

## **The Relative Advantages of Flexible versus Designated Manufacturing Technologies**

George Norman,  
Cummings Professor of Entrepreneurship  
and Business Economics,  
Tufts University,  
Medford,  
MA 02155  
USA

e-mail: [george.norman@tufts.edu](mailto:george.norman@tufts.edu)

### **Abstract**

This paper analyzes the choice between flexible and designated manufacturing technologies given that firms are allowed to determine how flexible the manufacturing system should be. We allow firms to operate a *mix* of technologies, using a flexible system to serve some types of consumer submarkets and a designated technology to serve others and allow firms to offer multiple products even if they commit to the designated technology. We show that for flexible systems to be preferred they must offer strong economies of scope and must be capable of producing, without significant cost penalties, customized products that are largely indistinguishable from custom-built products. By contrast, we show that an increase in submarket size and an increase in the willingness of consumers to pay for particular types of products encourages the use of designated technologies targeted at these submarkets.

(JEL: D4, L1, L2, R1)