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Economics focus

The growth machine

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Economists have thought too little about how innovation happens

INNOVATION is an obsession of management gurus. Books such as "The Innovator's Dilemma" and "Innovate or Die" often top the business bestseller lists. That this is not an obsession shared by economists is remarkable. The dismal science certainly acknowledges the crucial role played by innovation in driving economic growth. But the fact that innovation happens is mostly taken as a given; the how and why of innovation remain largely ignored.

Some of the most up-to-date thinking on the subject remains that of Joseph Schumpeter in the first half of the 20th century. Indeed, the late great Austrian economist was lauded as a prophet of the "new economy" that briefly bloomed during the late 1990s, largely for his description of a process of "creative destruction" in which innovative new firms drive lumbering established companies from their dominant market positions. Never mind that much of Schumpeter's work actually celebrated the role of established firms in innovation.

To put right the previous oversight, William Baumol, a veteran economist at Princeton University, has written a splendid new book, "The Free-Market Innovation Machine"*. Building on the insights of Schumpeter and even of Marx (though this is a devoutly pro-capitalist tome), he argues that it is, above all, the ability to produce a continuous stream of successful innovations that makes capitalism the best economic system yet for generating growth. This is for two main reasons. Under capitalism, "innovative activity—which in other types of economy is fortuitous and optional—becomes mandatory, a life-and-death matter for the firm." Second, new technology is spread much faster because, under capitalism, it can pay for innovators to share their knowledge and "time is money".

If the capitalist system can be seen as a "machine whose primary product is economic growth", what are the machine's components? The rule of law, of course, especially the protection of property (including intellectual property) and the enforceability of contracts. This motivates innovators by ensuring that they can gain some reward for their efforts.

Some economists debate why countries such as America are more blessed with entrepreneurs than others (the former Soviet Union, say). Mr Baumol argues that there are entrepreneurs in every sort of system: what differs is whether or not they devote their energies to producing innovations that add to economic growth. And this depends on the incentives provided by the economic system. Non-capitalist systems often give entrepreneurs most of their rewards for innovations that do not contribute to growth, such as finding clever ways to win patronage from the state, creating monopolies, or crime. There is some of that in capitalist countries, but far more upside for growth-producing innovators.

From garage to lab

What of the lone entrepreneur building some world-changing invention in his garage? Such pioneers play an important role, particularly in devising radically new technologies. But a more important role in innovation is played by large established firms. They have changed innovation from an erratic "Eureka! I've found it" process into a more regular and predictable activity. Large firms with the resources to invest in "routinised" innovation and the incentive to do so are a unique feature of capitalist economies. Other economic systems have been innovative enough, but have failed to exploit their innovations—or have had big firms but no incentives to innovate.

The industrial structure that fosters productive innovation best is oligopoly, argues Mr Baumol. Oligopoly falls between monopoly—where one firm rules—and perfect competition, in which many firms compete and no single firm sets prices. In oligopoly, a few big firms compete with each other, but not primarily by trying to charge the lowest prices, which are thus usually higher than in a perfectly competitive market. Instead, oligopolists compete by making their products differ slightly from their rivals'. Innovation is a growing source of such product differentiation, says Mr Baumol.

It is ironic that competition through innovation by oligopolists may be the main driving force of growth and higher living standards, since oligopolies are often seen as a threat to the public interest and as a target for antitrust action. Mr Baumol urges antitrust authorities to judge innovative oligopolists less harshly.

Mr Baumol also tackles two other misleading beliefs. One is that innovators jealously guard their proprietary technologies through patents, lawsuits and secrecy, to maximise for as long as possible the above-normal profits they can earn from their innovation. In the real world, innovative firms are often remarkably quick to license new technology or to become members of technology-sharing consortia. Capitalist incentives explain why, says Mr Baumol. If other firms expect to be more efficient at exploiting your innovation, and so will pay more to use it than the innovative firm could make by keeping it to itself, it makes economic sense to license it to them.

Some economists argue that a shortfall in the legal protection granted to innovators means there is not enough innovation. Mr Baumol reckons that, on average, less than 20% of the total economic benefits of innovations go to those who invest directly or indirectly in making them happen. The rest of the benefit spills over to society at large. Arguably, stronger patents and other intellectual-property rights that made it easier for innovators to keep their proprietary technology to themselves or charge more for licensing it would increase total innovation.

But would that be progress? Mr Baumol doubts it. The rapid dissemination of innovation through the economy via spill-over effects has a hugely positive impact on economic growth, he says. Better protection for innovators might increase innovation but, by slowing its spread, reduce growth. For all the benefits that flow from innovation, it seems you can have too much of a good thing.

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The Free-Market Innovation Machine. Analysing the Growth Miracle of Capitalism", by William Baumol. Princeton University Press (Amazon.co.uk).