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FTC/DOJ HEARINGS ON COMPETITION AND INTELLECTUAL PROPERTY LAW AND POLICY IN THE KNOWLEDGE-BASED ECONOMY

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I. Basic Elements of "Dynamic Competition" Model

A. Differing sources of R&D have somewhat independent chances of achievement

B. At any moment, competition is limited because of increasing returns in innovation or production or because of network effects; for simplicity, assume a monopoly

C. Firm in being has an advantage ("entry barrier"); installed base or, more relevant here, existence of patents which can block further innovation

D. Firms try to enter by investing in R&D. Quality of innovation a random variable. If best entrant quality exceeds incumbent's quality by more than entry barrier, it wins monopoly for next period. Otherwise, incumbent retains monopoly.

II. Sketch of Implications

A. Suppose some firms try to enter. The probability that the incumbent will be ousted is an increasing function of number of entrants and decreasing function of entry barrier.

B. This function defines incentives to enter and incentive on existing firm to engage in research.

C. It is clear enough, though the analysis still remains to be carried out in detail, that increased entry barriers, such as patent protection, decrease the direct returns to potential competition but increase the prospects of obtaining a subsequent temporary monopoly. There is at least the possibility that increased patent protection has the effect of increasing the effective length of a patent monopoly beyond the apparent limit set by law.