seems to be demonstratingthe theoretical expectationswell. The estimated model pertaining to declining purchasing power produces negative coefficient for quality of information and taxation on consumers respectively. Very strong positive influence comes from incentives by producers and government subsidies. In all three equations we found no autocorrelation in the space and estimate of F-valuesis statistically highly significant.

Estimates of equations 20 and 21 capture phenomena under investigation properly and equation 20 has moderate $R^2$and all the coefficients explain variations in the dependent variable. Income earning opportunities, petroleum prices, treatment to the consumers play critical role in examining the fluctuating customers in the market. By all expectations intensive price competition strongly influences variations in the fluctuation of market size. Since robust standard error is used for adjusting variability in the sampling distribution of parameters to estimate 't'-value, heteroscedasticity is taken care of. There seems to be mild auto correlations across space. Supply of ample variety of goods and services is predominantly explained by price competition. Although there are marginal impacts from composite variable on buying ability, quality of information and impact of competing advertisements,the fluctuating consumers in the market appear to be insignificant. Very good R^2 in cross sectional framework, no auto correlations in the space explain the significant fit of the model.

Availability of quantity discount across the firms and products is considerably influenced by taxation policy, combined factor on consumer relationship and to some extent by declining profit. Surprisingly declining profit is positively related to quantity discount. This could be because of impact of elasticity in consideration across various product and aggressive competitive posture assumed by the firms. Coefficient for tax variable is -1.52 andit is very significant in terms of its impact on quantity discount. This also means that sales promotions are adversely affected at firm level by government tax policies which have strong incidence and shifting of tax burden. Cross section R^2 is considerably within the limit, acceptable, and explains good fit. Product differentiation is estimated to be explained by combined factor on recession, fluctuating markets, quality of product and methods of contacting buyers. Among all these variables, the quality of products and customer relationship explain predominantly the variations in product differentiation. It is interesting to observe that product differentiation and recession are positively related and it also could mean that it is product differentiation that propels the firm's behavior during recession. The last equation in the block concerning to sales and price competition is formulated for estimating dissatisfactory durability by consumer's expectations. Outcome on expectations is contingent upon the independent variables explained in the model and to some extent it incorporates information on future course of the variable. This phenomenon is narrated in equation 25 which is explained by declining profit and uncertainty regarding good performance. While equation shows extremely very high R^2 for survey data and both the variables are significant and also size of the coefficient is considerably large. In fact, uncertainty regarding good performance of a company has a larger bearing on dissatisfactory durability.

Block 4 examines the intricacies regarding consumer, retailer and producer relationship which play critical role in determining the course of firm's growth and its strategy both in the short and long runs. These dynamics also can bring out the market complexities that otherwise operated through invisible hand. Combined variable (CCRPR) refers to the joint

distribution of consumer, retailer, producer relationship which is composed through principal component method by taking variances of variables concerned in the block as weightages. This is determined by impact of competing advertisements, after-sales support, recession, uncertainties regarding good performance of the company and quality of information. It is critically important to mention that recession produces negative impact on CCRPR while that of after-sales support, quality of information provide very strong positive explanation to strengthen the relationship that exist among consumer, retailer and producer. Uncertainty regarding good performance weakens the relation but it is not statistically significant. Very good R^2 and significant F-statistics are the signs of exactly identified equation.

Retailers'behavior that could shape the market dynamics is estimated to be determined by methods of contacting buyers, after-sales support and low sales activities during recession. All three variables are significant and coefficients are positive while the method of contacting buyers and low sales activity predominantly influence retailers'behavior. The vibrant market dynamics is reflected in the considerable moderate elasticity of 0.85 for low sales activities with reference to retailers'behavior. This implies that even in the low sales phase retailer behavior seems to be shaping the firms' strategies and growth. Equation 28 explores the possibilities of examining firm-customer interactions in the market, which is critically dependent on host of independent variables such as product quality, method of contacting buyers, incentive by producer, dissatisfactory durability and general economic activities. Dissatisfactory durability generates considerable negative impact while that of quality of product and method of keeping the relationship with buyers promote the firm-customer relationship. A moderate R^2 in cross section data like this might not be taken as improper specification of the equation as F-statistics is significant. Lastly, in this block, quality of information plays a critical role in the competitive structure. This equation is estimated after undertaking some amount of data mining and identifying the fit accordingly. Uncertainty regarding good performance, and fluctuating customers in the market are negatively and significantly influence changes in the quality of information.

Estimated equations in the competitiveness and competition block reveal very useful analytical insights into various facets of dynamics of the firms and industry. Price competition process is well articulated by taxation policy and product differentiation and composite variable for advertisement and, additionally firm-consumer interaction produces only negligible impact on price competition. It is important to note that price competition and advertisement are positively related and importantly the value of coefficients is very low. This indicates that if there is intensive price competition, advertisement does not work much in the market. In other words,impact of the advertisement is negligible in generating either weak or strong price competition in the market. The coefficient for product differentiation in the context of price competition is 0.95, almost unity. This suggests that price competition and product differentiation go hand in hand. Taxation policy of the government produces considerable negative impact on price competition. It is important to take into account that the tax policy is restricted to the indirect taxes and not the corporate tax and accordingly shifting of tax has been meaningfully pushed even in the recession scenario.

Present market structure is essentially dominated by oligopolistic type of scenario and therefore tacit understanding among the producers to earn abnormal profit cannot be ruled out. Quality of information plays critical role in determining collusion among producer and it is strongly positive indicating that the market information concerning to buying and selling strengthen tacit understanding. Finally, anexpected phenomena of declining profit in recession is well explained by coefficient for recession, suggesting that stronger the

recessionlesser the profit. Product differentiation to some extent dilutes this inference as product differentiation and declining profit are directly related and hence there are some chances of increasing profit even during recession due to vast product differentiation practices.

IX. CONCLUSION

Perspectives and narratives on firms' strategy, competition and economic recession are very complex and vast. The attempt in this analysis is to capture the empirical dynamics of strategic positioning ofthe firms under the scenario of recession. Continuous and persistent dynamics due to sales and price competitions in the markets and thefirms' competitiveness vis-a-vis market competition articulate some useful dynamic links that are critical to pursue strategy at both short and long runs. Essentially the firms are free to adopt multiple strategies or follow single strategic approach depending upon the firm's objectives, intensity of recession and interplay of consumer, retailer and producer nexus. Our analysis has focused this issue through a simultaneous equation model in terms of parsimonious relationships that are interdependent. The conclusions drawn are consistent with the proposed propositions or hypotheses and inferences from the estimated models. It is clearly evident from the estimates that recession has negatively impacted income earning opportunities and purchasing power. As per estimated coefficients, it is important to observe some mixed responses both in terms of behavioral relationship and policy interpretations. Combined variable pertaining to issues in the changing dynamics of market structure has severely impacted the recession. It is also evident that declining profit has generated contradictory and mixed impact on several key variables while it does not hurt sales and price competition and also consumer, retailer and producer relationship, and actually declining profit reduced income earning opportunities. Recession has not given any scope for opportunity to earn more income and it could explain the possibility of fall in the income of households. Incentives by producers positively associated with less purchasing power of the consumers and technically it would mean that firms are willing to realign their strategies to accommodate aggressive sales management techniques for improving their performances in the recession. Taxation and quality of information do not influence the purchasing power. Quality of information invariably connected to the symmetric structure of market dynamics in which both buyers and sellers have considerable amount of real time information which is probably missing during recession.

It is quite natural for the markets to fluctuate itself in terms of number of consumers during recession and the structural model estimated here authenticates this. Petroleum prices, treatment to the consumers by both retailers and producers and price competition have actually altered the variability in the consumption process at least in terms of fluctuation of consumers in the market and subsequently one would observe that strategy such as price competition, information network and advertisements have played positive and significant role in promoting the production and distribution of variety of goods and services. Sales and price competition estimatessuggestthat price competition works much better than non-price competition. Persistent dynamics produced in the market by consumer, producer and retailer has a long bearing on firms'behavior both in terms of its strategy and long-term objectives. Although, combinations of strategies adopted during recession reveal both price and non-price competition strategies have been followed aggressively, as per our estimates, cut throat price competition strategies have evolved in complementing the firms' strategic positioning and market competition.

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APPENDIX-I: TABLES ON EXPLORATIVE STATISTICS

Table-1: Descriptive statistics of variables employed in the study

Broad Categories	Blocks	Variables	Notation used in the study	Mean	Standard Error	Standard Deviation	t Values
VXI	RES	VXI1	GEA	3.57	0.09	1.08	40.42
		VXI2	IEO	3.75	0.09	1.12	41.03
		VXI3	UAJ	3.34	0.10	1.25	32.67
		VXI4	IPP	3.72	0.10	1.20	37.82
		VXI5	PI	3.75	0.09	1.14	40.38
		VXI6	DPP	3.65	0.09	1.09	40.94
		VXI7	HGP	3.46	0.10	1.18	35.93
		VXI8	SIPS	3.54	0.09	1.15	37.68
		VXI9	DRC	3.55	0.09	1.16	37.38
		VXI10	DCS	3.69	0.10	1.26	35.86
VXII	MS	VXII1	SBA	3.23	0.10	1.20	33.13
		VXII2	VGS	3.40	0.09	1.10	37.89
		VXII3	POAD	2.94	0.10	1.25	28.83
		VXII4	BRP	3.73	0.09	1.09	42.02
		VXII5	FCM	3.51	0.09	1.08	39.88
VXIII	SPC	VXIII1	AQD	3.22	0.09	1.04	37.85
		VXIII2	LSA	3.40	0.08	0.92	45.28
		VXIII3	PD	3.29	0.08	0.99	40.87
		VXIII4	SIA	3.38	0.08	0.99	41.63
		VXIII5	DDE	3.26	0.09	1.08	36.86
VXIV	CRPR	VXIV1	TC	3.27	0.07	0.84	47.58
		VXIV2	RB	3.36	0.07	0.85	48.66
		VXIV3	FCI	3.29	0.07	0.88	45.89
		VXIV4	QIR	3.15	0.08	0.95	40.50
		VXIV5	ICA	3.43	0.08	0.92	45.58
		VXIV6	MCB	3.37	0.08	0.94	43.67
		VXIV7	SAP	3.25	0.07	0.89	44.71
		VXIV8	ASS	3.16	0.08	1.04	37.33
		VXIV9	PCVC	3.41	0.08	0.94	44.35
		VXIV10	QP	3.08	0.08	0.94	39.92
VXV	CC	VXV1	PC	3.73	0.09	1.05	43.53
		VXV2	TCP	3.63	0.08	1.01	44.23
		VXV3	DP	3.24	0.09	1.14	34.83
		VXV4	IES	3.48	0.09	1.09	39.06
		VXV5	IP	3.19	0.08	1.02	38.29
		VXV6	LTRC	2.97	0.09	1.08	33.74
		VXV7	IA	3.03	0.09	1.11	33.37
		VXV8	RSR	3.31	0.08	0.99	40.96
		VXV9	TOC	3.67	0.09	1.07	41.88
		VXV10	SHC	3.55	0.09	1.16	37.46
		VXV11	UGP	3.61	0.09	1.10	40.09

Notes:

1. Information is based on survey and estimates of descriptive statistics are author's calculations
2. For the purpose of analysis names of the actual variables written in the questionnaire survey are converted into the notations as in the column number 4.
3. For complete variable description, refer to Appendix-II.
4. Notations are formulated as per the description in the Appendix-II.

Table-2: Responses on five-point scale in terms of percentage

Variables	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Strong Theoretical Expectations	Strong Policy Expectations	Weak Policy Expectations
	1	2	3	4	5	6=4+5	7=3+4+5	8=1+2+3
GEA	5.33	10.67	24.67	40.00	19.33	59.33	84.00	40.67
IEO	5.33	8.00	22.00	36.00	28.67	64.67	86.67	35.33
UAJ	9.33	18.67	20.67	31.33	20.00	51.33	72.00	48.67
IPP	5.33	12.67	20.00	28.67	33.33	62.00	82.00	38.00
PI	6.67	6.67	20.00	38.67	28.00	66.67	86.67	33.33
DPP	5.33	10.00	20.67	42.00	22.00	64.00	84.67	36.00
HGP	8.00	13.33	22.67	36.67	19.33	56.00	78.67	44.00
SIPS	4.67	16.67	21.33	34.67	22.67	57.33	78.67	42.67
DRC	7.33	11.33	22.00	38.00	21.33	59.33	81.33	40.67
DCS	8.00	13.33	11.33	36.67	30.67	67.33	78.67	32.67
SBA	10.00	18.67	22.67	35.33	13.33	48.67	71.33	51.33
VGS	7.33	12.67	26.00	40.67	13.33	54.00	80.00	46.00
POAD	14.00	27.33	20.67	26.67	11.33	38.00	58.67	62.00
BRP	4.00	10.00	22.00	37.33	26.67	64.00	86.00	36.00
FCM	6.00	11.33	24.00	42.67	16.00	58.67	82.67	41.33
AQD	6.67	17.33	31.33	36.67	8.00	44.67	76.00	55.33
LSA	3.33	13.33	30.00	46.67	6.67	53.33	83.33	46.67
PD	3.33	20.00	28.67	40.00	8.00	48.00	76.67	52.00
SIA	4.00	16.00	27.33	43.33	9.33	52.67	80.00	47.33
DDE	6.00	20.00	26.67	36.67	10.67	47.33	74.00	52.67
TC	3.33	12.00	42.67	38.67	3.33	42.00	84.67	58.00
RB	2.67	10.67	40.00	41.33	5.33	46.67	86.67	53.33
FCI	4.67	9.33	42.67	38.67	4.67	43.33	86.00	56.67
QIR	5.33	16.67	41.33	30.67	6.00	36.67	78.00	63.33
ICA	2.00	14.67	30.67	43.33	9.33	52.67	83.33	47.33
MCB	2.67	15.33	34.00	38.67	9.33	48.00	82.00	52.00
SAP	4.67	12.00	41.33	38.00	4.00	42.00	83.33	58.00
ASS	5.33	22.00	32.67	31.33	8.67	40.00	72.67	60.00
PCVC	4.00	10.67	34.67	41.33	9.33	50.67	85.33	49.33
QP	4.67	20.67	42.67	26.00	6.00	32.00	74.67	68.00
PC	4.00	7.33	26.00	37.33	25.33	62.67	88.67	37.33
TCP	4.67	7.33	25.33	45.33	17.33	62.67	88.00	37.33
DP	8.67	16.67	29.33	32.67	12.67	45.33	74.67	54.67
IES	6.00	14.00	20.67	44.67	14.67	59.33	80.00	40.67
IP	5.33	19.33	35.33	31.33	8.67	40.00	75.33	60.00
LTRC	9.33	25.33	30.67	28.67	6.00	34.67	65.33	65.33
IA	8.00	26.67	29.33	26.67	9.33	36.00	65.33	64.00
RSR	4.67	14.67	34.67	36.67	9.33	46.00	80.67	54.00
TOC	4.00	8.67	29.33	32.67	25.33	58.00	87.33	42.00
SHC	6.67	12.00	23.33	35.33	22.67	58.00	81.33	42.00
UGP	4.67	12.00	23.33	37.33	22.67	60.00	83.33	40.00

Notes:

1. Information is based on survey and estimates of descriptive statistics are author's calculations
2. For complete description of the variables, refer to Appendix-II.
3. All the responses in various categories are worked out as percentages.

Table-3: Distribution of information across age-groups and their estimates of descriptive statistics

Age Group	Descriptive Statistics	Variables				
		RES	MS	SPC	CRPR	CC
20-30	CMean	35.25	16.06	15.96	33.86	35.72
	Mean	3.53	3.21	3.19	3.39	3.25
	CSD	8.75	3.75	3.65	5.76	7.97
	SD	0.88	0.75	0.73	0.58	0.72
	Kurtosis	0.76	0.46	0.14	0.47	0.69
	Skewness	-0.87	-0.15	-0.51	-0.34	-0.33
31-40	CMean	35.21	17.26	16.47	31.50	38.61
	Mean	3.52	3.45	3.29	3.15	3.51
	CSD	9.52	4.34	3.49	7.45	8.56
	SD	0.95	0.87	0.70	0.74	0.78
	Kurtosis	-0.21	0.61	1.85	0.02	2.45
	Skewness	-0.65	-0.81	-1.28	-0.84	-1.25
41-50	CMean	43.64	19.50	18.07	33.71	43.64
	Mean	4.36	3.90	3.61	3.37	3.97
	CSD	5.60	4.33	3.27	6.45	6.56
	SD	0.56	0.87	0.65	0.65	0.60
	Kurtosis	1.33	-0.59	0.65	0.44	-0.81
	Skewness	-1.06	-0.57	0.34	-0.94	0.20
51-60	CMean	34.21	16.36	16.79	32.14	35.71
	Mean	3.42	3.27	3.36	3.21	3.25
	CSD	7.88	4.11	3.93	7.23	7.92
	SD	0.79	0.82	0.79	0.72	0.72
	Kurtosis	-1.02	0.55	0.36	-1.02	0.52
	Skewness	-0.31	-0.96	0.15	0.20	-1.13
61-70	CMean	35.29	17.00	18.29	26.00	37.14
	Mean	3.53	3.40	3.66	2.60	3.38
	CSD	7.48	3.21	2.63	4.86	5.70
	SD	0.75	0.64	0.53	0.49	0.52
	Kurtosis	-2.20	-0.83	-1.94	-1.01	0.28
	Skewness	-0.02	-0.42	-0.36	0.04	-0.94

Notes:

1. Estimates are based on survey information.
2. CMean refers to Combined Mean while CSD refers to Combined Standard Deviation.
3. SD stands for Sample Standard Deviation adjusted for Degrees of Freedom.
4. For variable descriptions, refer to Appendix-II.
5. Minimum Age considered was Twenty and all the respondents belonging to the age above 60 are grouped into the category of 61-70.

Table-4: Distribution of responses across income-groups and their descriptive statistical estimates

Income Group	Descriptive Statistics	Variables				
		RES	MS	SPC	CRPR	CC
0-50000	CMean	35.51	16.40	16.23	33.01	35.90
	Mean	3.55	3.28	3.25	3.30	3.26
	CSD	9.09	3.98	3.64	6.53	8.33
	SD	0.91	0.80	0.73	0.65	0.76
	Kurtosis	0.23	0.17	0.71	0.48	0.97
	Skewness	-0.65	-0.14	-0.79	-0.66	-0.44
50001-100000	CMean	37.52	18.00	16.77	32.26	42.00
	Mean	3.75	3.60	3.35	3.23	3.82
	CSD	7.69	3.71	3.28	6.56	5.63
	SD	0.77	0.74	0.66	0.66	0.51
	Kurtosis	3.02	3.01	0.27	0.22	1.70
	Skewness	-1.49	-1.21	-0.11	-0.68	-0.45
100000-150000	CMean	36.50	16.83	17.50	29.67	35.83
	Mean	3.65	3.37	3.50	2.97	3.26
	CSD	11.52	5.38	3.73	7.00	9.02
	SD	1.15	1.08	0.75	0.70	0.82
	Kurtosis	-1.80	-1.98	-1.29	1.08	-1.78
	Skewness	-0.78	0.33	-0.69	1.40	-0.74
150001-200000	CMean	34.00	16.86	17.29	31.29	38.71
	Mean	3.40	3.37	3.46	3.13	3.52
	CSD	8.50	4.30	1.80	6.60	7.39
	SD	0.85	0.86	0.36	0.66	0.67
	Kurtosis	-0.63	-0.92	-1.13	1.04	0.24
	Skewness	0.73	-0.13	0.37	-1.26	-0.14
Above 200000	CMean	36.40	16.20	18.20	35.00	35.60
	Mean	3.64	3.24	3.64	3.50	3.24
	CSD	10.06	5.63	5.54	8.28	10.48
	SD	1.01	1.13	1.11	0.83	0.95
	Kurtosis	0.18	1.85	0.92	-2.33	2.86
	Skewness	-1.03	-1.42	-0.53	-0.08	-1.60

Notes:

1. Estimates are based on survey information.
2. CMean refers to Combined Mean while CSD refers to Combined Standard Deviation.
3. SD stands for Sample Standard Deviation adjusted for Degrees of Freedom.
4. For variable descriptions, refer to Appendix-II.
5. Zero income is considered for dependents and for the continuity.
6. Income above 200000 consists of all incomes of respondents exceeding 200000.
7. Income, depending on the context, refers to aggregate family income or individual income.

APPENDIX-II: DESCRIPTION OF VARIABLES

DESCRIPTION OF VARIABLES				
Broad Categories	**Blocks**	**Name of the variables in the questionnaire**	**Notations used for the study**	**Description pertaining to concerned variable**
VXI	**RES (Constructs on Recessionary Expectations)**	**VXI1**	**GEA**	General Economic Activity
		VXI2	**IEO**	Income Earning Opportunities
		VXI3	**UAJ**	Unavailability of Appropriate Job
		VXI4	**IPP**	Increasing Prices of Petroleum Products
		VXI5	**PI**	General Increase in the Prices
		VXI6	**DPP**	Declining Purchasing Power
		VXI7	**HGP**	Helpless Government Policies
		VXI8	**SIPS**	Subsidy V/s IncreasingPrices
		VXI9	**DRC**	Decreased Repayment Capacities
		VXI10	**DCS**	Decreased Consumption and Savings
VXII	**MS (Market Structure and Related Information)**	**VXII1**	**SBA**	Stagnant Business Activities
		VXII2	**VGS**	Variety of Goods and Services
		VXII3	**POAD**	Position of Advertisement
		VXII4	**BRP**	Behaviour of Retail Prices
		VXII5	**FCM**	Fluctuating Consumers in the Market
VXIII	**SPC (Sales and Price Competition)**	**VXIII1**	**AQD**	Availability of Quantity Discount
		VXIII2	**LSA**	Low Sales Activities
		VXIII3	**PD**	Product Differentiation
		VXIII4	**SIA**	Sales Influenced by Add-on Features
		VXIII5	**DDE**	Dissatisfactory Durability by Expectations
VXIV	**CRPR (Consumer, Retailer and Producer Relationship)**	**VXIV1**	**TC**	Treatment to Consumer
		VXIV2	**RB**	Retailer's Behaviour
		VXIV3	**FCI**	Firm-Customer Interaction
		VXIV4	**QIR**	Quality of Information
		VXIV5	**ICA**	Impact of Competing Advertisements
		VXIV6	**MCB**	Methods of Contacting Buyers
		VXIV7	**SAP**	Satisfaction after Purchase
		VXIV8	**ASS**	After-Sales Support
		VXIV9	**PCVC**	Purchase Convenience
		VXIV10	**QP**	Quality of Product
VXV	**CC (Competitiveness and Competition)**	**VXV1**	**PC**	Price Competition
		VXV2	**TCP**	Tacit Collusion for Profits
		VXV3	**DP**	Declining Profits
		VXV4	**IES**	Investment Expectation and Sales
		VXV5	**IP**	Incentives by Producers
		VXV6	**LTRC**	Long-term Relationship with Consumers
		VXV7	**IA**	Impacting Advertisements
		VXV8	**RSR**	Relevance of Social Responsibility
		VXV9	**TOC**	Taxation on Consumers
		VXV10	**SHC**	Subsidies not Helping Consumers
		VXV11	**UGP**	Uncertainties Regarding Good Performance

Notes:

1. Column 1 & 3 represent the variables as placed in the questionnaire.
2. Column 4 presents notations that are conceived to suit the analytical and empirical viability pertaining to estimation and model building.
3. CRES, CMS, CBA, CCR, CCRPR and CADI refer to composite variables for recession, market structure; consumer's buying ability, consumer relationship, consumer retailer producer relationship and advertisement respectively.