

The Impact of Not Collecting Sales and Use Taxes from Internet Sales into Pennsylvania

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EXECUTIVE SUMMARY

Nationally, internet commerce amounts to trillions of dollars of sales per year, and business and consumer purchases from internet retailers are increasing rapidly. However, Pennsylvania has a limited ability to compel remote vendors without a physical presence in Pennsylvania to collect and remit sales and use taxes for internet transactions,¹ and for 2012, it is estimated that such uncollected revenues range from \$254 to \$410 million for Pennsylvania. In addition to this uncollected revenue and its obvious impact on the Commonwealth's finances, the non-collection of sales taxes by some internet retailers shifts sales away from tax-collecting retailers, which importantly includes in-state brick-and-mortar stores. The lower sales for brick-and-mortar stores in turn reduces the economic impact of these stores on the rest of Pennsylvania. If all internet retailers were required to collect sales tax, placing them on equal footing with tax-collecting retailers, it would increase tax receipts to Pennsylvania, and increase sales at brick-and-mortar stores.

Impact on Pennsylvania's finances – The primary impact on the Pennsylvania treasury is through the loss of uncollected sales tax, and the secondary impact is through lower employment and other taxes because of decreased business at in-state brick-and-mortar stores. Requiring the collection of sales and use taxes would increase tax collections by the Department of Revenue significantly, even though it would decrease overall purchases slightly, thereby decreasing the tax base. It would also likely take time for retailers to come into compliance. Estimates for the potential amount of revenue that could be collected in 2012, if shopping patterns changed immediately and all retailers complied immediately and fully with tax withholding, are \$240 to \$388 million for new sales and use tax collection, and \$5.8 to \$10.4 million in taxes from increased business activity in Pennsylvania, for a total of **\$246 to \$398 million** in net new tax revenues. However, as discussed below, there is reason to suspect actual 2012 receipts would be considerably lower.

Impact on Other Stores – Because out-of-state internet retailers do not have to collect sales and use tax, out-of-state internet businesses have a substantial price advantage over both in-state internet vendors and in-state brick-and-mortar stores. This price advantage means that sales that would have occurred at in-state internet vendors or in-state brick-and-mortar stores are instead made through out-of-state internet vendors. This distortion represents an inefficient allocation of resources. If out-of-state vendors were required to collect sales and use tax at the time of sale, I estimate that sales at in-state brick-and-mortar stores would increase by \$126 to \$216 million per year. This increase would mean more jobs and income at those stores. Furthermore, spending by the stores on supplies and spending by the additional workers would lead to more, indirect, jobs and income. The estimates for these impacts are:

- 1,530 to 2,766 new jobs;

¹ Under various US Supreme Court and state tax decisions over the years, a state's ability to force vendors without a physical presence in its own state to collect and remit sales and use taxes has been limited. While local customers are required under current law to pay sales and use taxes on taxable items they import into their state for use, the practicalities are that very few actually do.

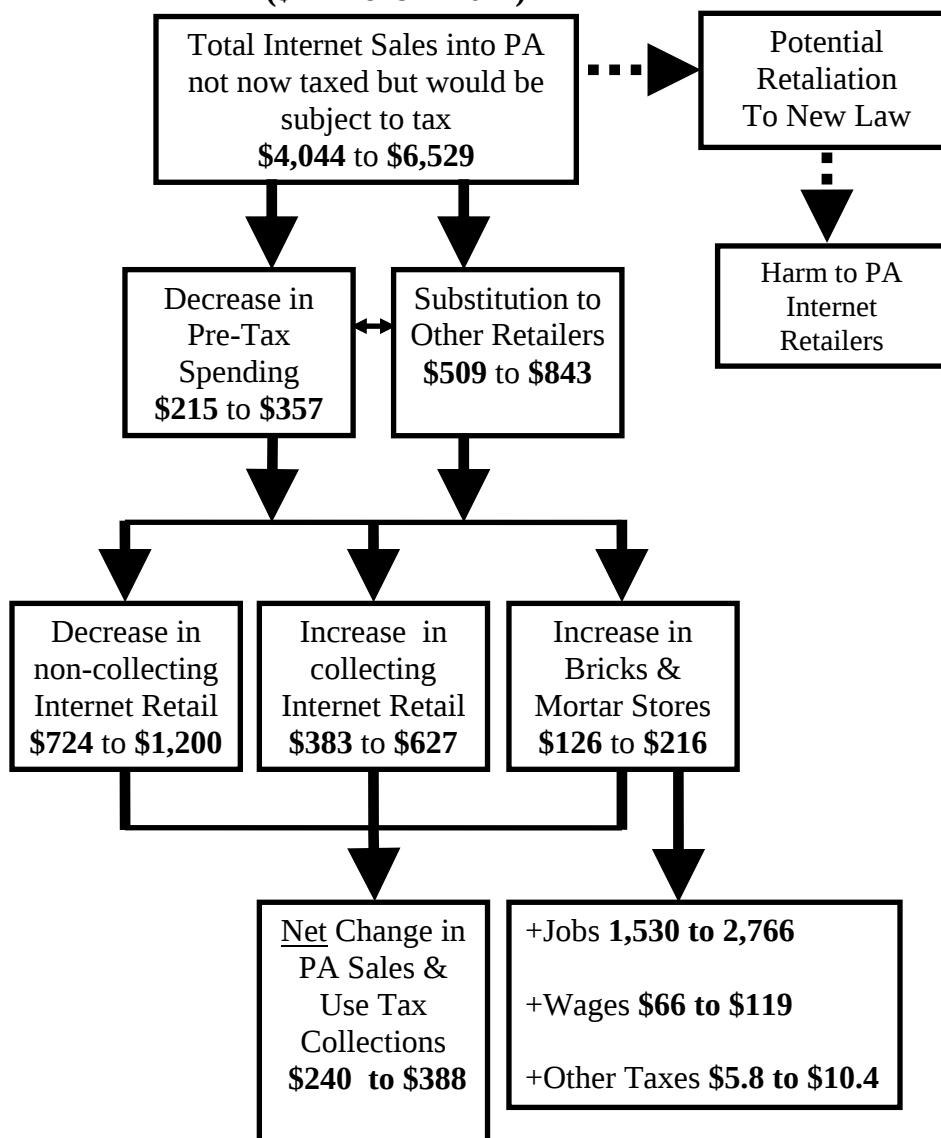
- \$66 to \$119 million in increased wages; and
- \$5.8 to \$10.4 million in additional state tax revenue, over and above the increased sales and use tax collections.

Methodology - This research report has used existing methodology with more current data on internet transactions to estimate what Pennsylvania's General Fund might collect in terms of additional sales and use tax revenues were Pennsylvania to chose to require remote vendors to collect and remit use taxes. Figure ES1 shows the nature of the estimated economic and tax magnitudes that are analyzed in the report, and Table ES1 shows the tax magnitudes under alternative assumptions.

The ranges of estimated tax revenues are quite large, and caution is urged in concluding that the entire estimated amount of uncollected taxes could be readily collected in 2012. New York State's experience of such an effort is that only about half of estimated revenues have been collected in the two fiscal years that their new sales and use tax law has been in effect.

However, what is very clear from this analysis is that e-commerce is a systematically growing part of the Pennsylvania economy, and that the amount of foregone revenues, due to what some view as a loophole, is on the order of several percentage points of current sales and use tax revenues collected. In addition to the lost revenues, the current situation represents an important disadvantage for Pennsylvania's brick-and-mortar stores, resulting in an inefficient distortion of market outcomes. Unless something changes, the amount of uncollected taxes and concomitant inefficiencies are expected to continue growing at a rapid pace.

Figure ES1
Economic and Tax Impact of Internet Sales into Pennsylvania
 (\$ millions in 2012)



**Table ES 1 Incremental Effects on Pennsylvania
Sales and Use Tax Collections in CY 2012, \$ Millions**

Assumptions Used	Gross New Tax Revenues	Net New Tax Revenues after Behavioral Changes	Percent Change
Method 1	410	398	-2.9%
Method 2	282	273	-3.2%
Method 3	254	246	-3.2%

*Notes: Method 1 uses Bruce, Fox, Luna (2009)
methodology with newer data and optimistic forecast
Method 2 uses more recent compliance data on large and medium size firms
Method 3 uses more recent compliance data and baseline forecast*

1.0 BACKGROUND AND INTRODUCTION

Pennsylvania's Sales and Use Tax revenues have grown from \$7.2 billion in Fiscal Year 2001 to \$8.0 billion in Fiscal Year 2010, but have been a declining fraction of General Fund tax revenues. In Fiscal Year 2001 Sales and Use Tax revenues were 35.6% of FY 2001 General Fund tax revenues and fell to 32.2% of FY2010 General Fund tax revenues.²

Pennsylvania is not able to compel those internet businesses without a physical presence in Pennsylvania to collect and remit Pennsylvania Use Tax on taxable items that are sold to Pennsylvania customers. This leads to two main areas of concern:

1. This tax³, although a legal obligation of Pennsylvania customers to remit to the Pennsylvania Department of Revenue, is in practice simply not paid. Because the Department of Revenue has no way to know about cross-border purchases over the internet, it is unable to locate and require payment for the legally due use tax from the Pennsylvania customers.
2. Due to the tax not being collected from their Pennsylvania customers, the effective prices offered by non-collecting internet businesses are inherently lower than they otherwise would be, which gives them a substantial price advantage over sales to Pennsylvania customers by both in-state internet vendors and in-state brick-and-mortar stores. Since the Pennsylvania state Sales and Use Tax rate is 6%, the price differential is substantial, and because profit margins in the retail business are frequently quite thin, Pennsylvania's inability to collect a use tax on internet sales adversely affects the viability of Pennsylvania bricks and motor and in-state internet businesses. This distortion creates an inefficient allocation of resources. Moreover, this systematic price differential raises serious questions of marketplace fairness. Both profitability and market share are inherently lower for Pennsylvania based businesses due to this price differential available to out-of-state vendors without a physical presence in Pennsylvania.

This section provides further background to this problem and introduces the purpose of this paper. It begins by describing the current Pennsylvania sales and use tax law, and then identifies the internet tax collection issue in more detail. Recent and ongoing efforts to address the issue are then discussed; it concludes by identifying the goals of this study and describing the report's structure.

² See Pennsylvania Department of Revenue(2010) The Statistical Supplement for the Pennsylvania Tax Compendium. (Harrisburg, Pennsylvania: Pennsylvania Department of Revenue, December, 2010).

³ A tax collected on the *within* state sale of a taxable good or service is defined to be a *sales* tax, and a tax collected on the sale of such a taxable good or service into a state is defined as a *use* tax. Throughout this report, sales of goods or services from a business to another business are denoted as *B-to-B* sales while sales from a business to a household consumer are denoted as *B-to-C* sales.

1.1 Current State Sales and Use Tax Laws

Pennsylvania first enacted its sales and parallel use tax on March 6, 1956.⁴⁵ Pennsylvania, like most other states⁶, imposes its current sales and use tax on the purchase of certain well defined goods and services and renders others non-taxable by according them specific tax-exemptions. The Pennsylvania sales and use tax is technically an excise tax imposed on the retail sale of “things that can be moved” or tangible personal property, hotel occupancy, and certain well defined services. The sale of taxable tangible personal property or taxable services within Pennsylvania must be preceded by the vendor obtaining a license from the Pennsylvania Department of Revenue, which must be renewed every 5 years. Transient vendors must also obtain a license to sell.

Each year, in conjunction with the governor’s budget, the Pennsylvania Department of Revenue estimates the amount of sales and use tax foregone as a result of exemptions that are provided in the sales and use tax law. In 2009/10, \$6,448.1 million in sales and use tax revenues were foregone, which reflects the exemption of \$107.47 billion in tax base⁷. See Table 1 below for the most recent estimates of these tax expenditures.⁸

**Table 1 – Tax Exemptions for Pennsylvania Sales and Use Tax in 2009/10
(Ordered from largest to smallest in \$ millions)**

Rank Good/Service	2009/10 Tax Exemptions	Tax Base Exempted @ 6%
1 Food Exemption	\$1,220.9	\$20,348.3
2 Gasoline and Motor Fuels	\$1,005.3	\$16,755.0
3 Manufacturing Exemption	\$887.4	\$14,790.0
4 Clothing & Footwear	\$735.4	\$12,256.7
5 Prescription Drugs & Orthopaedic Equipment	\$610.2	\$10,170.0

⁴ Mississippi imposed the first state, broad based sales and use taxes in 1932 at a rate of 2%. The states impose a variety of taxes on goods and services. See Due and Mikesell(1994) and the Commerce Clearinghouse Multistate Sales Tax Research and Compliance Manger. This report deals with taxes levied on broad categories of goods and services sold by vendors at retail. Thus the report does not deal with taxes levied on particular items such as tobacco products which are typically described as *excise taxes*, and this report does not deal with taxes levied on gross receipts of businesses which Pennsylvania imposes on specific items, e.g. the *Insurance Gross Premiums Tax*, or Pennsylvania enables local governments to impose, e.g. the *Mercantile Tax*.

⁵ See P.L. 1228, effective March 7, 1956; The Act of March 4, 1971, P.L. 6, repealed the 1956 sales and use act and replaced it with Article II of the Tax for Education Act, of the Tax Reform Code of 1971.

⁶ Only Alaska, Delaware, Montana, New Hampshire, and Oregon do not impose state level sales taxes; Alaska permits the imposition of *local* sales taxes.

⁷ Some of the exempted items such as gasoline and motor fuels are taxed under specific excises taxes.

⁸ This list of items not taxed does not include items not within the reach of the retail sales such as rent paid for household and commercial purposes. Other items not within the reach of the retail sales tax such as financial services or various kinds of property and personal insurance are taxes under the insurance premiums tax and are not considered by the Department of Revenue as tax expenditures *per se*.

Rank Good/Service	2009/10 Tax Exemptions	Tax Base Exempted @ 6%
6 Electricity	\$415.6	\$6,926.7
7 Fuel Oil/Gas	\$268.7	\$4,478.3
8 Liquor or Malt Beverages (Retail)	\$153.0	\$2,550.0
9 Coal	\$127.0	\$2,116.7
10 Water & Sewer Services	\$124.4	\$2,073.3
11 Manufacturing Exemption – Agriculture	\$115.9	\$1,931.7
12 Certain Motor Vehicles of Common Carriers	\$110.4	\$1,840.0
13 Telephone	\$101.2	\$1,686.7
14 Candy & Gum	\$89.7	\$1,495.0
15 Commissions to Vendor Remitting Sales & Use Tax	\$71.1	\$1,185.0
16 Gratuities/Tips	\$63.0	\$1,050.0
17 Manufacturing Exemption – Public Utility	\$59.4	\$990.0
18 Non-Prescription Drugs	\$56.4	\$940.0
19 Newspapers	\$52.3	\$871.7
20 Personal Hygiene Products	\$40.4	\$673.3
21 Contract Farming	\$36.1	\$601.7
22 Textbooks	\$25.2	\$420.0
23 Caskets & Vaults	\$15.7	\$261.7
24 School Buses	\$15.5	\$258.3
25 Administration	\$13.2	\$220.0
26 Magazines	\$9.3	\$155.0
27 Returnable Containers	\$8.2	\$136.7
27 Food Stamp Purchases	\$5.6	\$93.3
28 Commercial Vessels – Equipment & Maintenance	\$2.8	\$46.7
29 Coin Operated Food & Beverage Machines	\$2.6	\$43.3
30 Flags	\$1.9	\$31.7
31 Manufacturing Exemption – Foundations for Machinery	\$1.9	\$31.7
32 Commercial Vessels – Construction/Repair	\$1.2	\$20.0
33 Airline Catering	\$0.6	\$10.0
34 Hotel Permanent Residents	\$0.4	\$6.7
35 Firewood	\$0.2	\$3.3
36 Helicopters	\$0.1	\$1.7
Total in 2009/10	\$6,448.2	\$107,470.0

Source: Commonwealth of Pennsylvania, Governor's Executive Budget 2011-12, pp. D39-D51.

The Pennsylvania state sales and use tax rate is 6%. Two local governments have been enabled by the General Assembly to impose additional sales and use taxes: a 1% local tax is added to

purchases made in Allegheny County, and a 2% local tax is added to purchases made in Philadelphia. These two local sales taxes in Pennsylvania are imposed on the same list of taxable items as under the state sales tax, and are collected by the Pennsylvania Department of Revenue and remitted back to these two local governments.

If a purchase of a taxable item is made in a retail store in Pennsylvania, the law requires the retailer to add the sales tax amount to the purchase price, and collect the tax at the time of sale. The retailer acts as the custodian of the tax, and remits it on a periodic basis to the Pennsylvania Department of Revenue for deposit ultimately in the General Fund. The sales tax is due on most retail transactions that take place in Pennsylvania at the point-of-sale, regardless of where the purchaser lives; however, motor vehicles are taxed on the basis of where the purchaser resides. Certain classes of purchasers, such as charitable organizations, are exempt from paying the sales and use tax on retail purchases. Items sold for resale, e.g. from manufacturer to wholesaler, or wholesaler to retailer, are also exempt from the sales tax. Items purchased for the construction of manufactured items are also exempt from the sales tax, especially if transformed in the process of manufacturing.

The use tax component must be paid on “taxable purchases of tangible personal property”. In addition, the use tax must be paid for a specified list of services when a) the service is used or consumed in Pennsylvania, and b) the vendor does not charge sales tax.⁹ Pennsylvania residents owe to Pennsylvania the difference between the sales taxes they paid at the point of purchase and the sales tax due in Pennsylvania. For example, if an iPod is purchased by a Lancaster County resident on a trip to the state of Delaware, no sales tax is collected because Delaware does not have a sales tax. While Pennsylvania law cannot compel a Delaware retailer to withhold the tax due to Pennsylvania, the purchaser still owes the use tax to Pennsylvania upon bringing the iPod back into Pennsylvania. Also, if a Pennsylvania resident pays sales tax to another state at a rate lower than the Pennsylvania rate, the purchaser owes use tax in the amount of the Pennsylvania taxes less the taxes paid.

1.1.1 Definition of the Problem

Similarly to how out of state purchases by Pennsylvania residents are treated, the Pennsylvania sales and use taxes are owed on goods purchased from places other than retail stores, such as over the internet, via catalogs, or phone orders. For sales channels like this, if the retailer has a significant physical presence in Pennsylvania, also known as a “nexus”, then the retailer is required to collect the sales tax in the same way it would if the sale took place in a physical store within Pennsylvania. However, if the retailer does not have a nexus in Pennsylvania, then it does not have a duty to collect and remit the use tax to the Pennsylvania Department of Revenue.

For example, on BestBuy.com a specific model of Apple iPod¹⁰ lists for \$274.99. Because BestBuy.com has retail stores in Pennsylvania, it is required to charge and collect a use tax of

⁹ *Ibid.*

¹⁰ Apple® - iPod touch® 32GB* MP3 Player (4th Generation - Latest Model) – Black

\$16.50 ($6\% \times 274.99 = \16.50) from the Pennsylvania customer, which is added to the purchase price. On Amazon.com the price for the exact same item is also \$274.99, but because Amazon does not have a significant physical presence in Pennsylvania, it is not required to collect the use taxes associated with Pennsylvania resident purchases.

To the consumer, the product is less expensive from Amazon (shipping and handling costs aside), even though Amazon itself collects the same amount of money, \$274.99, as BestBuy collects. This difference in prices faced by the consumer makes Amazon a relatively more attractive place to purchase the iPod, all else being equal.

Although Amazon is the best known “non-collector” of use tax on the internet, there are many other out of state vendors who sell into Pennsylvania, from large household names to small shops, which also do not collect Pennsylvania sales tax.

The basic problem then has four main components: i) it inefficiently distorts consumer behavior, ii) it inefficiently distorts vendor behavior, iii) it erodes the sales tax base, and iv) it is regressive.

The first problem is that the difference in price for taxed vs. untaxed retail distorts consumer purchase behavior away from what it would be in the absence of the tax loophole for retailers with no nexus. The result is an inefficient allocation of purchases away from brick-and-mortar retailers to online retailers.

Not only is consumer behavior inefficiently distorted, but so to is vendor behavior. Because a significant physical presence in a state means having to collect sales taxes, online retailers’ decisions of where to locate physical operations like warehouses and other supply chain infrastructure are distorted by the desire to avoid having a nexus in sales tax states.

In addition to these inefficiency concerns, the issue grows more important every year because, as shown in Section 3 below, internet retail sales are growing much faster than brick-and-mortar retail sales, and therefore make up an increasing share of the retail market. Goldman Sachs has estimated that over the next ten years e-commerce retail (B-to-C) will grow five times faster than traditional retail, with online sales growing at 15% a year compared to 3% for traditional retail (Deatsch, 2010). As a result, Pennsylvania and other states are increasingly not collecting revenue that they would have collected in the past. Internet retailing is expected to continue to grow at the expense of traditional retailing, exacerbating the collection shortfall. In order to collect the level of tax revenues that would otherwise be earned, states will either be forced to cut spending or increase taxes in order to make up for the shortfall.

A final concern is that the policy of not taxing internet sales is regressive. The evidence suggests that having access to the internet and propensity to shop online are positively related to higher income.¹¹ Because much of internet sales are not taxed because many vendors do not have a physical presence, this means that people with higher incomes are paying less for the same goods as lower income households who use traditional retail channels. Thus the tax exemption for

¹¹ See, for example, Ballard and Lee (2008), and Goolsbee (2000).

online sales is a regressive exemption that will benefit households that, on average, have higher incomes than households that do not benefit.

These aforementioned problems with the failure to tax online sales are well recognized among economists, and the inefficiencies result in clear economic welfare losses. Perhaps unsurprisingly then, a 2009 survey of economists showed that those who support taxing online sales outnumber those who believe it should be exempted by three-to-one.¹²

1.1.2 Federal and Pennsylvania Court Cases Dealing with Use Tax Nexus Issues

A series of US Supreme Court decisions have found that companies without a physical “nexus” or substantial physical presence in a state cannot be obligated to collect and remit use taxes on sales into that state. In the 1967 *National Bellas Hess, Inc. v. Department of Revenue of the State of Illinois* the US Supreme Court ruled in favor of National Bellas Hess, which was a mail order reseller licensed in Missouri, where it conducted its primary operations, and Delaware, where it was incorporated. National Bellas Hess maintained no sales force, outlet, or any other type of physical representation in the state of Illinois. The only contact National Bellas Hess had with the state was via common carrier and mail.

The US Supreme Court held that the “Commerce Clause prohibits a State from imposing the duty of use tax collection and payment upon a seller whose only connection with customers in the State is by common carrier or mail”¹³. The court’s reasoning was based on both Due Process and the Commerce Clause, and also pointed out such had always been the practice, citing other cases for support. In sum, the retailer in question needed to have a physical “nexus” in the state for it to be forced to collect sales tax.

In the 1992 *Quill Corp. v. North Dakota*, the US Supreme Court overturned the Due Process clause analysis of *Bellas Hess* but kept intact the Commerce Clause analysis.¹⁴ The Court explicitly backed away from the Due Process based constitutional requirement of a physical presence in the taxing jurisdiction, but maintained the underlying rule that required a nexus, based on the Commerce Clause. However, the Court noted that “...Congress is now free to decide whether, when, and to what extent the States may burden interstate mail-order concerns with a duty to collect use taxes.” Thus, Congress has the power to adopt laws requiring out of state firms to collect sales and use taxes.

In 1989 the Pennsylvania State Supreme Court addressed a mechanism by which a major retailer, Bloomingdales, sought to circumvent the positive obligation to collect and remit state use taxes that the Pennsylvania Department of Revenue sought to collect. In *Bloomingdales by Mail v.*

¹² Whaples, Robert. “The Policy Views of American Economic Association Members: The Results of a New Survey”, *Econ Journal Watch*, Sept. 2009, Vol 6. No.3 pp 337-348

¹³ <http://supreme.justia.com/us/386/753/case.html>

¹⁴ <http://supreme.justia.com/us/504/298/>

Commonwealth of Pennsylvania, the retailer refused to collect and remit the PA state use tax on the grounds that the subsidiary in question, Bloomingdales by Mail, did not have a physical nexus in the state. Though there were Bloomingdales brick-and-mortar retail locations in the state of Pennsylvania, the retailer contested and proved that their “by Mail” business was a distinct legal entity, did not accept items for return bought in Pennsylvania through “by Mail,” and did not have a physical presence within the state. Following other US Supreme Court and other Pennsylvania State Supreme Court precedents, the Pennsylvania Supreme Court ruled that the state could not collect state use tax from Bloomingdales by Mail based on Due Process and the Commerce Clause considerations.¹⁵ The case was not appealed to the US Supreme Court.

1.2 Recent Efforts to Address Internet Use Tax Issues

The issue of remote seller’s obligation to collect and remit use tax has been a subject of some debate for years with the growth of more catalogue and then telephone sales across state lines. However, in recent years as the internet has grown as a sales channel, and as more states have turned to taxing retail sales at higher rates, efforts to address the non-collection issue have increased. There are three primary mechanisms that state legislators have pursued to address this issue: i) the Streamlined Sales Tax (SST) effort and encouragement for voluntary compliance, ii) attempts to change the statutory definition of “affiliate” and “nexus” in order to include out-of-state vendors, and iii) encouragement of federal efforts to enact nationwide enabling legislation. This section will briefly review each of these.

1.2.1 SST Group and Voluntary Efforts

One often cited impediment to getting online companies to collect and remit use taxes is the high cost of administration, and the difficulties involved in keeping up with the wide variations and rapid changes across states in both the definition of the taxable base and also the enormous diversity of local retail sales tax rates and bases. The complexities include knowing what categories of goods and services are taxed, for how much, and also how various goods and services are defined. In some states such as New York and Arizona, some or all localities are given discretion and authority to vary what is taxed compared to what the state sales tax is imposed on. In the hopes of improving internet retailer sales tax revenue, the Streamlined Sales Tax (SST) Governing Board has led efforts to reduce the complexity within and between states’ sales tax systems. A result of the group’s effort has been the Streamlined Sales and Use Tax Agreement, which lays out steps that member states can take to improve the administration of sales and use taxes. The measures also encourage sellers to comply with state sales tax rules by simplifying the process. These steps include

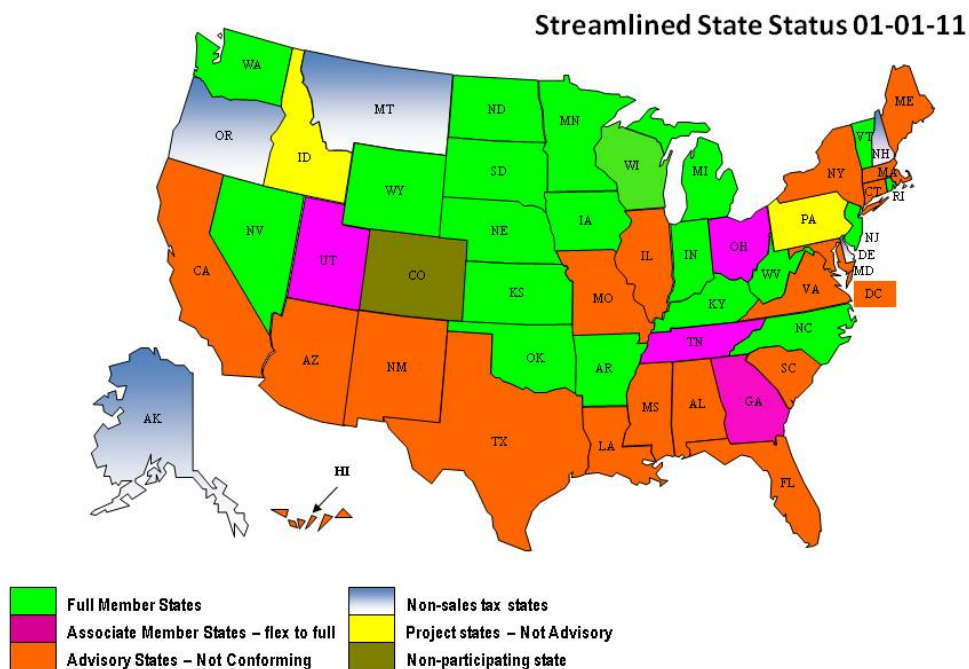
- Standardizing the taxes and administering sales tax collections at the state level;
- Creating a centralized electronic registration system;
- Standardizing product and service definitions;

¹⁵ http://pa.findacase.com/research/wfrmDocViewer.aspx/xq/fac.19891218_0044686.PA.htm/qx

- Standardizing sourcing rules for all taxable transactions;
- Simplifying local and state taxes;
- Simplifying tax exemptions, returns, and remittances; and
- Protecting consumer privacy.

As of January, 2011, the agreement's recommendations had been endorsed by 44 states and Washington, D.C. Of this total, 24 states had already adopted conforming legislation; in an additional nine, legislation is currently pending. Figure 1 below displays a map of conforming and non-conforming states to the SST recommendations. As is evident from Figure 1, the five most populous states in the US (California, Texas, Florida, Illinois and Pennsylvania) have not embraced the SST recommendations.

Figure 1 – Streamlined Sales Tax States – 2011



Retailers can register under the agreement. In doing so, they update sales and use tax information for all member states at once, rather than having to take a hodgepodge approach for each state. Sellers who register are also eligible for a short-term tax amnesty and are entitled to use sales tax administration software that might be state-subsidized. These efforts of the SST Governing Board are designed to encourage large internet retailers to collect sales tax voluntarily, and not under the compulsion of law. There has been some success, though many retailers have not agreed to participate.

As mentioned above, the practical difficulties involved in withholding and remitting sales and use taxes for the several thousand taxing jurisdictions in the United States have been cited as a reason why online sales should not be taxed. However, while this consideration may have been valid in that past, subsequent developments in technology have greatly simplified the collection process. Several companies provide simple to use software that automatically calculates and remits local sales taxes, and can easily be integrated into existing websites. SSTP has a list of six Certified Service Providers who have created software to collect and remit taxes in accordance with SSTP definitions and rules¹⁶.

There is a cost to the type of software, but because there are several providers of this service, the cost will be competitively priced.

1.2.2 Affiliate and Nexus Definition Changes

To compel internet retailers to comply with an obligation to collect and remit use taxes on remote sales, states have broadened the definition of what constitutes an “affiliate” and “nexus” for sales tax purposes. These efforts take the existing federal laws as a given, and attempt to find new ways to identify and tax associates of online sellers. Recent legislation in Colorado, Illinois, and New York highlight this trend, and similar legislation has passed or is pending in several other states.

New York

New York enacted a law that requires out-of-state vendors affiliated with local businesses to pay sales tax. The law took effect June 1, 2009, and in the process, changed the definition of an affiliate. A business is now described as an affiliate if it owns 5% of the out-of-state vendor or vice versa, or if the same third-party entity owns 5% of each. Moreover, an affiliate previously only had to collect and remit sales or use tax on behalf of the customer if it engaged in solicitation on behalf of its vendor to the customer. Under the new law, an affiliate must collect and remit sales tax, regardless of solicitation, if it shares the same trademark, service mark, or trade name with its vendor, or if the affiliate helps the remote seller develop or maintain its New York market. New York State estimated that they would receive an additional \$50 million in state use taxes (4% rate) in FY 2008/9, and an additional \$100 million in use taxes in FY 2009/10.¹⁷ It should be noted that the New York statute has withstood several challenges by internet vendors in New York state court.

¹⁶ <http://www.streamlinedsalestax.org/index.php?page=Certified-Service-Providers>

¹⁷ See <http://www.budget.state.ny.us/pubs/archive/fy0809archive/enacted0809/2008-09EBReportFinal.pdf> at page 8. These estimates imply an additional \$1,250 million in tax base being reached in the first year and double that or \$2,500 million in new tax base being reached in the second year of implementation.

Colorado

Colorado enacted HB 10-1193 on February 24, 2010. As a result of the Act, a retailer is considered to have an “economic nexus” in the state not only if it has a brick-and-mortar presence, but also if its affiliate is located in the state. By broadening this definition of nexus, Colorado aimed to prevent sellers from passing along their sales tax obligations to third-party associates. The new law imposes three new notice and reporting requirements on out-of-state retailers that sell products into Colorado.

Under the new law, online retailers currently not collecting and remitting sales and use taxes to Colorado must provide a “Transactional Notice” to customers within Colorado of their obligation to self-report and remit the use tax. Online retailers must provide customers with an “Annual Purchase Summary” by January 31 of each year by postal mail for those customers who spend in excess of \$500 with the retailer in the previous year. Online retailers must also annually file a “Customer Information Report” to the Colorado Department of Revenue; the report must be filed by March and cover the prior calendar year transactions and provide the contact information for Colorado customers. On June 30, 2010, the Direct Marketing Association¹⁸ sought a preliminary injunction in the US District Court of Colorado, and on January 26, 2011, the injunction was granted.

Illinois

On March 10, 2011, Illinois state government obligated remote internet vendors through its “Mainstreet Fairness Bill.” State law previously mandated that online retailers collect and remit state sales and use tax only if they had a physical presence in the state. Much like Colorado’s act, the new law now expands the notion of “physical presence” to include affiliates located within state boundaries.

1.2.3 Federal Efforts

The SST Board claims that a federal solution is needed to compel states to collect and remit retail sales taxes on out of state purchases effected through the internet, and argues that Congress has ample constitutional authority to do so under the Commerce Clause. Indeed, there are efforts to enact federal legislation that would enable states to require internet and catalog vendors to collect sales and use tax even in the absence of a physical presence in the state. In 2010, for instance, Rep. Bill Delahunt (D-MA) introduced the Main Street Fairness Act, which requires internet vendors to collect and remit taxes for any sales made to customers inside any of the 24 SST member states. Importantly, sellers would be obliged to conform to the law regardless of any physical presence in a customer’s state. Previously, Rep. Delahunt and Sen. Mike Enzi (R-WY) introduced a similar bill in 2007 which was not passed.

¹⁸ *The Direct Marketing Association v. Huber*, Civil Case No. 10-cv-01546-REB-CBS, Order Granting Motion for Preliminary Injunction (U.S. Dist. Ct. Colorado, Jan. 26, 2011).

Most recently, Senators Dick Durbin (D-IL) announced they will introduce a bill this spring that would make online shoppers pay state sales taxes. They will likely face opposition from Rep. Dan Lungren (R-CA) and his congressional supporters, who are backing legislation to prevent “new onerous and burdensome sales tax collecting schemes on Internet-enabled small businesses.”¹⁹

1.3 The Goals and Structure of this Report

This paper has two related goals. The first goal is to measure the total amount of untaxed internet sales into Pennsylvania and the associated amount of sales and use tax that would be collected if the transactions were to be taxed. The second goal is to measure the economic or second round impact on Pennsylvania’s economy of what would happen if all internet retailers were required to collect and remit sales tax at the time of sale. The economic impact to be measured here includes Pennsylvania consumers’ reactions to the higher prices on the total amount purchases, as well as the shift from formerly tax free internet sites to other internet sites and to brick-and-mortar stores in Pennsylvania. To the extent that brick-and-mortar stores receive an uptick in business, there will be an economic impact to the rest of Pennsylvania from the increase in employment at those stores.

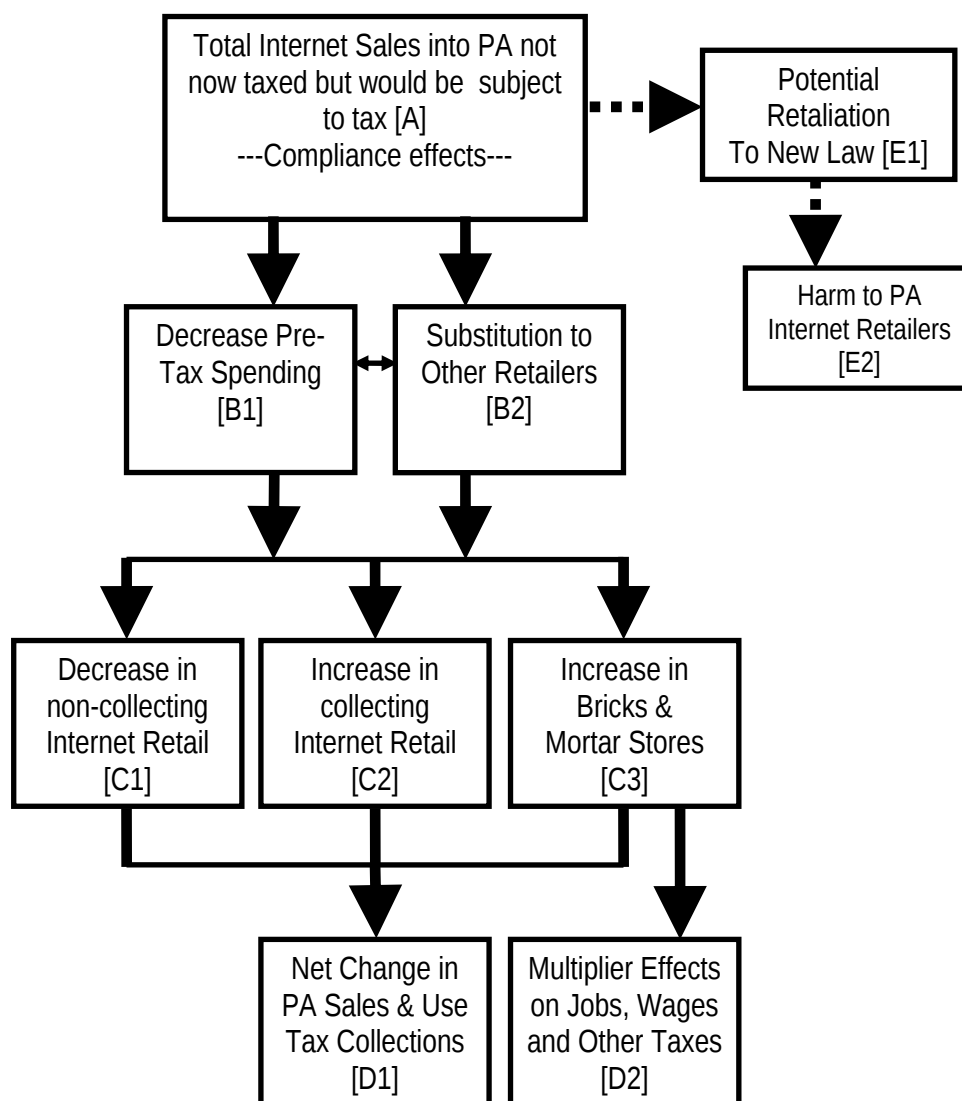
The report is structured as follows:

- Section 2 provides an overview of the revenue estimating methodology and presents a flow chart of economic and tax revenue impacts to be estimated.
- Section 3 provides an estimate of the total amount of untaxed internet sales in Pennsylvania. Here, I rely on the existing research literature and underlying methodology, and recently published US Bureau of the Census data.
- Section 4 discusses the estimated shifts in the Pennsylvania economy that will occur if it becomes possible to require sales tax collection on internet purchases from all sites. The shifts analyzed here include changes in purchasing behavior as well as changes to brick-and-mortar stores. The impact on brick-and-mortar stores reflects the multiplier effect of additional economic activity generated in these stores as their businesses expand due to the leveling of the playing field.
- Section 5 discusses potential reactions of other states to a Pennsylvania effort to collect sales and use taxes from internet purchases, and discusses the reactions of the internet vendors. Also, it discusses the effect of the internet tax on the behavior of internet retailers
- Section 6 concludes.

¹⁹ [http://thomas.loc.gov/cgi-bin/query/z?c112:H.RES.95:](http://thomas.loc.gov/cgi-bin/query/z?c112:H.RES.95)

2.0 FLOW CHART OVERVIEW AND METHODOLOGY

The collection of sales and use taxes has several types of impacts, which are illustrated in Figure 2. The first step in the analysis below is to estimate the size of the e-commerce market of purchases into Pennsylvania. Then with this measure of total activity, I calculate the total amount of sales and use tax that could be collected from this total activity, and compare it to an estimate of the current level of compliance with Pennsylvania sales and use tax law. That is, vendors with a physical presence through brick-and-mortar stores or through agency relationships in Pennsylvania currently collect and remit use taxes to the Pennsylvania Department of Revenue from internet sales into Pennsylvania. Since internet sales from both business to business (B-to-B) and business to consumers (B-to-C) or households occurs, it is necessary to estimate how much of each, B-to-B and B-to-C e-commerce taxes are not collected.

Figure 2 – Impact of Closing Internet Tax Loophole

Once the total size of the untaxed internet sales into Pennsylvania [A] is known, the impact on the amount purchased must be established (Boxes [B1] and [B2]). Further, the shift in activity between non-collecting internet retailers [C1] and collecting internet retailers [C2] and bricks & mortar stores [C3] is estimated. Finally, the amount of sales and use taxes that would be collected [D1] in light of these changes is estimated, and the amount of extra employment, both direct and indirect, from increased patronage of bricks & mortar stores [D2] is estimated. This methodology is similar at the outset to that used by Bruce, Fox, and Luna (2009), but utilizes more recent data, and innovates in several ways by estimating the indirect effects of the taxation of internet sales into Pennsylvania.

3.0 EXISTING MARKET AND DIRECT REVENUE LOSSES

Several studies have attempted to estimate the size of the national e-commerce market and the total national loss in tax revenues. The GAO (2000) estimated total state sales and use tax losses as of 2003 that ranged from \$1 billion to \$12 billion. Goolsbee and Zittrain (2007) estimated that B-to-C losses would be \$3.5 billion in 2003. The most comprehensive and widely cited estimates of both national and state-by-state e-commerce and state tax revenue losses are from Bruce, Fox, and Luna (2001, 2004, and 2009, hereafter BFL). In their 2009 report, they estimated national sales and use tax losses of \$11.4 billion to \$12.65 billion for 2012. BFL provided state-by-state estimates using several sources of original data that remain the most recent available numbers. The analysis below builds on BFL's methodology and estimates the size of the Pennsylvania e-commerce market through 2012.

3.1 Market Size

Internet sales, or e-commerce, represent a significant and rapidly growing portion of economic activity in the United States. Unfortunately, there continues to be no good data source for directly estimating the size of the e-commerce market by state, and so any effort to estimate what sales and use tax collections might be collected if tax policy were changed must proceed first by estimating the size of the national e-commerce market, and then estimating how much is occurring in each state.

The most representative national level estimate of e-commerce data available is the Census Bureau's e-stats, which drew on five pre-existing Census surveys and attempted to measure the size of the e-commerce activity relative to total economic activity²⁰. These estimates were compiled every year until 2008, and provide measures of the degree to which e-commerce has become integrated in business and household economic activity. The e-stats include data on four broad categories of economic activity: manufacturing shipments, merchant wholesale trade sales, retail trade sales, and selected service revenues. These data can be used to construct estimates of B-to-B and B-to-C e-commerce²¹.

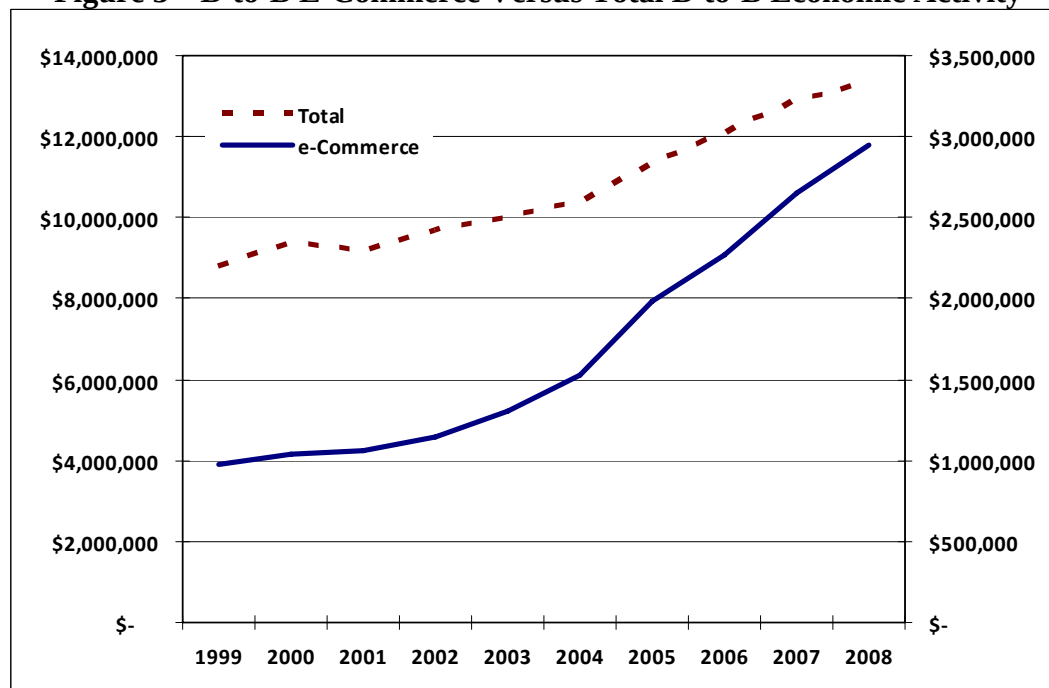
As of 2008, Census estimates that the B-to-B e-commerce market was nearly \$3 trillion dollars, and the B-to-C market was approximately \$200 billion. As shown in Figure 3 below, e-commerce B-to-B has grown much faster than overall business receipts. B-to-B transactions that were enabled by the internet increased by over 200% from 1999 to 2008 while total business

²⁰ Because several different surveys are used, there is no consistent definition of "economic activity" across NAICS codes in the data. For manufacturing economic activity is shipments, for wholesale and retail it is sales, and for services it is revenues. For more information, see <http://www.census.gov/econ/estats/2008/2008reportfinal.pdf>

²¹ Wholesale, manufacturing, and 50% of selected services are used as a proxy for B-to-B, and retail sales and 50% of selected services are used as a proxy for B-to-C.

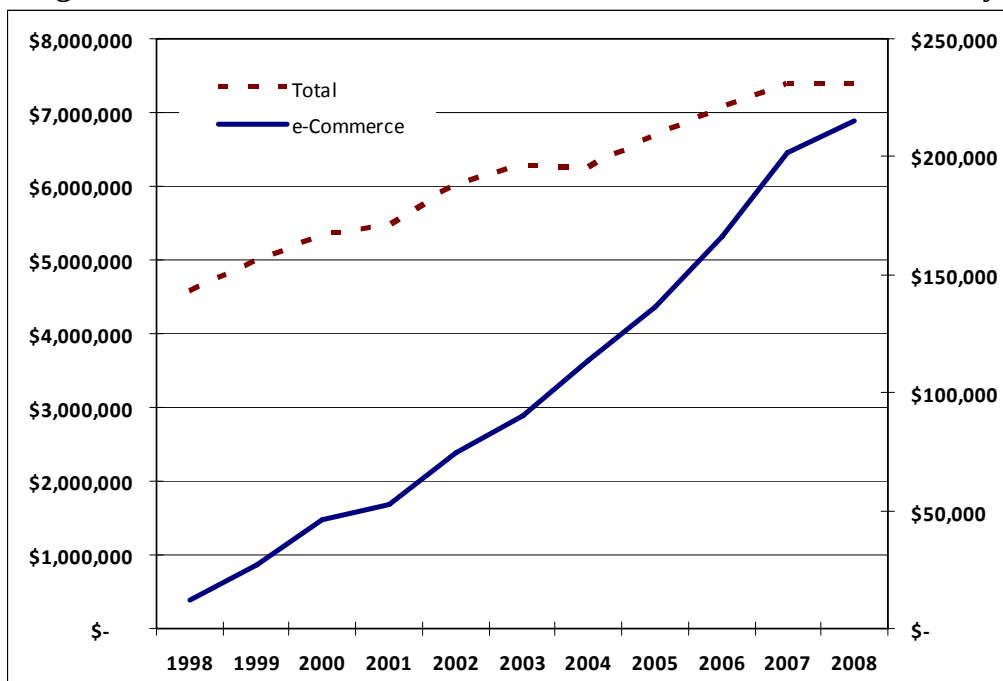
receipts grew only 50% during the same period. Lean manufacturing and modern logistics practices mean that orders for finished goods automatically drive purchases for inputs, finished components, and even subassemblies which in turn are enabled by the contractual sharing of proprietary designs, and automated order and payment. For multistate retailers, even sales within their brick-and-mortar stores can trigger automatic orders for inventory fulfillment that reflect seasonal consumer buying patterns as well as changing tastes. Vast parts of the US economy, from office products to even personal services, are advertised on the world wide web, and businesses routinely contract with each other through the internet to fulfill orders for materials and work. Not only has B-to-B speeded up fulfillment of business purchases, the creation of standardized buying lists eliminates layers of paperwork as well as error on both sides of any transaction.

Figure 3 – B-to-B E-Commerce Versus Total B-to-B Economic Activity



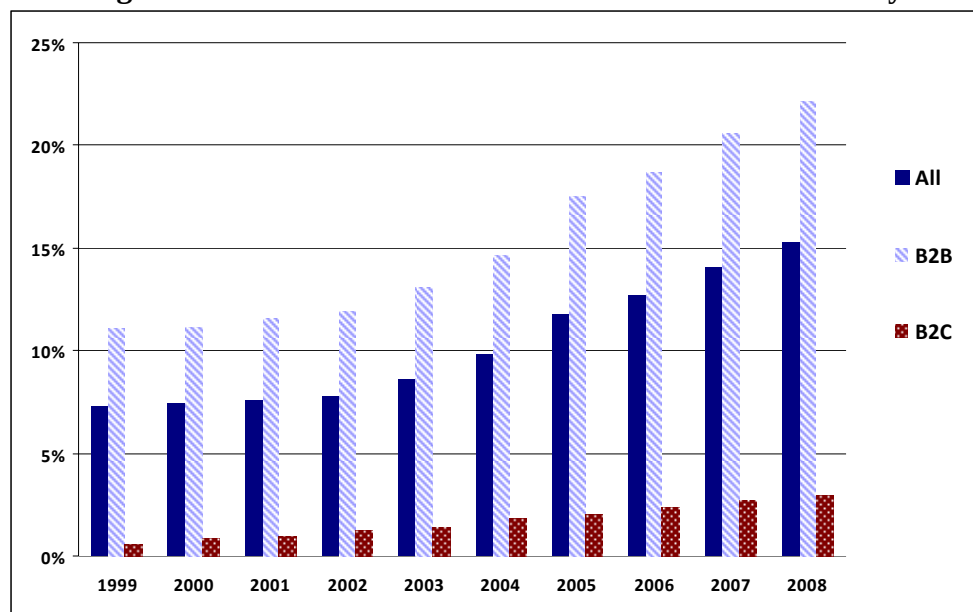
Source: U.S. Census, E-Stats, 2008

A similar pattern can be seen in the growth of B-to-C e-commerce in Figure 4 below. Here B-to-C e-commerce increased by nearly 700% while overall B-to-C business receipts increased by 50%.

Figure 4 – B-to-C E-Commerce Versus Total B-to-C Economic Activity

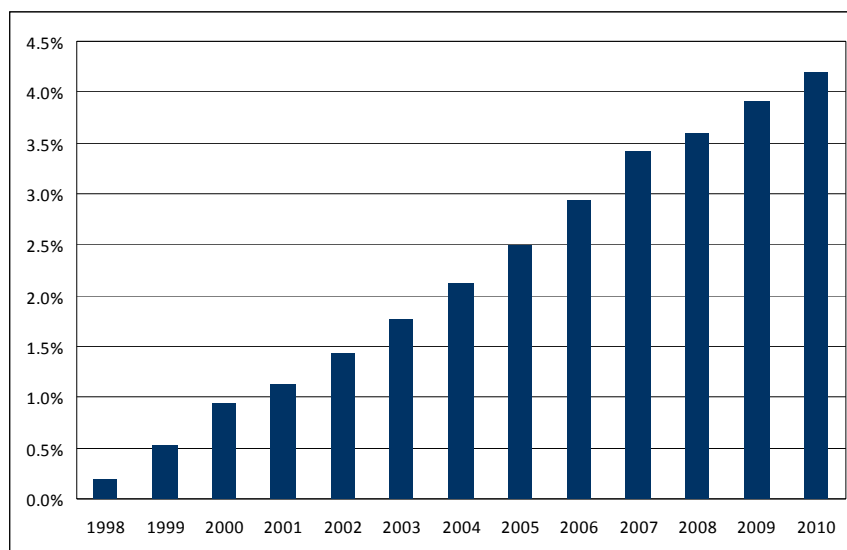
Source: U.S. Census, E-Stats, 2008

The faster growth rate of e-commerce in both B-to-C and B-to-B, compared to traditional face to face retail, means that they represent an increasing share of economic activity. As can clearly be seen in the figures below, the share of each of these categories of economic activity represented by e-commerce is growing at a steady rate. B-to-C has grown from less than 1% of total activity in 1999 to 2.9% of total activity in 2008, and over the same period B-to-B has gone from 11.4% to 22.1% of total activity.

Figure 5 – E-Commerce Percent of Total Economic Activity

Source: U.S. Census, E-Stats, 2008

The US Bureau of the Census data on pure retail trade covers a longer time period of time and is available for 2010. It is evident in Figure 6 below that the e-commerce share of the retail market, which makes up around two-thirds of B-to-C business, has continued growing steadily after 2008, when the rest of the e-commerce data stops. As B-to-C E-Commerce transactions have grown as a share of pure retail trade, the share of pure retail trade due to brick-and-mortar has accordingly declined.

Figure 6 – E-Commerce Retail as a Percent of Total US Retail Trade Sales

Source: U.S. Census Bureau Monthly and Annual Retail Trade

<http://www.census.gov/retail/index.html>

Using definitions similar to BFL, we estimate the total 2008 B-to-B e-commerce market to be approximately \$2.9 trillion, and the B-to-C market to be approximately \$200 billion²². This means the e-commerce market is larger than originally predicted by BFL. Based on 2006 data BFL estimated that the total e-commerce market in 2008 would be \$2.5 trillion and the B-to-C e-commerce market would be \$180 billion. In order to bring the estimates forward to 2010, BFL forecasts can be compared to actual retail e-commerce growth, which is available up to Q4 2010.

Table 2 below confirms the above analysis, and shows that the actual e-commerce market grew faster from 2006-2008 than BFL forecast, even under their optimistic scenario. Retail as well as BFL estimates of B-to-B alone and B-to-C alone all grew at a similar pace as the total e-commerce market from 2006-2008. However, from 2008-2010 the BFL optimistic scenario forecasts faster overall growth than actually occurred in retail e-commerce. If we assume that the actual B-to-B and B-to-C e-commerce markets grew at a similar pace as retail e-commerce, then the 2010 e-commerce total should be nearly identical to BFL's optimistic forecast of 43% growth from 2006 to 2010.

Table 2 – Actual and Projections of B-to-B and B-to-C E-commerce markets
2006=100%

Year	Total of B-to-B + B-to-C			B-to-B Actual 2/	B-to-C Actual 2/	Retail Actual 3/
	BFL Baseline 1/	BFL Optimistic 1/	Actual 2/			
2006	100%	100%	100%	100%	100%	100%
2007	105%	105%	117%	117%	121%	120%
2008	111%	112%	130%	130%	129%	125%
2009	100%	108%				126%
2010	124%	143%				144%
2011	146%	163%				
2012	164%	183%				

1/ BFL (2009), Table 1

2/ U.S. Census, E-Stats, 2008

3/ U.S. Census Bureau Monthly and Annual Retail Trade

The above analysis suggests that BFL's optimistic growth scenario has proven to be rather accurate. While the e-commerce market grew faster than forecast during the 2007-2009 recession, the faster predicted growth from 2009 to 2010 brought the longer-run growth forecast remarkably in line with actual experience by 2010. This suggests that the BFL optimistic forecast provides a reasonable estimate for the size of the e-commerce market in 2012. The 2010 through 2012 forecasts are provided in Table 3 below.

²² They did not include several NAICS categories, including the following: Courriers and messengers (492), Warehousing and Storage (493), Internet service providers and web search portals (51811), Gas stations (447), Health and personal care stores (446), Furniture and home furnishings stores (442), Internet service providers and web search portals (51811), Farm-products raw materials (4245), Petroleum and petroleum products (4247), and Beer, wine, and distilled beverages (4248).

Table 3 – Total forecast e-commerce market (\$ millions)

Year	2010	2011	2012
B-to-B E-Commerce	3,184	3,635	4,060
B-to-C E-Commerce	230	263	293
Total E-Commerce	3,414	3,897	4,354

Because the BFL optimistic national estimates have turned out to be accurate in 2010, I utilize their methodology with some updates. The next step in the analysis is to apportion the national estimates to the states, including Pennsylvania. While I rely first on the BFL methodology to attribute e-commerce activity to Pennsylvania, the availability of more recent data is utilized to update the application of BFL's methodology. Also, several different assumptions are entertained to test the sensitivity of the basic estimates and which results in a range of estimates of use taxes lost to internet vendors choosing not to collect and remit use taxes.

3.2 The Pennsylvania E-Commerce Market

With an estimate of the 2012 national e-commerce market, a several additional steps are required to arrive at a final number for how much Pennsylvania sales and use taxes are uncollected due to e-commerce. First, the national e-commerce market must be attributed to the state level, and then the percent of the market that would be taxable under a new use tax regime must be estimated. BFL make two assumptions about the distribution of the national e-commerce market: they assume that the proportion of the market going to non-sales tax states is assumed to be proportional to their share of total national personal income. According to BFL estimates, this is 2.17%.

Second, for the sales taxing states, the remaining 97.83% of the e-commerce market is assumed by BFL to be proportional to their percent of national sales tax revenues collections. This second assumption reflects the fact that e-commerce markets are related to overall economy size, the tax rate and the items in each state's sales tax base. The more a state taxes its goods, both at higher rate and applied to a wider base, the more incentive people have to shop online instead.

BFL estimates that Pennsylvania has 2.98% of the national share of sales tax revenues collected.²³ This means that the total amount of e-commerce in Pennsylvania is 97.83% x 2.98% x \$3,414 billion, which is approximately \$100 billion in 2012.

²³ Number is not reported in BFL, but comes from email correspondence with Donald Bruce.

3.3 Pennsylvania Taxable E-Commerce and Revenue Losses

Next, the taxable proportion of the e-commerce market is estimated using the results of a survey conducted by BFL of State Revenue Departments. They asked each department to estimate the percent of transactions that would be taxable in their state for 51 industries. Pennsylvania's Department of Revenue supplied such "taxability" estimates for the majority of retail and service industries, but not for manufacturing and wholesale. Where Pennsylvania Department of Revenue did not supply an estimate, BFL used average values from states that did supply them for that industry. BFL also made several adjustments to the taxability estimates to account for under-reporting of sales and use taxes due²⁴. They estimate in their 2009 paper that 19.08% of e-commerce in Pennsylvania would be taxable. However, using the data provided to this project by Donald Bruce and 2008 e-commerce data, we estimate that B-to-C taxability in Pennsylvania at 67.4%, and B-to-B at 14.9%, for an overall taxability of 14.6%.

Finally, an average tax rate must be applied to the taxable PA e-commerce. In order to estimate an average tax rate, BFL took the PA state tax rate of 6% plus the weighted average local sales tax rate²⁵, which comes to 6.28%. Table 4 shows how Pennsylvania compares with neighboring states in terms of tax rate and a few major items in terms of taxability.

Table 4 – Tax Rates and Taxable Items in Pennsylvania and Neighboring States

State	State Rate	State and Local Taxes	Food	Clothing	OTC Drugs
Pennsylvania	6%	8%	--	--	--
Delaware	0%	--	--	--	--
New Jersey	7%	7%	--	--	Yes
New York	4%	8.875%	--	Yes	--
West Virginia	6%	6%	3%	Yes	Yes
Maryland	6%	6%	--	Yes	Yes
Ohio	5.5%	7.75%	--	Yes	Yes

Source: Websites of the individual states

The final steps and results of the estimation of tax base and loss of use tax collections are shown in Table 5 below.

²⁴ See BFL, pages 18-19 for details.

²⁵ See BFL, page 19 for details.

Table 5 – Pennsylvania Taxable E-Commerce (\$ millions)

	2010	2011	2012
Total E-Commerce	\$3,414,165	\$3,897,169	\$4,353,735
x % in sales tax states	97.8%	97.8%	97.8%
x % in Pennsylvania	3.0%	3.0%	3.0%
Pennsylvania e-commerce	\$99,534	\$113,615	\$126,926
x % taxable	14.6%	14.6%	14.6%
x average tax rate (state + local)	6.28%	6.28%	6.28%
e-commerce state and local taxes due	\$ 909	\$ 1,038	\$ 1,160

For 2012, I project there will be \$127 billion of e-commerce in Pennsylvania, and estimate that \$1.16 billion in e-commerce taxes *gross* would be due if it were entirely collected. However, some of the firms are already collecting sales tax, since they have a nexus in Pennsylvania. In order to determine how much uncollected e-commerce taxes there are, current compliance by e-commerce companies must next be estimated.

Compliance happens in two ways: either the vendor remits the sales or use tax, or the purchaser remits the sales or use tax.

Vendor compliance is estimated first. Here BFL draw on a 2008 study that showed 37% of e-commerce was from large sellers, 20% by medium sized sellers, and 43% from small sellers. They assume medium sized firms comply in their own states, which they estimate as 2% of the time, and that small vendors only comply in their home states but only part of the time, which they estimate as 1%. The availability of Census data on the size distribution of retail activity in Pennsylvania allows us to improve on this estimate. Pennsylvania is a larger than average state, and, according to County Business Patterns, about 4% of total U.S. e-commerce businesses activity is located here²⁶. Therefore, it is estimated that medium sized sellers comply 4% of the time, and small firms comply 2% of the time. Large firm compliance was based on a sample of 100 of the top 500 e-commerce firms and checking their websites to see whether they paid sales taxes in a given state²⁷. For Pennsylvania, this survey was conducted again in 2011 and compliance was found to now be 67.1%.

The above compliance rates for large, medium, and small firms are assumed to apply to all of B-to-C and 50% of B-to-B. Table 6 shows the sales and use taxes currently collected for B-to-C.

²⁶ The percent of activity in PA is approximately 4% whether activity is measured by annual payroll, number of establishments, or number of paid employees.

²⁷ For more details see BFL page 20. Data source is the Internet Retailer's Top 500 Guide, 2010 Edition. One of the 50 random firms did not deliver to PA so the estimate is based on a sample of 99. One of the firms taxed in some PA counties and zip codes but not others, and another did so for some brands and not for others. To be conservative we assumed 100% compliance for these two firms.

Table 6 – B-to-C Sales and Use Tax Compliance by firm size 2012 (\$ millions)

	Large Firms	Medium Firms	Small Firms	Total
Total PA B-to-C e-commerce taxes due	\$362	\$362	\$362	
x Percent of firms in group	37%	20%	43%	
x Compliance rate	67%	4%	2%	
\$ of Sales and Use Tax Compliance estimate	\$89.8	\$2.9	\$3.1	\$95.8

The remaining portion of B-to-C is assumed to face a 5% use tax compliance rate by individuals. While there is no data on this, it is understood that use tax compliance is extremely low. Table 7 utilizes this 5% figure and indicates that the total e-commerce taxes not being paid, that would be due, reaches \$72 million in 2012.

Table 7 – Total B-to-C E-Commerce Taxes Due (\$ millions)

	2010	2011	2012
PA B-to-C e-Commerce Taxes	\$283.6	\$323.7	\$361.6
Less sales tax compliance on internet purchases	\$73.2	\$83.6	\$93.4
Less individual use tax compliance on e-commerce purchases	\$10.5	\$12.0	\$13.4
Total B-to-C e-commerce uncollected taxes due	\$199.8	\$228.1	\$254.8

Next, B-to-B compliance must be estimated and is done in two parts. First BFL assume that half of B-to-B firms face vendor compliance, and so use the average compliance estimates for large, medium, and small firms above. This calculation is shown in Table 8 below for 2012.

Table 8 – B-to-B Sales and Use Tax Collection Compliance by firm size 2012 Step I (\$ millions)

	Large Firms	Medium Firms	Small Firms	Total
Total PA B-to-B e-commerce taxes due	\$812	\$812	\$812	
x Percent of vendors facing compliance	50%	50%	50%	
x Percent of firms in group	37%	20%	43%	
x Compliance rate	67%	4%	2%	
\$ of Sales and Use Tax Compliance estimate	\$100.8	\$3.2	\$3.5	\$107

From here we see that total vendor compliance for B-to-B in 2012 is \$107 million.

Next, the remaining portion of B-to-B taxes is assumed to be subject to use tax. They estimate use tax compliance based on a study from the Washington Department of Revenue, which found 74.5% use tax among audited firms. They also assume all auto sales face 100% use tax compliance.

Table 9 – Total B-to-B taxes due (\$ millions)

	2010	2011	2012
PA B-to-B e-Commerce taxes	\$636	\$727	\$812
Less vendor compliance	84	96	107
Less use tax compliance	411	470	525
Less automotive tax compliance	19	22	24
Total B-to-B taxes due	\$122	\$139	\$155

The total amount of B-to-B e-commerce taxes not facing compliance, which would be due, is \$155 million in 2012.

Table 10 – Total E-Commerce Tax Losses (\$ millions) – Method 1

	2010	2011	2012
B-to-C taxes due	\$200	\$228	\$255
B-to-B tax due	\$122	\$139	\$155
Total e-commerce tax losses	\$322	\$367	\$410

The total amount of e-commerce taxes due in 2012, using BFL's estimation methodology and more recent data, is thus \$410 million, which is close to the optimistic forecast scenario in their 2009 paper; estimated taxes due were then projected to be \$384 million. Thus, greater internet penetration in the B-C market that is evident in Figure 6 above leads to a 6.7% higher projection of tax revenue lost because of an inability to collect sales and use taxes from internet transactions into Pennsylvania.

There are several ways to double-check this \$410 million estimate for 2012. We check using two alternative methods

Method 2

The first way is to re-examine the distribution and compliance of small, medium, and large firms. Internet Retailer's Top 500 Guide supplies estimated web sales for the top 500 web based retailers. Comparing these total revenues to total retail revenues from the Census Retail Trade data, we estimate that the top 500 web based retailers now account for 88.1% of the market. Using the sample discussed above, compliance among the top 500 firms is then estimated at 61.5%. This compliance rate and distribution of firms can be used, along with an assumed 4% compliance rate for the remaining 12% of firms, to re-estimate total e-commerce tax losses. These estimates using this alternative method, shown in Table 10 below, indicate \$282 million in lost e-commerce taxes in 2012.

Table 11 – Total E-Commerce Tax Losses: Method 2 (\$ millions)

	2010	2011	2012
B-to-C taxes due	\$122	\$139	\$156
B-to-B tax due	\$99	\$113	\$126
Total e-commerce tax losses	\$221	\$252	\$282

Method 3

The second way to double check the updated BFT revenue loss estimates is to use their baseline rather than optimistic forecasts of e-commerce activity. As seen in Table 1, BFL's 2011 baseline forecast is 143% above 2006, which is in line with the actual 2006 to 2010 growth in retail sales. Therefore, one could make the case in favor of using this estimate rather than their optimistic growth in e-commerce sales. The results of using the more conservative baseline e-commerce forecasts *and our* more conservative estimates of compliance and firm size distribution above are shown in Table 11 below.

Table 12 – Total E-Commerce Tax Losses: Estimation Method 3 (\$ millions)

	2010	2011	2012
B-to-C taxes due	\$106	\$125	\$140
B-to-B tax due	\$86	\$101	\$114
Total e-commerce tax losses	\$192	\$226	\$254

Given these three methods to estimate revenue losses used above, we arrive at a range for 2012 e-commerce sales and use tax losses to Pennsylvania of between \$254 million and \$410 million. Calendar year sales and use tax collections for 2012 are estimated to be \$8.9176 billion²⁸, so Pennsylvania's inability to collect sales and use taxes on internet transactions amounts to losing between 2.8% and 4.6% of projected sales and use tax collections.

It is important to note that these estimates are based on assumptions that, while reasonable, are nevertheless combinations of what we know from surveys and what must be assumed. The most reliable data indicates a clear trend of businesses and households increasingly using the internet to transact, such that whatever the current level is, it can be said with a relatively high degree of certainty that the losses will grow larger over time, and given the available forecasts, the growth in losses occur at a relatively quick pace.

²⁸ See page 1 of Governor's budget.

4.0 ECONOMIC AND TAX SHIFTS DUE TO TAX POLICY CHANGE

The underlying assumption of this report is that there will be some mechanism that permits Pennsylvania to collect sales and use taxes on internet transactions. The report does not assume that all states make the same change, or that Congress enables all states to collect sales and use taxes on internet transactions.

As indicated earlier, the requirement for internet retailers to collect sales and use taxes would lead to several shifts, including buying power effects, substitutions between types of retailers, extra employment at Pennsylvania retailers and other Pennsylvania businesses, and increases in sales tax collections. This section describes the impact of these effects, and the expected likely range of these effects. There is also a sample calculation to illustrate the method.

Since several estimates are provided in ranges, the final estimate of jobs and tax revenue to the Pennsylvania is also expressed as a range.

4.1 Income Effects

The addition of sales tax to purchases made through internet sites that currently do not collect tax increases *effective* prices to the consumers and businesses who previously purchased from these retailers. This price increase will partly be passed along to consumers, but the extent to which retailers pass the increase along versus absorb the higher prices cannot be known in advance. However, there are several issues that suggest the full cost of the tax will be passed on to consumers.

4.1.1 Price Reaction

First, because internet retailers are nationwide, and Pennsylvania represents only a portion of US sales, the impact on list prices of collecting sales taxes for Pennsylvania will be limited for B-to-C transactions. Though it is possible that companies may price discriminate to Pennsylvania residents by charging higher shipping fees, for many retailers shipping costs are transparent and fixed. Amazon.com, for example charges \$3 per shipment and \$0.99 per book, and it is extremely unlikely Amazon would change its policy in response to an individual state's decision to collect e-commerce taxes. Therefore, in B-to-C e-commerce it is assumed that consumers will bear the full cost of the newly imposed use tax.

The price reaction in B-to-B transactions that become taxable may be different than in B-to-C transactions. There are several reasons for this. First, prices in B-to-B are more likely to be negotiated directly between individual business buyers and sellers and subject to contract. Second, excise tax increases are often subject to stated or contractual pass-through provisions so

that the buyer must pay the additional tax during the period of the contract. Third, for income tax purposes, excise taxes are a cost of doing business and deductible thereby reducing pressure for the business purchaser to change his buying behavior when a use tax is newly imposed. This analysis assumes that B-to-B sellers will reduce their prices by 2% in the face of a newly imposed use tax.

4.1.2 Quantity Reaction

Household consumers will react to the price increase unambiguously – they will purchase less of the good. How much less depends on their sensitivity to price changes or their price elasticity of demand. A revenue maximizing firm will set prices so that elasticities are close to 1.0, so we assume that elasticities for both B-to-B and B-to-C are 1.0. An elasticity of 1.0 implies that for every one percent increase in prices, the quantity purchased decreases by one percent. Thus, for a 6.28 % increase in price, quantity purchased falls by 6.28 %.

A sample calculation of the new sales numbers, and the resulting tax revenue for Pennsylvania, is shown in Table 13.

Table 13 – Increase in Prices at Non-Collecting Sites Lowers Consumption Outlays

	B-to-B	B-to-C	Total
Internet Sales not Subject to Sales Tax (\$m)	\$2,471.4	\$4,057.1	\$6,528.6
Sales and Use State and Local Tax Rate	6.28%	6.28%	
Tax not collected (\$m)	\$155.2	\$254.8	\$410.0
Price Reaction	2.00%	0.00%	
Implied Price Increase or New Cost to Buyer	4.15%	6.28%	
New Baseline Sales after price reaction(\$m)	\$2,574.1	\$4,311.9	\$6,886.0
Price Elasticity	1.0	1.0	
Decrease in Quantity (\$m)	4.15%	6.28%	
New Baseline Sales (\$m)	\$2,368.8	\$3,802.3	\$6,171.1
New Tax after reactions	\$148.8	\$238.8	\$387.5
Total Expenditure including tax (\$m)	\$2,517.5	\$4,041.1	\$6,558.6

4.2 Substitution to Other Retailers

A significant reason that consumers purchase goods at non-collecting internet retailers is the price advantage that comes from not paying the sales tax to the retailer. Since most consumers do not pay the use tax (and perhaps are not even aware of it), their final cost for a good will be lower from the non-collecting internet retailer than from a collecting internet retailer or from a bricks & mortar store that posts a retail price the same as the non-collecting internet retailer.

However, once a non-collecting retailer must collect use tax, it loses its price advantage. At that point other considerations come into play. Some consumers will shift their purchases from the (previously) non-collecting internet retailers to the collecting internet retailers and bricks & mortar stores. The literature indicates a cross-price elasticity from non-collecting internet retailers to other retailers in the range of 2 to 4. For example, an elasticity of 2.5 would mean that for every one percent increase in price at a non-collecting retailer, 2.5% of its sales go to other retailers.²⁹

Some consumers would shift their purchases to competing, collecting, internet retailers for several reasons, such as:

- The collecting internet retailer also has a brick-and-mortar store that would facilitate returns or service;
- The collecting internet retailer has an easier website to navigate; or
- The collecting internet retailer is more familiar or perceived to be more trustworthy than the non-collecting retailer.

Similarly, some consumers would shift their purchases to brick-and-mortar stores for reasons important to them, including;

- The consumer wants the item immediately;
- The consumer wishes to save shipping costs; or
- The consumer trusts the store more than the online retailer.

Of the amount shifting from non-collecting internet retailers, some goes to collecting internet retailers and some to bricks & mortar stores. Because collecting internet retailers are more similar than brick-and-mortar stores to non-collecting internet retailers, it is reasonable to expect that the majority of substitution would be to other internet retailers. However, some percentage would go to brick-and-mortar stores, and some portion of sales that substitute to collecting internet retailers would involve a brick-and-mortar store, such as for service or returns. Because service and returns are less important to B-to-B customers, we expect the portion of sales substituting to collecting internet retailers to be higher than for B-to-C. This analysis assumes that between 80 and 90% of shifting B-to-B transactions move to collecting internet sites, and that between 60 and 80% of shifting B-to-C transactions move to collecting internet sites.

A sample calculation of the increased activity in brick-and-mortar stores is shown in Table 14.

²⁹ Estimates in Goolsbie (2000) range from 2.3 to 4.3, with a mean estimate of 3.5, and Ahmed and Wirjanot (2008) estimate an elasticity of 3.12.

Table 14 – Change in Relative Price Shifts Purchases to Other Stores

	B-to-B	B-to-C	Total
Cross Price Elasticity from non-taxed to taxed vendors	2.5	2.5	
Change in Price	4.15%	6.28%	
Decrease in Quantity from non-taxed retailers	10.39%	15.70%	
Baseline Purchases (\$m)	\$2,368.8	\$3,802.3	\$6,171.1
Decrease in Purchases from non-taxed retailers (\$m)	\$246.0	\$597.0	\$843.0
Purchases from non-taxed retailers (\$m)	\$2,122.7	\$3,205.4	\$5,328.1
Shift to Bricks & Mortar & Other Internet Retailers (\$m)	\$246.0	\$597.0	\$843.0
Percent that shift to other online retailers	85%	70%	
Increase in other online retailer sales (\$m)	\$209.1	\$417.9	\$627.0
Increase in Bricks & Mortar Stores in Pennsylvania (\$m)	\$36.9	\$179.1	\$216.0

4.3 Economic Multiplier Effects in Pennsylvania

Increased activity at brick-and-mortar stores has economic impacts on Pennsylvania. These additional sales are referred to as the direct impacts of the increased activity. As a result of this increased spending, brick-and-mortar retailers must purchase goods and services from other businesses in the region, resulting in those firms increasing production. In turn, the firms supplying the retailers will need to increase purchases from their suppliers to meet their new orders. The sum of all these expenditures comprises the indirect spending associated with increased activity. All of the economic activity resulting from the increased sales by brick-and-mortar retailers in Pennsylvania, whether direct or indirect, results in increased employment. Some of the earnings by these new employees will be spent at businesses within the region on various goods and services, creating another round of economic activity like that described above. These expenditures equal the “induced expenditures” associated with the new activity. The sum of the direct, indirect, and induced expenses represents the total economic impact of the new activity and was measured using the RIMS II input output model developed by the Bureau of Labor Statistics.

In addition to measuring that impact in dollars as output or expenditures, the RIMS II model also produces estimates of the proportion of that spending paid to households as wages and salaries. Finally, the RIMS II model generates estimates, by industry, of the number of full- and part-time jobs related to the increased sales by brick-and-mortar stores in Pennsylvania.

A sample calculation of the number of new jobs at retailers, plus indirect jobs caused by the multiplier effect, is shown in Table 15.

Table 15 – Increases in Jobs and Other Tax Revenue in Pennsylvania

	B-to-B	B-to-C	Total
Increase in Bricks & Mortar Purchases (\$m)	\$36.9	\$179.1	\$216.0
Percent of Increase to PA-based Businesses	30.0%	100.0%	
Total Increase to PA-based Businesses (\$m)	\$11.1	\$179.1	\$190.2
Revenue Equivalent of one Direct Job	\$210,000	\$66,000	
Implied Number of New Direct Jobs	53	2,713	2,766
Jobs Multiplier	2.53	1.53	
Indirect and Induced Jobs	81	1,438	1,519
Total New Jobs	133	4,152	4,285
Total Wages (\$m)	\$6.4	\$112.2	\$118.5
Percent of Wages Taxed	90.0%	90.0%	
PA State Income Tax (\$m)	\$0.2	\$3.1	\$3.3
Other State Tax Business Taxes per Job	\$2,031	1,657	
Total Other State Business Taxes (\$m)	\$0.3	\$6.9	\$7.1

4.4 Final Tax Effects in Pennsylvania

This section adds up the various estimated effects on taxing internet sales. If Pennsylvania were to collect sales taxes from all internet retailers, tax receipts in Pennsylvania would increase from the two sources discussed in this section – the tax itself and taxes from the increased activity at brick-and-mortar retail stores. The estimated additional tax revenue is shown in Table 16.

**Table 16 – Net Increase in Tax Revenue in Pennsylvania in 2012
after Price and Quantity Reactions – Baseline Scenario**

	B-to-B	B-to-C	Total
Sales and Use Tax (\$m)	\$148.8	\$238.8	\$387.5
Taxes from Increase in Retail Activity (\$m)	\$0.4	\$10.0	\$10.4
Total New Taxes in Pennsylvania (\$m)	\$149.2	\$248.8	\$398.0

We have also prepared an estimate of increased tax revenues using our most conservative scenario, Method 2, and the results are shown in Table 17.

**Table 17– Net Increase in Tax Revenue in Pennsylvania in 2012
after Price and Quantity Reactions – Conservative Scenario**

	B-to-B	B-to-C	Total
Sales and Use Tax (\$m)	\$120.8	\$146.0	\$266.8
Taxes from Increase in Retail Activity (\$m)	\$0.4	\$6.1	\$6.5
Total New Taxes in Pennsylvania (\$m)	\$121.2	\$152.1	\$273.2

4.5 Sensitivity Analysis

In order to test the robustness of these results to alternative assumptions entertained throughout Section 4 above a variety of simulations were run that assume that the various assumptions about behavioral reaction are made. Thus, a Monte Carlo analysis was used to generate a range of results based on random distributions of various parameters. We allowed for the following distributions of assumptions about behavioral reactions of businesses and consumers:

Increase in Prices at Non-Collecting Sites Lowers Consumption

- B-to-B sales not subject to sales tax - normally distributed, mean of \$2,471 million, with a standard deviation of \$250 million
- B-to-C sales not subject to sales tax - normally distributed, mean of \$4,057 million, with a standard deviation of \$250
- B-to-C price reaction - uniformly distributed, from 1% to 3%
- Price elasticity - normally distributed from 0.75 to 1.25

Change in Relative Price Shifts Purchases to Other Stores

- B-to-B and B-to-C cross price elasticity from non-taxed to taxed vendors – uniformly distributed, from 2 to 3
- B-to-B percent that shift to other online retailers – uniformly distributed from 60% to 80%
- B-to-C percent that shift to other online retailers – uniformly distributed from 80% to 90%

All of the parameters in both models were allowed to shift simultaneously, and the results, presented in Table 18 below, indicate that the total, net new taxes in Pennsylvania range from \$359 million to \$430 million, using the baseline scenario. The more conservative scenarios have a similar range.

Table 18 – Sensitivity Analysis Results of 2012 Estimates of Net Sales and Use Taxes after Behavioral Reaction of Businesses and Consumers to Price Changes, under Base Case Forecast (\$ millions)

	Lower Confidence Limit	Mean	Upper Confidence Limit
Sales and Use Tax	\$352.8	\$387.7	\$422.1
Taxes from Increase in PA-based Business Activity	\$4.2	\$5.4	\$6.8
Total New Taxes in Pennsylvania	\$357.8	\$393.0	\$427.7

4.6 Implementation Considerations and Time Frame of Potential Tax Receipts to the General Fund

Throughout this report, it has been assumed that new internet taxes would be imposed and collected throughout the calendar year of forecast and deposited into the General Fund. The prospect of additional sales and use tax revenues that result from a base broadening that levels the economic playing field at a time of historically tight state and local budgets in Pennsylvania is attractive. However, there are a variety of considerations that militate against budgeting and appropriating these monies.

The first consideration that should be borne in mind is that to accomplish these new revenues, the Pennsylvania House and Senate will need to amend the current sales and use tax law to extend its reach to this growing source of economic activity, and the Governor will need to sign the new legislation for it to take effect. Many elected officials are not convinced that such a base broadening, which would increase taxes on some, is a wise thing to do as the Pennsylvania economy is beginning to recover from a very serious recession. As this report is being written, Pennsylvania's General Assembly, like its counterparts across the country, are struggling to fashion budgets that earlier this spring were facing gaping revenue short-falls. Governor Corbett's proposed budget is balanced, but is being widely debated. Whether or not the General Assembly could address broadening the base of the current sales and use tax in conjunction with its ongoing budget deliberations and enact it by June 30, 2011 is an open question. While I am convinced the fairness of the current Pennsylvania tax system will be enhanced by such a change, the imposition of this base broadening will likely be resisted by the businesses who currently are able to sell into Pennsylvania without collecting and remitting use tax, and the General Assembly will likely be confronted with significant resistance for such a tax law change.

The second consideration involves whether or not the General Assembly would provide a safe-harbor for small vendors who do either a *de minimis* amount of business in Pennsylvania or less than some established threshold. The revenue estimates provided throughout this report do not analyze what the revenue consequences would be of a \$100,000 or \$200,000 per year minimum level of sales into Pennsylvania. A threshold in the operational sales and use tax statute deserves

careful consideration in design and then in initial budgeting of revenues and tax administration plans.

The third consideration entails the time that is needed to change sales and use tax administration to reflect this new law change. This entails not only changing sales and use tax forms to reflect the broader base, but also updating computer software to handle the expected influx of reports and payments from vendors who previously had not been registered or licensed in Pennsylvania. The fourth and related consideration involves the actual compliance of these internet vendors, who may be local Pennsylvania firms with a separate out-of-state internet presence, and operating under the *Bloomington* decision as well as those purely out-of-state vendors who are taking an increasingly aggressive stance in opposing such an extension of use taxes around the country.

New York's actual experience with incremental use tax revenues after enacting their new tax law 2009 is quite relevant. Note that because New York is a headquarters state in which many internet vendors already have a physical and/or agency presence, the level of predicted new revenues was lower than that estimated for Pennsylvania above. Also, New York State's tax rate is 4% and Pennsylvania's is 6%. Table 19 compares the predicted new New York state sales tax revenues (4% rate) with those attributable to the number of new vendors who collected and remitted. As can be seen, actual revenues were slightly over one-half that predicted.

Table 19 – New York State Predicted and Actual Incremental Revenues from Base Broadening of Sales and Use Tax (\$millions)

Fiscal Year	Predicted in Budget	Actual	Actual/Predicted Revenues (%)
2009/2010	\$70	\$40	57.1%
2008/2009	\$50	\$27.5	55.0%

Source: New York State Department of Taxation and Finance, Office of Tax Policy Analysis, 4/19/2011

5.0 OTHER REACTIONS AND ISSUES

5.1 Impact on Pennsylvania Internet Vendors

If Pennsylvania requires non-collecting internet retailers to begin to collect sales tax, there is a question of whether other states will “retaliate” by passing laws designed to collect taxes from non-collecting internet retailers based in Pennsylvania and other states. Such a law would reduce or eliminate whatever price advantage Pennsylvania-based internet retailers have when they sell into other states and do not collect sales tax from residents of the other states. This could potentially cause harm to the Pennsylvania based internet retailers.

Pennsylvania is not a large state as a percent of the overall market, and so action by Pennsylvania alone will not likely be sufficient to compel other states to pass laws designed to compel sales tax collections. Therefore, the fear of retaliation is not a compelling reason for Pennsylvania not to pass a law

5.2 Impact if Universal Collection Becomes Widespread

If enough other states pass similar laws, non-collecting internet retailers will begin to take account of sales taxes in their pricing decisions. As discussed in the section on shifts, lower prices due to non-collection is a major advantage for these retailers. If that advantage begins to erode, then the non-collecting retailers will need to revise their business models. A natural response is to lower before-tax retail prices below the prices of their competitors.

Online internet retailers are believed to operate at relatively low profit margins³⁰. Low profit margin retailers have very little latitude to lower prices further, so the price response would likely be small. These retailers would need to find another mechanism to distinguish themselves. Those who could not provide an advantage over other retailers would shrink and perhaps cease operations.

5.3 Internet Retailer Strategies for Locating Facilities

Non-collecting internet retailers do have to collect sales and use tax on some transactions. For states in which the retailer has a “nexus”, the internet retailer must collect sales or use taxes. These retailers thus have an incentive to locate their facilities either in low or no sales tax states or in small population states. By locating facilities in these states and not in high tax or large

³⁰ Based on a small sample of online only retailers from the Internet Retailer’s Top 500 Guide, publicly available financial data showed an average profit margin of 3.77%. This includes a profit margin of 3.37% for Amazon, and 1.10% for Newegg, and 1.27% for Overstock.com, three prominent online retailers.

population states, they minimize the number of customers for whom they must collect sales and use tax.

However, this location of facilities is not likely to be efficient. For example, consider distribution or fulfillment centers. Distribution centers are most efficiently located near major population centers. If retailers intentionally remove themselves from high population states to minimize their collection responsibilities, they will incur additional trucking or other distribution costs relative to what they would have incurred if sales-tax avoidance were not a goal.³¹

This type of problem was evident in a recent example, when the state of Texas decided to consider Amazon's Dallas distribution center as constituting a nexus, and so they demanded that Amazon begin remitting sales taxes for purchases made by Texas residents. In response, Amazon closed its distribution center and cancelled plans to expand operations in Texas (Castro, 2010).

While this distortionary and inefficient behavior is visible because of a change in Texas policy, there are many unseen distortions and inefficiencies where an e-commerce retailer simply decides to never open distribution centers in the first place, or chooses a location based on nexus considerations. Absent this issue, companies would seek locate operations in a way that minimizes true costs like shipping and construction costs, rather than in a way that best exploits regulatory differences³².

³¹ Clearly if the disadvantages of locating their distribution facilities in this manner are too great, the companies would move closer to their customers.

³² CBO, "Economic Issues in Taxing Internet and Mail-Order Sales", Oct. 2003

6.0 SUMMARY

As internet retailing grows in importance, the potential for both economic distortion and revenue loss will increase. The market economy works because prices indicate how efficient a supplier is. However, when some companies have to collect taxes and others do not, the prices faced by the consumer do not reflect just the underlying efficiency of the company. Less efficient non-collecting retailers can thrive and more efficient collecting retailers can struggle because of this distortion.

Further, non-collecting retailer give up some efficiency by choosing sub-optimal locations for their distribution and other necessary physical facilities in order to minimize the sales tax they collect.

Further, as has been shown, there is a real cost the state as well. Pennsylvania collects less sales and use tax than it should. This means that the state is not able to provide all the services it would like to, or that everyone else has to pay more.

This research report has examined increased tax revenue that would be collected were Pennsylvania to broaden its sales and use tax base. The methodology employed is based on the 2009 research of Bruce, Fox and Luna, and also reflects the most recent available data through 2010. In addition, the economic and tax consequences of business and consumer reaction to the base broadening were accounted for. In calendar 2012, there is a range of expected new revenues; Table 18 summarizes the range of estimated new sales and use tax revenues for calendar year 2012 that are projected. While the analysis of behavioral changes shows some diminution in total new net tax revenues, it is also associated with more in-state activity that leads to several thousand new jobs being created.

**Table 20 – Incremental Effects on Pennsylvania
Sales and Use Tax Collections in CY 2012, \$ Millions**

Assumptions Used	Gross New Tax Revenues	Net New Tax Revenues after Behavioral Changes	Percent Change
Method 1	\$410	\$398	-2.9%
Method 2	\$282	\$273	-3.2%
Method 3	\$254	\$246	-3.2%

*Notes: Method 1 uses Bruce, Fox, Luna (2009)
methodology with newer data and optimistic forecast
Method 2 uses more recent compliance data on large and medium size firms
Method 3 uses more recent compliance data and baseline forecast*

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