

By Paul Belleflamme, 24 September 2010

## What is the link between competition and innovation?



In an article published in 2004 in *The Economist* (and later reproduced in the book [‘The Future of Technology’](#) pp. 107-110), one can read the following:

*“On the record, any top executive in the IT, consumer-electronics and telecoms industries today will profess that his firm is leading the way towards simplicity. But are those claims justified? In theory, says Ray Lane, a venture capitalist, the company best placed to deliver simplicity should be Microsoft. It controls virtually all of the world’s PCs and laptop computers (albeit smaller shares of mobile phones, hand-held and server computers), so if its software became simpler, everything else would too. The bitter irony, says Mr Lane, is that Microsoft is one of the least likely companies to make breakthroughs in simplification. “It cannot cannibalise itself,” says Mr Lane. “It faces the dilemma.”*

The dilemma Mr Lane is alluding to is [“The Innovator’s Dilemma”](#) that [Clayton Christensen](#) describes in his book. The innovator’s dilemma refers to companies that succeed in one generation of innovation but whose success becomes then an obstacle for coping with the next wave of innovation. This observation lends credence to the idea that firms with more market power (monopolies in particular) have smaller incentives to innovate than firms facing a higher degree of competition. As Steve Jobs (Apple CEO) said in a [Business Week interview](#) back in 2004:

*“what’s the point of focusing on making the product even better when the only company you can take business from is yourself?”*

Should we infer from the previous quotes that there is a positive relationship between the degree of competition and the level of innovation or, in other words, that the more firms face competition, the more they tend to innovate? The answer is no: the relationship between competition and innovation is more complex than that.

From a theoretical point of view, there is a distinction to be made between the *capacity* to innovate and the *incentives* to innovate. In terms of capacity, large firms are generally better equipped than smaller ones to undertake R&D (they can benefit from economies of scale, they have better access to capital markets and they can cope more easily with the uncertainty associated to innovation). On the other hand, as illustrated by the quotes above, large firms may have lower incentives to innovate than smaller firms, basically because they have more to lose. These ideas have been formalized, respectively, by [Joseph Schumpeter](#) and [Kenneth Arrow](#) (for a

nice review of their contribution and of subsequent theoretical developments, see '[Creative Disruption](#)' by Douglas Clement).

From an empirical point of view, establishing the link between competition and innovation is a complex task. Innovative activity and the degree of competition are indeed both the product of a number of economic relationships that vary across market environments. It is not surprising, therefore, that contradicting findings emerge from various empirical works.

*The nature of the bond between competition and innovation remains thus an open question. That should not prevent you from voicing your own opinion about this issue.*

(You can read the previous comments to this post [here](#).)