The Subsidy and Social Welfare Implications of E-Commerce Sales Tax

Shana L. Dardan, Dept. of IOM, University of North Carolina at Charlotte, slconkli@email.uncc.edu
Antonis C. Stylianou, Dept. of IOM, University of North Carolina at Charlotte, astylian@email.uncc.edu

Abstract

There is importance and timeliness in the issue of Internet taxation. Internet commerce is growing exponentially. With this growth comes the potential for tremendous tax revenue, as well as criticism for receiving an unfair tax advantage. One of the benefits of the Internet is its lack of national and geographical boundaries. However, this lack of boundaries makes taxation and regulation of the Internet difficult, as historically geographical boundaries have helped to determine policies. One of the needs of a taxation policy for e-commerce is that it is consistent with established taxation policies both domestically and internationally. The tax policy chosen for internet commerce in the U.S. will, as a result, affect not only the internet commerce in the U.S., but also other forms of commerce within and outside of the U.S. This paper will address the implications of the current tax exemption on efficiency and social welfare.

1. Introduction

To encourage growth and research into the World Wide Web and e-commerce, the U.S. government has not been requiring the taxation of commerce that transpires on the Internet. The Internet Tax Freedom Act has placed a moratorium on taxes on the Internet until the year 2001. The existence of e-commerce may result in significant changes in the current tax system, according to Plock (1998). The World Trade Organization and members thereof (such as the U.S.) are pushing for the Internet to be tariff free. The tax policy for Internet commerce that is being promoted is the residence-based tax that is currently being used for other means of commerce. (Plock, 1998) "A Framework for Global Electronic Commerce," written by an unknown author for the U.S. government, states that there are three fundamental principles behind the US's stand on Internet commerce taxation. The first is that the tax should not hinder or distort commerce, and it should not create incentives for commerce with firms regarding geographical location, or the nature of specific businesses. The second principle is that it should be "simple and transparent." The third principle is that the tax policy should accommodate U.S. and foreign tax policies that are already in effect. The government paper, (1997) also expressed a concern that any tax would inhibit Internet growth and technological advance. As a result, consumers are not always required to pay any taxes on the goods that they purchase off of web sites. The same goods, in many cases, may also be purchased from a catalog or in a store. However, the store and the catalog are required to charge some sort of tax. State sales tax for mail order sales as well as physical stores is enforced by federal law, while any state tax on e-commerce is not enforceable. This means that the customer will pay a lower price on goods they purchase on the web of approximately the tax rate times the price of the goods. This tax break will cause consumers that are indifferent between purchasing goods off of the web and from a store or a catalog to do business on the web (Caruso, 1998). The fact that consumers must pay an additional shipping charge is not addressed in this paper, as it is considered a cost of doing business, and not an artificial cost advantage. So, it is possible that a company will be selling a good at a higher price on the Internet even with the tax exemption.

The shift in consumer demand to goods sold via the web from goods sold via stores or catalogs due to this tax exemption has implications in the arenas of social welfare, efficiency, and tax revenue. In this paper, the impact of the tax-exempt status of sales of goods via the web on social welfare and efficiency will be addressed.

2. Models and Hypotheses

2.1 Internet Taxation as a Subsidy

Hypothesis #1  The Tax exemption on the sale of goods over the internet acts as a subsidy.

The consideration of the tax-exempt status of Internet commerce (as outlined in the Internet Tax Freedom Act) as a subsidy is argued by the consideration of taxes and subsidies in the following discussion of two papers. The first paper is written by EEI Resources, and is an explanation of the subsidy effect of tax exemptions and other preferences given to government-owned utilities. The second paper, by Magnusson, is a discussion of a ruling against the U.S. by the World Trade Organization in which the tax exemptions allowed in certain sections of the U.S. tax code were found to be a trade subsidy.

A subsidy, by nature, is something that artificially gives one or more companies a cost advantage over its/their competitors’ costs of production of goods or services. EEI Resources found that this definition fits the use of tax exemptions in the electricity industry. In the instance of the electricity industry, government-owned utilities were given tax exemptions as well as other preferences that allowed the government-owned utilities to have a cost advantage over other utilities. This artificial cost advantage caused other utilities to not be
able to compete successfully against the government-owned utility. (EEI, 1999)

One can consider the tax exemption given to Internet commerce as a subsidy. Companies that sell goods over the Internet are in competition with companies that sell the same good via catalogs or stores. Catalog companies and stores are required to tax sales based on the location of the company/store and the location of the consumer. States can legally charge a sales tax only when there is proof of sufficient physical presence in the state by the retailer. (Aveyard, Pitt, and Bussy, 2000) Because of the Supreme Court decision, *Quill Corp. vs. North Dakota in 1992*, Congress has the ability to enact legislation giving states the power to levy sales tax on businesses without sufficient physical presence. However, since they have not done this and physical presence in a state by a web retailer is difficult to prove, any sales tax "requested" by a state for e-commerce sales is non-enforceable. The ability of the Internet company to waive tax payments gives them an artificial cost advantage and allows them to offer the good at a lower price. According to EEI Resources, this is a subsidy.

However, the tax exemption status might not be considered a pure subsidy. This is because any company has the ability to sell goods and services over the Internet. The choice not to sell over the Internet is just that, a choice. Thus, this is unlike accepted subsidies in trade because companies are not able to claim domicile in multiple countries. If it were like the accepted models for trade, a store could not sell goods via catalog or the Internet. Likewise, a catalog company could not sell its wares over the Internet or in a store.

2.2 Efficiency of Subsidies

**Hypothesis #2** The effect of the tax exemption is to diminish the level of efficiency in the sales market.

Subsidies, by definition, are not efficient. Efficiency denotes the distribution of resources to those who value it most. Efficiency is the basis of competition. A company that is unable to efficiently produce a good or a service that consumers value will see decreased sales revenues, and will be ultimately forced out of business. Recall that a subsidy gives a company an artificial cost advantage. Part of the costs of production is covered by the subsidy. Figure 1A includes a Demand Curve denoted by the function: \( P = -\alpha Q + \beta \), where \( \alpha \) and \( \beta \) are positive constants. The Supply curve, \( S_{E1} \), represents the function \( P = \phi Q + \gamma \), where \( \phi \) and \( \gamma \) are positive constants. The new Supply curve, \( S_{E2} \), is denoted by the equation: \( P = \phi Q + (\gamma + \lambda) \); where \( \lambda \) is a positive constant, and is the value of the tax exemption. As shown in Figures 1A and 1B, the subsidy will cause an outward shift in the supply curve for Internet companies of good \( Z \) from \( S_{E1} \) to \( S_{E2} \). This will cause a lower equilibrium price (\( P_2 \)) and a higher equilibrium quantity (\( Q_2 \)). The catalog companies and stores will not experience the cost advantage, and as a result their supply curve will not shift. Their Demand and Supply curves will remain \( P = -\alpha Q + \beta \), and \( P = \phi Q + \gamma \) respectively. Their equilibrium price and quantity will remain at \( P_1 \) and \( Q_1 \) respectively.

![Figure 1: The Effect of a Subsidy on Subsidized and Non-Subsidized Suppliers](image)

2.3 Social Welfare and the Internet Sales Tax Exemption

**Hypothesis #3** Social Welfare may be increased by the tax exemption even if it is a subsidy.

Social Welfare considers not only what an observable outcome of an event is, but also the desirability of the outcome. The purpose behind a subsidy is to support a needed industry that would otherwise fail in a competitive market (farming, for example) or to spur new research in the area. The community as a whole deems that the positive result of
the subsidy outweighs the negative aspects of efficiency. Thus, although a subsidy for Internet commerce may be inefficient, it might still be desirable for the greater community good. The model used to determine the social welfare impact of the subsidy given to the Internet companies is that used by Price (1995). Price’s paper on discrimination and subsidies uses the Nash Equilibrium to construct the pricing possibilities for two firms; one that is being discriminated against, and one that is not.

From Price’s paper we find that subsidies only increase social welfare if the probability of discrimination is less than 50%. If the probability of discrimination is 50%, then social welfare is unchanged; and at a rate higher than 50%, social welfare is decreased. Social welfare is given by $W(N) = U(Q(N)) - nb_k$. Here, $k$ is the required subsidy to the firms that are discriminated against, $Q(N)$ is the market output of $N$ firms, and where $n_b$ is the number of firms that are discriminated against. Thus according to Price, $k = p_1\tau$ and $p_1$ is the probability that there will be discrimination. The change in social welfare associated with the existence of the firm that is being discriminated against is $\frac{\Delta W(N)}{\Delta n_b}$. From Price’s paper we find that subsidies only impact on social welfare.

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3. Methodology

Data for this paper will be determined by survey. We are at the point now of searching for scientific surveys. Surveys that are being considered for this paper are those done by the U.S. Census Bureau, Survey.Net, and NUA Analysis of E-Commerce. These surveys have a substantial respondent size (2000 - 200,000), and when used in conjunction will show a diverse sampling of the consumer population. These surveys will be used to observe changes in consumer spending, buying preferences, and computer usage. The results of this survey will be used to determine if discrimination against Internet companies exists. The probability of discrimination will be used in the Price model for social welfare to determine what effect the existence of the tax exemption has on overall social welfare.

4. Expected Findings on Efficiency and Subsidies

The tax exemption offered to the Internet companies acts as a subsidy. It gives an artificial cost benefit to those companies that sell their goods or services over the web. Given the same cost of production, these companies will have an unfair advantage over the catalog and mainstream store companies.

According to the philosophy of Adam Smith in the ideal of comparative advantage, given a fair playing field, those companies that produce goods the cheapest and the best are the ones that should be and will be ultimately the producers of the good or service. From this standpoint, the subsidy of a tax exemption encourages inefficiency by keeping afloat companies that do not meet what the consumers value most.

According to the model derived in the Methodology section we know that social welfare is only positively affected in the long run if the probability of discrimination is less than 50%. This means that if the probability of discrimination against a firm or type of firm is greater than 50%, the subsidy that ensures the entrance of Internet commerce firms is negatively affecting social welfare.

5. References


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