INTRODUCTION

India has been initiating liberalisation policies pertaining to trade and industry to reactivate a stagnating industrial sector. Since the early 1980s the state has been making way for market forces to determine resource allocation in the economy. Liberalisation policies, calling for a gradual deregulation of trade and industry coupled with a withdrawal from the public sector, aim to increase competition in a hitherto protected and regulated industrial sector with the goal of achieving efficient outcomes.

In India, the government has played a key role in shaping the structure of industry, including the petrochemical industry. Initially, government policy regulated the entry of new firms and the capacity expansion of incumbent firms; apart from providing a high level of protection. We perceive these policies as an erection of artificial entry barriers. The erosion of these barriers, in the process of liberalisation, was expected to enhance competition. The changes in the extent of competition can be gleaned from observing changes in industrial structure which are an outcome of liberalisation policies.

How does one examine the efficacy of liberalisation policies in an industry? Literature on industrial organisation indicates a negative correlation between the level of competition in an industry and the presence of entry barriers. There are two kinds of entry barriers in an industry: artificial barriers which are imposed by a government and natural barriers which are an outcome of the structural characteristics of an industry and the strategic behaviour of firms in that industry. Therefore, any study of emerging competition warrants an analysis of entry barriers in an industry. Such a study facilitates the examination of whether policies designed to enhance competition in an industry remove these barriers.
The petrochemical industry in India is one of the industries being liberalised in order to make it competitive. We have selected to study the petrochemical industry because of its growing importance in the industrial sector on three counts: (a) it is an emerging 'core' industry in that as a producer of intermediate goods, it has numerous forward and significant backward linkages to other industries; (b) the end-products of petrochemical inputs are increasingly becoming a part of the consumption basket of a large section of the population; and (c) petrochemical end-products are increasingly becoming substitutes for natural products. Therefore, the petrochemical industry would be crucial for industrial development and growth.

Industrial structure in India has been largely determined by government policy. Policies in the pre-liberalisation period imposed (a) entry restrictions and (b) capacity restrictions on firms through industrial licensing and the Monopolies and Restrictive Trade Practices (MRTP) Act. Liberalisation policies have removed both entry and capacity restrictions on firms in order to build up a competitive market structure, thereby removing artificial entry barriers. The removal of these restrictions have enabled farms to build up excess capacities and vertically integrate - both strategies are potentially entry deterring. The petrochemical industry (both domestic and global) is one of high fixed and sunk costs, and economies of scale. These inherent characteristics of the petrochemical industry coupled with the other natural barriers arising out of firm strategies has resulted in high concentration and the continuation of an oligopolistic industrial structure. Under these circumstances, how efficacious are liberalisation policies?

Our study is an attempt to test the hypothesis that while liberalisation policies attempt to remove artificial entry barriers, natural entry barriers may continue to inhibit competition in an industry. The problem is compounded by the way liberalisation is sequenced. Domestic liberalisation precedes trade liberalisation thus enabling domestic firms to take advantage of liberal domestic policies while being protected from
external competition. Given the above hypothesis, the objective of the study is to analyse how, despite liberalisation policies, the operation of natural entry barriers can be inimical to competition in an oligopolistic industry.

Chapter One sifts through the existing literature for a definition of liberalisation before elaborating on the theoretical underpinnings of competition and the role of entry barriers in defining the degree of competition. It then examines the literature on entry barriers in industrial organisation theory and international trade. The chapter concludes by outlining the methodology of the study, and the sources of data used.

Chapter Two traces the growth and development of the Indian petrochemical industry and situates it in the global context. A brief technical note to the industry is provided to facilitate an understanding of the nature of the industry. The latter part of the chapter examines the structure of the domestic industry on the basis of concentration, vertical integration and excess capacities of firms, and then outlines the nature of entry barriers in the petrochemical industry.

Chapter Three examines the role of government intervention which has shaped the structure of the petrochemical industry in India. In the regulated regime, the role of the government was to erect artificial entry barriers in order to 'direct' investment into areas of national priority. Liberalisation policies have sought to bring down these entry barriers to enhance competition, in the petrochemical industry. But natural entry barriers remain untouched by liberalisation policies.

The first section of Chapter Four offers three models analysing the entry deterring possibilities of excess capacities, vertical integration and concentration in an industry characterised by high fixed costs and scale economies such as the petrochemical industry in India. The first two models, set in the theoretical framework of the New Industrial Organisation, examine how firm strategies - building excess capacities and vertical integration - provide opportunities for incumbent firms to deter
entry and thus enjoy continual market power. The third model incorporates the dimension of trade to examine the welfare implications of free entry of firms in a highly concentrated domestic market (a) under conditions of autarky, (b) with free trade and (c) with the imposition of tariffs.

The second section of the chapter offers suggestions for new forms of government intervention in the light of our analysis. Given that liberal trade and industrial policies in the petrochemical industry can counter the spirit of liberalisation, it becomes imperative to formulate policies complementary to liberalisation in order to handle market disruption problems that arise in a liberalised environment.