CHAPTER X

CONCLUSION

The present study conducted on eleven Indian industries, with special emphasis on the performance of the established firms belonging to the respective industries, during the period covered by the second, third and fourth Five year plans in India, has, subject to the limitations imposed by the nature and source of the available data, revealed some important features of the respective markets, which have far reaching implications.

First, on an average the degree of product differentiation has been found to be high in non-essential consumer goods producing industries like tea, biscuits and cosmetic goods. Industries producing and marketing essential commodities for mass-consumption have been found to be associated with a low degree of product differentiation.

It is important to note that the aim of product differentiation is mainly to establish a segment of the consumers with whom the firm has a monopoly position. Once the monopoly position has been established, the manufacturer can gain large profits by exploiting the market through a variety of means including price-discrimination. Whether or not a firm has been tending towards the said position is to be discovered not simply by finding the existence of a high degree of product differentiation at a given point of time but by observing the nature of trend of the degree of product differentiation overtime as well as by the value of
and the nature of trend of the 'importance given to selling effort' by the established firm concerned.

In this study, except in the case of the established firm in the automobile industry the trend of the degree of product differentiation has been found to be statistically significant in all cases of the established firms — some indicating negative and some positive trends.

It is to be noted that a trend line having a negative slope does not necessarily point to the conclusion that the firm is not aiming at establishing a segment of the consumers with whom it has a monopoly position since negative slope could also indicate that the firm was enjoying the scale economies of product differentiation.

Therefore, before reaching any conclusion regarding the policy followed by an established firm a full understanding of the implication of the degree of 'importance given to selling effort' and also the nature of the trend of the said variable overtime is necessary. This study has observed the existence of high degree/ 'importance given to selling effort' in the industries like cosmetics, biscuits and cigarettes — all non-essential consumer goods producing industries than in the case of the essential consumer goods producing industries. Also the nature of the trend of the said variable overtime can be seen to be statistically significant in the said industries, the value of the slope being positive.
Giving relatively more importance to selling effort then to the production sector the said three established firms can be regarded as firms tending to establish a segment of the consumers with whom it has a monopoly position while the established firms producing biscuits and cosmetic goods respectively have been during the study period realising the scale economies of product differentiation; again the established firm manufacturing cigarettes can be regarded as suffering from certain, though quantitatively small, diseconomies of product differentiation. It is interesting to note that the established firm producing tea is associated with a very high degree of product differentiation. The slopes of the trends of the degree of product differentiation and the 'importance given to selling effort' over time respectively are found to be positive while the degree of 'importance given to selling effort' is also found to be high. The observations of the nature and behaviour of these four variables i.e., the degree of product differentiation, the degree of 'importance given to selling effort', the trend of the degree of product differentiation and the trend of the 'importance given to selling effort' in the tea producing established firm imply that despite experiencing diseconomies of product differentiation the firm has aimed at establishing a segment of the consumers with whom it has a monopoly position in the face of growing competition in the market. From the viewpoint of the markets for tea and cigarettes manufacturing established firms have been facing gradually keen competition in the non-price area of the respective markets and definitely have been aiming at establishing
some segments of consumers for their products in spite of the fact that the established firm manufacturing cigarettes is associated with a low degree of product differentiation. While we can suppose that the biscuit manufacturing established firm has been facing declining competition and correspondingly spending relatively less on selling effort as compared to the production sector, the firm is found to be associated with a high degree of product differentiation. This implies that the firm has already established a segment of the consumers for its product. In the case of the cotton textile manufacturing established firm no tendency has been found in this study towards monopolisation of its market through non-price competition. The established firm producing medicines and drugs is found to be associated with a high degree of product differentiation, a positive value of the slope of trend of the degree of product differentiation and a negative slope of the trend line fitted to the degree of importance given to selling effort. It implies that the established firm in this industry has been facing an increasing degree of competition of the non-price variety but assigning relatively less importance to selling effort. Correspondingly, one can say that the firm has been reaping diseconomies of scale from product differentiation.

In the cases of the firms producing intermediate goods the degree of product differentiation is found to be low except for the electrical goods manufacturing established firm. The slope of the trend of the degree of product differentiation over time is found to be positive in the cases of rubber goods,
electrical goods and automobile producing established firms whereas it is found to be negative in the bicycle manufacturing established firm. Also the nature of the slope of the trend of the 'importance given to selling effort' in the cases of the said established firms is similar to that of the trend of the degree of product differentiation. Moreover, all are found to be associated with a high degree of 'importance given to selling effort'.

From these observations we can presume that the said firms except the bicycle manufacturing firm have been facing gradually keen competition in the market especially of the non-price variety and gradually spending more and more on selling effort relatively to the production sector. On the other hand, the bicycle manufacturing firm has been found to have spent gradually smaller proportion of its total investment on selling effort as compared with production effort first, because it has been realising scale economies of product differentiation, secondly, because it has been experiencing a declining competition especially of the non-price variety and finally, because it has perhaps already established a segment of consumers for its own product. In other words, our study indicates that the bicycle manufacturing established firm has been actually enjoying monopoly position to some extent.

Our study also indicates that the demand condition in the consumer goods market is more volatile than that in the market for the intermediate goods, because we have found in the consumer
goods industries that each industry differs significantly from the others regarding the degree of product differentiation as well as the 'importance given to selling effort', while industry wise variation in both the degree of product differentiation and 'importance given to selling effort' is less significant in the intermediate good producing industries than in the consumer goods manufacturing industries. Secondly, it also implies that the demand side is less steady in the consumer goods market than that in the intermediate goods producing market. In other words, the market for intermediate goods in a developing country like India is more secured for an established firm than the market for consumer goods. This is an important finding as far as the market share retaining or expanding activity of a firm by taking resort to adoption of product differentiation, is concerned.

The theoretical conclusion that the index of elasticity of sale with respect to product differentiation will gradually assume a lower value overtime due to the gradual development of consumers' psychological resistance to the allurement of advertisement and other selling efforts on the one hand and the negative effect of the selling efforts of the rivals on the result of the selling efforts of the firm concerned on the other may be accepted as valid since most of the industries have been found, as a first approximation, to be experiencing declining value of the index of the elasticity of sale overtime with respect to product differentiation.
The relationship between a firm's size and profitability has been found to be statistically significant in the cases of three established firms producing biscuits, cosmetics and rubber goods respectively. Among them in the cases of biscuits and cosmetics goods manufacturing firms the relationship between the firm's size and profitability is found to be negative. It implies that if a firm's size is supposed to be an indicator of market power and position then an increase in profitability due to an increase in the degree of product differentiation brings about a decline in market power of the firm. However, we have in this study tried to find out the effect of product differentiation upon the size of a firm and the effect has been assumed to be transmitted through profitability. The study reveals that only in the rubber goods manufacturing established firm the relationship between profitability and the degree of product differentiation and between profitability and firm's size are found to be positive. Therefore, out of ten established firms belonging to different industries studied by us we have found in only one case the validity of the theoretical hypothesis that an increase in the degree of product differentiation brings about an increase in profitability and an increase in profitability leads to an increase in the size of an established firm. From the observed facts it follows that in a developing country like India there is not sufficient evidence to believe that in a differentiated oligopoly profitability and the size of an established firm are related in any way.
Absence of relationship between these two variables can be interpreted in the following ways:

First, the firm selected for study have possibly been operating close to capacity and so

[a] a higher rate of dividend is declared on the higher amount of net profit leaving only a small amount of reserve for ploughing back,

[b] the accumulated fund from net profit is diverted to purchase the equity of other companies,

[c] the marginal rate of return on the accumulated stock if invested may be less than the market rate of interest and so the fund has been used to purchase bonds floated by other organisations.

Secondly, for retaining its existing market share and market power and position the firm in the face of keen competition may be increasingly using its net profit in augmenting both the quality and quantity of selling effort, so that the value of the allocation co-efficient of total expenditure in selling effort gradually becomes greater than that in the production sector.

However, the main objective of this study is to find out whether or not there exists any relationship between the degree of product differentiation and the structure of aggregate capital investment expenditure as defined and so no further discussion on the size variable and profitability would be indulged in.
For analytical purposes, while the profitability of a firm has been accepted by different economists as an indicator of its market power and position the structure of aggregate capital investment expenditure \( [K] \) in our analysis indicates the magnitude of unused productive capacity from the social point of view. For instance, an increase in the value of \( K \) over time indicates that relatively more and more amount of social productive capacity is being used for unproductive purpose in the sense that no tangible output, either for consumption purpose or for helping further production, is produced by this productive capacity and hence it can, in other words, be regarded as wastage of social productive capacity.

On the basis of our study the relationship between profitability and the degree of product differentiation has been found to be statistically significant in the cases of biscuits, rubber goods, cigarettes, bicycles, electrical goods and cotton textile manufacturing established firms. In the same way, the relationship between the structure of aggregate capital investment expenditure of the established firms and profitability has been found to be statistically significant in tea, cotton textile, rubbergoods, cigarettes, bicycles, cosmetics and electrical goods manufacturing firms.

Our analysis of Oligopoly market characterised by the presence of product differentiation assume that an established firm uses the weapon of product differentiation for two purposes:
First, it seeks to inform the existing as well as potential consumers of the presence of its product in the market. The firm thus seeks to encourage the consumers to prefer its own brand to those of its rivals by adorning the commodity with artificial quality. Secondly, the aim may be to expand its market share and position by using this weapon. This can be described as the combative role of product differentiation.

Whether or not the effect of product differentiation would be strong depends mainly on two factors:

1. Cross elasticity of demand for the product with respect to product differentiation and
2. Cross elasticity of supply with respect to product differentiation.

The value of the index of cross elasticity on the demand side is near zero when the consumers are relatively unaware of the quality, artificial or real, of the other products i.e., they are unaware of the existence of the near substitutes. The value of the cross elasticity on the supply side is near zero when the rivals can not imitate the quality artificial or real of the product of the firm for which the firm concerned has spent on selling effort.

Now, any change in the value of the index of these two types of cross elasticity depends on the time lag associated with the reaction of the buyers and rivals. Rivals' retaliation and entry require some time for proper arrangement of the variables
to be used for the purpose. Regarding the consumers' reaction some time is required for the development of psychological resistance to the allurement of selling efforts like advertisement and for the awareness of the existence of the products of the same quality in the market or to understand the artificial quality of the product of the firm concerned. Correspondingly, when the lag values of retaliation, entry, psychological resistance and awareness tend to zero the value of indices of the cross elasticity on both the supply side and demand side start rising i.e., they begin to assume values higher and higher than zero. The combined effect of these two changes forces the firm to allocate more and more fund to the selling sector by starving the production sector in an attempt to retaining its existing market share. Therefore, an increase in profitability due to product differentiation instead of being invested in the form of productive assets is found to be increasingly used in the selling sector of the firm and thus the value of K can normally be supposed to increase. Thus while the degree of product differentiation is found to be increasing and the profitability decreasing overtime, the value of the structure of aggregate capital investment expenditure \([K]\) is found to be increasing and we are led to the conclusion that increase in the degree of non-price competition as indicated by the degree of product differentiation in an oligopoly market increases the magnitude of the wastage of social productive capacity. This theoretically possible result is found to be present in tea and cigarette manufacturing established firms respectively.
Profitability due to product differentiation, in fact, depends on the scale economies of product differentiation. Both an increasing effectiveness of product differentiation per unit sale and the decreasing cost of the variables per unit constituting the product differentiation function generate scale economies. So long as the firm concerned realises the scale economies, profitability should normally rise with the rise in the degree of product differentiation.

Secondly, a rise in profitability may not necessarily bring about a rise in the value of $K$, because the firm is not required to feed its selling sector increasingly by starving its production sector from profitability but a asset that comes to be accumulated in such a situation may not be accumulated in fact due to the diversion of the reserve fund, investment in the equity of other firms, purchasing of bonds floated by other companies and declaration of higher dividends etc. These factors may at least account for a lower growth rate of $K$ than that of profitability. Thirdly, in the market while on the supply side the value of cross elasticity is zero the cross elasticity on the demand side normally assumes a value higher than zero. In other words, while the physical bottleneck keeps the rivals' reaction inoperative for some time there are no such physical factors preventing the consumers' from reacting to the effect of selling effort. In such a situation we may find that with an increase in the value of the degree of product differentiation [$K$] profitability [$\gamma$] increases, but while profitability is increasing the value of $K$ is declining.
Therefore, until and unless the scale economies are exhausted profitability could be found increasing overtime with an increasing trend of product differentiation but social wastage cannot be said to be increasing since the wastage if any, is supposed to be off-set by the scale economics of product differentiation realised by the firm concerned. This phenomenon is found to be present in the rubber goods, electrical goods, bicycles and biscuit manufacturing established firms in India.

In the consumer goods producing firms like cotton textiles and cosmetics the relationship suggests that both competition in non-price variety and scale economies exist. It has been found in the cases of these two established firms that while product differentiation has brought about an increase in profitability the increasing amount of profit being used in the selling sector has increased the value of K.

In the cases of other established firms viz., automobile and medicine and drug producing firms neither the relationship between profitability and the degree of product differentiation nor that between profitability and the structure of aggregate capital investment expenditure is found to be statistically significant and correspondingly we do not find any reasonable ground to believe in the existence of any effect of the degree of product differentiation upon the aggregate capital investment expenditure of these firms.

Let us summarise the observations and implications of this study:
First, markets for essential commodities of mass consumption are characterised by the existence of low degree product differentiation.

Second, non-essential commodities for direct consumption have markets marked by high degree of product differentiation.

Third, the markets of intermediate goods except automobile are associated with high degree of product differentiation. Again, the opposite picture is found to be present in the cases of established firms.

Fourth, firms producing non-essential consumer goods give importance to selling effort more than the firms — manufacturing essential and intermediate goods.

Fifth, most of the intermediate goods producing established firms have been at least during the study period realising scale economies of product differentiation while the non-essential consumer goods [to which most of the people are addicted] producing firms have been suffering from scale diseconomies of product differentiation.

Sixth, industrywise variation in both the degree of product differentiation and 'importance given to selling effort' are less significant in intermediate goods producing industries than in consumer goods producing industries. Hence the market for intermediate goods in a developing country like India is found to be more secure for an established firm than the market for consumer goods.

Seventh, in the markets for non-essential consumer goods and intermediate goods the respective established firms have been
Facing increasing competition especially of a non-price variety.

Eighth, the size of the established firm is not found to be significantly affected by a change in its profitability perhaps due to the fact that the firms studied were operating close to capacity or due to diversion of funds to the equity of other companies or investment in bonds floated by other firms.

Ninth, product differentiation does not always have a positive effect upon profitability since other factors like the position of the established firm in the market, the demand and supply of the commodity and also the general stage of economic development of the country influence the nature of the effect of product differentiation upon profitability.

Tenth, the established firms facing declining competition i.e., tending towards monopoly, are reaping profit at an increasing rate overtime while the magnitude of social wastage has been increasing overtime.

Eleventh, the established firms which are facing gradually stiffer competition in the markets are experiencing decline in profit rate with an increase in the magnitude of social wastage.

Lastly, we can not categorically assert that increase in profitability always brings about an increase in the value of k or that a decline in profitability leads to a decrease in the magnitude of social wastage. There exists a relationship between k and k no doubt, but the nature of relationship is also largely influenced by the policy and aim of the firm concerned, the degree of competition, the state of scale economies, fiscal
policy framed by the state authority in the form of subsidies and taxes and the position of the firm in scale of production i.e., whether or not it is operating close to capacity.

However, it is evident from this study that in the absence of scale economies of product differentiation and fund diversion, an increasing rate of product differentiation leads to an increasing rate of wastage of social productive capacity.

We conclude, therefore, by suggesting that where the conditions in the market are not favourable for fund diversion and where the firm has been facing diseconomies of scale because of an increase in the degree of competition of a non-price variety the state authority should impose restriction on the amount of expenditure on selling effort of the competing firms to moderate the rising tension on the one hand and to lower the magnitude of social wastage.