Microeconomic Aspects of E-Commerce

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James E. Prieger
Pepperdine University, USA

Daniel Heil
Hoover Institution, USA

INTRODUCTION

E-commerce, as an application of information and communications technology (ICT), affects the economy through many channels and at many levels. For firms, e-commerce changes how inputs are purchased and how final goods and services are sold and delivered. For consumers, e-commerce provides new ways to search for products, new methods for purchase and delivery, and new platforms to share product evaluations with others. As with any innovation, e-commerce is embraced the most where it allows the conduct of commerce in improved ways or at less expense. The economics of e-commerce, however, involve more than the potential cost savings from adopting various forms of ICT. As entire industries adopt e-commerce, the nature of rivalry among the competitors and interaction with input suppliers may change, to the advantage of some economic agents and to the disadvantage of others.

The objectives of this chapter are to present an economic view of e-commerce, to explore some of the ways in which e-commerce impacts microeconomics aspects of the economy, and to consider promising avenues for economic research regarding the future of e-commerce.[1] Discussion of the impacts of e-commerce are organized around various relationships among economic agents: horizontal relationships among firms competing in the same industry, vertical relationships among firms up and down a supply chain, retail relationships between firms and consumers, and labor relationships between firms and their workers. The article proceeds in the next section with background information on the current scale of e-commerce.

BACKGROUND

E-commerce can be defined narrowly to refer only to purchases made through an electronic medium, or more expansively to refer to any use of ICT in business (although the latter may more properly be called e-business). This chapter will use the term e-commerce most often in the stricter sense, although in places it will discuss the impact of ICT in general, and the Internet in particular, on many aspects of how firms and consumers do business. As the importance of e-commerce has grown, so has the academic study of its impacts on firms' strategy (Martínez-López, 2013; Prieger & Heil, 2014), management (Gunasekaran, Marri, McGaughey, & Nebhwani, 2002), performance (Clayton & Waldron, 2003; Johnston, Wade, & McClean, 2007; Romero & Rodríguez, 2010), and the economy (Borenstein & Saloner, 2001; Heil & Prieger, 2010; Lucking-Reiley & Spulber, 2001; Prieger & Heil, 2010; Terzi, 2011).

Growth in business-to-consumer (B2C) e-commerce, both in terms of sales and the fraction of total retail revenue, has been steady since 1999 when official statistics were first collected in the US (Figure 1). Retail e-commerce sales dipped slightly for a few quarters during the recent recession, but only be-

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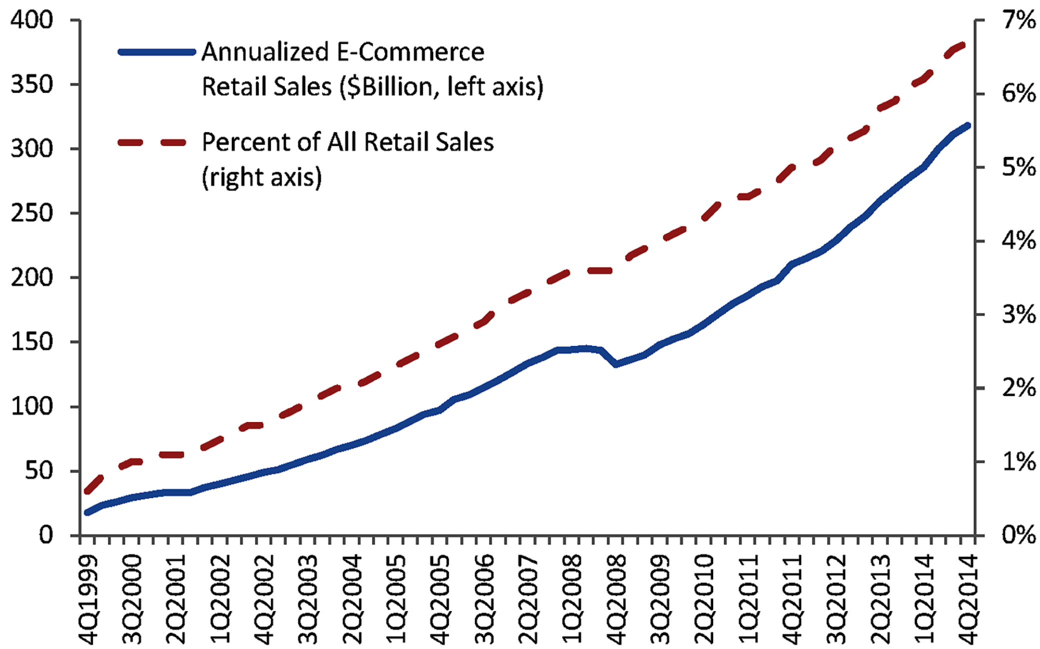
Figure 1. The Growth of E-Commerce: Included in draft for reference
Data source: US Census Bureau (2015a).



cause retail spending was down across the board. The average annual growth rate in B2C e-commerce revenue over 1999 to 2014 is 19.2% in nominal terms, and 16.4% after accounting for inflation.[2] Retail transactions over the Internet were $304B in the US in 2014, accounting for 6.5% of all retail activity (US Census Bureau, 2015b). Retail e-commerce is thus still relatively small, in part because many consumers say they dislike certain things about online shopping such as shipping and handling charges, difficulties with exchanges, and uncertainty about attributes of the item at time of purchase (Kacen, Hess, & Chiang, 2013). Nevertheless, the revealed preference of consumers, as evidenced by growing online purchasing, shows that for more and more transactions the lower prices and greater convenience of e-commerce outweighs the perceived disadvantages.

Similarly, the figure shows that e-commerce makes up an increasing portion of total retail commerce over time. US business-to-business (B2B) e-commerce is much larger than B2C e-commerce; over half of manufacturing shipments are from e-commerce (US Census Bureau, 2014). Over a quarter of wholesale shipments are from e-commerce, and 3.1% of revenue in the services sector.

MICROECONOMIC IMPACTS OF E-COMMERCE

The many ways that e-commerce affects consumers, firms, and industries are grouped into the following categories in this section. First, e-commerce and its effects on how firms within an industry compete with each other are discussed. B2B (vertical) interactions are then reviewed. Next, B2C e-commerce and consumer behavior in the Internet age is examined. The section closes with a brief look at how labor markets have changed as job search and labor contracting have moved online.

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