The impact of Electronic Commerce on Tax Revenues in the Caribbean Community*

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Abstract

This paper analyses the likely implications of electronic commerce on tax revenues in the Caribbean Community. I utilised a static microeconomic approach to determine the effects. Based on the assumption that current trends of external trade and growth of electronic commerce in the region will continue, the results will be as follows: tax revenues are likely to increase due to expansion of export markets; tax and tariff revenues will increase due to increase imports of traditional goods and services; tax and tariff revenues will be lost from digitised products; and tax revenues will be lost from the displacement of companies at the intermediate level. The magnitude of these revenue effects will depend on, among other things, import elasticity, competitiveness, and capacity to consistently supply expanding markets.

Introduction

The advent of e-commerce through the Internet[1] and its' continued growth has spawned many changes in the way business is being conducted. Like that of the industrial revolution, e-commerce promises to accelerate the rate of growth and development of the world economy. The Forrester Research by far showed the largest estimates of e-commerce in the year 2000-global business-to-business (B2B) e-commerce alone was estimated to be US$604 billion UNCTAD (2001).

Today the use of the Internet is widespread particularly, now that it is a public medium. Businesses see tremendous opportunities for cost saving, revenue generation, marketing and market access, and most importantly improving customer service through direct links that facilitate speedy enquiry and feedback. Consumers now have easier access to the world market through the virtual economy on the Internet, they can choose from a wider variety of products, and shop in the comfort of their homes among other things. Globalization and specifically liberalization of communication networks have all facilitated this break-through that further presents a massive boost for international trade.

However, the growth of the Internet, web-based companies and online business transactions has raised many concerns about various issues relating to e-commerce. These concerns range from the type of information that can be retrieve online to the kinds of business transactions conducted. As a result, there is now much debate and discussions among stakeholders on how to regulate the Internet while preserving the interests of all.

For most developing countries entrenched in the digital divide these issues are not "top priority". However, some Governments in the developing world have had specific concerns about the impact of the Internet on their domestic economy as they move to incorporate some aspects of this technological revolution for the benefit of their citizens. In particular, developing countries that find it difficult to diversify extensively their goods' and services sectors, for survival in the global economy.

[1] Unless otherwise stated e-commerce in this paper refers to e-commerce through the Internet See UNCTAD E-commerce Report, 2001, for a comprehensive definition for e-commerce.

The Caribbean Community (CARICOM)[2] is one of the developing regional blocs that have moved towards creating a knowledge-based economy and comprehensive diversification of their services sectors. Currently, in many CARICOM Member States there are several Telecenters[3] that create employment for local residents and revenue for governments. Small and medium size businesses from the region are using the Internet to advertise and sell their products to the rest of the world. Government Ministries, among other things, advertise and promote their many services, and investment opportunities while the private sectors offer a wide array of offshore and other services to the rest of the world. These are all e-commerce-related activities that are expected to expand and develop as Member Governments move to facilitate an e-commerce environment.

A major Government concern that has emanated, as a result of this is how tax revenues will be affected? Other concerns have arisen as to the ability of tax administrations in the CARICOM region, with limited resources, to keep abreast with the rapid changes in business structures and conduct due to the adoption and expanded use of e-commerce. In addition further concerns allude to the reciprocal global e-trade and e-commerce environment and how it will affect the region as domestic consumers may resort to more online purchases and transactions from companies and businesses abroad.

On the one hand, such concerns have evolved from the fact that in liberalized markets governments would not be able to use some fiscal policy tools at their full discretion. For instance the use of tariffs to protect domestic industries and the domestic markets from the consumption or influx of 'bad' goods. On the other hand, CARICOM Member States are moderately to highly dependent on tax and tariff revenues to finance their budgets and provide public goods and services.

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[2] The Caribbean Community is comprised of fifteen (15) small jurisdictions namely: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago

[3] TeleCenters in the Caribbean and Latin America are of several types namely: commercial, franchise, University, School NGO-Sponsored, Municipal, and Multipurpose. They created employment in both urban and rural areas in the Caribbean. For Further details see "Telecenters for Socio-economic and Rural Development in Latin America and the Caribbean" by Proenza, *et al*, May 2001 @ www.iadb.org/regions/itdev/telecenters/index.htm .

This paper recognizes that there will be many consequences as e-commerce grows in popularity. However, the primary focus here is to identify the likely tax implications of e-commerce in the Caribbean Community. Section one preludes e-commerce efforts in the Caribbean. Section two looks partially at the Caribbean tax structure and the importance of tax revenues in the Caribbean Community. Section three reviews the literature and highlights some theoretical considerations relevant to the analysis. Section four examines the tax implications of e-commerce. Section five looks at the need for tax administrations in the region to develop effective processes to combat problems that are likely to emerge from the usage of e-commerce in the region. Section six concludes the paper.

1. E-Commerce: Efforts in the Caribbean

Currently there is little or no practice of collecting e-commerce indicators of the digital economy in national statistics or any other form. Whatever data on the digital economy is collected, normally is not published in detail in Member States statistical publications. There is very limited official data on e-commerce activities in the region. This information void seems to be one of the primary reasons for inadequate attention and awareness of e-commerce and related activities in the region. Consequently, most Governments have little idea of the extent to which e-commerce, particularly through the Internet is taking place in their domestic economy.

Chaitoo (2000) highlighted that the most developed countries (MDCs) within the region are merely trying to catch up on the policy framework front with e-commerce issues, while the other Member States are significantly entrenched in the digital divide phenomenon vis-à-vis North America and other developed nations, *see table* 1. The region as a whole is deeply entrenched in the digital divide, as the distribution of Internet hosts suggests, *see figure* 1. Chaitoo stressed the importance of, and recommended that CARICOM Governments begin to collect data on e-commerce activities in order to inform their policy makers regarding preparations for the digital economy. Given the obvious implications of such lack of data, this paper supports Chaitoo's views on the gathering of data on e-commerce and related activities. But, such a view is supported in the context of guiding fiscal policy makers that will find it increasingly difficult to cope with the advancements of the digital economy. More so, since businesses tend to exploit the opportunities that technology offers. What should also be recognised is that commitment, in part, begins with some awareness of the issues. The lack of awareness of the level of e-commerce activities is in part responsible for the lack of commitment in developing strategies and considering required legislation to facilitate the development and expansion of e-commerce in the Caribbean Community.

The Government of the Bahamas in its budget (2000-2001) has pledged to ensure that the country becomes a knowledge-based economy and society and a centre of excellence for e-business. The Government further claimed that Internet access will be provided to all schools free of charge and will be funded by contributions from all licensed telecommunications operators on a proportionate basis.

The Government of Barbados has also shown their commitment to addressing e-commerce in their domestic economy. The Barbados “Electronic Transaction Act 2001-2” is evidence of such. The Act mandated enterprises to record and allow specific authorities to use and/or inspect their electronic transaction records whenever deem necessary. While this Act does not explicitly highlight tax obligations of firms’ electronic transactions, it’s a start. By requiring enterprises to record and make available their electronic transaction records, the fiscal authorities will have access to records that can be subject to tax.

The Governments of Grenada, St Kitts & Nevis, St Lucia, St Vincent & the Grenadines and Dominica have recently welcomed an agreement with Cable & Wireless Ltd., to dissolve their monopoly. This agreement allow these Governments to undertake investment in call centres and information services, and the expansion of Internet service providers, all e-commerce related. This indicates a step towards the digital/information revolution and reflects to some extent commitment on behalf of the aforementioned Governments.

In Antigua there is a need for legislation, since a considerable amount of offshore, e-commerce-related activities is prevalent in that economy (as shown in *table 1* this Member State has the highest number of users per 10, 000 inhabitants).

In Jamaica there seems to be a vibrant Internet and e-commerce environment with promising growth potential. However, the appropriate technical and regulatory frameworks have to be put in place.

Trinidad and Tobago (T&T) are clearly the “trend setters” of e-commerce and related businesses in the region, as table 1 shows they have the most internet hosts (6,596), comparable to that of the Solomon Islands. In T&T there is also an e-commerce Committee that makes recommendations, where necessary to the Government. In June 2000 the Committee submitted a report to the Cabinet on the status of e-commerce and made several recommendations. One of the recommendations made is for Government to introduce legislation to deal with electronic transactions.

E-readiness seems to be a national priority in Montserrat, but there is no e-commerce plan or strategy currently in place due to the economic effects of the volcanic crisis of 1995.

In Belize they are some e-commerce activities. For example, their successful private free trade zone that consists of information technology (IT) parks concentrate mainly on Internet gaming. However, there is no formal national e-commerce plan or strategy and no legal framework to support e-commerce transactions. The Ministry of Finance controls whatever national level initiatives there are, as all proposals need to be approved by them.

For Guyana there is a draft on IT policy for consideration but the desire to promote and develop this type of sector is at a standstill. This standstill is due to the reluctance of the only Telephone Company to dissolve their monopoly and unwillingness to support a government led initiative to seek funding for the development of e-commerce and related activities.

In Suriname e-commerce activities seem to be of little priority to the government and as such have not received much attention. This is something to wonder about, since Singh (2001) highlighted that the country is bi-lingual (Dutch and English) and can offer e-services to the Dutch-Netherlands, Europe, and the English speaking America's etc.

Altogether the evidence indicates that most Member States have begun to consider an e-commerce (IT) framework to aid their national and regional development. However, much is to be done in CARICOM Member States to increase the awareness of and commitment by all Government on this issue. This is critical since e-commerce in many ways help to increase businesses' efficiency and plays an important role in gaining market access. It is possible therefore, that firms and businesses in the Caribbean Community will seek to exploit the opportunities e-commerce has to offer will experience changes in their business' models and processes. Similarly, in the least, tax planning will have to be altered to cater for those changes, due to the sensitivity of some business process and their implications for tax revenues.

2. Why worry about Tax Revenues in the CARICOM Region?

The Caribbean Community is a very peculiar region in that it is characterised by a large degree of openness. Though it does not share similar concerns with most developed countries, anxiety is growing about the likely impact of electronic commerce on tax revenues in the region. Why? Generally, because of Member States susceptibility to external shocks. In addition, there is genuine concern and need to bridge the digital divide; exploit the benefits of e-commerce; and inform policy makers for the purposes of developing a national, regional and international framework that accommodates the interest of stakeholders from the region.

Tax revenues in general are the major source of government revenues in all Member States, *see table 2*. Government statistics for 1999 revealed that tax revenues accounted on average for approximately 84% of total governments' revenue in the region. These revenues contributed as much as 94.9% of total government revenues in Barbados and at minimum, 59.2% of total government revenues in Trinidad and Tobago. While dependence seems moderate in Trinidad and Tobago, other Member States fall in the high dependence category-73% and above.

Within the region indirect taxes contribute proportionately more tax revenues than direct tax revenues. However, the MDCs of the region, Barbados, Jamaica, Guyana and Trinidad and Tobago, are relatively more dependant on direct tax revenue than other Member States.

More pertinent to this paper are tax and tariff revenues that can and will be affected by e-commerce. Young and Tsang (1998), Graham and Heiselmann (1998), *et al*, agreed that both direct and indirect taxation will be affected. Direct taxes particularly as it relates to taxes on income and capital gains can be affected given the ease with which businesses are able to relocate in "tax havens" with the use of e-commerce technologies. In

CARICOM taxes on income, profit and capital gains represents the larger portion of direct taxes. And as a percentage of tax revenues for the region, represents 23.5%. However, on average, CARICOM Member States are more dependent on indirect taxes. This aspect of taxes are more likely to be affected by e-commerce given the fear factor of an increase in web-based companies and "distance selling" Ross and Selby (1998). This is particularly the case for goods and services than can be digitised.

Currently, taxes, customs duties and other tariff revenues generated through the importation of goods that can be digitised are minuscule as data for 1999 reflected, *see table 3*. Statistics for 1999 revealed that generally internal taxes applied to products that can be digitised were at least twice as much as the tariff revenues for the same products. Only in the case of Jamaica and Trinidad & Tobago did tax and tariff revenues for products that can be digitised summed to more than two million US$, in all other Member States figures were below the million US$ level. The volume of imports of digitised products as a percentage of total import is also minuscule as 1997 data reflected, *see table 4*. As a percentage of total imports only in the case of Grenada is digitised products greater than 2%, in Barbados, Belize, St. Kitts & Nevis and Saint Lucia digitised products imports are a little over 1%, while in all other Member States it is under 1%. Nevertheless, under the assumption that the region will develop a strategy to foster an e-commerce environment, there will be easier access to these goods which will be of growing concern to member governments given the tax revenue implications.

In addition to products that can be digitised, electronic commerce can also facilitate trading of other commodities, which will also have implication for tax revenues. This will be explored further in the paper.

3. Literature Review and Theoretical Considerations

The available literature on e-commerce in the Caribbean Community, for the most part, is descriptive and traces the development and current status of Member States digital economy. The literature highlights the relevance of e-commerce within the Caribbean Community; what is available and what is required to facilitate a proper e-commerce environment; where and in what aspects Member States are lagging; and other benefits the Caribbean Community can derive from e-commerce. In relation to the impact of e-commerce on tax revenues, the literature in some cases vaguely addresses the issue[4], in others it is non-existent; and for the vast majority the issue of taxation of e-commerce activities and transaction, rather than, the tax revenue implication of e-commerce activities is examined.

At the international level there is vast literature on e-commerce and it's implication for tax revenues. However, this literature has a clear bias against the Caribbean Community. The literature is skewed in favour of developed and newly industrialised countries. In some cases the literature gives detail assessment of the possible implication of e-commerce on tax revenues[5], in others they make general mention of possible tax implication. Consequently, the focus of this paper is pioneering in its attempt to address the issue of e-commerce and it's implications for tax revenue in the context of the Caribbean Community. It is nevertheless useful to examine the perspectives and arguments of the available literature.

There is a correlation between the nature of transformations in business process and key tax issues arising Graham and Heiselmann (1999). "With any major change in business conduct, consideration should be given to key direct and indirect tax issues such as: Taxes on Income, at national and local level; International tax, including foreign and controlled foreign company taxation and withholding taxes; Capital gains, e.g., on intellectual property rights or goodwill; VAT and Sales & Use taxes; property taxes; Customs and Excise duties; and Stamp and transfer taxes." Essentially, Graham and Heisilmann (1999) suggested that changes in business, due to technological advancements such as e-commerce, lead to new business models and in turn create a new set of facts and circumstances that can materially affect the incidents of taxation. Therefore, to ensure the tax efficiency of evolving new business model tax planning needs to be consistent with the changes that are taking place, to prevent the escalation of possible tax evasion. Hence, as Honer and Hardy (1999) suggest, flexibility is important,

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[4] See 'Electronic Commerce and CARICOM Economies: Strategic Considerations for Governments.' Ramesh Chaitoo, 2002. And 'A rainbow Technology for a Rainbow People: E-Business Capacity Development for the CARICOM.' Alwyn Didar Singh 2001, Report of a diagnostic Mission, draft 15.9.01.
[5] See Teltscher, 2002.

particularly to ensure that tax systems keep pace with technological and commercial developments.

Chaitoo (2000) pointed out that “traditional domestic commerce within national markets and cross-border electronic trade involving physical goods that pass through customs will continue to face customs duties and value-added taxes but products delivered electronically will not. A similar pattern may emerge internationally if electronic commerce is taxed in some countries but not others. The same applies to corporation taxation. Firms operating on the Internet could relocate to tax havens and shield themselves from Income tax. Therefore as e-commerce increases in volume and popularity, there will be implications for the ability of governments to raise revenues through traditional mechanisms like sales and corporate taxes, value-added taxes, and tariffs, particularly when dealing with digitised products. Hence, it is highly likely that as governments obtain less revenue as tariffs decrease as a result of trade liberalisation (tariff reduction measures) they will be tempted to shift to sales taxes and various consumption taxes to make up for losses at the border.”

Singh (2001) supports Chaitoo’s position. He added, “…the essential problem of duty or tax occurs only when e-commerce has taken place in a digitised format i.e., where all parts of the transaction have been completed ‘on-line’ in digital or computerised format and no goods have directly passed through a recognised customs or domestic tax point.” Where e-commerce has been used only to communicate and set up a transaction and the actual delivery is by regular means, the existing tax and duty regulations and procedures continue to apply and can be monitored. For digital supplies the problem for the authorities is to monitor or even be aware that a transaction has taken place.

However, an extreme position is taken by Lurie and Perrin, (1999) in sighting an example from New Zealand of possible erosion of tax bases. They argue that structures are put in place to exploit the benefits of the Internet in order to minimise VAT, while on-line delivery assist in avoiding Goods and Services Tax (GST)-consumption taxes. More serious is the extent to which the Internet can and is being used by genuine offshore trading entities of modest size which are resident in low or nil-tax jurisdiction for significant trading transactions that fall outside the scope of most countries' corporate income tax regimes.

Cohen (1997), Ganguly (1997), Andal (1997) *et al*, all examined possible challenges tax planning and policy are expected to encounter. More so, indirect tax issues that relate to VAT and goods and services taxes. They perceived these areas to be the most problematic since identifying key "taxing points" becomes increasingly difficult with the use of the Internet for e-commerce transactions.

In an attempt to quantify the fiscal impact on international e-commerce Teltscher (2002) using *potential* and *upper bound* estimates from 1999 data, concluded that developing countries will face higher losses from customs duties, which make up higher shares in their national budget compared with developed countries. They will have less flexibility to replace those losses by shifting to other revenue sources. Further, Teltscher (2002) noted that in the short and medium term, developing countries would be net importers of e-commerce and hence will run a greater risk of losing tariff and tax revenues if traditional imports are replaced by online delivery. Therefore, the development of efficient tax collection systems for e-commerce should be a priority for all developing countries.

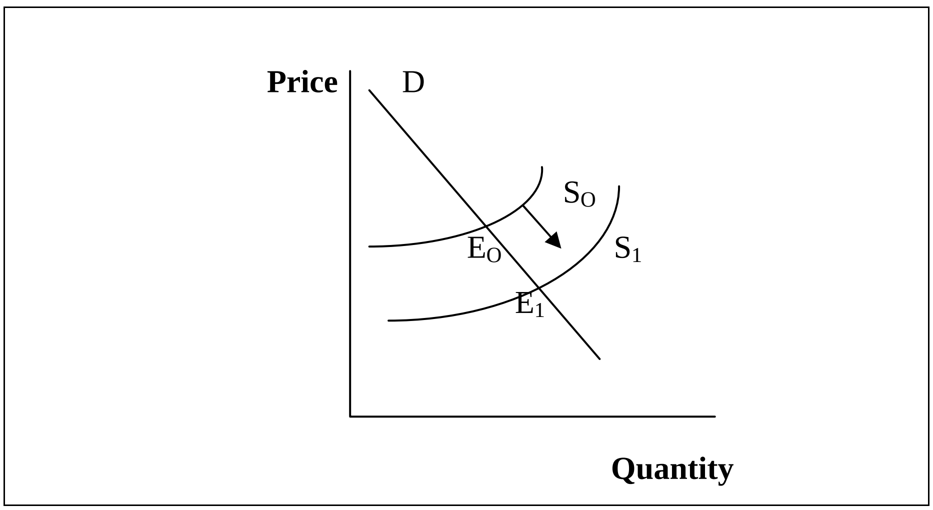
From a general standpoint the debate on the implications of e-commerce on tax revenues seem to be inconclusive. However, there seem to be some consensus on two concepts. Firstly, that tax planning, policy and administration will have to evolve with changing business technology to cater for new uncertainty inherent in changing business processes that may have tax implication. Secondly, there seem to be agreement that e-commerce is likely to affect (negatively) tax revenues of goods and services that can be digitised. Otherwise e-commerce will act to facilitate international trade and transactions.

Theoretical Considerations

Electronic commerce has become global in scope and by its nature will continue to expand on an international basis, transcending national boundaries and legal jurisdictions and creating business opportunities on a world-wide basis. Thorbjorn *et al*, (1997), indicated that electronic commerce is the first true- born global market and approaches the ideals of perfect competition: characterised by low transaction and interaction costs, low entry barriers, and easy customer access to information, in addition to heavy dependence on liberalised communication networks.

Low transaction and interaction costs can be view as a benefit of technical change stimulated by productivity gains. The technological change assumption is justified by the observation that the recent innovations in telecommunications and information technology are fundamentally altering the way businesses work and thereby have the potential to yield a quantum shift in productivity, UNCTAD (2000). While at this juncture it is difficult to assess the productivity gains in the region, the potential for these gains do exist and is likely to act as a motivational factor for businesses adapting to the 'ways and means' virtual economy.

A Graphical representation of the effect of Technological Innovation



In this partial equilibrium, *ceteris paribus,* analysis the utilisation of the Internet by businesses can be thought of as a technological innovation, which improves the economic efficiency at the firm level and industry level. This innovation brings about a reduction in production costs, hence increase supply from S_O-S_1 and lower equilibrium price from E_O-E_1.

Net importer of electronic commerce[6] and goods and services, both traditional and digital, will experience an upsurge in imports once they are no significant barriers (infrastructure, trust and reliability, and availability of simple and predictable regulatory environment) to the growth of the Internet in their economy. The volume and type of goods and services imported will depend on the import elasticity of the country and income generated (reducing prices with relatively stable wages or increasing exports).

If the country is import elastic then a price decline will lead to a more than proportionate increase in imports and will be revenue increasing for commodities that are traded through the Internet but are delivered by conventional means. It is likely that such augmenting of revenues will be shown by an increase in consumption tax and tariff revenues - VAT, custom surcharge, and other duties (tariff). However, this can affect the balance of payment, and have a negative overall effect on the Gross Domestic Product if there is no comparable increase in exports.

For digitised products, an import elastic situation will result in revenue decline, more so if consumers and producers resort to more online transactions, substituting the conventional manner in which such products as film, printed matter, sound and media and software are treated. It is expected also that exports can increase if the Internet is utilised by producers of the region. As such increase exports will require, productivity increases, resource (human & capital) increases or a combination of both to off set additional outputs. Therefore, revenues are likely to increase.

The network effect of electronic commerce will invoke actions and create reactions. This is to say that the level of competition will raise among firms regionally and globally, under the assumption that the larger the number of users of a particular product (in this case the Internet) the larger the probability that others will start using it. Market access and lower prices will be accessible to all consumers that shop online. It is for this reason that the volume and types of goods and services consumed will depend on import elasticity and income generation. Hence, the concept of elasticity has some merit.

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[6] The Caribbean Community is a net importer of electronic commerce.

An issue that needs further consideration is the growth predicted by most authors for digitised products. Digitised products are characterised by increasing returns to scale which is explained by the cost advantages of using the Internet: the cost of the first copy or download is very high but the marginal cost of additional copies is very low or nil. On the other hand, goods and services that can be bought and sold via the Internet but are transported by traditional mechanisms are characterised by diminishing returns to scale due to the costs they incur (tariffs, custom surcharges, consumption taxes etc.)/the marginal cost of reproduction is relatively higher.

4. Tax Revenues Implications

To analyse the impact of electronic commerce on tax revenues in the CARICOM region I made the following assumptions:

- Electronic commerce will continue to grow in the region. This assumption is made under the rational expectation that producers will incorporate technological innovations that helps to reduce cost, expand market and market access, and have increase direct contact with consumers of their products.
- Consumers are rational and as such will look for quality products at more efficient prices, a convenient shopping environment and full information on commodities that they are desirous of purchasing.
- CARICOM Member States are likely to be affected by developments in the international community due to its large degree of openness[7] and susceptibility to external factors given its geographical size, population, productive capacity etc. As a result current trends of external trade will continue into the futures

Digitised Goods Trading

Caribbean territories stand to loose tax and tariff revenues from digitised goods trading simply because these goods do not have to pass through the usual convenient taxing points. Digitised products attracts Common External Tariff (CET) ranging from 0-5% on

[7] As measure by the global Insertion index in, CARICOM Trade and Investment Report, 2000.

sound and media products in 1993 (now in some Member States 45%) to full exemptions on books. At maximum the average revenue loss from digitised goods would represent 0.2% of Gross Domestic Product for the region[8].

The reality however, is that most Member States still have substantial work to be done to provide the necessary infrastructure, trust and reliability, regulatory framework, and other complementary services such as credit cards to facilitate online activities. The current status of e-readiness as highlight by Chatioo (2000) and Singh (2001) do not permit complete substitution from the traditional to the virtual economy.

Activities of the virtual economy especially as it relates to digitised products should be monitored nevertheless. Within the region there is a vibrant music, financial and insurance services, and publishing industry that has enormous growth potential. These industries are likely to gain and loose revenues by adapting to electronic commerce.

On the one hand, individual consumers pirate music and printed material easily (as was held in the case of Napster Inc vs Record labels[9]). This ultimately affects sales and hence revenues of the industry. Consequently there will be tax revenue decline as firms' sales could be negatively affected. On the other hand, the Internet provides a market place that can familiarise the rest of the world of Caribbean music, literature, culture, and products, hence the potential for increase exports. An increase in exports should expand revenues of regional establishments, thus increasing tax revenues for member government via income and capital gains taxes.

Market Access and Traditional goods and services

Electronic commerce via the Internet presents market access, price and other information that is beneficial to consumers and producers. If consumers from the region make online purchases of goods that can only be delivered through conventional means there will be

[8] This calculation was done by the author, base on 1999 Statistic for the region -GDP at current prices and total taxes and tariff revenues for digitised products base on UNCTAD calculations.
[9] See for details "Despite the ruling it will be hard to stop free music exchange" by Wendy Case and Charles Ramires, The Detroit News, Friday, July 28 2000.

revenue implications. Most Caribbean territories are import elastic[10]. We also know that imports have increased over the years by 55% between 1990-1998, while total exports grew by 4% over the same period CTIR (2000). If the Internet facilitates the continuation of a similar trend, there will be further proliferation of imports in the region and consequences for tax and tariff revenues.

Increase imports will lead to expansion of tax and tariff revenues for member governments. Such revenue increase will result from increasing volume of goods and services imported. However, member governments still stand to loose revenues in case where all transactions and delivery are not completed online, since these purchases will include taxes (e.g. sales tax) accruing to third countries base on the resident taxation principle. In the case where online purchases are made from the region by third countries the same logic applies.

A proliferation of exports will require additional workers or capital since companies will have to hire additional resources to cater for export expansion (output) once the Internet lead to a proliferation of exports. Hence, member governments are likely to experience revenue expansion from taxes on income and capital gains, and other internal taxes from companies that do not export entirely.

The focus however should not only be on markets access and a proliferation of imports and exports but also on the potential of overseas based companies to displace regionally based companies, a process Chatioo (2000) highlighted as "disintermediation".

Disintermediation

Currently there seems to be no attractive alternative to globalisation and the concept of trade liberalisation, by those who advocate and influence the global trade architecture. If these neo-classical ideologies continue to dominate the global trade environment then it is safe to say that current trends of market expansion and greed disguised as profit maximisation by multinationals will persist.

[10] See "Quantifying the Fiscal effects of trade reform: A general equilibrium model estimated for 60

Through electronic commerce costs can be reduced for both buyers and sellers, as it is now possible to eliminate the middleman. By expanding their market access to the region and given the ability of multinationals to reap economies of scale, companies located in the region will experience increasing competition. They are likely to be some revenue implications especially if firms from the region are not in a position to compete effectively. For example, if one is to examine nature of business of the top ten Caribbean firms that have a strong intra-regional presents one would notice that the possibility of these firms being affected by external competition is very high.

Top Ten Firms with cross-border operations (Intra-regional**)**

Rank	***Firm***	***Number of cross-border operations***	***Kind of Business***
1	Goddard Enterprises Limited	18	1. Airline catering 2. Other catering 3. General trading 4. Real estate 5. Financial services 6. Property rentals 7. Fish and shrimp processing
2	Neal and Massey	14	Manufacturing
3	Colombian Emerald	13	Jewellery Store
4	Royal Bank of Trinidad & Tobago	10	1. Commercial Banking 2. Trade Facilitation Services
5	Caribbean Publishing	9	Publishing
6	C.L Financial	9	1. Financial Services 2. Forestry and agriculture trading and distribution 3. Real estate development
7	Life of Barbados	9	Insurance
8	CIBC West Indies	7	1. Commercial Banking 2. Financial Services
9	Ansa Mc Al	5	1. Manufacturing 2. Financial Services 3. Distribution
10	A.S Bryden	5	1. Light manufacturing 2. Distribution

SOURCE: adopted from CTIR 2000.

Countries" by Shantyanan *et al*, 1999

Seven of these ten firms (1, 4, 5, 6, 7, 8, 9) offer services that are offered in abundance online by foreign competitors. Regionally based insurance companies, domicile travel agencies and other services oriented companies will face increase competition. If they do not maintain similar (price) competitiveness[11] then they are likely to loose market share and in some cases be displaced. Firms that are likely to be displaced are small sole proprietorship, for example, travel agents, insurance agents, distributors of consumer goods and light manufacturing.

Be that as it may, e-commerce expansion can also create new kinds of employment activities. In the words of Fontenelle (1999), "electronic commerce has resulted in new forms of organisations, products, pricing and consumption choices that differ from those in the physical economy. These organisations cater for the needs of online users, they focus on products such as online catalogues, searchable indexes, web page design, secure payments methods, online privacy and other Internet services."

In the region we bare witness to employment created by Internet service providers; new job vacancies for graphic design artist; the sourceing of online and television orders, and telemarketing via call centres. These activities generate revenues for member governments. As a matter of fact Proenza *et al* (2001) examined the socio-economic benefits of telecenters in Central America and the Caribbean. They stated that "Telecenters have the potential to help break down some of the largest barriers to development that are presently faced by low income population, particularly in rural areas…for example, to gain online access to: distant productive assets and services; opportunities to learn better practices through formal and informal sources; to crucial market intelligence;…to information on projects, financing institutions…to expanded distant job opportunities etc."

In the event that jobs are not created, but the Internet leads to an increase in exports that require output to expand, the productivity of the existing employed persons should increase, which has revenue implications.

[11] Companies can differentiate their products and services to reduce the level of competition.

Productivity growth and gains

One of the limitations to output expansion is market size and rate of productivity growth among other things. Electronic commerce via the Internet helps to break these barriers by increasing market access and ultimately market size. And if treated as a technological innovation, helps to increase productivity at least in the short run. There is no data currently that can be used to measure the productivity gains of employing the Internet as a tool for output expansion in the region.

Given the current status of electronic commerce in the region the Internet is used mostly as a tool to access distant markets and gain information about markets. In addition it increases the advertising possibilities world-wide for small and medium size businesses form the region. This suggests that in the region the Internet is factored into the cost structure of firms and is expected to yield some benefit. Most authors, Fontenelle 1999, *et al*, acknowledged that electronic commerce will provide economic benefits to countries and communities by connecting them with national and global markets, reducing transaction costs and increasing efficiency throughout their economy.

5. Other considerations

With e-commerce through the Internet problems arise for tax planning, policy and administration that can affect tax revenues. This is linked to the fact that e-commerce challenges the traditional principles of taxation. More so, for tax administrations in the CARICOM region that has limited resources and skills to keep apace with the rapid technological developments that help to increase businesses' efficiency.

Many companies selling to customers in another country usually set up a branch of similar operations to handle administrative matters etc., in that country. This creates a convenient and favourable basis for which the fiscal authorities levy taxes. Taxes are levied using the Permanent Establishment (PE) principle. This principle has long been used to determine whether or not the operations of an enterprise constitute a taxable presence in the country concerned. Establishing this taxable presence usually meant that the business would be liable to tax on the trading Income and Capital gains attributable to that PE. This resolves potential conflict of whether the country of source or the country of residence has the right to impose a tax on a particular transaction. However, the difficulty with the PE principle and e-commerce is that the link between an income producing activity and a specific location is blurred, since it is not clear whether a website on a server is a PE. What this leads to is the question of whether or not e-commerce through the Internet can lead to Tax evasion and/or tax avoidance?

It has been recognised in a study conducted by the IRS, that tax evasion can occur when e-commerce businesses in particular mask their identities. This is most common among small and medium size business. Current website name and registration procedures require nothing more than a credit card. There is no existing process to accurately verify ownership or the physical location of the beneficial owner of the website. Therefore, the potential for tax evasion through e-commerce is very high.

However, the OECD agreement establishing the conditions and scenarios under which a Permanent Establishment is determined provides some clarity on the issue.[12] Hence, as the UNCTAD 2001 suggest, “this agreement should be adopted by developing countries since they are net importers of e-commerce and are more open to risks associated with revenue losses due to online delivery.”

Further e-commerce also makes it easier for business to migrate “overseas”. Of course there can be legitimate commercial reasons why businesses move to another jurisdiction, but there is also a desire to reduce and avoid tax. This highlights another area that has consequences for tax revenues. Since e-commerce provides such mobility and flexibility, businesses will be tempted to locate in low and nil taxed jurisdictions. Consequently, this represents a source for erosion of tax bases.

The use of tax competition policies to lure investment into some Caribbean territories has brought much touting and labelling of these jurisdictions as “tax havens”. This is reason enough to suggest that the economies in the Caribbean can be a preferred location with the advent of widespread e-commerce. In the event they are not, fiscal authorities will

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[12] See “E-Commerce and Development Report 2001” by UNCTAD 2001.

have much to worry about, in relation to businesses migrating, since this has revenue implications. More so, when countries outside the region encourage tax incentive growth and development.

The mentioned activities necessitate changes in tax planning, policy and administration for both direct and indirect taxation. This is essential to minimise, and possibly eliminate growing uncertainties that are created with the advances in e-commerce that can have negative tax revenue implications.

6. Conclusion

It is clear based on the rational expectation of buyers and sellers that electronic commerce will continue to expand in the region. With this growth predicted the import and export of products, both traditional and digital, are likely to increase.

In the import market increase imports of traditional goods and services will lead to increase tax and tariff revenues, while increase imports of digitised goods will not. Some revenues will be lost from the displacement and/or reducing market share of uncompetitive firms located in the region. The magnitude of revenue changes will depend on changing volumes of imports and exports, which in turn will depend on elasticity in both markets.

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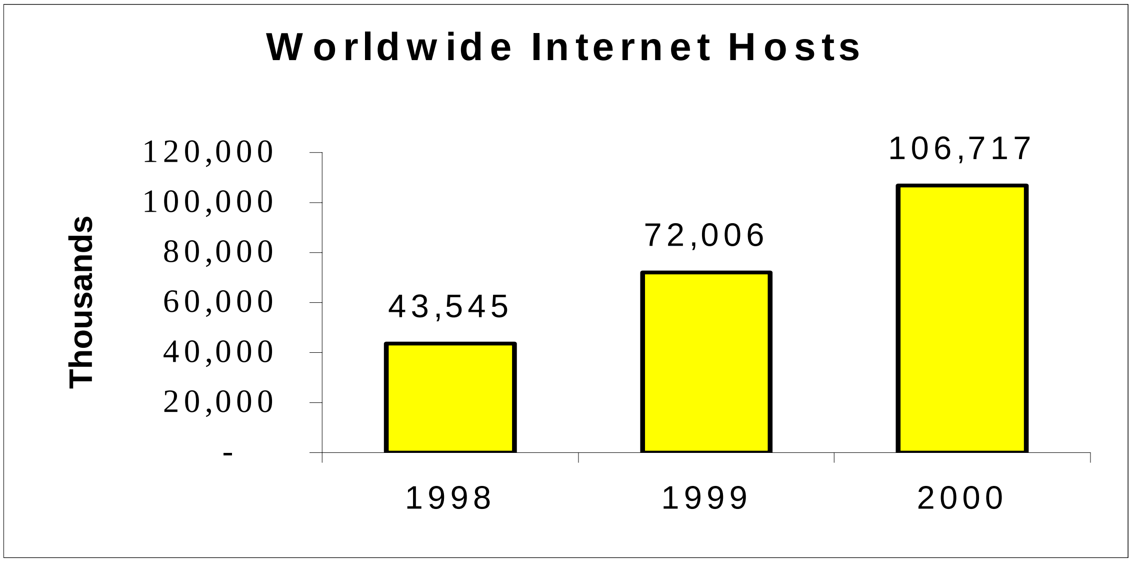
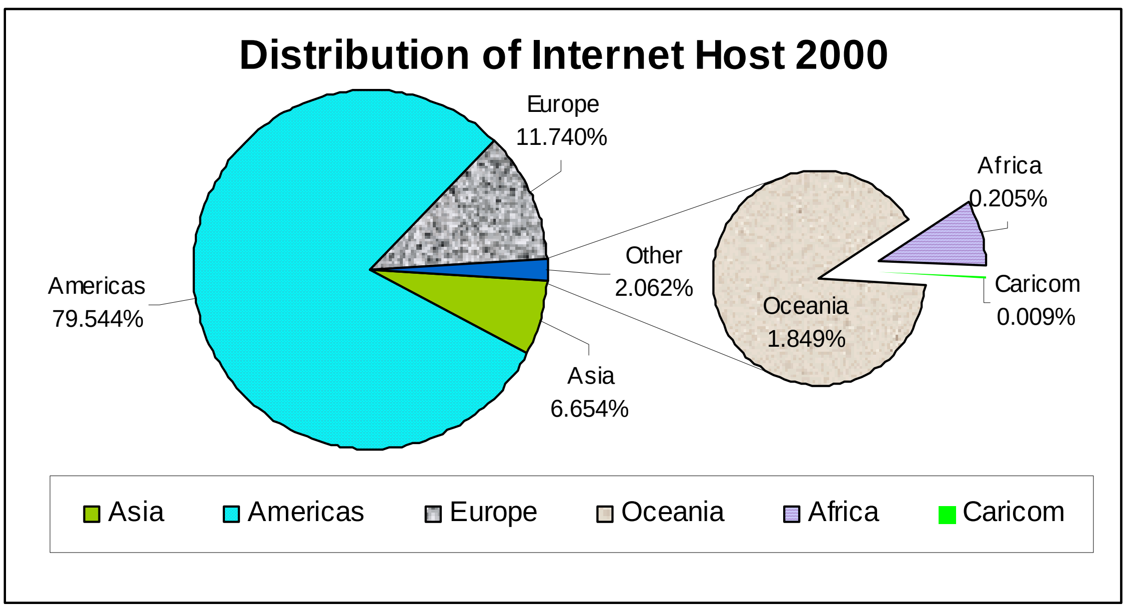
Figure 1.



Source: Author construction with the use of ITU, Internet Indicators, 1998-2000.



Source: Authors construction with the use of ITU, Internet Indicators, 2000.

Table 1

World Internet Indicators-2000.

CARICOM	Hosts Total	Hosts per 10'000 inhab.	Users per 10'000 inhab.	Estimated PCs Per 100 inhab.
Antigua & Barbuda	314	40.95	652.03	….
The Bahamas	24	0.79	431.58	….
Barbados	100	3.74	222.82	7.80
Belize	293	12.16	622.41	10.63
Dominica	187	24.24	261.44	6.54
Grenada	3	0.32	435.56	11.78
Guyana	59	0.69	35.07	2.45
Jamaica	1,472	5.71	234.35	4.30
St Kitts & Nevis	4	1.04	516.10	15.48
St Lucia	34	2.18	195.18	13.66
St Vincent	2	0.18	308.57	9.72
Suriname	10	0.24	280.79	….
Trinidad & Tobago	6,596	50.96	330.28	5.42
G7 Countries				
Canada	2,364,014	786.78	4,130.07	39.02
France	1,122,407	190.89	1,445.58	30.48
Germany	2,040,437	248.30	2,920.57	33.64
Japan	4,640,863	365.66	3,709.45	31.52
Italy	1,019,711	177.97	1,047.16	20.94
United Kingdom	1,677,946	280.75	2,576.72	33.78
United States	80,566,947	2,928.32	3,465.78	58.52

Source: ITU, (Internet host data: Internet Software Consortium, RIPE) 2000.

…. Means not available.

Table 2.

Government Tax revenue Share 1999

Member States	Tax Rev as % of tot Rev.	Tax on income, Prof. & cap. gn as % tax Rev	Property tax as % Of tax Rev	Goods & Services tax as a % of tax Rev	Taxes on int'l trade & Transc. as a % tax Rev	Other taxes.
Antigua & Barbuda	87.1	10.1	1.2	18.2	57.5	….
The Bahamas	90.5	….	….	….	….	….
Barbados	94.9	34.6	6.4	48	8.8	1.18
Belize	….	….	….	….	….	….
Dominica	84.2	25	1.2	12.7	45.1	….
Grenada	85.5	14.2	2.6	16.4	52.2	….
Guyana	90.7	41.4	1.4	11.6	40.2	…
Montserrat	90.6	28.3	2.9	11.5	47.6	….
Jamaica	84.9	25	1.2	….	….	….
St Kitts & Nevis	73.6	19.8	1.3	15	37.2	….
St Lucia	83.3	25.5	0.1	11.9	46.7	….
St Vincent & the Grenadies	84.1	27.7	0.8	13.3	42.42	....
Suriname	….	….	….	….	….	….
Trinidad & Tobago	59.2	….	….	….	….	….

Source: ECCB and other Member States annual Central Banks' report 2000.

…. Means not available.

<u>Table 3</u>

Digitised Products revenues from tariffs, additional customs duties and taxes 1999

Member States	DP tariff revenue In US$ 000	DP cons. Tax Revenue in US$ 000	DP tariff and cust. surch. rev. in US$ 000	DP all tax and tariff revenue in US$ 000
Antigua & Barbuda	85	229	133	361
The Bahamas	….	….	….	….
Barbados	145	743	145	888
Belize	104	248	104	353
Dominica	13	146	75	221
Grenada	13	317	92	409
Guyana	114	0	114	114
Jamaica	692	2,274	692	2,965
Montserrat	4	66	54	120
St Kitts & Nevis	25	386	102	489
St Lucia	21	723	127	850
St Vincent	16	0	39	39
Suriname	96	0	136	136
Trinidad & Tobago	449	1,789	449	2,238

Source: UNCTAD calculations

…. Means not available

Table 4

CARICOM Trade in Digitised Products 1997

Member States	Total imports 000 US$	DP imports % Share of total imports	% share of world DP imports	% share of world imports
Antigua & Barbuda	....	....	....	....
The Bahamas	….	….	….	….
Barbados	16,555	1.7	0.0	0.0
Belize	3,040	1.1	0.0	0.0
Dominica	....	....	....	....
Grenada	4,597	2.7	0.0	0.0
Guyana	....	....	....	....
Jamaica	29,163	0.9	0.1	0.1
Montserrat	....	....	....	....
St Kitts & Nevis	2,778	1.9	0.0	0.0
St Lucia	5,427	1.6	0.0	0.0
St Vincent	1,678	0.9	0.0	0.0
Suriname	....	....	....	....
Trinidad & Tobago	22,292	0.7	0.0	0.1

Source: COMTRADE