

ELECTRONIC COMMERCE: HOW SHOULD IT BE TAXED?

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Abstract : Rapid growth in electronic commerce has presented many challenges to the existing tax system. The basic nature of Internet has the potential to make the transactions invisible or untraceable, therefore offering great opportunities for tax evasion. This paper examines the implications as well as the challenges Electronic Commerce poses for the current tax system. The policy responses from government toward electronic commerce are also discussed. Finally, the future trends of Internet taxation and relevant recommendations are provided.

Key words : Electronic Commerce, Inter-Organizational electronic commerce, Intra-Organizational electronic commerce, Customer-to-business electronic commerce, disintermediation, bit tax, Resource-based tax, Residence-based tax, cyberbank, electronic money, record keeping, identification certificate system

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I 、INTRODUCTION

Internet commerce is growing from the current \$30 billion to \$80 billion by the year 2000, according to Jupiter Communications, a news-media research company specializes in emerging online and interactive technologies for consumers (Griffin, Ladd, and Whitehead 1998). Another study from the US department of Commerce finds that the electronic commerce grew more than 700 percent during the last five years, and that sales on the internet are expected to surpass \$300 billion by 2002 (Branstad and Miller, 1998). The tax revenue that could be collected by the governments at all levels from this newly emerging industry could be enormous.

Rapid growth in electronic commerce has presented many challenges to the existing tax system. The basic nature of Internet has the potential to make the transactions invisible and untraceable, therefore offering great opportunities for tax evasion. This impact on tax revenue is difficult to measure at this time. But even if it reduces revenues just by 10%, that would still have a huge impact to any country. For example, if France lost that amount, the budget deficit would more than double. The problem worrying governments now is that the development of this new technology has made some traditional approach in taxation out of date and ineffective. It is quite essential for the tax authorities to develop appropriate policy to boost further development of this new technology while the interests of all the parties concerned are taken into consideration.

No national government to date has enacted new laws or regulations for commerce activities on the Internet. The Clinton administration has issued a report that advocates the Internet be declared as a tax-free environment for products and services. The Internet Tax Freedom Act passed by U.S. Congress in 1998 had put a moratorium on any new state and local taxes on Internet transactions until Year 2006. Local and state governments, on the other hand, oppose tax-free treatment of Internet transactions for fear of losing their tax revenues. Small businesspersons also complained about the unfair competition from the E-commerce. In any rate, it is unlikely that the electronic commerce could escape taxation entirely regardless how eagerly the federal government wants to shelter its activities.

This paper first examines the characteristics of Electronic Commerce that create opportunities for tax avoidance or evasion, and hence becomes serious challenges for the tax system. Next, the paper discusses the implication of electronic commerce in several areas, including value-added tax, transfer pricing, and tax treaties. The policy responses from governments toward electronic commerce are discussed. Finally, the future of Internet taxation and relevant recommendations are provided.

II · ELECTRONIC COMMERCE

Electronic commerce has been used by some of the most important business services and consumer items including computer software, telecommunications, movies, magazines, music albums, financial transactions, video conferencing, newspapers, educational and training materials, E-mail, games, and business databases. According to a report by Arthur Anderson (http://www.benlore.com/files/emma2_1.html), the most common electronic transactions fall into the following categories:

Electronic transfer of software

More than \$40 billion worth of software was sold through retail stores in the U.S. last year. Worldwide, software sales are expected to exceed \$150 billion by 2000. The ease and speed of the electronic transfer of software promises to transform the way consumers purchase software. For example, Microsoft has already announced its decision to ship software via electronic downloading directly to the consumer.

Video on demand

Currently the video rental business in the US totals \$12 billion in revenue--of which \$3 billion is for late fees. In addition, the motion picture business at theaters totals an additional \$6.5 billion. Yet electronic transmission via computers or cable television is a much more efficient distribution channel.

Information databases

The sale of legal, medical, scientific, business, and other technical information is a \$22 billion industry in the U.S. The availability of sophisticated computer search technologies and daily updating of information makes electronic distribution a particularly attractive alternative to information provided in "tangible" reports.

Online stock trading

In 1996, 1.5 million investors traded stocks online. Industry analysts expect the number to increase to 10 million accounts by 2001--with over \$500 billion in mutual fund money managed online.

Undoubtedly, our society and business is being reshaped by electronic commerce. In an information age, the Internet can instantly transfer a wide range of goods and services to anyone, anywhere, at any time. Electronic commerce revenues may exceed \$150 billion by the year 2000. The emergence of the Internet as a new mass communications channel will fundamentally transform how we work, play, learn, shop, and socialize. According to a Nielsen Survey, over 40 million people currently use or have access to the Internet in the United States and Canada. The number of American

households that have access to the Internet increased from 0.2 percent in 1993 to 14 percent in 1996. An estimated 300 million people will utilize the Internet on a worldwide basis by the year 2000.

III 、 WHY IS TAXATION OF E-COMMERCE AN URGENT ISSUE?

As discussed above, electronic commerce is coming whether you like it or not. How does this brand new development change taxation, one of the most ancient establishments on earth? Or what is the implication of electronic commerce for taxation? The topic of taxation on electronic commerce is a hot issue recently. The importance of this issue is reflected in two aspects: first, serious enforcement problems exist under current practice and the dramatic potential of electronic commerce to become a big tax revenue source in the future.

Problems with Current Tax Practice

According to Electronic Commerce: Taxation without Clarification, a study conducted by KPMG Peat Marwick LLP (<http://www.us.kpmg.com/salt/archive/july96/story1.html>), the problems with current practice exist in two areas: the inconsistency of state tax regulations and the difficulty of applying the existing tax concepts to electronic commerce. Kent Johnson, National Partner-in-Charge of KPMG's Sales and Transactions Tax Practice said: "Taxation of electronic commerce varies from state to state, so determining what's taxable and who is responsible for paying those taxes becomes very complex." Survey respondents appeared to agree. Almost seven out of ten respondents (67%) said that state and local tax laws governing electronic commerce were ambiguous. More than half of those being polled (51%) said that this ambiguity had already inhibited their involvement in electronic commerce. Johnson said that these statistics were particularly distressing because several states and municipalities had already begun taxing certain Internet services. Obviously, the problem with diverse tax practice has posed great urgency for parties concerned to look for solutions.

Potential of Electronic Commerce to Become Big Revenue Source

According to an IDC (International Data Corporation) survey, nearly one-fourth of their respondents is reporting more than \$10,000 per month in online sales. Total worldwide Web commerce revenue was \$12 billion in 1997, more than \$7 billion of that number came from transactions completed directly on the World Wide Web. The revenue from Web transactions triple in 1998 to \$21 billion (<http://www.idcresearch.com/F/HNR/g.html>). Web sellers expect significant growth in revenue from their commerce sites within the next year. Although 24% of respondents felt it was too early to forecast revenue expectations, 30% expected at least a 50% increase in revenue during the next 12 months. An additional 10% indicated greater than 10% growth in the coming year.

This is good news not only for Internet merchants, but also for the tax authorities. But if there is no uniform and fair tax laws, there could only be one consequence--electronic commerce, the future gold mine may be drained eventually.

IV 、 CHALLENGES FOR TAX ADMINISTRATION

Electronic commerce is still developing and no electronic money system has yet achieved widespread usage. World on-line consumer sales are forecast to reach only \$7 billion by 2000, which is only 0.1% of American consumption spending. Nevertheless, according to John Neilson of Microsoft's interactive services division, 30% of consumer activity could be taken place on-line in 30 years. Furthermore, even in America, where tax evasion is thought to be smaller than in Europe, an estimated 15% of total personal taxable income is concealed from the tax man (The Economist, 1997). The development of Electronic Commerce could only make this problem worse in the near future, if there is no corresponding measures to be taken. It is appropriate that tax enforcement issues be addressed while electronic commerce systems are still under development.

Electronic Money

According to U.S. Department of Treasury, roughly 90 percent of financial transactions in value are now conducted electronically (Ferne, 1998). Physical tokens or paper instruments are no longer utilized for large-dollar payments in financial or foreign exchange transactions. Typical examples of this modern type of "money" would include bank account balances and other book entries with financial institutions. Conventional consumer transactions are also taking place electronically, reflecting by the growing use of automatic teller machine cards. Although the modern token of value expressed in digital form has facilitated today's business dramatically, it is one of the worst nightmares for the tax administrators. Actually, electronic money can be either harmful or harmless for the tax administration, depending on the type of system used. There are accounted and unaccounted transaction systems. In an accounted system, the electronic money issuer maintains a complete or partial audit trail of transactions. It can identify the person to whom the electronic money is issued as well as the people and businesses receiving the electronic money. In an unaccounted system, the electronic money is issued and passes through the system without traceable trail. Unaccounted electronic money operates much like paper currency, moving through the economy anonymously.

Obviously, unaccounted electronic money poses risks to the issuer because there are no records to rectify any problems that might arise. However, consumers may not feel comfortable using accounted electronic money for some transactions that they can otherwise conduct anonymously with cash. In

addition, an accounted system may impose costs on merchants and electronic money issuers that would be passed on to consumers. While unaccounted electronic systems are unlikely to completely displace other payment systems, the tax evasion opportunities they create can not be ignored. Transactions using unaccounted electronic money create the opportunity for omitting or underreporting the resulting income because detection of these transactions is difficult. At present, tax inspectors can check reported income and expenses against bank accounts or credit-card statements. But electronic money, which can be anonymous and hence untraceable, offers greater convenience for tax dodgers in transmitting large amounts of money with relative ease. In addition, electronic money creates increased opportunities to deposit unreported income in a bank or other financial institution. Electronic money and the Internet substantially increase the ease and safety of opening bank accounts abroad, establishing letterbox companies and foreign trust accounts, and transferring funds anonymously. It is now possible to open a bank account over the Internet in a bank secrecy jurisdiction, without actually traveling to the bank's location. Electronic money could be instantaneously and anonymously transferred to such an account, thereby eliminating the risks and reporting requirements involved in transferring cash.

Some ideas have been discussed in combating tax evasion through electronic money. As electronic money share some of the same characteristics with paper money, many argue that the techniques that have been developed over time to combat evasion with cash transactions can be adopted. It is argued that information reporting and similar requirements can and should be imposed on issuers of electronic money. [<http://www.nhdd.com/nta/docs/nta3.html>] But the requirements may infringe on customer privacy and therefore discourage the use of electronic money at all.

Identity and Location Verification

A New Yorker cartoon had two dogs sitting in front of a computer with a caption that read "on the Internet, nobody knows you're a dog." Tax administrators face a similar problem. Weak correspondence between computer domain name and reality makes it very difficult to determine a person's location and identity, which is often quite important for tax purposes. Although you could infer from the domain name who is responsible for maintaining that name, the name does not tell you anything about the computer carrying the Internet address, including where the machine is located. Similarly, an e-mail address may be associated with a certain person or a computer, but that person and the computer could be located anywhere in the world.

On the Internet false identity can be easily created. It is not currently possible to independently verify a party's identity. In many situations, different tax provisions would apply depending on the

identity of a taxpayer. The difference in taxation offers good opportunities to be exploited by aggressive taxpayers. For example, if a nonresident alien or a foreign corporation purchased securities electronically, payments of interest and dividends are subject to withholding and information reporting requirement. The amount withheld may be reduced or eliminated by a tax treaty if the taxpayer is entitled to treaty benefits. Therefore the identity of the purchaser in this case is crucial in determining if the withholding exemption or reduction is justified. The identity of the purchaser of goods is also relevant in determining whether the sale creates foreign base company sales income. For example, a U.S. seller of electronic goods could route sales through a Web site maintained by a foreign base company and claim that the purchases were for use within the base company's country. It will be up to the tax authority to verify that the purchases were indeed for use within that country. All of these pose great difficulty in verifying identity.

False location of Internet transaction could also be arranged very easily, with the cooperation of the site's controller. If destination-based sales tax is to be applied to electronic commerce, transaction location verification is of great importance to maintain the fairness of taxation. And the use of unaccounted electronic money could result in a very serious problem in identifying the destination of transaction. Consumer's self-declaration is the only source to determine the destination since it is not possible to trace unaccounted money back to its source. In this case, many consumers would tend to declare their state of residence in a low tax jurisdiction or even a no-sales tax jurisdiction such as Oregon. Digital identification systems are proposed by U.S. Department of the Treasury through which the proper identification of the buyers could be ensured (Fox and Murray, 1997). Although there will be concerns over privacy and the costs of compliance, such a system is expected to be adopted by electronic commerce industry.

Record Keeping

Taxpayers are required to keep accurate books and records, which are subject to examination by the IRS in order to verify the income and expenses reported on the taxpayer's return. Although many taxpayers rely on computerized record keeping systems to a large extent, many transactions still generate paper records that can be used to verify the accuracy of the electronic records. However, for taxpayers engaged in the sale of electronic goods or services, no paper records are likely to be created because customer orders are placed and fulfilled electronically and therefore the only record that exists could be an electronic one. As all users of computers know, this creates the possibility for tax evasion and fraud because computerized records can be altered without a trace. Even taxpayers engaged in the sale of physical, as opposed to electronic, goods may soon receive orders and issue invoices

electronically. Electronic "documents" must be verifiable in order to minimize the potential for tax evasion.

The whole picture could be worse with tax heaven countries getting into the Internet business. Only sophisticated business people and criminals currently are using tax haven to avoid taxes. In the future, however, individual consumers will be able to set up bank accounts with cyberbanks in the tax havens. Whereas in pre-Internet commerce, this would be an unrealistic option for most people because they would have to use a domestic bank at some point in the transactions. Cyberbanks could now issue untraceable currency that could be negotiated internationally. The transfer of such currency could be completed directly between the banks and account-holders through personal computers, thus creating no traceable information trail accessible to revenue officials. There is already business consultant who publicly advertises service to route sales from a web page into a Bermudian bank account to save taxes (Wahl, 1998).

Disintermediation

U.S. tax and law enforcement agencies have long had difficulty in attempting to apply U.S. discovery laws to tax haven countries. In response to this problem, the U.S. Congress has enacted legislation such as the Bank Secrecy Act in 1970 which requires that all transactions involving the import and export of currency to and from the United States be reported (<http://www.globalserve.net/~zak/Taxation.html>). As of 1986, 15 countries had adopted blocking legislation expressly designed to counter U.S. discovery efforts. Parties engaged in international tax evasion and money-laundering schemes have taken advantage of the bank secrecy laws that tax haven countries provide.

Disintermediation refers to the elimination of traditional intermediaries such as bankers and brokers. Although disintermediation may offer low transaction cost to business, it also may produce opportunities for tax evasion. Tax reporting and compliance relies in part on the use of centralized institutions and intermediaries that can be used to comply with information reporting and withholding requirements. For example, withholding on payments to foreign persons relies on the use of "withholding agents," who are generally sophisticated persons understanding their obligations and can be easily identified. With the development of encryption technology, government would have no access to the contents of the transmitted message. Neither can they depend on some third parties to detect the type of transaction or to assess its value for taxation. Through disintermediation, the Internet is removing important sources of cross checking for taxation purpose. (Please refer to Table 1)

Table 1 Challenges for Tax Administration

Challenges	Problems Posed	Recommendations	Drawbacks of Recommendation
Electronic Money	Omission or underreporting of income	Information reporting imposed on the issuers of electronic money	<ul style="list-style-type: none"> • Infringe on customer privacy • Discourage the use of electronic money
Identity and Location Verification	Make use of false identity to evade tax	Digital Identification system	<ul style="list-style-type: none"> • Concerns over privacy • Costs of compliance
Record Keeping	Misrepresentation and fraud	Currently no good solution	
Disintermediation	No intermediaries to be relied on for information reporting	Currently no good solution	

V · IMPLICATIONS FOR SPECIFIC TAX ISSUES

Electronic commerce has posed great challenges to tax administration and enforcement, as discussed in the above. Six specific areas of taxation deserve further discussion are detailed below:

Value Added Tax

Value added tax is widely used by European countries that are currently major Internet users. Trade in cyberspace raises a number of problems for VAT. For example, many small foreign firms are offering CDs over the Internet to people in Netherlands at relatively cheap price because they do not charge VAT. To avoid such tax evasion activity, the Dutch government ordered the post office to open all the suspicious packages. But this obviously could not solve the problem in a real sense. It is impossible for customs officers to open all the post entering the country as Internet sales increases dramatically.

The concept of “place of supply” is important in VAT systems. In broad terms, places of supply rules fall into two categories: those depend upon the identification of a relevant establishment, and those based on the place of performing the service. Since electronic commerce makes opaque the links between the place of supply and the place of the service, the Internet offers business consumers new opportunities to evade or avoid VAT by turning to suppliers who are not registrants in the system.

There are some alternatives for the tax authorities. One is maintaining the current rule on “place of supply” but broadening the definition of fixed (or permanent) establishment to cover cabling or switching to another technical resources required to deliver such services. Another response would be to change the “place of supply” to “where the service is performed.” Attractive as it may appear, it raises the fundamental question of how tax would be levied on non-business consumption. Other ideas are to require non-resident service suppliers to register, or to have a fiscal agent in the country of the supplier.

Transfer Pricing

The development of intranets within MNCs (multinational corporations) puts great pressure on the traditional approach to determine transfer pricing. It will become more difficult for tax agencies to determine whether a given transaction had taken place and how much should the transaction be valued, particularly if an MNC is deliberately attempting to shift income among related parties. The deeper integration of operations often complicates the problem of how income should be divided between the related parties---which is one of the issues currently under consideration by the OECD's Group of Experts on Transfer Pricing.

Tax Treaties

The electronic commerce also poses tricky problems for tax treaties. One of the most important concepts in tax treaties is that of a "permanent establishment", a term employed to determine tax rights. The United States currently has comprehensive income tax treaties with 48 countries. These tax treaties generally give the country where business has a "permanent establishment" the reciprocal right to tax business profits. The OECD Model Convention (which is the basis for bilateral tax treaties) provides a definition: a permanent establishment is a fixed place of business through which the business of an enterprise is wholly or partly carried on (OECD, 1994). Some types of limited presence are not enough to draw an enterprise within the taxing jurisdiction of a country. For instance, a permanent establishment does not include 'the use of facilities solely for the purpose of storage, display or delivery of goods or merchandise belonging to the enterprise. Treaty negotiations now have to apply these concepts to electronic commerce. The OECD is bringing together tax-treaty experts to issue clarifications on the status of web sites, services, and so on.

Tax Auditing

As discussed earlier, the development of electronic commerce has the potential to make white-collar fraud hard to detect. This means greater difficulty in tax auditing. (For detail please refer to IV.3 Record Keeping) Nevertheless, governments are interested in what passes over phone lines and are

pursuing various means of exercising control by intercepting Internet communication. Individuals and businesses conducting commercial transactions over the Internet are concerned with the invasion of privacy and security. In response, they develop powerful encryption methods for transport of information. Governments, if unable to break these encrypted transactions, may not be able to control the flow of taxable transactions.

Tax Law and Regulations

Based on their own understanding of electronic commerce, states sometimes adopt quite different tax law and regulations. The inconsistency of state tax laws could lead to many problems. One of the greatest inconsistencies occurs in the taxation of access to on-line services. Thirty-three states do not tax the access right to Internet, others do. For example, in Texas, access charges to the Internet are considered taxable. Therefore, on-line service providers must collect and remit the state sales tax. Florida imposes a sales tax on non-residential use of telecommunications services, which include e-mail and Internet access. New Jersey taxes the cost to transmit telecommunications services rather than the value of what is transmitted; while e-mail and computer information services are not taxable, Internet access is. South Carolina taxes communications, including e-mail and database access.

Internet service providers in some state complain that they are subject to double taxation when they offer access through dedicated telephone lines. They argue that they pay tax on the telephone lines, as well as on the services they provide directly. Tax officials, on the other hand, contend that Internet access is similar to other taxable services, such as data processing and local and long-distance telephone service. In setting new ground rules, certain issues must be addressed. Uniformity is a key issue. Without a uniform approach, sales or use tax may be added to the price of goods, software or taxable service offered on-line by any state in which a purchaser resides; and by the state in which the information provider is physically located. Fairness is also of concern. Entities selling goods or services on-line should not become particular targets for the collection and remission of sales taxes.

Principles of Taxation

The fast development of electronic commerce has made some existing tax principles outdated. Many important concepts such as "residence", "nexus" and "permanent establishments" need to be redefined. Heated debates are going on in tax and accounting circles. Up to now, there is no agreement on many important concepts and definitions, as reflected in the fact that many states still tax electronic commerce according to their own whim and interpretation. Tax accounting discipline will have to reformulate some universally accepted definitions for many of these controversial concepts.

VI、RESPONSES FROM GOVERNMENTS

Responses from some governments reveal the willingness to promote the development of electronic commerce. Broad statements of principles from the EU conference on electronic commerce, held in Bonn during July of 1997, argued for the treatment of Internet to be a tariff-free zone. On August 1, 1998, the European Commission decided not to implement any further taxation on electronic commerce. The Clinton administration's Framework for Global Electronic Commerce, argued that governments should refrain from imposing new taxes and tariffs on Internet commercial activities. The Clinton administration saw the need for international agreements "to preserve the Internet as a non-regulatory medium, one in which competition and consumers will shape the marketplace." (The White House, 1997) On October 21, 1998, President Clinton signed the Fiscal Omnibus Spending Bill into law, placing a three-year moratorium on new taxes imposed on Internet access and commerce (CQ Weekly, 1998). In return, an Advisory Commission on E-Commerce was set up to study the issue on Internet taxation and to make its policy recommendation to U.S. Congress within three years. In order to understand the reason behind the Clinton's response, you have to remember that the U.S. has far more Internet usage rate than any other countries. An economics professor at University of Chicago, Austin Goolsbee, estimated that if sales taxes were to kick in for Web purchase, the number of buyers would drop by 25 percent and spending would sink 30 percent (Infoworld, 1998).

Although the Clinton administration worries that taxing Internet aggressively may retard the progress in this area, its response did not please everyone. Various organizations representing state and local governments generally oppose tax-free treatment for e-commerce. They argue that growing Internet commerce diverts tax revenues from traditional sales and service taxes. The National Governors Association estimates the loss at 12 billion a year (Levine, 1998). Concerned with big players' dominance on the Internet market, small business people also advocate taxation of Internet commerce. Those who oppose state and local taxation, however, contend that it is an undue burden for Internet users to be subjected to multiple state and local taxation.

After three years study, the Advisory Commission on E-commerce has concluded that there is no clear evidence that a tax free E-Commerce environment has hurt small business or state tax revenues. On March 21, 2000, it issued a majority position paper on Internet taxation at its final meeting in Dallas. It proposed to extend the current moratorium on Internet taxation to Year 2006 and reiterated the need to forge a meaningful way to simplify state sales taxes systems and to develop a uniform interstate tax statute. Most of its proposals were adopted by the U.S. Congress in April and May 2000 (<http://www.ecommercecomission.org/release/acec0510.htm>).

Given the revenue problem at the state and local level and the opposition from small business, it is unlikely that Internet commerce will remain tax-free forever. Pressure on the state and local governments is increasing with the development of Internet commerce at a phenomenal rate, especially when a lot of traditional transactions are being migrated into cyberspace. As a result, it is expected that in the future U.S. Congress may balance the interests of all concerned by allowing state and local government to tax e-commerce in certain justifiable situations.

VII · POTENTIAL SOLUTIONS

Currently, the most appropriate forms of taxing electronic commerce are still discussed and debated. Three different proposals are commonly discussed.

Bit Tax

One option for preserving the tax base is to target the "transmission," not the transaction, by taxing the number of bits moving across the wires rather than their value. Luc Soete, an economist at the University of Limbur in Maastricht, is one of the representatives that advocate changing the tax base to reflect changes in the economy at large, by taxing all electronic flows of information. In April of 1997, an independent committee appointed by the European Commission recommended a so-called "bit tax." (A tax on the bits of information zooming around computer networks) This recommendation has received a lot of criticism because it has the potential to tax all digital communications and to impede further development of Internet technology and use.

Shifting Tax Base

Traditional tax practices of most governments in the world tend to focus on taxation of consumption or business income. With more and more difficulties the electronic commerce brings about in record keeping and auditing, traditional tax base will be eroded and reduced. It is recommended that governments should shift their tax base from business income or consumption towards wage or property, which are comparatively easier to monitor and audit because of their physical presence. No matter what tax base will be shifted into, fairness and reasonability are important issues to be taken into consideration.

Residence-based Tax

Traditionally, taxation of corporate income depends on whether the source of income falls within a tax jurisdiction. But now the source of income is clouded. The U.S. Treasury predicted that electronic commerce would spur "residence-based" taxation rule in lieu of "source-based" rule. "In the world of cyberspace," said a 1996 Treasury report, "it is often difficult, if not impossible, to apply traditional

source concepts to link an item of income with a specific geographical location. Therefore, source-based taxation could lose its rationale and be rendered obsolete by electronic commerce. By contrast, almost all taxpayers are resident somewhere." (<http://www.window.state.tx.us/comptrol/fnotes/fn9704.html>) But Dan Bucks, executive director of the Multi-state Tax Commission, opposes residence-based taxation of the Internet due to the potential for double taxation on vendors who have head office in one state but other business premise in another state. (Please refer to Table 2)

In addition to proposals require fundamental changes in concepts, there are procedural or institutional arrangements governments might take to collect Internet taxes. Most of them are only proposals. None has been developed to the point where the actual implementation is delineated (Chuck, 1998). They include:

Table 2 Common Discussed Alternative Taxation Models

Alternative Models	Problem Addressed	Characteristics	Drawbacks
Bit Tax	Overcomes difficulty in auditing	<ul style="list-style-type: none"> • Target the "transmission" • Tax all electronic flow of information 	Has the potential to tax all the digital communication without no differentiation
Shifting Tax Base (toward consumption, labor, or property)	Prevent tax evasion	Shift tax base to what can be easily identified	<ul style="list-style-type: none"> • Concerns about fairness and • Discouragement of consumption
Residence-based Tax	Identifies "source" in electronic commerce	Based on "residence" instead of "source"	Potential double taxation on certain vendors

1. Issue software patents for electronic commerce application only to companies that include a method for automatically tracking tax revenues.
2. Establish local fiscal representatives to whom electronic commerce sales organizations must report, and who would be responsible for reporting transactions to the country where the product ends up.
3. Establishing new rules governing Internet domain names that would allow governments to authenticate the identity and location of any Internet addressee.
4. Require deliver companies to automatically add and collect VAT for goods delivered.

5. Established Guaranteed Electronic Market--central computers that combine the models of public utilities and stock exchanges, where both the buyer and the seller must register, and the transactions have to follow specific rules that guarantee fairness and an efficient market.

VIII · CONCLUSION

Electronic commerce is an exciting new business medium that is changing traditional relationships between vendors and customers and traditional approaches to the taxation of goods and services. Taxing authorities are searching for new strategies to prevent the loss of tax revenue in the cyberspace. Tax policy should provide for uniformity, certainty and consistency. Outmoded tax policies must be changed to reflect the technological advancements taking place. Business and government must work together to redefine conventional tax rules, removing taxation as an obstacle to the development of e-commerce. Unless this happens, selective and possibly duplicative imposition of taxes on products and services will hinder the growth of the Internet, preventing states and their residents from enjoying the great economic, social and cultural benefits of this new information medium.

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