Abstract

The discussion on the impact of competitive market on innovative activities has a long history. A memorial work by Schumpeter (1934) argued that monopolistic firms are more readily to perform R&D activities. On the other hand, there are a number of empirical studies that competitive environment supports innovative activities of firms. To reconcile these conflicting previous discussions, Aghion and Griffith (2005) proposed the inverted-U shaped relationship between innovative activities and product market competition in their model, and showed the competition can have both positive and negative effect on the innovation depending on the degree of competition in the market.

Following Aghion and Griffith's work, we examined the effect of market competition measured by either Herfindahl index or Lerner index on productivity growth and R&D intensity by using micro data of the Japanese manufacturing industry, respectively. We found the inverted U-shaped relationship between competition and innovation when we use Herfindahl index as a measure of competition in the market. Especially, since 2000, the hypothesis of the inverted U-shaped curve has been strongly supported.

In addition, we studied the effect of new entrants on innovative activities of incumbents. Our estimation results showed that the effect on TFP growth of incumbents depend on their technological levels, when we use a regulation measure as an index of entry barrier. When the firms' technological levels are close to the technology frontier in their industry, then new entry encourages these firms' efforts toward increasing productivities in order to escape from competition. However, it discourages innovation in firms with large technology gaps from the industrial technology frontier.