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## Does government intervention help the Chinese automobile industry? A comparison with the Chinese computer industry

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#### Abstract

Through comparison with the computer industry this paper examines whether government intervention has facilitated development in the Chinese automobile industry. Chinese computer firms operate in a largely laissez-faire market environment, with relatively free entry and exit, whilst the automobile industry is subject to government protection and uses entry barriers and high tariffs to promote economies of scale and productive efficiency. We, however, find that the automobile industry is more concentrated and less efficient than the computer sector. This suggests that competitive forces can be more effective in improving efficiency than regulation, even in the Chinese context.

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#### 1. Introduction

China's economy performs rather well under the direction of its strong central government. Macroeconomic policies such as liberalizing prices with a dual track approach (Lau et al., 2000) and setting up special economic zones (Litwack and Qian, 1998) were remarkably successful. However, the government has also attempted to promote corporate development by using industrial policies in some but not all sectors. The Chinese government regards the automobile industry as a future growth engine of the economy (State Council of China, 1986), and therefore a specific industry policy for automobiles was promulgated in 1994 (automobile industry policy,

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abbreviated as AIP). The AIP targets achieving economies of scale and promoting productive efficiency in the Chinese automobile industry in order to attain international competitiveness. Under AIP, the automobile market is protected with high trade tariffs and tight entry controls. Indeed, China has developed the fastest-growing fleet of automobiles in the world. Is China's automobile industrial policy another remarkable success? Addressing this question helps to understand the role of government intervention in corporate activities and the role of entry in Chinese economic development.

Another fast growing market in China is computers, where market forces are much stronger than in the automobile industry and the government does not intervene greatly in the industry, for example by introducing entry barriers. However, there are many similarities between the two industries, such as high capital intensity, dependence on foreign technology, profitability, and that they have both developed beyond the infant industry stage. Comparing the interventionist automobile industry with the laissez-faire computer industry therefore provides an interesting case study for us to understand the effect of interventionist industrial policies. Aw et al. (2003) compared Korea with Taiwan on entry issues and we extend the comparison of two countries to two industries within one important country, China.

Our dataset comes from China's National Bureau of Statistics, which is the most comprehensive and authoritative dataset available and covers the period from 1998 to 2002. Using computer firms as a benchmark, we find that automobile firms are relatively smaller and that market structures are less concentrated. We also find that computer firms are more competitive than automobile firms with higher total factor productivities, although intermediate inputs are the largest contributors to the outputs in both industries. Interestingly, we show that in the automobile industry government policies are counterproductive and that market forces can work better than government protection to promote economies of scale and productive efficiency.

In addition, the average rates of entry and exit in the computer industry are not greatly different from those in the automobile industry, but the computer industry is more volatile over time. In fact, under government protection, the automobile market is so lucrative that it attracts new entrants despite high entry costs. However, some inefficient automobile incumbents are protected at the cost of domestic consumers.

Sherman (2001) suggests that both market competition and government intervention can result in industrial growth. We show that government policies in the automobile industry bring about high transaction costs of industrial dynamics in China, but market forces function rather well in the laissez-faire computer industry. With a most-similar research design (Ragin, 1987), this paper contributes to the study of industrial policies (e.g. World Bank, 1993), the literature of entries and exits (e.g. Djankov et al., 2002), and the debate about deregulation (e.g. Winston, 1998).

This paper is organized as follows. We report the institutional backgrounds of the automobile industry and the computer industry in the following section. We then compare the automobile industry with the computer industry empirically and report the production regression results. The paper concludes by discussing the failure of the automobile industry policy and government intervention in general.

<sup>&</sup>lt;sup>1</sup> The automobile manufacturing industry (Chinese national industrial code 372) includes trucks, passenger-cars, sedans, mini cars, special-usage and remolded cars, car body, car parts and components, but excludes motor cycles.

<sup>&</sup>lt;sup>2</sup> The computer manufacturing industry (code 414) includes complete machines and external equipments, but excludes chips and software.

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