



CHAPTER SEVEN

Macroeconomic Implications of Virtual Shopping: A Theoretical Approach

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Recently, parallel to developments in the communication technology, on-line shopping has become increasingly popular for many products, like books, CDs, software and computers. Most analysts conjecture that the future will witness a wider basket of products and a higher trade volume via the Internet. This chapter investigates the economic implications of Internet shopping in a Ricardian equilibrium framework. First, it shows the necessary and sufficient condition for the shift to Internet shopping. Next, it indicates that macroeconomic variables like consumption and income rise when this shift takes place. Thus, this shows that the economic implications of Internet shopping will be higher than the current experience, and Internet shopping will become an important element of the 'new economy' when the bulky part of the shopping is done via the Internet.

INTRODUCTION

Trade via the Internet has far-reaching economic implications as it provides a fundamentally new way of conducting transactions. This arises from the fact that it shrinks the physical and economic distance between traders. Physical distance disappears because buyers can 'go' anywhere for shopping at almost zero cost in terms of time. Economic distance shrinks because buyers are able to reach sellers directly without the need for intermediaries. In this chapter we focus on the business-to-consumer aspect of trade via the Internet. We call commerce between consumers and producers (businesses) through the Internet *virtual shopping*. In computer terminology, virtual is used to denote memory created by software but physically not present in the hardware. Analogously, the Internet technology lets consumers go shopping without being present in the shop physically.¹

The main characteristic of the new technology is that it uses digital information. Therefore the first wave of expansion of Internet-based commerce is observed in trading “zeros and ones,” such as e-mail, text, graphics, etc. For example, subscribing to the Country Profiles Database of the Economist Intelligence Unit and receiving data *on-line* falls into this category.² However, it is technically not possible to deliver many products in zeros and ones, such as computers or detergents. Therefore, it is not surprising to predict that business-to-consumer Internet transactions *will* shift to nondigitizable goods and services in the future. This shift will support further growth of virtual shopping and necessarily result in a new delivery technology.

In this study, we take Internet shopping to mean a new way of shopping for consumers in all aspects, that is, including the delivery of goods and services purchased via the Internet. On-line shopping currently uses the conventional delivery system, by and large. We conjecture that as virtual shopping expands, the current postal delivery system will become incapable of handling the delivery of goods and services and a new delivery system, that fulfills the requirements of on-line shopping, will emerge.³ A good example to the emerging new delivery system is the ‘adjustment’ of United Parcel Service (UPS) of America Inc., “an icon of the old economy with fleets of trucks driven mainly by men in brown uniforms,” to a gleaming symbol of the digital age. UPS has become one of the major distribution companies in the Internet economy in the United States, and this adjustment makes it such a prominent player in the Internet that people are using its performance as a proxy for the Internet and Internet commerce. Analysts also expect that delivery technology will adapt itself to the requirements of the new economy in the near future.⁴

The volume of Internet shopping is still negligible in total trade. Nevertheless, all business analysts predict a growth in on-line retail sales. There are many indicators of the expansion of Internet trade. First, the size of the Web grows exponentially. While experts disagree on which metric is the best for sizing the Web, everyone agrees that it is growing phenomenally. Web sites show up at a rate of more than 4,400 per day resulting in 3.6 million sites in 1999. The number of Web pages, perhaps the best gauge of the expansion of Internet, has also skyrocketed in 1999. NEC Research reports around 1.5 billion Web pages, an 88% increase from 1998. IDC expects this number to hit 8 billion in 2002, exceeding the world’s population.⁵ Second, parallel to the growth of Internet usage, the volume of on-line trade expands exponentially. Forrester, a Research Company, predicts that electronic commerce will reach \$200 billion in 2000 across the globe. International Data Corporation (IDC) forecasts the dollar volume of business-to-consumer sales to reach 50.7 billion for 2000. Forrester Press Release (2000) projects an exponential rise in on-line retail sales for Europe. The company forecasts that on-line retail sales in Europe will grow 98% annually over the next five years, soaring from 2.9 billion Euro in 1999 to 175 billion Euro in 2005. Projected U.S. on-line retail sales also show phenomenal growth. The main indicators of the expansion of U.S. Internet retail shopping are presented in Table 1.

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