

Baumols model and the five elements of innovation



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Innovation is at best a peripheral part of the standard theory of the firm and has received only slightly more attention in modern growth theory. In the neoclassical theory of the firm, firms compete based on price, but Baumol argues that in a capitalist economy innovation rather than price is the primary competitive dimension, and less innovative firms will find their markets shrinking as they lose business to their more innovative competitors. Thus, innovation is essential to the survival of firms in a capitalist economy. (Baumol, 2002).

BAUMOL'S MODEL IN TERMS OF THE FIVE ELEMENTS OF INNOVATION

The essential idea behind the Baumol model is that innovation is necessary and drives growth in a capitalist economy. Baumol identified innovation as the catalyst for the growth of the free market despite failures of the free market system

To enable the existence of the growth machine in a practical free market system there are five basic elements - oligopolistic competition, routinisation, productive entrepreneurship, rule of law, and technology selling and trading; some necessary preconditions for the existence of a workable free-market economy that need to be considered.

Baumol states that Firms compete based on innovation rather than price - a main key for competition, thus making it an important tool for growth in an economy. Innovation has replaced price as the main competitive instrument in main parts of the economy due to oligopolistic competition. Routinisation of these competitive activities makes them a regular and even basic

component of the activities of the firm, thereby minimizing the uncertainty of the process. [Baumol. J W, 2002]

The model also focuses on the unspoken relationship between entrepreneurs and firms who are the primary source of innovation progress in the market and the routines of high tech research by larger organisation. Baumol sees the likelihood for these firms to engage in various forms of technology sharing and exchange, as a natural and desirable outcome of the action of profit-seeking firms operating in competitive markets hence bringing about equilibrium between the protection of innovation and the distribution of it as well, has enhanced growth from the symmetry between first and second movers advantage.

Baumol notes that innovation has the ability to raise newer ones through spillovers of different types where - inappropriate spillovers benefit from innovation that are not only everywhere, but when within restrictions they contribute importantly to further technological progress, rather than being the barrier to progress-inducing investments, and desirable spillovers occur in part through cross-licensing of patents and know-how among rival firms. (F. M. SCHERER).

The Baumol's model for market technology also talks about balancing of the first and second mover advantages, due to profits incentives and competition among firms' new entrants are encouraged. The sales and transfer of technology is a way of balancing trade for second movers although this is risky for first movers***. Innovation produces new markets. The first mover in the markets have a greater edge because they can

continue innovating on existing product or develop new ones and also make money from selling technology to second movers. It is important for the first movers to continue innovating to help inspire further innovation. These continuous processes of routinisation are as a result of competition among firms, management is forced to put more into R&D to increase market shares. As a result, there is a possibility that profits from innovation under routinisation would be zero unless sunk costs generate a problem to entry.

Routinisation of innovation and knowledge has collective effects on supply and consumption. We can also interpret the set techniques used to routinise innovation as a repertoire of actions. The structure of firms and the institutionalisation of innovation are linked with the possibility that first movers strategise routinisation of innovation and technology trading.

THE BAUMOL'S MODEL OF INNOVATION BASED GROWTH AND ITS LIMITATIONS

According to Sheshinski, E. et al. (2007), the Baumol model focuses on the implicit partnership between independent entrepreneurs, who are the primary source of innovation breakthroughs in the market place and high-tech corporations with their routinized research and development activities. Mowery and Rosenberg note that the process of invention has become strongly institutionalized where the institutionalization of innovation and changes in the organization of research activities have strongly contributed to economic growth, they also suggest that innovation is market driven, but supply constrained in terms of knowledge. They emphasise the importance of based and applied research.

However Mokryr considers the impact of knowledge rather than innovation is the basis for growth. He says that propositional knowledge which is a general and important for social and economic growth is not driven by the market, although important but not the main knowledge needed for growth. Rather prescriptive knowledge which is derived from techniques and prescriptive instruction is driven by the market and is the most important tool for innovation driven growth.

According to Baumol, innovation is a routines process but firms are actually influenced by routine and not innovation, but Paul David (1997) argues that it is a random process which leads to non-ergodic process of development and generates a network effect. Paul David disagrees with Baumol saying that the reasons why firms innovate is to be the best in the market and he is a supporter for the winner takes all and believes there's no second mover he advocates for first mover.

CONCLUSION

Journals

Baumol. W J, 2002. The Free-Market Innovation Machine. Princeton University Press

Fagerberg, J.(2003) Schumpeter and the revival of evolutionary economics an appraisal of the literature. Journal of evolutionary economics Vol 13; 125-159

Holcombe, R. G. The quarterly journal of Austrian economics. Vol. 7, No. 1 (spring 2004): 79-84.

Kilne, S. J, Rosenberg, N. " An overview of innovation". Reviewed by Lahdau, R. and Rosenberg, N. The positive sum strategy; Harnessing technology for economic growth. Washington D. C National Academy Press pp 275-304

Sheshinski. E, Strom. R J, Baumol. W J. (2007). Entrepreneurship, Innovation, and the Growth Mechanism of the Free-Enterprise Economies. Princeton University Press.

Texts

Baumol, W. (2002) The Free-Market Innovation Machine; Analysing the Growth Miracle of Capitalism, Princeton University Press

Mowery D. C and Rosenberg N. (2000) Paths of Innovation: Technology Change in 20th-Century America. Cambridge University Press