A CASE OF RATIONAL IRRATIONALITY: EVIDENCE OF EXPRESSIVE INTEREST
BIAS IN STATE E-COMMERCE SALES AND USE TAX LEGISLATION

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June 4, 2014
To my parents, who have always taught me that anything is possible with hard work and determination.

To Lucy, the best passing the public finance exam gift ever.

To my grandparents, for fostering the belief that being a strong, independent woman is not only acceptable, but also encouraged.
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Finally, to all of my friends and other members of my family, thanks for the kind words, inside jokes, and Starbucks coffees. I am fortunate to be surrounded by an amazing group of individuals from childhood through the present. My dissertation would be 600 pages if I took the time to write a personal acknowledgement to everyone, and even then odds are I would leave someone out. Therefore, accept my heartfelt thanks for the support, guidance, and friendship. All errors found herein are my own, except for the occasional typo that can be blamed on Lucy’s nose on the keys.
A CASE OF RATIONAL IRRATIONALITY: EVIDENCE OF EXPRESSIVE INTEREST BIAS IN STATE E-COMMERCE SALES AND USE TAX LEGISLATION

The expressive interest voting trap (Hillman, 2010) appears to play a significant role in the explanation of the passage of online sales and use tax legislation. However, state legislatures are not simply relying on expressive interests or utilitarian interests to justify the passage of online sales and use tax legislation. Members of state legislatures appear to be acting in such a way to both address the expressive interests of their constituents along with economic utilitarian theory concerns. Expressive interests do not fully describe the story of passage of e-commerce tax legislation, as the sales and use tax rate still plays a significant and positive role in the passage, suggesting that members of the state legislature are acting in some utilitarian function in hopes of garnering lost revenue from online transactions. The passage of online sales and use tax legislation appears to suggest that politicians are acting as political elite, as referenced by Caplan (2007) where they acknowledge the “expressive interests” of their constituents, but will pass legislation as a benevolent social planner, i.e. in line with economic utilitarian theory, when the public is not as focused on the legislation.
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Chapter 1: Introduction

Recent literature in the field of public choice theory has explored the effects of expressive interest bias on the voting behavior of citizens, especially with regards to voters’ preferences over economic policy decisions. Expressive interests bias is defined by Brennan and Lomasky (1993) as advocating for policies against one’s own self interests. One of the pillars of the “expressive interests” bias to economic policy is the discounting of utilitarian interests (Brennan & Lomasky, 1993; Caplan, 2007). As Brennan and Lomasky (1993) suggest, public choice theory seeks to critique this “conception of the good society promulgated by economic advisors” (p.8). Therefore, expressive interests bias, from public choice theory, suggests that those expressive interests of citizens should outweigh any utilitarian considerations during the formation of public policy.

Hillman (2010) expands upon the relative weight of expressive interest bias to identify an expressive voting hypothesis. In direct opposition of the instrumental view of rational voting (Downs, 1957), expressive voting (Hillman, 2010) takes into account both expressive utility and material utility. Therefore, expressive voting can lead to what Hillman (2010) defines as the expressive-voting trap where “there is majority support for public policies that each member of the supportive majority would veto if he or she could” (p.3). Therefore, if recent literature on public choice theory (Bischoff & Siemers, 2013; Castanheira, Niodeme, & Profeta, 2011) is correct, citizens should be voting for expressive interests over utilitarian interests.

Taking the expressive-voting trap one step further, if citizens are advocating for expressive interests within the voting booth, politicians should be considering these citizen requests during the passage of legislation. Therefore, the presence of the expressive-voting trap should be leading to policies that reflect these expressive beliefs (Hillman, 2010). Recent public
policies should place value on expressive interests over utilitarian interests. Brennan and Lomasky (1993) argue, “electoral pressure will encourage governments to provide those goods that are highly valued expressively and to underprovide those goods that are of low expressive benefit” (p. 206). However, Brennan and Lomasky (1993) are not suggesting that policies with high levels of expressive interest will receive sole consideration and passage. Rather, Brennan and Lomasky (1993) argue that representative democracy provides a bit of a buffer for the passage of expressive interests policies. Specifically, they suggest that:

Representative government alters the domain of expressive support (towards persons away from policies) and restricts policy decisions to the smaller arena of parliament (or party room) where expressive considerations are likely to be less potent. We do not believe that the institution of representation will overcome the risk of political perversity: We do think representation will reduce that risk, and hence is to be preferred. (Brennan & Lomasky, 1993, p. 212)

Therefore, representative democracy should lead to a mixture of considerations of consideration of expressive and utilitarian interests.

However, previous research has failed to address exactly how powerful is expressive interest bias in the formation of policy. This research seeks to fill a hole in previous literature through a testing of expressive interest bias against utilitarian theory in the explanation of passage of online sales and use tax legislation, or “Amazon.com” laws. Specifically, I hypothesize that neither expressive interests theory nor utilitarian economic theory of optimal tax reform fully explain the passage of online sales and use tax legislation. Furthermore, while both expressive interests theory and utilitarian tax reform theory play a role in explanation of the passage of online sale sand use legislation they predict different enforcement speeds.

Since 2008, states across the United States have passed so-called “Amazon.com” legislation, directed at forcing online retail giants, like “Amazon.com” and “Overstock.com” to be required to register as certified sales and use tax collectors for the state. States are attempting
to circumvent the *Quill Corp. v. North Dakota* precedent of undue burden legislation. These pieces of legislation often rely on the presence of “Amazon.com” affiliates and other major online retailers within state borders. In this case, affiliates are often those individuals and organizations that are offered compensation by an online retailer for placing a hyperlink to the larger vendor’s website. Traditionally, compensation is based on the use of the hyperlink for which a sale is made by the vendor (Amazon.com refers to their affiliates as “associates”). Therefore, states are arguing affiliate nexus; the connection between the vendor and another entity that may be related in some way or performs a certain task which leads to the vendor having nexus within a taxation jurisdiction. “Amazon.com” and other retailers have fiercely fought the nexus “presence” as a determination of physical presence within a state for the purpose of sales and use tax collection.

The nature of the legislation passed by various states within the United States to pursue the collection of taxes on online transactions varies greatly. For example, Tennessee passed legislation in 2012 requiring “Amazon.com” to send an email to citizens within the state informing them the total dollar amount of purchases during the last fiscal year and a link to the state’s form for paying use tax. However, since “Amazon.com” disputed their physical presence within the state as well as the undue burden placed on the company to learn the tax code of the state, the email also contained a disclaimer stating that “Amazon.com” was not required by the same statute to report the sales information directly to the state of Tennessee. Conversely, New York passed legislation in 2008 expanding the legal definition of vendor to include those companies that were presumed to be soliciting business if they compensated residents of the state of New York directly or indirectly for referring potential customers.

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2 NY Tax Law §1101(b)(8) (2008)
However two key categories emerge within the various pieces of legislation: those state legislatures that seek to require immediate enforcement of legislation, thereby forcing immediate collections by online retailers, and those states that entered into negotiated agreements with “Amazon.com” delaying enforcement until some later date. These delayed enforcement agreements often provide state legislatures with increased job creation by “Amazon.com” at current warehouse locations or through the creation of new warehouse locations. The calculation facing state legislatures becomes one of weighing immediate revenue collection with the possibility of “Amazon.com” closing warehouses against delaying revenue collection with the possibility of additional job creation within the state by “Amazon.com.”

As the expansion of online sales and use tax legislation is ongoing, the ability to identify what combination of sales and use tax efficiency costs and equity of collection concerns, if any, directly relates to increased likelihood of passage of legislation appears to be paramount. Furthermore, with the differences in type of legislation passed, identification of what factors lead certain states to pursue immediate enforcement versus delayed enforcement would allow for the association between a certain state and the likely future type of legislation pursued.

The subsequent chapter contains a model looking to describe the passage of online sales and use tax legislation solely through an economic lens or “instrumental interests”. Interestingly, the traditional economic equity-efficiency model fails to account for the passage of the legislation, but the coefficients of the parameters in the model were consistent with normative economic theory. The following chapter contains a consideration of the traditional political economy theory, looking at possible political motivations for passage of revenue legislation, where members of state legislatures are acting as reelection seeking individuals. Of interest, the timing of passage of the legislation in relation to state legislative elections appears to
be significant. The following chapter contains an in depth consideration of the previous literature on public choice theory, as well as, an “expressive interests” model is analyzed as well as a model combining “instrumental” and “expressive” interests. Members of state legislatures appear to be acting in such a way to both address the expressive interests of their constituents along with economic utilitarian theory concerns. Expressive interests do not fully describe the story of passage of e-commerce tax reform legislation, as the sales and use tax rate still plays a significant and positive role in the passage, suggesting that members of the state legislature are acting in some utilitarian function in hopes of garnering lost revenue from online transactions. However, at the same time, the ideology of the citizens of the state plays a positive role in prediction of legislation with delayed enforcement. Therefore, economic utilitarian concerns or expressive interests bias cannot be the sole motivating factor for the passage of online sales and use tax legislation. Finally, a concluding chapter considers the broader policy implications of the reliance on “expressive” interests, as well as possible effects of the passage of “the Marketplace Fairness Act” by the federal government.
References


Chapter 2: Simply an Equity-Efficiency Tradeoff? Passage of Online Sales and Use Tax Legislation

Recent literature in the field of public choice theory has explored the effects of expressive interest bias on the voting behavior of citizens, especially with regards to voters’ preferences over economic policy decisions. One of the pillars of the “expressive interests” bias to economic policy is the discounting of utilitarian interests (Brennan & Lomasky, 1993; Caplan, 2007). In the particular case of online sales and use tax legislation, the utilitarian interests would be those of the traditional equity-efficiency trade-offs of tax reform, where a benevolent social planner is attempting to maximize a welfare function. As Brennan and Lomasky (1993) suggest, public choice theory seeks to critique this “conception of the good society promulgated by economic advisors” (p.8). Therefore, expressive interests bias suggests that those expressive interests of citizens should outweigh any utilitarian considerations. Hillman (2010) expands upon the relative weight of expressive interest bias to identify an expressive voting hypothesis. In direct opposition of the instrumental view of rational voting (Downs, 1957), expressive voting (Hillman, 2010) takes into account both expressive utility and material utility. Therefore, expressive voting can lead to what Hillman (2010) defines as the expressive-voting trap where “there is majority support for public policies that each member of the supportive majority would veto if he or she could” (p.3). Therefore, if recent literature on public choice theory (Bischoff & Siemers, 2013; Castanheira et al., 2011) is correct, citizens should be voting for expressive interests over utilitarian interests.

If citizens are advocating for expressive interests within the voting booth, politicians should be considering these citizen requests during the passage of legislation. Therefore, the presence of the expressive-voting trap should be leading to policies that reflect these expressive beliefs (Hillman, 2010).
In contrast, the economic literature on tax reform instead focuses on the traditional equity-efficiency tradeoff considered as they relate to normative theoretical optimums, completely ignoring the potential for expressive interests bias in policy formation. Previous research in economics the area of tax reform can be organized into two different categories: (1) identification of normative theoretical optimums (Hettich & Winer, 1984; Hettich & Winer, 1988) and (2) case studies reviewing and estimating the effects of selected changes to tax code (Auerbach & Slemrod, 1997; Pechman, 1987). Normative theory suggests that tax reforms should be in the pursuit of optimal tax design (Feldstein, 1976b). Therefore, due to uncertainty regarding economic behavior due to a number of factors including previous tax reforms, tax reforms should occur in an attempt to maximize expected social welfare and garnered information from previous tax reforms (Feldstein, 1976b). The nature of the case studies tends to not reveal whether or not tax reforms mimic the proposed theoretical ideals in the instances of their occurrences. Case studies on tax reforms appear to focus largely on the effect of the tax reform on externalities and income distributions, rather than focusing on if the tax reform had moved the law towards a more optimal tax design.

Online sales and use tax legislation has gained recent traction among various states as a means to address the low compliance of sales and use taxes from e-commerce by attempting to rectify the nebulous concept of nexus for online transactions within the state as well as the potential undue burden placed upon businesses in enforcement. Economic theory based on utilitarian social welfare functions offers guidance on the adoption of tax reforms and the speed with which such reforms are enforced after passage. As states have pursued a variety of different enforcement speeds when drafting online sales and use tax legislation, the delaying of enforcement suggests a potential desire for maximizing utilitarian social welfare functions.
Regardless of intention, the diversity of enforcement speeds pursued by states provides a unique opportunity for the studying of normative theoretical optimums of tax reform.

This research seeks to empirically test the validity of the normative theoretical optimums as they apply to the passage of online sales and use tax legislation by a particular state. As the expansion of this type of legislation is ongoing, the ability to identify what combination of sales and use tax efficiency costs and equity of collection concerns directly relates to an increased likelihood of passage of legislation appears to be paramount. Furthermore, with the differences in types of legislation passed, identification of what factors lead certain states to pursue immediate enforcement versus delayed enforcement would allow for the association between a certain state and the likely future type of legislation pursued.

Literature Review

The economic literature in the area of tax reform can be categorized into two lines of investigation: theoretical models of the optimal conditions for undertaking reform, and case studies about the effect of selected changes to tax code. The missing connection between these literatures is research investigating whether or not the adoption and timing of the reforms is consistent with the optimal conditions derived in the normative theory. Therefore, an understanding of the landscape of the literature is necessary to isolate the factors identified in theoretic optimums and case studies are necessary. In particular, a focus will be placed on identifying the common threads in the literature that could be employed as testable variables that can be translated to the application of sales and use taxes for online transactions.

Theoretical Optimums

Any tax measure is partially determined by the ease in which the tax can be both collected and evasion can be identified and punished. Slemrod (1990) considers the differences
in tax administration and how it can affect both optimal taxation and an optimal tax system. Specifically, he argues, “Differences in the ease of administering various taxes have been and will continue to be a critical determinant of appropriate tax policy” (p. 157). The ease of administration is found to be a large determinant in what tax reform is actually undertaken. However, Slemrod identifies three different criteria of optimal taxation:

First, there is an explicit representation of individuals' preferences, technology (usually constant returns to scale), and market structure (usually perfect competition). Second, the government must raise a fixed amount of revenue with a limited set of tax instruments, which can be administered costlessly. Lump-sum taxes, for which the tax liability is unrelated to any economic decision, are often ruled out. Given the assumptions about the economy, any choice of tax instruments is associated with a consumption bundle for each individual. Finally, there is a criterion function, which ranks outcomes and chooses the best ("optimal") tax system among the limited set available. In models with one representative individual, this criterion is simply his or her level of utility. In models with heterogeneous individuals, a utilitarian social welfare function is used to aggregate the individuals' levels of utility into a measure of social welfare (p. 158).

Therefore, in optimum taxation, Slemrod identifies explicitly that governments are functioning with a limited set of tax measures with which to employ in attempts to raise a known amount of desired revenue.

Slemrod (2008) identifies the important identification of who is remitting the tax in an optimal tax system. Beyond just questions of incidence, allocation and efficiency (Slemrod, 1990), in an actual tax system, i.e. in the presence of a system that contains instances of tax avoidance and evasion, the cost of administration and enforcement varies based on the identify of the remitter. Specifically, the resource costs associated with administering a tax system varies based on the remittance system. For example, monitoring one employer for remittance of an income tax would be less costly and time consuming than monitoring all of the employees individually. Beyond the resource costs associated with remittance, the opportunities for avoidance and evasion can directly relate to the incentive to demand and supply the tax activity.
Citizens may choose to place a higher demand on items that provide for easier evasion and avoidance. Therefore, Slemrod (2008) suggests that if this opportunity for avoidance and evasion is not symmetric between all firms in the market that must remit the tax, the changes in remittance system will have effects on incidence, allocation, and efficiency.

However, optimal tax policy is not the same thing as optimal tax reform. While a brief consideration of the issue is found in Feldstein (1976b) as well as Bittker (1980), the best distinction between the two is identified by Zodrow (1985). Specifically, optimal tax design simply wants to maximize the standard optimal social welfare function, where optimal tax reform considers the assumption that governments are more risk adverse towards the same arbitrary loss by a relatively poor citizen in comparison to a richer citizen.

Normative public finance theory in the area of optimum tax reform focuses on issues such as horizontal equity, efficiency, time frame of implementation of reform, externalities, and tax administration. Feldstein (1976b) focuses on the need to balance issues of horizontal equity and efficiency. With regards to the former, the tax system should be addressing the fundamental concern of the fact that individuals with the same utility function and consumption preferences should be bearing the same tax burden (Feldstein, 1976b; Musgrave, 1959). However, due to different consumption preferences of individuals, horizontal equity issues will most likely be present regardless of reform (Feldstein, 1976b). Turning to the later, Feldstein suggests that deviations from the Haig-Simons Definition of Income can lead to problems of economic inefficiency. Therefore, the Haig-Simons definition can be used for optimal tax design but not for optimum tax reform. Feldstein does not address the potential use of Kaldor definition of an expenditure tax (Kaldor, 1957). Instead Feldstein (1976b) suggests, “A tax change is desirable only if the expected gain through increased efficiency and improved distribution outweighs the
utility loss imposed by a gamble” (p. 93). As there is uncertainty with regards to the economic
c parameters and how the tax rate changes will affect the income of all of the citizens, the optimum
tax reform should increase efficiency and improve distribution of wealth.

Hettich and Winer (1988) focus on the fact that optimum tax reform combines both an
attempt to maximize economic efficiency and political efficiency. Specifically, politicians are
attempting to garner support for legislation that constituents dislike, due to a loss in their
personal income associated with the increase in taxes. In this view, constituents within the state
oppose tax reform due to the expansion of the tax base, causing an increase in their percentage of
total income spent on taxes. Therefore, Hettich and Winer (1988) conclude, “the evolution of tax
systems can be viewed as a sequence of responses to changing economic, administrative, and
political factors” (p. 711). The ability nature of tax reforms therefore does not only depend on the
economic efficiency but political efficiency as well.

Turning to the time frame of implementing the change, Feldstein (1976) considers the
present value effects of three alternatives: i) immediate adoption and enforcement; ii) immediate
adoption with postponed enforcement; and iii) postponed adoption. Immediate adoption brings
the tax reform into law immediately, but places a delay on enforcement of the law, effectively
allowing for the breaking of the law without punishment for some period of time. Postponed
adoption suggests that adoption of a law will be postponed until some future date in time, placing
ambiguity within the system regarding possible changes that could be made to the proposed
reform before adoption, as well as changes in adoption date (Feldstein, 1976a, 1976b).
Immediate adoption with delayed enforcement allows individuals to change their behavior to
account for price changes that reduce horizontal equity, whereas pure postponement would rely
on advance warning to allow individuals time to change their commitments as well as induce
price changes that would reduce horizontal equity. Immediate adoption with delayed enforcement acts as the “advanced warning” for the public and the market (Feldstein, 1976a, 1976b). However, Feldstein notes that the same decrease in arbitrary individual losses that would be achieved through postponement could be achieved through a reduction of the size of the tax change in the reform, as markets need longer to react to large-scale tax changes. Therefore, Feldstein (1976a, 1976b) suggests a postponed full enactment (current enactment of a tax reform with a future effective date) represents optimum tax reform.

However, Zodrow (1981) finds different results regarding the ideal preference of timing of enforcement. Zodrow considers four different outcomes: i) immediate full enactment; ii) postponing full enactment; iii) phasing-in enactment; and iv) partially enacting the measures. Immediate full enactment suggests that the entire tax reform is enacting immediately, while postponing full enactment holds off enactment of any part of the legislation until some future date. Conversely, options three and four both consider partial enactment. Option three, phasing-in enactment, allows for the gradual enactment of legislation through a tiered and time delayed methodology. In contrast, option four suggest that part of the tax reform is enacted allowing for a collection of information regarding how the enactment will affect the unexpected utility gains and losses driven by the change to the tax structure (Zodrow, 1981). Through numerical simulations, Zodrow identifies that the final option, partially enacting the tax reform, is the optimal reform implementation policy. Zodrow (1981) confirms this finding through two different methodologies, first through a traditional unity maximization process, drawing from the initial model proposed by Feldstein (1976b), as well as through numerical simulations accounting for the social concern regarding the distribution of the income. Zodrow’s findings remain true in a later version of the model (1985) that is updated to include personal adjustment
costs associated with tax reform. Specifically, “thus, the analysis suggests that for convex adjustment costs, little would be lost by following a reform implementation strategy of immediate partial enactment with small adjustment costs and postponed partial enactment with sufficiently large adjustment costs” (p. 230).

Domeij and Klein (2005) explore the welfare costs of different lengths of duration during a phase-in enactment of tax reforms. First, Domeij and Klein (2005) find that there are substantive welfare gains in employing a phase-in enactment versus an immediate full enactment of the tax reform as the economy transitions into a new steady state due to their consideration of the time that legislations require to debate legislation before passage. Second, expanding upon an enactment from zero to four years reduces the welfare gains by less than a quarter. This reduction is due to a large degree by the lag in passage of legislation itself, rather than “the effect of preannouncement on the character of the optimal tax reform” (p. 150). Since several states have enacted lag periods on the enforcement of their online sales tax legislation through not requiring websites like “Amazon.com” to register as an official sales tax collector for several years, understanding the effects of delayed enactment as it relates to the goals of optimum tax reform appears essential.

Another large consideration in tax reform is the effect of externalities. Mayeres and Proost (2001) explore the effect of marginal tax reform on externalities as well as income distribution. Specifically, “it is shown that for a correct evaluation of marginal tax reforms one should not only take into account the impact of the tax reform on the externality level but also the possibility that a change in the level of the externality may have an impact on the consumption of taxed commodities” (p. 360). Mayeres and Proost (2001) appear to relate to the findings of Goolsbee (2000) and Best and Teske (2002) who explore the negative effects on
shopping by online consumers through both taxation of internet access as well as the expansion of the current sales tax structure to online purchases. Therefore, externalities, like increased costs associated with Internet access through marginal tax reforms can lead to a decrease in online shopping. Specifically, for every one-percentage point increase in a state’s sales tax will lead to a decrease in the total online purchases by residents of the state of 1.5 to 2 percent (Einav, Knoepfle, Levin, & Sundaresan, 2014). Conversely, the lack of enforcement of collection of sales tax from online transactions has led to increases in online purchases by 10 percent or more (Einav et al., 2014). Therefore, externalities contain a statistically significant role in shaping the consumption behavior online.

Case Studies

Case studies in the area of tax reform look at the economic and individual effects of prior tax reform measures. Most of these case studies are at the federal level, and evaluate major reforms or changes versus looking at local level reforms or expansions of previous taxes. Through the analysis of effects of prior tax reforms, one can both consider how these reforms compare to theoretical optimums, and what lessons can be learned by mistakes in prior legislation.

The Tax Reform Act of 1986 (TRA 1986) represented a major overall to the US federal income tax structure. Both Pechman (1987) and Auerbach and Slemrod (1997) explore the effects of TRA 1986; the former focusing on both political and economic effects with the later focusing primarily on the economic and long term effects of the legislation. Pechman (1987) argues that TRA 1986 “greatly improve the fairness of the tax system and remove major distortions from the market” (p. 17). Among the specific accomplishments, Pechman highlights the taxation of realized capital gains as ordinary income and the moves towards expanding the
individual income tax base, such as taxing unemployment benefits. Additionally, Pechman notes that while there were problems with the implementation, Congress should not immediately enact subsequent change; the economy needs time to rebalance to the new tax based equilibrium, suggesting that major tax reforms can lead to imbalances in the market that must be allowed to settle before subsequent changes can even be considered. In contrast, Auerbach and Slemrod (1997) note that with regards to analysis of economic efficiency as a result of TRA 1986, studies failed to directly estimate the sum of “Harberger triangles,” and instead base analysis on estimated data points (Bolster & Janjigian, 1991; Burman, Clausing, & O'Hare, 1994). However, TRA 1986 does provide interesting results regarding issues of vertical equity and tax simplification. Specifically, “Simplification was trumpeted as the Act's hallmark, but with a decade of hindsight it is clear that there was at best modest simplification on the personal side and increased complexity on the business side” (Auerbach and Slemrod, 1997, p. 628). Feldstein (1995) finds a substantial change in taxable income as a result of the changes in marginal tax rates through TRA 1986, suggesting that individuals due alter their behavior in response to tax reform.

Bianchi, Gudmundsson, and Zoega (2001) studied the changes to the tax system in Iceland between 1987 and 1988; where the system switched from a tax on previous year’s income to a pay-as-you earn system. Bianchi et al find a wide range of responses in terms of labor-supply as a result of the tax change, with some individuals choosing to work less and others choosing to work more hours. However, among the sexes, men responded more aggressively to the tax reform than woman, and those men that obtained some income from self-employment had a much higher elasticity of labor and increased their hours to respond more
positively to the tax reform than men in general. Bianchi et al (2001) note that their findings might be affected by the limited duration of the tax reform.

Martinez-Vazquez and McNab (2000) analyzes the effects of tax reforms for several countries in transition (CIT) from centrally planned economies to market-based economies. Martinez-Vazquez and McNab find that the overall position of the country economically, as well as prior history directly affects the tax reform undertaken by the CIT. Similar trends were found with major tax reforms in the United States (Feldstein, 1995; Pechman, 1987), as prior history both economically and politically can affect future tax reforms. Second, several reforms were not as effective as predicted by advocates due to a failure to enforce compliance, probably due to the lack of focus on taxpayer compliance and administration, instead focusing on the modernization of the tax system. Third, many of the reforms contained flaws because they were not considered against other possible outcomes, as well as problems with lacking a comprehensive scope. Fourth, compliance costs for taxpayers were not addressed, and remained high due to what Martinez-Vazquez and McNab (2000) consider unnecessary requirements, such as the filing of balance sheets and income statements every quarter, and standing in line to wait to physically pay taxes. Finally, any major tax reforms in CITs are directly intertwined with major reforms in tax administration. Martinez-Vazquez and McNab (2000) highlights the intertwining between tax reform and reform in tax administration, as well as how prior history affects future tax options.

In conclusion, these case studies highlight the need for a focus on how prior history will affect future tax reforms, as well as the problem of unintended consequences by focusing on only one point or goal of the tax reform. This study allows for the consideration of the applicability of theoretical optimums of tax reforms, as well as the applicability of theory regarding speed of enforcement, as states have selected different speeds of enforcement for their
online sales and use tax legislation. More broadly, previous research on tax reform suggests that two contradicting forces are driving tax reform. First, states with less efficient tax systems should be pursuing other means of revenue collection, such as the expansion of the sales tax base to include purchases from online transactions. Second, states with higher levels of equity will desire to delay enforcement to maintain their higher levels of tax equity. This study identifies a unique measurement of relative sales tax efficiency within the United States.

**Description of Online Tax Reforms**

Online sales and use tax policies were a concern far before the passage of the first online sales tax legislation. The traditional sales and use tax structure was designed for physical based exchanges: buyers and sellers meet at a location and trade tangible goods and services for money (Due & Mikesell, 1994). In this particular methodology, the seller is required by the state to remit some percentage of the sales price on all items, and send that money to the state. However, the buyer possesses an additional legal obligation, to remit his/her use tax if the object was purchased in one state, but used in another state (Due & Mikesell, 1994). Traditionally, use taxes are difficult to collect and enforce from retail purchases, as buyers are often unaware of their legal obligation (Due & Mikesell, 1994). While use tax laws predated the creation of mail-order catalogues, states became more aware of the loss of potential revenue through the expansion of interstate commerce. A similar concern arose again for state legislators with the expansion of online commerce.

As online retail sales began to expand in the late 1990s, scholars began to offer suggestions as to the premier methodology to correct for the compliance issues, i.e. the lack of self-reporting and payment of use tax by consumers online. For example, Mikesell (2000) proposed the United States Congress stepping in to require registration for large scale remote
vendors, but only in those states in which compliance costs would be minimal, i.e. states that lack local option use taxes. In contrast, Goolsbee and Zittrain (1999) study the costs and benefits of implementing of current sales tax laws to online transactions. While they find that the costs of compliance with taxes on Internet commerce are likely to be small for most transactions, and that not enforcing use tax laws on online commerce does disproportionately benefit the wealthy, Goolsbee and Zittrain (1999) argue for a moratorium on enforcement of online sales and use taxes in the short term, to allow for the expansion of internet commerce.

Online tax reforms, often referred to in the vernacular, “Amazon.com” legislation, regardless if the scope of reform is not limited to Amazon.com, are a relatively new policy measure. *Quill Corp. v. North Dakota* (1992) sets the current legal precedent regarding online sales tax collection. While the decision notes previous decisions against the bright-line physical presence statute established in *National Bellas Hess, Inc. v. Department of Revenue of Illinois* (1967) such as *Scriptio, Inc. v. Carson* (1960), the court determined that the undue burden that would be placed on the retailer to learn the local sales and use tax codes of various states falls within the Commerce Clause. Subsequently to *National Bellas Hess, Inc. vs. Department of Revenue of Illinois*, the Supreme Court identified a four-prong test to determine if potential state tax scheme unduly burdened interstate commerce in *Complete Auto Transit, Inc. v. Brady* (1977). The four-prong test considers fair apportionment, discrimination, nexus, and the nature of tax. The state would be found in violation of the Commerce Clause nexus could not be determined, if the state taxed more than a fair share of income, if instate and out-of-state taxpayers were treated differently, or if the tax did not fairly relate to services provided to the taxpayer by the state in question. The subsequent decision in *Quill Corp. v. North Dakota* took the four-prong test a step forward to highlight the undue burden that would be placed on remote
vendors to learn the local sales and use tax codes for various states. Therefore, regardless of physical presence, Congress must protect interstate commerce from undesirable burdens. Registration and learning of state and local sales and use tax code represents such an undue burden on interstate corporations.  

Amazon.com began collecting sales tax on purchases in Washington relatively close to the beginning of the launching of the website in 1995, since the corporate headquarters of the company is in Seattle (Krantz, 2012). Issues with *Quill Corp. v. North Dakota* were not present with the collection of sales tax by Amazon.com for purchases made by residents in the state of Washington, as the company had a clear physical presence within the state and taxation was on the sales of items to citizens within the state of Washington.  

The next round of legislation regarding the collection of sales tax by Amazon.com came in the early 2000s, when the states of Kentucky, North Dakota, and Kansas required Amazon to register as a certified collector (Krantz, 2012). At the time, Amazon.com had large distribution centers within all three states. While Amazon.com would have had the right to challenge the passage of legislation by these states, due to the fact the distribution centers were operated by a subsidiary of Amazon.com, the company chose not to legally challenge the passage of legislation by these three states.  

The controversial legislation requiring Amazon.com to register as an authorized sales tax collector in a state began with the state of New York in 2008. Henchman (2012) notes that the nature of the legislation passed by the New York state legislature was unique. Specifically:  

New York adopted a law that imposes such an obligation on a person or business with no physical presence in the state if it (1) enters into agreement with in-state resident involving commissions for referring potential customers; and (2) has gross receipts

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3 A brief filed by John Mikesell in the Quill decision noted 6,277 sales tax jurisdictions and 4,452 use tax jurisdictions.
from sales by out-of-state companies from referrals within the state which total more than $10,000 in a 12-month period (p. 1).

The $10,000 amount identified, in clear dollar terms, what level of sales by a corporation constituted nexus based presence within the state in combination with the commissions provided to third parties for referral of potential customers.

Additionally, the legislature of New York most likely expected a challenge to the legislation under Quill Corp. v. North Dakota undue burden test and the four-prong test in Complete Auto Transit, Inc. v. Brady (1977). The first part of the legislation passed by New York attempts to suggest that the Amazon.com affiliates program creates a physical presence within the state, addressing the prong of nexus in Complete Auto Transit, Inc. v. Brady. Amazon.com's affiliates program appears to be free to join, and does not specifically limit its members to particular states. Henchman (2012) clearly identifies the legal difficulties the state of New York encountered in its attempt to actually enforce said legislation. The undue burden portion of the Commerce Clause was not directly addressed by the state of New York in their legislation, but the total sales limit appears to suggest a targeting of large corporations. However, Amazon.com has been collecting sales tax on items for the state of New York and localities since 2009, suggesting a possible legal definition of physical nexus similar to as Scriptio, Inc. v. Carson (Noonan, Doyle, & Kelly, 2013).

The legal problems that New York experienced did not deter other states from following suit. Since the passage of New York's “Amazon.com” law in 2008, several other states have followed suit. Table 3 notes the states that have passed legislation requiring Amazon.com to collect sales taxes on sales made to residents in their states. The legislation found in this table represents a combination of affiliate nexus laws and click through nexus laws. Several of these laws have met legal challenges, such as the legislation passed by the state of North Carolina in
2009. North Carolina settled with Amazon.com in federal court in 2010, regarding privacy rights issues of customers (Henchman, 2012). The legislation passed by the state of North Carolina required the release of all items purchased by customers from North Carolina since 2003. Colorado passed legislation in 2010 requiring large retailers, like Amazon.com to send comprehensive purchase reports to consumers and the state Department of Revenue. Since the passage of the legislation in 2010, Colorado’s law has been struck down in federal court, reinstated, and most recently, blocked by a state judge in Denver (Hanel, 2014). Colorado is currently considering House Bill 1269, which will hold that online businesses are presumed to have nexus to Colorado, but the company has the right to dispute the nexus claim when the state chooses to collect the tax (Hanel, 2014).

Several states have chosen to delay the implementation of the “Amazon.com” laws. These delayed enforcement agreements typically postpone the collection of sales taxes by online retailers such as Amazon.com in exchange for the creation of additional jobs within the state, through the opening of one or more warehouse fulfillment centers, or the removal of the threat of closing previously present warehouses. For example, the day that the New York legislature passed their version of an “Amazon.com” law, Amazon.com responded by discontinuing its relationships with all affiliates within the state (Henchman, 2012; Noonan et al., 2013). Therefore, amid concerns of being considered legislators that “kills” jobs in a recession, several states have opted instead for the negotiated agreement. For example, Indiana made the strategic decision to engage in an agreement with Amazon.com delaying enforcement until 2014. In exchange for delayed enforcement, Amazon.com agreed to not close two warehouse fulfillment centers.
South Carolina took the negotiated agreement with Amazon.com and other major retailers one step further than simply delaying implementation. The legislators of South Carolina delayed implementation of sales tax collection to 2016 in exchange for the following items being completed by the businesses: one, put a distribution facility in service between December 31, 2010 and December 31, 2013; two, make a capital investment of at least $125 million during the same period; three, create at least 2,000 jobs with comprehensive healthcare plans; and four, maintain at least 1,000 jobs after 2013. Therefore, the legislature of South Carolina provided a delayed enforcement of collections in exchange for job creation and business investment within the state (Setze, 2011).

Finally, Vermont took an interesting step towards delaying collections of sales and use tax by online retailers, suggesting that that the state would only begin collections once 15 other states had passed similar “Amazon.com” collection laws (Henchman, 2011). This particular clause found within the sales and use tax revenue legislation represents a unique example of the desire for politicians to see enactment in neighboring states before choosing to enact tax legislation in their own state (F. S. Berry & Berry, 1992).

Additionally, the U.S. federal government is considering two pieces of legislation that would address the previous undue burden test of *Quill Corp. v. North Dakota* regarding sales by online retailers. If passed, this legislation would free up any potential legal barriers for other states to pursue taxation on online retailers.

**Hypotheses and Empirical Approach**

As stated in the previous section, the goal of this research is to test the applicability of traditional economic equity-efficiency trade-offs; identifying if these factors lead certain states to pursue expansion of the sales tax base to include taxation of online transactions. Pechman
(1987), Auerbach and Slemrod (1997), and Feldstein (1995) all identified one of the major goals of TRA 1986 as an expansion of the federal income tax base; specifically to prevent to counter what scholars had identified as an erosion of the base over time. The expansion of the sales tax base to include taxation of online transactions, by requiring websites like Amazon.com to register as official sales tax collectors in states, represents an attempt by states to engage in the same goal members of Congress when they passed TRA 1986. Specifically, TRA 1986 and “Amazon.com” both focus on a modification of the tax base to prevent erosion identified by others from the base (Bruce, Fox, & Luna, 2009). In the case of states modifying previous legislation to include the taxation of online transactions, variation is present in the methodology of enforcement, different from the national changes of TRA 1986.

Additionally, Table 3 highlights the fact that several states, either through direct legislation or through a subsequent agreement between Amazon.com and the state, have chosen to delay the beginning of enforcement of collections. Feldstein (1976b), Zodrow (1981), and Domeij and Klein (2005) all highlighted the importance of delaying enforcement in pursuing an optimal tax reform. The delayed enforcement approach allows time for the market to adjust to the changes as directly related to the change in the tax code. Additionally, simulations by Domeij and Klein (2005) demonstrate that there is little change in welfare costs between delaying enforcement one year to delaying four years. Table 3 highlights that multiple states chose to only delay one year, while others, such as South Carolina, chose to delay enforcement by 4 years.

Looking at Figure 1, one can clearly see that approximately half of states within the United States have not passed any form of Amazon.com legislation. However, of the state legislatures that have passed online sales and use tax legislation, a mixture is present between those states that require immediate enforcement and those that delay enforcement. Therefore,
some states have chosen to engage in a negotiated agreement with online retailers, while others have chosen to simply require immediate collections at the beginning of the next fiscal year, or within months of passage of the legislation. Geographically, immediate enforcement appears to be centered within the New England portion of the United States, but is not exclusive to that region.

Therefore, previous research on tax reform suggests that two contradicting forces are driving tax reform. First, states with less efficient tax systems will be looking for other means of revenue collection, turning to things such as the expansion of the sale tax base to include purchases from ecommerce. Second, states with higher levels of equity will desire to delay enforcement to maintain tax equity. However, measurement of both sales tax efficiency and equity across states in the United States represents a unique challenge to furthering the analysis.

Model and Estimation of State Implementation of Amazon.com Laws

While Amazon.com was collecting sales tax in the four main states in which the company houses major distribution centers since the 1990s and early 2000s (Kansas, Kentucky, North Dakota, and Washington), the first “Amazon.com” law passed by a state attempting to require major online retailers to collect taxes was by the state of New York, in 2008. Therefore, the movement by states to expand their sales tax base to include online transactions could be seen as starting in 2008. While New York's 2008 legislation experienced significant legal hurdles since implementation, the beginning of the movement to attempt to require online retailers to collect sales and use taxes on the behalf of a state began with New York. In particular, the New York legislation was the first to attempt to employ a nexus based argument in opposition to Quill Corp. v. North Dakota suggesting that online retailers needed to register as certified sales and use tax collectors if the company received revenues from in-state independent affiliates. As
several states followed suit in 2009 and beyond with similar forms of legislation highlighted in Table 3, the beginning of the nexus based legislation began in 2008. Looking at the beginning of the passage of “Amazon.com” legislation appeared to be the ideal time frame, given the fact that economic factors in 2008 would have led to legislation creation in 2009 and 2010. Therefore, the economic conditions of 2008 appeared to be an appropriate baseline for analysis.

New Hampshire, Montana, and Oregon were excluded from the calculations, as these states do not collect any sales taxes at the state or local level. Delaware was excluded from analysis due to the differences between gross receipt taxes collected by the state and a traditional retail sales tax system.

The most appropriate methodology would be a multinomial model, identifying states based on their pursuit of “Amazon.com” legislation: passed legislation that led to an immediate collection of funds; passed legislation but delayed enforcement; or no legislation passed at all. These models (multinomial probit and logistic) allow for the comparison of what factors explain the passage of legislation with immediate enforcement or legislation with delayed enforcement to the baseline of no online sales and use tax legislation.

Figure 1 highlights the spectrum of the states within each of the three categories. For the states with immediate enforcement, enforcement began during the same legislative session or at the beginning of the subsequent fiscal year. States with delayed enforcement often selected to delay enforcement until some later date or time, which ranges from one year to four years.

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4 As probit and logistic models have different likelihood functions for maximum likelihood analysis (Agresti, 2013) and previous literature was not clear on the premier method, both models were run to determine if one likelihood function provided a better fit to the data.

5 The one unique exception to this general guideline would be Vermont. Vermont currently has legislation in place suggesting that the state legislature can require enforcement of collection of sales and use taxes by online vendors when 15 other states have passed similar nexus based legislation (Henchman, 2011). Therefore, Vermont was coded as delayed enforcement state,
Selection of this methodology allows for consideration of both attempt to pass some sort of legislation or not, as well as, if the legislation was delayed in enforcement or immediately enforced by the state.

The model reads as the following:

\[ \text{OnlineTaxReform}_i = f(\alpha + \beta \text{DEA} + \gamma \text{UseTax} + \delta \text{RetailStorefronts}) \]

As theory did not clearly define the best methodology between both a multinomial logistic and a multinomial probit regression, both models were run. The addition of the binary logistic and probit regressions allows for a robustness check upon the results of the multinomial logistics and probit regressions, as significance of similar variables would suggest the strength of relationship between the variables and online sales and use tax legislation, as these factors were significant to explain the presence of legislation, regardless of consideration of enforcement strategy. Therefore, the binary logistic and probit regressions allow for a test of significance of the factors from normative economic theory against passage of online sales and use tax legislation, and the multinomial logistic and probit regressions allow for a consideration of differences in preference of enforcement of the law.

The inclusion of a time variant appears to be ill conceived, as the duration of time for passage of online sales and use tax legislation has been relatively short. The short duration (five years) of time prevents necessary variation in variables over time to warrant a time series model (Beck, 2001). Traditional time series methodologies are meant for analysis of long periods of time, allowing for sufficient variation in the explanatory variables. While traditional panel data models, such as fixed effects and random effects, are better equipped to handle relatively short

since the legislature indicated some interest in collecting sales and use taxes in the future, but the actual date of future collections is undefined at this time.
durations of time, these methods do not allow for a multinomial nature of a nonlinear dependent variable.

The dependent variable, *OnlineTaxReform*, contains the identification of the state with regards to the pursuing of legislation to require the collection of taxes on online transactions by major retailers. The nature of the coding of the dependent variable can be seen graphically in Figure 1. The coding of the variable identifies a value of 0 for states that have pursued no legislation in attempt to force online retailers to register as certified sales and use tax collectors within the state. The coding of 0 includes those states that have passed legislation requiring vendors to indicate to consumers that a sales and/or use tax might be owed on the purchases, as these legislations do not actually require the collection of sales and use taxes by the retailer. The coding of 0 also includes those states that have recently passed legislation to include a line on the state income tax form requesting citizens provide their own use tax liability. Previous research by Due and Mikesell (1994) found that Maine obtained the largest impact from line on individual income tax forms, but that impact was only approximately 3 percent of total use tax collections. For example, in 1992 Idaho collected $98,347 from 5,120 individual income tax returns reporting use tax owed (Due & Mikesell, 1994). Therefore, by in large, the passage of legislation to add a line to the state income tax form does not possess the same enforcement success as requiring the collection of sales and use tax by the retailer. The coding of 1 identifies those states that have passed legislation requiring immediate enforcement of collections. Immediate enforcement is defined as enforcement within the same legislative cycle as passage. Finally, a

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6 Maine was unique in the fact that citizens of Maine were confronted with two alternatives: the exact amount owed or 0.04 percent of the adjusted gross income of Maine plus any additional taxes on purchases over $1,000.
coding of 2 identifies those states that have delayed enforcement of the legislation. Summary statistics are presented in Table 4.

The model contains two variables to capture the competing effects that determine the decision to reform, $DEA$ and $UseTax$. The $DEA$ variable captures the efficiency component of the model, and is named after the methodology used to construct it, which will be discussed momentarily. As the sales tax under-performs relative to other sources of revenue, it becomes more attractive to reform the sales tax because it likely represents the largest gains in efficiency and equity. The coding of the $DEA$ under this intuition implies that the expected sign is positive. The $DEA$ variable represents the measurement of the relative sales tax efficiency of the state in comparison to other states.

Feldstein (1976a) highlights the concern with horizontal equity within tax reform. Expansion of the sales tax base to include online transaction removes issues of horizontal equity currently within the tax system. Given that the same exact item, one purchased online, and one purchased in a retail store, is subject to different tax structures, allowing for the expansion of the base reduces that issue of horizontal equity. It is this concept of horizontal equity that is addressed with the number of different state and local offices that an online retailer would have to contact in an attempt to remit taxes ($UseTax$). The more offices that a retailer has to contact in terms of providing collected sales and use taxes, the more complex the system becomes, and the less equitable the sales tax structure becomes as a whole. For example, one of the goals of the Streamlined Sales Tax Project (SSTP) is the streamlining of the sales tax submission process for online retailers, including the removal of local add-on options and multiple sales and use tax districts within a state. However, included within the SSTP process is the simplification of the remission process. For example, Arizona, a non-conforming SSTP state possesses 123 different
filing locations. Louisiana, another non-conforming SSTP state possesses 69 different remission locations. The number of filing locations in Arizona and Louisiana are in stark contrast to the 2 filing locations in both Nebraska and Nevada, both full SSTP states. Therefore, a count of the number of different remission locations appears to be a viable measure of sales tax equity state to state. States with large number of remission locations possess increased levels of complexity in terms of remission. Therefore, looking at the number of unique filing mailing addresses allows for a measure of complexity in compliance.

As to the expected sign of DEA, the sign is positive. The larger the DEA score (closer to one), the more inefficiency the sales tax is within a particular state. Therefore, the larger the inefficiency, the more likely a state is to reform the previous sales tax policy to include alternative sources of revenue. Therefore, a positive (+) sign on the front of the DEA variable would suggest that a state would desire to expand the base to collect additional revenue. In a binary logistic/probit regression model, the nature of the relationship should be positive. Conversely, in the multinomial logistic and probit analysis, one should expect a stronger positive sign on the delayed enforcement versus immediate enforcement. The expansion should be delayed to allow for the state the time to address inefficiency concerns within the current sales and use tax structure before increasing the sales and use tax code. If state legislatures are considering the traditional equity/efficiency tradeoffs, then the model should expose a stronger positive relationship towards delayed enforcement.

As to the expected sign of UseTax, the sign appears to be negative. The less equitable the sales tax policy within a state, as measured through increased number of use tax filing locations, the less likely the state legislature should be to reform their state’s sales tax policy to include the collection of taxes by online retailers. Therefore, a negative (-) sign on the front of
the *UseTax* variable would suggest that a state would not benefit from the immediate expansion of the sale and use tax base to include online transactions, as the online retailers would have increased levels of difficulty in compliance. States with larger numbers of sales and use tax filing locations should delay enforcement so as to allow the state legislature time to streamline the collection process before enforcement of the new law begins. Therefore, in a multinomial consideration, one should expect a stronger negative relationship between *UseTax* under immediate enforcement. If states are going to pass online sales and use tax in high complexity, one should expect a preference for delayed enforcement to allow for simplification of the tax structure before enforcement. Therefore, states with large inequity should prefer immediate enforcement the least against the baseline of no enforcement, or delayed enforcement.

*RetailStorefronts* represents the control variable. In particular, the presence of storefronts within a state to purchase items represents an important factor driving the use of online retailers. Specifically, the smaller the number of store fronts or the traditional “brick and mortar” establishments close, individuals within a state would be more likely to pursue “virtual” store fronts as a means to purchase items. Individuals would face a lower cost in payment of shipping fees than time and transportation costs associated with traveling to the retail storefront. For example, Price Waterhouse Coopers survey of consumers globally, found that convenience factor, such as fact that online shopping was quicker and easier than traveling to retail storefronts, was the second largest driver of online purchases behind price (PriceWaterhouseCooper, 2012). Storefronts are in direct competition with online stores for purchases made by individuals. Additionally, the distribution of retail storefronts is not random, but rather systematic around population centers. The data for total retail storefronts comes from
the International Council of Shopping Centers, and was compared to data from state Departments of Revenue.

The expected sign of the RetailStorefronts variable is not readily apparent. As this variable is acting as a control variable within the model, the expected sign could differentiate based on a number of factors such as population in the state and average distance, in miles, between these storefronts. The variable is not scaled to allow for presence as a pure equity measure.

**Data Envelopment Analysis**

Data envelopment analysis (DEA) provides a non-parametric method of identifying production frontiers. Specifically, DEA allows for the identification of production efficiency of different decision-making units in comparison to other decision-making units. Therefore, DEA analysis does not provide an absolute value of production efficiency, but rather a ranking of efficiency when compared to other units within the sample. As sales and use tax collections are not randomly distributed throughout the fifty states in the United States, one would want to compare the effectiveness of sales and use tax efficiency of one state to another state. Bogetoft and Otto (2010) suggests that “It thereby integrates the two basic problems of: a) defining a performance standard; the technology, and b) evaluating achievements against the established standard (p.81).” Therefore, DEA analysis allows for both the identification of a standard of efficiency and compares the other units against the identified standard, creating a relative measure of sales and use tax efficiency.

DEA employs a consideration of both inputs and outputs in terms of attempting to identify the standard of efficiency. Therefore, to obtain larger efficiency values, the decision-making unit would want to maximize its outputs relative to its inputs. While there are multiple
variations of DEA analysis, some that allow for a focus on maximizing inputs in relation to some constant level of output, this research will employ input based DEA analysis.

DEA will allow for the derivation of a sales tax efficiency scale for states in the United States. As measuring sales tax efficiency appears to be a problem identified but not solved in the literature, DEA analysis appeared to be superior to simply comparing states on sales tax revenue collections as a percentage of total revenue collection for the state, because of the issue of identification of a performance standard. Therefore, DEA analysis allows for the creation of a standard of sales and use tax efficiency employing a set of inputs and outputs; the standard is then compared to all of the states within the analysis to create a measure, or score, of relative sales and use tax efficiency.

Tables 1 and 2 identify the five inputs and two outputs employed in the creation of the DEA scale. The inputs could be divided into three categories: (1) administrative investment; (2) measurement of the rate of taxation; and (3) a measure of base or total potential of collection.

The importance that the state places on collection of taxes can be observed through two input variables, total employees and value of state tax collectors. Both of these variables are drawn from the Bureau of Labor Statistics, and relate directly to public finance activities at the state level\(^7\). The NAICS code selected addresses the individuals in government directly related to public finance, taxation, and monetary policy. While the NAICS code contains some individuals not directly connected to revenue collections, the overall investment in public finance activities of the state gets at the concept of administrative investment in public finance, and allows for a clear comparison among the states.

\(^7\) NAICS code: 921130
The total employees variable represents the number of employees a state has on the payroll for a given year in the area of public finance activities. Looking at the total number of employees hired by a particular state represents a measure of the potential of collection level, since a larger number of employees within a state’s Department of Revenue would most likely lead to increased capacity for enforcement and audits. Therefore, theoretically, the more employees a particular state hires, the more resources available to the state to collect the sales and use taxes. Per capita or as a percentage of total state employees would bias the result towards states that have smaller populations, and those states with overall small levels of state government. The value of state tax collectors compares the average annual salary of a public finance employee for the state to the average annual salary of a citizen in that particular state. In particular, this measure represents a proxy for how much the particular state values collection and enforcement of sales and use taxes. The more highly skilled the average employee is within a particular state’s Department of Revenue, the higher wage that must be paid to the average worker. Higher skilled workers within a particular state’s Department of Revenue suggest that the state places value on obtaining skilled workers to collect its taxes, suggesting a value is placed on collection and enforcement. In total, these two measures represent a proxy measure for the value a particular state places on collection and enforcement of current sales and use tax legislation. As stated previously, these two measures are not perfect proxies but estimates of investment in public finance administrative base.
Table 1: Inputs for DEA Analysis

<table>
<thead>
<tr>
<th>Inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total State Employees in Public Finance Positions</strong></td>
</tr>
<tr>
<td>Value of State Tax Collectors</td>
</tr>
<tr>
<td>Sales Tax on Business Inputs</td>
</tr>
<tr>
<td>Tax Rate</td>
</tr>
<tr>
<td>Individual Income Per Capita</td>
</tr>
</tbody>
</table>

The two rates of taxation variables directly relate to the ad-valorem rate charged by the state on consumption. The higher the ad-valorem rate, the larger potential net revenue collections from sales and use taxes. First, the sales tax rate simply represents a combination of state sales tax and any local add-on sales tax for the state. Sales tax rates selected by each state legislature are not randomly assigned, but rather identified by the state legislatures. Therefore, including the sales tax rate can be seen as a measure of potential revenue, as states with a higher sales tax rate have a greater potential to raise additional revenue though the expansion of the base to include online transactions. Given that several states have in addition to a state sales tax rate, a local add-on option, where localities within the state have the option to levy an additional sales tax above the state rate on purchases within their jurisdiction, this analysis will look at the average sales tax rate for the state, including local add-on options. The inclusion of the local add-on option rate appears to be essential, as online retailers, such as Amazon.com would be liable for the collection of both the state rate, as well as any local add-on rates, the same way a brick-and-mortar location within the state have to remit both taxes.
Secondly, consideration of taxation of business inputs is another measure of relative sales tax efficiency within a state. As taxing business inputs is bad for economic efficiency, it must be considered in a model of relative sales tax efficiency of the states. Ernst and Young present annual records on the sales tax on business inputs charged by various states. Therefore, another measure of the rate would be the business share of the total retail sales tax, as these calculations directly relate back to the total sales and use tax revenue a state collects. While business sales tax collections has a great endogeneity problem driven by the sales tax system, one must still consider the presence of such as tax in any measure of relative sales tax efficiency.

The final input into the DEA model deals with the consideration the base of potential revenue collection from sales and use taxes a particular state possesses. A vast majority of consumption and the subsequent collection of consumption taxes come from citizens within their own state. As consumption directly correlates with personal income and wealth, a measure of the average income of an individual within a state is essential in determining the potential base of consumption and therefore revenue for states through sales and use taxes. Therefore, the final input is the average income per capita for each state from the Bureau of Economic Analysis. While a few states rely heavily on the consumption of tourists within their states, the vast majority of states within the United States directly rely on consumption by their own citizens. Therefore, looking at the average amount of income a citizen has to possibly spend on consumption represents a potential measure of base.

All of the inputs that were selected, highlighted in Table 1, represent a different part of the sales and use tax collections within states. In particular, the focus is on the administration, rate, and potential base of collection within the state.
Table 2: Outputs for DEA Analysis

<table>
<thead>
<tr>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Tax Revenue Per Household</td>
</tr>
<tr>
<td>Selective Sales and Use Tax Revenue Per Household in the State</td>
</tr>
</tbody>
</table>

Two outputs were identified for the DEA model, and both directly correlate with the revenue collection of the states (Table 2). As the inputs directly related to the administration, rate and potential base of collection within the state, the outputs take into consideration the actual revenue collections of each state from sales and use taxes. Both of the outputs were adjusted to reflect the number of households with each state. The adjustment takes into consideration that more individuals within a state are not randomly distributed, and that increased numbers of individuals increases the potential of sales tax collection, simply through more individuals consuming items and paying sales and use taxes. Taken from the U.S. Census’s State Government Tax Collections, the first measure is the total sales tax revenue collection from general sales tax legislation for the year of 2008. As stated previously, this figure was adjusted to account for the number of households within the state. The second output variable is the selective sales and use tax revenue in the state, adjusted for the number of households within the states. This variable measures the sales and use tax revenue the state collected in 2008, from selective sales tax laws, as well as use tax collections.

DEA combines the inputs and outputs in the manner found in the equation below, explained in greater detail in Bogetoft and Otto (2010). In particular, an assumption was applied that assumes a constant return to scale in forcing all points within the analysis to fit within the convex hull created through the frontier analysis. This selection created an identification of a
pure technical efficiency, allowing for the comparison of all 47 states on a traditional spectrum between zero and one. New Hampshire, Montana, and Oregon were excluded from the DEA calculations, as these states to do not collect any sales taxes at the state or local level. Inclusion of these states would have biased the DEA score for the other remaining 47 states, as the three states would be pushed to the extreme of sales tax inefficiency (large inputs in comparison to relatively small outputs). States, such as Alaska, who have no state sales tax, but allow for the collection of certain local sales taxes, were included within the model.

\[ E^0 = E(x^0, y^0; T^\ast) = \min\{E \in \mathbb{R} \mid (Ex^0, y^0), \in T^0 \} \]

where

\[ T^\ast(\gamma) = [(x, y) \in \mathbb{R}^m_+ * \mathbb{R}^n_+ | \mathbb{E} \in \delta^K(\gamma): x \geq \sum_{k=1}^{K} y^k x^k, y \leq \sum_{k=1}^{K} y^k y^k] \]

Inserting equation \( T^\ast(\gamma) \) into \( E^0 \):

\[
\begin{align*}
\min_{E, \lambda^1, \ldots, \lambda^K} E \\
\text{s. t. } Ex^0 & \geq \sum_{k=1}^{K} \lambda^k x^k, \\
y^0 & \leq \sum_{k=1}^{K} \lambda^k y^k \\
\lambda & \in \delta^K(y)
\end{align*}
\]

8 A slight punishment is given to these states in the DEA model, partially due to the large inputs that relate to smaller outputs, since the state is only collecting at the local level.
9 Looking at firm 0, we are able to calculate their Farrell efficiency, \( E^0 \), as a combination of inputs, \( x^0 \), and outputs, \( y^0 \), taking into account \( T^\ast \), the set of assumptions with how the various sets inputs lead to a return to scale of the output. By minimizing \( E \), we are able to identify the smallest set that either includes or envelops the combination of input-output observations for all firms. The identification of the relative efficiency score, \( \lambda \), allows for the comparison of the input-output observations within the firm.
Hence, an optimization problem is present within the input side of the equation. The same general methodology is employed on the output side of the equation, where \( E^0 \) is replaced with \( F^0 \). In terms of solving the optimization problem, the process is relatively straightforward, given a set of \( K + 1 \) variables, \( m \) unique input constraints, \( n \) unique output constraints, and some linear objective function. Additionally, there is the possibility of some additional linear constraints not expressly identified in the model are always possible. However, the process of solving is only a linear programming problem.

Multiple state DEA allows for accounting of exogenous factors that might affect the relative efficiency scale (Glass, McCallion, McKillop, & Stringer, 2006; Simar & Wilson, 2007). As individual income per capita might be considered a control variable, affecting relative sales tax efficiency versus an input, three stage DEA was considered. However, individual income per capita did not meet the necessary statistical significance during stochastic frontier analysis or tobit analysis necessary for implementation of a two or three stage DEA model with control for individual income per capita. Therefore, individual income per capita was included as an input in a one stage DEA model.

Figure 2 provides a color-coded spectrum of the results of the DEA model. DEA values closer to one represent relative sales tax inefficiency, in comparison to other states, while values closer to zero represent relative sales tax efficiency. This is not the same thing as absolute sales tax efficiency, but rather a measure of how the sales tax system is functioning in a particular state versus all of the other states in the United States. A state could receive a low DEA value but possess an economically inefficient sales tax structure in comparison to absolute ideals. As stated previously, these values are not absolute measures of efficiency, but measures of relative efficiency in relation to other states. The states with the three lowest DEA values were Alaska,
Delaware, and Virginia, suggesting these states possess relative sales tax efficiency when compared to other states. The states with the three highest DEA scores were Hawaii, Washington, and Wyoming, suggesting that these states possess relative sales tax inefficiency. The average DEA score obtained was 0.48 with a standard deviation of 0.19 suggesting a spread over the entire spectrum of 0 to 1 (table 4).

**Results**

Considering first the results of the binary probit and logistic regressions, one will note the overall lack of statistical significance of any of the explanatory variables. As previously hypothesized, utilitarian interests of the traditional equity-efficiency trade-offs of tax reform appear to not play a significant role in prediction of the presence of any type of online sales and use tax legislation. However, the signs of the coefficients both the measure of sales tax efficiency (DEA) and the number of use tax filing locations were consistent with previous predictions. While lacking statistical significance, the nature of the signs of the coefficients mirroring predictions suggests that some underlying utilitarian considerations may be at play. In other words, the direction of the effects are consistent with the utilitarian predictions of economic theory, although they do not seem to be significant enough to provide precise predictions of which states adopt these reforms.

Turning to the multinomial logistic and probit models, a unique pattern emerges. While not statistically significant, the sign on both sales tax efficiency (DEA) and the number of filing locations differs for immediate and delayed enforcement. For immediate enforcement, relative sales tax efficiency and number of filing locations plays a negative role against the baseline of no legislation; states with inefficiency and numerous filing locations are not likely to pass legislation with immediate enforcement. For delayed enforcement, the exact opposite pattern
appears, as relative sales tax efficiency and number of filing locations have a positive relationship towards the passage of legislation when compared to the baseline of no legislation. Specifically, of particular interest, the constant of both the multinomial probit and multinomial logistic models were statistically significant in considering delayed enforcement. This finding suggests that other factors are playing a statistically significant role in explaining the passage of “Amazon.com” legislation, but they are not accounted for explicitly in the model.

Conclusion

Normative tax theory identifies the optimal conditions for engaging in tax reform, but empirical research on why reforms take place has mostly been limited to case study analysis. This paper investigates the adoption of an important trend in sales tax legislation in the United States, reform of the existing sales and use tax code to include taxation of online transactions. Drawing from normative theory, testing for the effects of balancing sales and use tax efficiency losses with equity concerns, there is lack of importance of the traditional equity-efficiency trade-offs of tax reform in explaining the passage of online sales and use tax legislation. In particular, state legislatures are most likely considering other factors other than equity and efficiency when passing sales and use tax legislation.
References


PriceWaterhouseCooper. (2012). Understanding how US online shoppers are reshaping the retail experience.


### Table 3: Online Tax Legislation Passage and Enforcement Years by State

<table>
<thead>
<tr>
<th>State</th>
<th>Passage Year</th>
<th>Enforcement Year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>2011</td>
<td>2011</td>
<td>Amazon.com shut down its affiliate program in the state.</td>
</tr>
<tr>
<td>California</td>
<td>2011</td>
<td>2012</td>
<td>Originally supposed to be immediate enforcement but delayed one year due to agreement with Amazon.com.</td>
</tr>
<tr>
<td>Colorado</td>
<td>2010</td>
<td></td>
<td>Struck down in Federal Court.</td>
</tr>
<tr>
<td>Connecticut</td>
<td>2011</td>
<td>2011</td>
<td>Amazon.com terminated its relationships with affiliates.</td>
</tr>
<tr>
<td>Georgia</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>2011</td>
<td></td>
<td>Struck down by judicial review.</td>
</tr>
<tr>
<td>Indiana</td>
<td>2012</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Kansas</td>
<td>2004</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td>2005</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>Maryland</td>
<td>2009</td>
<td>2009</td>
<td>Amazon.com removed physical presence in the state.</td>
</tr>
<tr>
<td>Nevada</td>
<td>2012</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>2009</td>
<td></td>
<td>Settled in federal court.</td>
</tr>
<tr>
<td>North Dakota</td>
<td>2006</td>
<td>2006</td>
<td>Requires retailers to give notice to individuals who buy items for which use tax is due.</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2010</td>
<td></td>
<td>Requires retailer to give notice to individuals who buy items that use tax is due.</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>2012</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>2009</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>South Carolina</td>
<td>2012</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>South Dakota</td>
<td>2011</td>
<td></td>
<td>Requires retailer to give notice to individuals who buy items that use tax is due.</td>
</tr>
<tr>
<td>Texas</td>
<td>2011</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>2011</td>
<td></td>
<td>Only goes into effect if 15 states pass similar reforms.</td>
</tr>
<tr>
<td>Virginia</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
</tbody>
</table>

**States with no reform:** Alabama, Alaska, Delaware, Florida, Hawaii, Idaho, Iowa, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, Ohio, Oregon, Utah, West Virginia, and Wyoming. Washington state collects taxes under traditional tax law due to Amazon.com’s headquarters in Seattle.
**Figure 1: Enactment of Online Tax Reforms and Enforcement Structure by State**

Source: Author’s research of state legislation.
Note: “No Sales Tax” indicates that there are no sales or use taxes at the state or local level. New Hampshire is also coded as “No Sales Tax” because they have a value-added tax, which changes the compliance issues experienced under the gross sales receipts and retail sales taxes that are employed in other states.
Figure 2: Relative Sales Tax Efficiency through Data Envelopment Analysis
Table 4: Summary Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Tax Legislation</td>
<td>46</td>
<td>0.5</td>
<td>0.506</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Online Tax Enforcement</td>
<td>46</td>
<td>0.739</td>
<td>0.828</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>DEA</td>
<td>46</td>
<td>0.484</td>
<td>0.1.89</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Filing Locations</td>
<td>46</td>
<td>12.761</td>
<td>26.740</td>
<td>1</td>
<td>123</td>
</tr>
<tr>
<td>Total Retail Storefronts (Thousands)</td>
<td>46</td>
<td>22.551</td>
<td>22.032</td>
<td>2.515</td>
<td>106.265</td>
</tr>
<tr>
<td></td>
<td>Probit Model</td>
<td>Logit Model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Tax Efficiency</td>
<td>0.111</td>
<td>0.226</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.042)</td>
<td>(1.765)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Use Tax Filing Locations</td>
<td>-0.0059</td>
<td>-0.0010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.016)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Storefronts within State</td>
<td>0.0196*</td>
<td>0.0332</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0115)</td>
<td>(0.0224)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.401</td>
<td>-0.687</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.672)</td>
<td>(1.196)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>46</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>0.078</td>
<td>0.078</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*robust standard errors in parentheses*

* (p < 0.10), ** (p < 0.05), *** (p <0.01), **** (p < 0.001)
<table>
<thead>
<tr>
<th></th>
<th>(1) Probit Model</th>
<th>(2) Logit Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Immediate Enforcement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Tax Efficiency</td>
<td>-1.953</td>
<td>-2.687</td>
</tr>
<tr>
<td></td>
<td>(2.009)</td>
<td>(2.886)</td>
</tr>
<tr>
<td>Number of Use Tax Filing</td>
<td>-0.111</td>
<td>-0.174</td>
</tr>
<tr>
<td>Locations</td>
<td>(0.127)</td>
<td>(0.192)</td>
</tr>
<tr>
<td>Retail Storefronts within</td>
<td>0.0172</td>
<td>0.025</td>
</tr>
<tr>
<td>State</td>
<td>(0.016)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.653</td>
<td>1.001</td>
</tr>
<tr>
<td></td>
<td>(1.258)</td>
<td>(1.744)</td>
</tr>
<tr>
<td><strong>Delayed Enforcement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Tax Efficiency</td>
<td>1.169</td>
<td>1.719</td>
</tr>
<tr>
<td></td>
<td>(1.557)</td>
<td>(1.959)</td>
</tr>
<tr>
<td>Number of Use Tax Filing</td>
<td>0.0005</td>
<td>0.0029</td>
</tr>
<tr>
<td>Locations</td>
<td>(0.011)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>Retail Storefronts within</td>
<td>0.0314*</td>
<td>0.0414*</td>
</tr>
<tr>
<td>State</td>
<td>(0.016)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.883*</td>
<td>-2.582*</td>
</tr>
<tr>
<td></td>
<td>(1.063)</td>
<td>(1.447)</td>
</tr>
<tr>
<td>Observations</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td></td>
<td>0.119</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses

* (p < 0.10), ** (p < 0.05), *** (p < 0.01), **** (p < 0.001)
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<sup>11</sup> Drawn from BLS data on employment records, NAICS code: 921130.
Chapter 3: Politically Rational Behavior in Policy Reform: Evidence from Online Sales and Use Tax Legislation

This chapter seeks to test the applicability of a rational behavioral model of tax structure (Hettich & Winer, 1984; Hettich & Winer, 1988) towards the passage of online sales and use tax legislation. Within this rational behavioral model, legislators pursue revenue legislation only if the political costs, which are measured through perceived net loss of votes in the subsequent election, are less than the need to raise some dollar amount of needed revenue. Therefore, this chapter explores if the rational behavioral model of tax reform can be used to explain the passage of “Amazon.com” legislation.

As Mikesell (1978) bluntly explains, “tax changes are distasteful” (p.99). Politicians must balance the need for public service demands against the risk of potentially losing votes in the next election for supporting the taxes that pay for those services. Legislators are expected to carry out the acts that gain the most votes and lose the fewest (Downs, 1957). As politicians are vote-seeking individuals (Fenno 1978; Fiorina 1989; Mayhew 2004), proposing unpleasant tax changes can be seen as political suicide. Therefore, if tax changes directly oppose the re-election desires of politicians, how do we obtain changes to tax law? Changes to tax policy occur when a the cost benefit analysis between potential political damage and net gains from change in policy is positive (Fisher, 2009; Hansen, 1983). Specifically, this reduction could occur though the passage of legislation by a neighboring state, positive public opinion for the measure, or even a dramatic event, such as a national disaster (Fisher, 2009; Landon & Ryan, 1997; Peters, 1991a). In these specific cases, the benefits either outweigh the costs or the political costs are minimized to a point where legislatures are willing to accept the expense of political capital. Regardless of the means of the reduction of political costs, tax policy legislation still represents a risky political decision for members of legislatures.
Since the Recession, many states have been struggling fiscally to balance their general fund, and looking for additional sources of revenue to offset the increasing costs of providing governmental services. These members of state legislatures face the tough policy calculation of balancing the need to pay for governmental services against the political reality of an electorate that does not wish to bare additional costs of government (Hansen, 1990). To continue current levels of public goods and services, state legislatures are forced to either request additional federal aid or levy additional taxes. Another option is to pass taxes that would mainly affect out of state citizens, who can not subsequently punish the legislature for the passage of the policy, such as increased hotel taxes (Due & Mikesell, 1994) Due to citizens demanding higher levels of services during times of economic downturn, cutting spending is political unviable for legislators. Therefore, states must turn to additional forms of taxation. The vast majority of states in the United States depend on a mix of state income taxation and sales taxation to fund their services. As Peters (1991b) points out, each state has its own unique political culture, which leads to variation in solution to tax problems. Therefore, variation in tax policy should be expected throughout the United States.

At the same time, companies like “Amazon.com” are seeing booming profit margins and dramatic increases in usage. Research highlights the increases in online shopping (Banjo & Ziobro, 2013); local newspapers are publishing stories about the closing of storefronts due to decreased businesses and increased competition from giants such as “Amazon.com”. In addition, consumer spending decline is driven partially by three factors: decreases in wealth, tighter credit conditions, and high levels of uncertainty with the market (Spilimbergo, Symansky, Blanchard, & Cottarelli, 2008). Therefore, members of state legislature are dealing with unique double loss of revenue: decreased income through sales tax due to lower levels of consumption,
and increased likelihood that consumption of items will be done through the “shadow economy” of online consumption, thereby avoiding sales and use tax on the purchases (Alm & Melnik, 2012; Baugh, Ben-David, & Park, 2014).

Looking at the expansion of the sales tax to include requiring online retailers, such as “Amazon.com”, to register as sales tax collectors appears to be a low-cost economic outcome. State legislatures were able to pass much needed additional revenue collection, without large-scale distortion of market behavior typical of the addition of a new tax; an expansion of a base to similar items represents the least additional distortion in the market (Zodrow, 1981). Additionally, the inclusion of a sales tax to online retailers was politically viable, as members of state legislature could promote that they were leveling the playing field between the “mom and pop” store owners, and the giant big-box stores, such as “Amazon.com”. Furthermore, as “Amazon.com” is not located within the state in question, the state legislatures are less concerned about the political ramifications of “Amazon.com” lobbying their state government against the additional tax. And, as “Amazon.com” cannot vote in their state elections, legislatures are not at risk for losing their vote for reelection.

Therefore, many states have turned to an expansion of their sales tax base to include online transactions through variations of nexus based presence in the state. This expansion allows the state legislature to fulfill their need for additional revenue, without the economic consequences of new taxation. While several of the enacted legislations have run into subsequent roadblocks (governor’s veto, challenges in state courts), the mere act of passing said legislation suggesting that an increasing number of state legislatures are forced to make the tough political decision to weight potential vote loss from voters displeased they have to pay taxes for online sales from “Amazon.com” against the addition of further taxation by the state to garner needed
revenues. As Baugh et al. (2014) find in their recent paper, taxation of “Amazon.com” transactions in five states has lead to a 19.8 percent increase in purchases at competing retailers, suggesting individuals are simply opting for another site that provides the necessary item, but has not been forced by the home state to register as a certified sales tax collector.

This chapter seeks to test the relevance of a rational behavioral model of tax structure (Hettich & Winer, 1984; Hettich & Winer, 1988) towards explaining the passage of online sales and use tax legislation. Within this rational behavioral model, legislators should only pursue revenue legislation only if the political costs, which are measured through perceived net loss of votes in the subsequent election, are less than the need to raise some dollar amount of needed revenue, taking into account other political culture characteristics of the state that can influence this cost benefit analysis. Therefore, this chapter explores if the rational behavioral model of tax reform can be used to explain the passage of “Amazon.com” legislation.

Additionally, this chapter is not attempting to argue that “Amazon.com” legislation represents broad scale tax reform, such as the Tax Reform of 1986 (Auerbach & Slemrod, 1997; Burman et al., 1994), but that all changes to tax policy, such as increases or decreases in rate or expansion of the base, are often accompanied by tax reform. Therefore, the literature on political culture and tax reform contains valuable information with regards to identification of testable characteristics of the rational behavioral model.

The subsequent section contains a review of the applicable literature towards the rational behavioral model of tax structure, identifying key testable characteristics from the model. Additionally, a review of previous case studies in tax restructuring is undertaken. A model is proposed to test the applicability of the rational behavioral model of tax structure
towards “Amazon.com” legislation. Results from the model are presented and conclusions are drawn.

**Literature Review**

The model proposed by Hettich and Winer (1984) suggests that political agents choose a tax structure that seeks to minimize the political costs, measured through net expected vote loss in the next election, within the constraint of requiring a budget of a given size. The citizen within the model balances the benefits of the pure public good against the loss of full income causes by the taxes. The model proposed by Hettich and Winer (1984), shares common threads with the concept of political inertia proposed by Richard Rose (Rose, 1985a; Rose & Karren, 1987).

Specifically, Rose and Karren (1987) argue that, “a significant change in taxation requires a political will strong enough to redirect a tax system that moves with great force from its own momentum, and to accept the resulting political criticism for introducing new tax measures” (p. 6). Therefore, a preference is given towards relying on revenue taxes that were passed by previous legislatures versus risking the potential blame for introduction of new taxes (Rose, 1985b). Additionally, politicians consider the tax increases of their neighboring states while considering passage of new taxes; the political costs of passage of revenue legislation is greater for those taxes out of line or different from neighbors (Besley & Case, 1995).

F. S. Berry and Berry (1992); (1994) in their empirical studies find overwhelming support for a political opportunity explanation, as the presence of a long time until the next election, the existence of a fiscal crisis within the state, and the presence of neighboring states that have also passed similar legislation allows for politicians to shield themselves from the political costs associated with passage of revenue seeking legislation. The political calculations necessary for passage of tax legislation represents a unique computation for state legislators, as
they have to be concerned about issues of reelection. Specifically, the F. S. Berry and Berry (1992) model is an expansion of the minimization of the rational behavioral model, because state legislators are choosing to only pursue tax increases when the electoral risks of doing so is minimized (F. S. Berry & Berry, 1994).

Therefore, the passage of online sales and use tax legislation should be driven by a combination of the politician’s perceptions of the current state of public opinion on the passage of revenue legislation, the proximity of the next election for members of the state legislature, as well as the salience of the passage of the revenue legislation with the public. If the rational behavior models hold, those state legislators that choose to pass online sales and use tax legislation must believe that the political costs in net expected vote loss can be mitigated by public desire for the legislation, a long period of time until the next election, or a lack of salience of the passage of the legislation.

The following sections contain critical analysis on the above-mentioned factors (politicians’ perceptions, election cycle, accountability) as well as case studies in the specific effects of passage of revenue collecting legislation upon the subsequent elections of members of various legislatures. Specifically, the goal of this critical analysis of the literature is to obtain testable variables that can be considered in the subsequent analysis of the applicability of rational behavioral model towards explaining the passage of online sales and use tax legislation by state legislatures within the United States.

**Politician’s Perception**

Starting from the simple model of politicians’ as vote maximizing individuals (Hettich & Winer, 1984; Rose, 1985a), Ashworth and Heyndels (2000) explore what taxation methods politicians prefer, and how deviations or differences may occur between stated preferences and
actual outcomes. Of interest, taxation increases are often diversified through two or more taxes, allowing for the collection of necessary revenue and a spreading out of burden, suggesting some consideration of collective bargaining. However, a reciprocal relationship is not present for taxation decreases where smaller cuts are made to several taxes; most tax cuts are concentrated as income tax decreases (Ashworth & Heyndels, 2000). Similar concentrations of tax cuts are found within the United States federal government (Zelizer, 1998), with preferences given to decrease in federal personal income tax rates.

**Accountability**

While the literature contains some disagreement on the relative magnitude of retribution, the general consensus finds that voters do hold legislators and state governors in the United States accountable for the passage of revenue legislation. Kone and Winters (1993) find weak negative electoral effects of taxation using a data set containing all fifty states within the United States between 1957 and 1985. Neimi, Stanley, and Vogel (1995) find increases in taxes, coupled with poor state economies and lowered personal finances of citizens within the state all lead to votes against incumbent governors in the 1986 elections. A recently adopted tax also played a negative role in open elections, suggesting that the passage of tax policy can lead to negative opinions of the voting public in subsequent elections (Neimi et al., 1995). Similar electoral accountability can be seen independently of macroeconomic conditions (Lowry, Alt, & Ferree, 1998).

A reciprocal relationship is not apparent with regards to those state governors who decrease taxes. State governors who decrease taxes do not receive a statistically significant increase in the likelihood of reelection (Kone & Winters, 1993). Furthermore, the political party of the governor can directly relate to the magnitude of the accountability. Republican
gubernatorial candidates are punished for increases in the state budget, while Democratic candidates can be rewarded for minor increases (Lowry et al., 1998). Republican legislatures have a bias towards smaller government, but the political costs of tax increases are similar for both parties (Sobel, 1998). However, Republican legislators face much higher political costs for increasing taxes than expenditure reductions, while Democratic legislators appear to face similar political costs for both (Sobel, 1998).

Additionally, the strength of punishment or reward for tax increases appears to be generational in nature, with older generations preferring greater governmental taxing and spending, with younger generations preferring the opposite (MacManus, 1995). The differences in preferences could be partially due to the relative tax burden born by younger generations versus older generations, as older generations are often not still being burdened by an state and federal income tax.

In cases of divided government control, the blame appears to be shifted towards the executive branch (Norpoth, 2001). The executive branch appears to receive a larger level of blame for economic failures in the case of divided government than legislatures. Therefore, governors might feel obligated to exercise an executive veto.

Of interest, negative effects on electoral outcomes were especially present with relation to general sales tax programs (Kone & Winters, 1993; Stults & Winters, 2005). Since general sales tax changes are seen as one of the more visible taxes to citizens, they appear to have the largest systematic political costs (Landon & Ryan, 1997). The higher level of salience appears to suggest that voters possess a higher level of knowledge when a tax change that negatively impacts their personal income has occurred. Comparing new sales tax policies and changes to existing sales tax laws, while both have a negative effect on electoral outcomes, new sales tax
policies bear the larger political cost (Kone & Winters, 1993). Within sales taxes, sin taxes (sales taxes on specific items that are deemed negative to the individual or society, such as tobacco and alcohol) do not contain the same highly negative relationship (Stults & Winters, 2005). The lack of correlation between changes in six tax rates and effect on electoral outcomes could be driven by the fact that a smaller portion of the population are directly affected by changes in sin tax rates, while the entire population is affected by a change in the general sales tax rate.

**Election Cycles**

The passage of taxes appears to have a specific relationship with the electoral cycle; governors and state legislatures are most likely to push for legislation in the first and third year of the governor’s four year term in office (Mikesell, 1978). Specifically, these are off years for the traditional two-year election cycle of state legislators, where the legislators are not immediately concerned about the impending elections (Mikesell, 1978). Looking at a two year changes, (Case, 1994) finds that increases in state income tax liabilities were significantly lower for those states in which the governor was reelected versus those states where the governor lost the subsequent election. However, citizens appear to be more forgiving of tax increases if a neighboring state has passed similar legislation (Besley & Case, 2003; Case, 1994).

Poterba (1994) explores the ability of state legislatures to pass tax legislation that addresses budget deficits present in most states during the late 1980s. He finds that political factors do play an important role in the ability of state legislatures to pass fiscal adjustment legislation. In particular, a single party government controlling the legislature and the governor allows for passage of legislation. In addition, similar to F. S. Berry and Berry (1992), Poterba (1994) finds that timing of election is significant. However, Poterba (1994) finds that tax increases and spending cuts are both smaller in years which the state has a gubernatorial election.
Case Studies in Tax Restructuring

Several case studies have been pursued to specifically understand the election-based effects of passage of revenue tax reform legislation. These studies look at the specific effects of a particular piece or multiple pieces of legislation that advocate tax increases upon the subsequent election of both members of legislatures as well as governors of states in the United States. Overall, these studies contain mixed results regarding the implicit relationship between tax increases and subsequent electoral effects.

Johnson, Lynch, and Walker (2005) explored the effects of the income tax rates upon subsequent voting patterns in elections for Britain between the years of 1950 and 2001. This time-series study looks at different income levels and different household types over the tenure of the study. During this time period, changes could be seen in both the marginal and effective income tax rates. Johnson et al. (2005) findings on the standard income tax rate and election results mirrors prior research in the field; changes in standard or base income tax rates do not directly correlate with losses in subsequent elections. However, Johnson et al. (2005) do find a statistically significant relationship between changes in the effective income tax rate and election outcomes; specifically, an increase in effective income tax rates will lead to electoral defeat for legislators.

In contrast, Eismeier (1983) did not find similar effects to Johnson et al. (2005) when looking at the effects of “tax activity” on the electoral outcomes of state governors within the United States. Specifically, Eismeier (1983) focused on major tax initiatives, which were either a new form of taxation, or an increase in the rate of an existing tax (focus on individual income and state sales). Studying both the overall time period (1950-1980) as well as each individual
election cycle within the time period, Eismeier (1983) found that those governors who lead tax initiatives were more likely to be defeated than those who did not.

In contrast to Johnson et al. (2005), Geys and Vermeir (2008) explore the effects of higher tax burdens on popularity of incumbents in Germany’s parliament. Exploring between 1978 and 2003, Geys and Vermeir (2008) find four clear conclusions. First, taxation does negatively affect the popularity of the German Parliament. Second, the effect does not directly correlate to an increase in popularity for the opposition. In cases of unified government, the opposition party does appear to receive some gains in popularity, while both parties are punished in case of divided government. Third, voters only assign blame to legislators for taxes that are under their direct control. Finally, voters do not appear to be able to differentiate between tax revenue increase due to economic growth and those caused by legislative changes. As Geys and Vermeir (2008) put it succinctly, “people dislike taxation and are willing (and capable) to show this resentment, leading to reduced popularity of politicians deemed responsible for higher tax burden” (p. 644).

Exploring a lower level of government, Ashworth, Geys, and Heyndels (2006) look at the adoption of environmental or “green” taxes in 308 Flemish municipalities between 1991 and 1999. Looking at the time of adoption, Ashworth et al. (2006) find that first adoption of environmental taxes are much less likely to occur during election years. However, the adoption by a neighbor or peer (both geographically and ideologically) will increase the likelihood that another municipality will choose to adopt the taxes. Turning to ideological effects, left-leaning governments were more likely to adopt the “green” taxes. However, of interest, single party governments, regardless of ideological leanings are less likely to adopt taxes than coalitions; regardless a tipping point is present where the greater the fragmentation of the government, the
lower the likelihood of passage of the tax. In affirmation with the findings of Ashworth et al. (2006), Bosch and Solé-Ollé (2007) find that voters in Spain punish municipalities for increases in property taxes. Furthermore, politicians in Spanish municipalities are only punished when the property tax increases they enact are greater than neighboring municipalities (Bosch & Solé-Ollé, 2007), mirroring neighborhood argument found by Ashworth et al. (2006).

**Empirical Approach**

The goal of this chapter is to test the applicability of the rational behavioral model of tax reform in the tradition of Hettich and Winer (1984); (1988) towards an explanation of why certain state legislatures have chosen to pass online sales and use tax legislation. The rational behavioral model proposes that state legislatures would only choose to pursue online sales and use tax legislation if the expected net costs was less than the expected benefits. Expected costs are measured through expected vote loss in the subsequent election; expected benefits measured in the necessary increase in revenue production for the state. Expanding further, F. S. Berry and Berry (1992) find that revenue generating tax legislation is only pursued in times of a long time until the next election, the existence of a fiscal crisis within the state, and the presence of neighboring states that have also passed similar legislation allows for politicians to shield themselves from the political costs associated with passage of revenue seeking legislation. Therefore, if the rational behavioral model holds, one should expect all of these factors to be present within the state at the time of passage.

Looking at Figure 1, one can clearly see that approximately half of states within the United States have not passed any form of Amazon.com legislation. However, of the state legislatures that have passed online sales and use tax legislation, a mixture is present between those states that require immediate enforcement and those that delay enforcement. The specific
years of passage and enforcement can be found in Table 1. Therefore, some states have chosen to engage in a negotiated agreement with online retailers, while others have chosen to simply require immediate collections at the beginning of the next fiscal year, or within months of passage of the legislation. Geographically, immediate enforcement appears to be centered within the New England portion of the United States, but is not exclusive to that region.

Table 1 highlights the fact that various states have chosen to delay enforcement of the sales and use tax legislation. As unification of political ideology directly relates to the passage of tax legislation (Poterba, 1994), the polarization of the state legislatures should be considered as a possible impact upon the passage of sale and use tax legislation (W. D. Berry, Fording, Ringquist, Hanson, & Klarner, 2010). Shor and McCarty (2011) find heterogeneity within political party at the state level, but ideological variation between the parties. Additionally, they find a strong relationship between the state legislative median ideology and the voter ideology, suggesting that state legislatures are representative of the polarization found within the public. Therefore, due to polarization, negotiated agreements with delayed enforcement of sales and use tax legislation might be the only means to secure passage from a highly polarized legislature.

Another factor leading to the difference in methodology of enforcement of “Amazon.com” legislation might be related to the professionalization of the state legislature. As the rational behavioral model of tax reform (F. S. Berry & Berry, 1992; Hettich & Winer, 1984; Hettich & Winer, 1988), suggests that legislators are concerned about reelection, the costs of losing the next election would be less for legislators who view their job as a member of the state legislature as a part time job versus those who are highly educated and view their life goal as a member of a state legislature. Therefore, the professionalization of the state legislature as
identified by Squire (2012) should be included as a possible factor in explaining the applicability of the rational behavioral model towards the passage of online sales and use tax legislation.

**Description of Online Tax Reforms**

Online sales and use tax policies were a concern far before the passage of the first online sales tax legislation. The traditional sales and use tax structure was designed for physical based exchanges: buyers and sellers meet at a location and trade tangible goods and services for money (Due & Mikesell, 1994). In this particular methodology, the seller is required by the state to remit some percentage of the sales price on all items, and send that money to the state. However, the buyer possesses an additional legal obligation, to remit his/her use tax if the object was purchased in one state, but used in another state (Due & Mikesell, 1994). Traditionally, use taxes are difficult to collect and enforce from retail purchases, as buyers are often unaware of their legal obligation (Due & Mikesell, 1994). While use tax laws predated the creation of mail-order catalogues, states became more aware of the loss of potential revenue through the expansion of interstate commerce. A similar concern arose again for state legislators with the expansion of online commerce.

As online retail sales began to expand in the late 1990s, scholars began to offer suggestions as to the premier methodology to correct for the compliance issues, i.e. the lack of self-reporting and payment of use tax by consumers online. For example, Mikesell (2000) proposed the United States Congress stepping in to require registration for large scale remote vendors, but only in those states in which compliance costs would be minimal, i.e. states that lack local option use taxes. In contrast, Goolsbee and Zittrain (1999) study the costs and benefits of implementing of current sales tax laws to online transactions. While they find that the costs of compliance with taxes on Internet commerce are likely to be small for most transactions, and that
not enforcing use tax laws on online commerce does disproportionately benefit the wealthy, Goolsbee and Zittrain (1999) argue for a moratorium on enforcement of online sales and use taxes in the short term, to allow for the expansion of internet commerce.

Online tax reforms, often referred to in the vernacular, “Amazon.com” legislation, regardless if the scope of reform is not limited to Amazon.com, are a relatively new policy measure. *Quill Corp. v. North Dakota* (1992) sets the current legal precedent regarding online sales tax collection. While the decision notes previous decisions against the bright-line physical presence statute established in *National Bellas Hess, Inc. v. Department of Revenue of Illinois* (1967) such as *Scriptio, Inc. v. Carson* (1960), the court determined that the undue burden that would be placed on the retailer to learn the local sales and use tax codes of various states falls within the Commerce Clause. Subsequently to *National Bellas Hess, Inc. vs. Department of Revenue of Illinois*, the Supreme Court identified a four-prong test to determine if potential state tax scheme unduly burdened interstate commerce in *Complete Auto Transit, Inc. v. Brady* (1977). The four-prong test considers fair apportionment, discrimination, nexus, and the nature of tax. The state would be found in violation of the Commerce Clause nexus could not be determined, if the state taxed more than a fair share of income, if instate and out-of-state taxpayers were treated differently, or if the tax did not fairly relate to services provided to the taxpayer by the state in question. The subsequent decision in *Quill Corp. v. North Dakota* took the four-prong test a step forward to highlight the undue burden that would be placed on remote vendors to learn the local sales and use tax codes for various states. Therefore, regardless of physical presence, Congress must protect interstate commerce from undesirable burdens.
Registration and learning of state and local sales and use tax code represents such an undue burden on interstate corporations\textsuperscript{12}.

Amazon.com began collecting sales tax on purchases in Washington relatively close to the beginning of the launching of the website in 1995, since the corporate headquarters of the company is in Seattle (Krantz, 2012). Issues with \textit{Quill Corp. v. North Dakota} were not present with the collection of sales tax by Amazon.com for purchases made by residents in the state of Washington, as the company had a clear physical presence within the state and taxation was on the sales of items to citizens within the state of Washington.

The next round of legislation regarding the collection of sales tax by Amazon.com came in the early 2000s, when the states of Kentucky, North Dakota, and Kansas required Amazon to register as a certified collector (Krantz, 2012). At the time, Amazon.com had large distribution centers within all three states. While Amazon.com would have had the right to challenge the passage of legislation by these states, due to the fact the distribution centers were operated by a subsidiary of Amazon.com, the company chose not to legally challenge the passage of legislation by these three states.

The controversial legislation requiring Amazon.com to register as an authorized sales tax collector in a state began with the state of New York in 2008. Henchman (2012) notes that the nature of the legislation passed by the New York state legislature was unique. Specifically:

New York adopted a law that imposes such an obligation on a person or business with no physical presence in the state if it (1) enters into agreement with in-state resident involving commissions for referring potential customers; and (2) has gross receipts from sales by out-of-state companies from referrals within the state which total more than $10,000 in a 12-month period (p. 1).

\textsuperscript{12} A brief filed by John Mikesell in the Quill decision noted 6,277 sales tax jurisdictions and 4,452 use tax jurisdictions.
The $10,000 amount identified, in clear dollar terms, what level of sales by a corporation constituted nexus based presence within the state in combination with the commissions provided to third parties for referral of potential customers.

Additionally, the legislature of New York most likely expected a challenge to the legislation under *Quill Corp. v. North Dakota* undue burden test and the four-prong test in *Complete Auto Transit, Inc. v. Brady* (1977). The first part of the legislation passed by New York attempts to suggest that the Amazon.com affiliates program creates a physical presence within the state, addressing the prong of nexus in *Complete Auto Transit, Inc. v. Brady*. Amazon.com's affiliates program appears to be free to join, and does not specifically limit its members to particular states. Henchman (2012) clearly identifies the legal difficulties the state of New York encountered in its attempt to actually enforce said legislation. The undue burden portion of the Commerce Clause was not directly addressed by the state of New York in their legislation, but the total sales limit appears to suggest a targeting of large corporations. However, Amazon.com has been collecting sales tax on items for the state of New York and localities since 2009, suggesting a possible legal definition of physical nexus similar to as *Scriptio, Inc. v. Carson* (Noonan et al., 2013).

The legal problems that New York experienced did not deter other states from following suit. Since the passage of New York's “Amazon.com” law in 2008, several other states have followed suit. Table 3 notes the states that have passed legislation requiring Amazon.com to collect sales taxes on sales made to residents in their states. The legislation found in this table represents a combination of affiliate nexus laws and click through nexus laws. Several of these laws have met legal challenges, such as the legislation passed by the state of North Carolina in 2009. North Carolina settled with Amazon.com in federal court in 2010, regarding privacy rights.
issues of customers (Henchman, 2012). The legislation passed by the state of North Carolina required the release of all items purchased by customers from North Carolina since 2003. Colorado passed legislation in 2010 requiring large retailers, like Amazon.com to send comprehensive purchase reports to consumers and the state Department of Revenue. Since the passage of the legislation in 2010, Colorado’s law has been struck down in federal court, reinstated, and most recently, blocked by a state judge in Denver (Hanel, 2014). Colorado is currently considering House Bill 1269, which will hold that online businesses are presumed to have nexus to Colorado, but the company has the right to dispute the nexus claim when the state chooses to collect the tax (Hanel, 2014).

Several states have chosen to delay the implementation of the “Amazon.com” laws. These delayed enforcement agreements typically postpone the collection of sales taxes by online retailers such as Amazon.com in exchange for the creation of additional jobs within the state, through the opening of one or more warehouse fulfillment centers, or the removal of the threat of closing previously present warehouses. For example, the day that the New York legislature passed their version of an “Amazon.com” law, Amazon.com responded by discontinuing its relationships with all affiliates within the state (Henchman, 2012; Noonan et al., 2013). Therefore, amid concerns of being considered legislators that “kills" jobs in a recession, several states have opted instead for the negotiated agreement. For example, Indiana made the strategic decision to engage in an agreement with Amazon.com delaying enforcement until 2014. In exchange for delayed enforcement, Amazon.com agreed to not close two warehouse fulfillment centers.

South Carolina took the negotiated agreement with Amazon.com and other major retailers one step further than simply delaying implementation. The legislators of South Carolina
delayed implementation of sales tax collection to 2016 in exchange for the following items being completed by the businesses: one, put a distribution facility in service between December 31, 2010 and December 31, 2013; two, make a capital investment of at least $125 million during the same period; three, create at least 2,000 jobs with comprehensive healthcare plans; and four, maintain at least 1,000 jobs after 2013. Therefore, the legislature of South Carolina provided a delayed enforcement of collections in exchange for job creation and business investment within the state (Setze, 2011).

Finally, Vermont took an interesting step towards delaying collections of sales and use tax by online retailers, suggesting that that the state would only begin collections once 15 other states had passed similar “Amazon.com” collection laws (Henchman, 2011). This particular clause found within the sales and use tax revenue legislation represents a unique example of the desire for politicians to see enactment in neighboring states before choosing to enact tax legislation in their own state (F. S. Berry & Berry, 1992).

Additionally, the U.S. federal government is considering two pieces of legislation that would address the previous undue burden test of *Quill Corp. v. North Dakota* regarding sales by online retailers. If passed, this legislation would free up any potential legal barriers for other states to pursue taxation on online retailers.

**Model and Estimation of State Implementation of Amazon.com Law**

While Amazon.com was collecting sales tax in the four main states in which the company houses major distribution centers since the 1990s and early 2000s (Kansas, Kentucky, North Dakota, and Washington), the first “Amazon.com” law passed by a state attempting to require major online retailers to collect taxes was by the state of New York, in 2008. Therefore, the movement by states to expand their sales tax base to include online transactions could be
seen as starting in 2008. While New York's 2008 legislation experienced significant legal hurdles since implementation, the beginning of the movement to attempt to require online retailers to collect sales and use taxes on the behalf of a state began with New York. In particular, the New York legislation was the first to attempt to employ a nexus based argument in opposition to *Quill Corp. v. North Dakota* suggesting that online retailers needed to register as certified sales and use tax collectors if the company received revenues from in-state independent affiliates. As several states followed suit in 2009 and beyond with similar forms of legislation highlighted in Table 3, the beginning of the nexus based legislation began in 2008. Looking at the beginning of the passage of “Amazon.com” legislation appeared to be the ideal time frame, given the fact that economic factors in 2008 would have led to legislation creation in 2009 and 2010. Therefore, the economic conditions of 2008 appeared to be an appropriate baseline for analysis.

New Hampshire, Montana, and Oregon were excluded from the calculations, as these states do not collect any sales taxes at the state or local level. Delaware was excluded from analysis due to the differences between gross receipt taxes collected by the state and a traditional retail sales tax system. Alaska was removed due to the lack of presence of state sales tax. While Alaska has multiple local sales taxes, the state does not collect a sales tax. Therefore, a comparison between Alaska and another state would be comparing state and local taxes to just local taxes, and not equal.

In terms of model selection, a binary logit and probit model were selected. As theory did not clearly define the best methodology between both a logistic and a probit regression, both models were run. As the rational behavioral model does not speak directly to a preference

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13 As probit and logistic models have different likelihood functions for maximum likelihood analysis (Agresti, 2013) and previous literature was not clear on the premier method, both models were run to determine if one likelihood function provided a better fit to the data.
for time delay in enforcement speed, a multinomial logit or probit analysis appears inappropriate. Additionally, the inclusion of a time variant appears to be ill conceived, as the duration of time for passage of online sales and use tax legislation has been relatively short. The short duration (five years) of time prevents necessary variation in variables over time to warrant a time series model (Beck, 2001). Traditional time series methodologies are meant for analysis of long periods of time, allowing for sufficient variation in the explanatory variables. The model reads as the following:

$$OnlineTaxLegislation_j = f(\alpha_j + \delta_j ElectionCycle + \gamma_j FiscalStress + \theta_j Small Business$$

$$+ \tau_j StateCitizenIdeology + \varphi_j LegislativelIdeology + \beta_j ElectoralConcerns)$$

The dependent variable, OnlineTaxLegislation, contains the identification of the state \(j\) with regards to the pursuing of legislation to require the collection of taxes on online transactions by major retailers. The nature of the coding of the dependent variable can be seen graphically in Figure 1. The coding of the variable identifies a value of 0 for states that have pursued no legislation in attempt to force online retailers to register as certified sales and use tax collectors within the state. The coding of 0 includes those states that have passed legislation requiring vendors to indicate to consumers that a sales and/or use tax might be owed on the purchases, as these legislations do not actually require the collection of sales and use taxes by the retailer. The coding of 0 also includes those states that have recently passed legislation to include a line on the state income tax form requesting citizens provide their own use tax liability. Previous research by Due and Mikesell (1994) found that Maine obtained the largest impact from line on individual
income tax forms, but that impact was only approximately 3 percent of total use tax collections\textsuperscript{14}. For example, in 1992 Idaho collected $98,347 from 5,120 individual income tax returns reporting use tax owed (Due & Mikesell, 1994). Therefore, by in large, the passage of legislation to add a line to the state income tax form does not possess the same enforcement success as requiring the collection of sales and use tax by the retailer. The coding of 1 identifies those states that have passed legislation requiring immediate enforcement of collections. Immediate enforcement is defined as enforcement within the same legislative cycle as passage.

Finally, a coding of 1 also identifies those states that have delayed enforcement of the legislation. Delayed enforcement legislation includes states that entered negotiated agreements with companies such as Amazon.com to delay collection by large-scale online retailers. While some states chose to pass legislation validating the negotiated agreement (for example, Tennessee), and applying the policy to all retailers within the state that meet a certain yearly revenue criteria, other states have chosen to simply act upon the negotiated agreement with Amazon.com (such as Indiana). Largely the sheer market share of Amazon.com within online commerce drives the inclusion of these two different methodologies into one category.

Specifically, according to \textit{Internet Retailer}, a trade publication for online retailers, Amazon.com sells more online than the next 12 biggest competitors combined, which includes such retail giants as Staples and Wal-Mart (Banjo & Ziobro, 2013). In the second quarter of 2013 alone, Amazon.com had a 30 percent increase in North American sales (Banjo & Ziobro, 2013). The sheer growth of Amazon.com e-commerce comes at stark contrast to companies such as Fifth & Pacific, who own luxury lines Kate Spade and Juicy Couture. In communications with the SEC

\textsuperscript{14} Maine was unique in the fact that citizens of Maine were confronted with two alternatives: the exact amount owed or 0.04 percent of the adjusted gross income of Maine plus any additional taxes on purchases over $1,000.
in May 2013, Fifth & Pacific declined to report the contribution of e-commerce towards overall sales, because the separate disclosure was not considered relevant to investors (Banjo & Ziobro, 2013). The relative small size of e-commerce of several corporations who also maintain brick and mortar locations in comparison to companies such as Amazon.com suggests that Amazon.com will collect a large proportion of sales tax revenue created from these pieces of legislation. Therefore, negotiated agreements with Amazon.com represent a collection of a large portion of online sales tax revenue.

The first independent variable, ElectionCycle, focuses on the effects of the election cycle upon the timing of the passage of the legislation. As Mikesell (1978) noted in his research, the timing of the next election directly plays into the rational behavioral model of passage of revenue legislation. However, as F. S. Berry and Berry (1992) note, Mikesell takes a binary approach, where consideration is given to simply if the legislation is passed in the first or third years of a four year election cycle, which loses information against the exact amount of time left until the next legislative election. ElectionCycle employs a similar binary approach to Mikesell (1978), taking on a value of 1 for those states that passed online sales and use tax legislation in “off” election years (so years 1 and 3 of the election cycle), and a value of 0 for those states that passed online sales and use tax legislation in either election years or for those states that have not passed online sales and use tax legislation.

The second independent variable, FiscalStress focuses on the fiscal crisis argument presented by F. S. Berry and Berry (1992). They propose that the costs of passage of a piece of revenue legislation can be minimized during times of fiscal crisis. Therefore, to capture the potential fiscal stress that a state would have been experiencing in 2008, FiscalStress contains the differences in total revenue for each state between 2007 and 2008. That difference is then
divided by the total revenue for 2007 to get at a percent change. While this is a one-time snapshot of the extremely complex topic of identifying fiscal stress, this is one potential measure of trends in revenue for a state. As the vast majority of online sales and use tax legislation were passed after 2008, the fiscal status of states between 2007 and 2008 would be a determining factor in the potential presence of fiscal stress in subsequent year. Therefore, one should expect a negative relationship between the value of total revenue and the passage of online sales and use tax legislation; states with highly negative differences in total revenue between 2007 and 2008 are more likely to be passing online sales and use tax legislation. These states will feel the need to offset the negative ratio of total revenue growth with additional tax dollars. Ratios of state GDP were also considered as an alternative measure of fiscal stress. Similar significance levels were found for both variables in the probit and logit equations, so the variable directly relating to state revenues was selected.

The next independent variable, \textit{SmallBusiness}, attempts to address the potential pressure felt by legislatures from small businesses in their state. States with a larger percentage of small businesses should have a larger constituency lobbying state legislatures for the passage of online sales and use tax legislation to encourage consumers back to the “brick and mortar” establishments. Baugh et al. (2014) identified a 2 percent increase in “brick and mortar” shopping in 5 states that have already passed “Amazon.com” legislation. Therefore, small business ratio comes from the U.S. Census Statistics of U.S. Businesses (SUSB) focusing specifically on NAICS sector 44-45, Retail Trade. Small Businesses were considered those institutions with 0-4 employees. A ratio of the number of small businesses in the state to the total number of enterprises in the state was calculated for 2008.
The subsequent two independent variables, *StateCitizenIdeology* and *LegislativeIdeology* focus on the political culture within the state. According to F. S. Berry and Berry (1992, 1994), the ideology of the citizens of the state should play a role of acceptance of revenue legislation. State citizen ideology is derived from CBS/New York Times survey data between 2007 and 2011. This survey data is a continuation of the data collection initially presented in Erikson, Wright, and McIver (1993)\(^5\). Between 2007 and 2011, 89,314 individuals were surveyed about their political ideology, allowed to respond with liberal, moderate, or conservative. State citizen ideology represents a weighted average of the three scores, where states that possess a negative score contain a citizen ideology that is more conservative, and states that possess a positive citizen ideology are more liberal. Citizen ideology should play a role in the passage of online sales and use tax legislation, as states that lean liberal should be more open to additional tax reform. In addition, ideology of the state legislators should play a role in the influence of rational choice benefit cost calculation undertaken before the passage of legislation. The ideology of the state legislature is captured by W. D. Berry et al. (2010), as version of state government ideology based upon the “nominate” scores initially identified by Keith T. Poole and Howard Rosenthal to map the members of the chambers of the United States Congress on an ideological scale. W. D. Berry et al. (2010) took this methodology and applied it to state level legislatures. The measure included in the model is an average chamber ideology for year 2008 on a spectrum of 0 to 100, where 0 is perfectly conservative and 100 is perfectly liberal. The inclusion of this variable within the analysis allows for possible differences in passage of tax reform legislation based on the ideological predisposition of the chamber. While Shor and McCarty (2011) present an alternative methodology to calculating chamber ideology of

\(^5\) Thanks are offered to Dr. Gerald Wright for providing the data.
state legislatures, their calculations for year 2008 only contain observations for a small subsample of states. Therefore, due to data limitation of applying the Shor and McCarty (2011) measure, a comparison was not undertaken to differentiate if different results could be identified through a different measure of state legislative ideology.

The final variable, ElectoralConcerns, looks to represent the overall costs of loss of election by a member of the state legislature. The level of professionalization in the state legislature is captured based on Squire’s index (Squire, 2012). A visual representation of the variation in Squire’s index can be found in Figure 2. The index considers indicators of pay, the length of legislative session, as well as staff resources provided to each individual legislator. As professionalization increases within the state legislature, the costs associated with loss of subsequent election, and main form of livelihood, increases. Therefore, more professional legislatures should place higher value on the rational behavioral model of revenue legislation and prefer to avoid passage of tax legislation, especially given the strong likelihood of punishment by the electorate in the subsequent election (Kone & Winters, 1993; Stults & Winters, 2005).

**Results**

Considering the results of the binary probit and logistic regression (Table 3), one will note the lack of statistical significance of almost all of the independent variables. The percentage of small businesses in the state, the ideology of the citizens’ of the state, the ideology of the state legislature, variation in total revenue collections, as well as the professionalization of the state legislature were all insignificant towards explaining the passage of online sales and use tax legislation.

However, election cycle was highly significant and positive towards explaining the passage of online sales and use tax legislation, suggesting states that choose to pass online sales
and use tax legislation are likely to pass the legislation in “off election” years. Legislators desire to pass “Amazon.com” legislation on those years where the citizenry of the state is less concerned with their performance. In that regard, “Amazon.com” legislation is following a pattern that previous literature identified with regards to revenue legislation, in the predicted positive direction (F. S. Berry & Berry, 1992, 1994; Mikesell, 1978).

**Conclusion**

By in large, the initial findings of the applicability of the rational behavioral model of revenue legislation towards explaining the passage of online sales and use tax legislation proved to be insignificant. While the election cycle variable is marginally significant towards explaining the odds of states passing legislation with immediate enforcement, the other factors appear to be insignificant towards explaining why certain states have chosen to pass Amazon.com legislation.

The lack of statistical significance, coupled with the relatively low pseudo $R^2$ value suggest that other factors may be leading to the passage of Amazon.com legislation, and that an alternative explanation from the rational choice behavioral model should be explored to better explain the passage.
References


### Table 1: Online Tax Legislation Passage and Enforcement Years by State

<table>
<thead>
<tr>
<th>State</th>
<th>Passage Year</th>
<th>Enforcement Year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>2012</td>
<td>2013</td>
<td>Amazon.com shut down its affiliate program in the state.</td>
</tr>
<tr>
<td>Arkansas</td>
<td>2011</td>
<td>2011</td>
<td>Amazon.com terminated its relationships with affiliates.</td>
</tr>
<tr>
<td>California</td>
<td>2011</td>
<td>2012</td>
<td>Originally supposed to be immediate enforcement but delayed one year due to agreement with Amazon.com. Struck down in Federal Court.</td>
</tr>
<tr>
<td>Colorado</td>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connecticut</td>
<td>2011</td>
<td>2011</td>
<td>Amazon.com terminated its relationships with affiliates.</td>
</tr>
<tr>
<td>Georgia</td>
<td>2012</td>
<td>2013</td>
<td>Struck down by judicial review.</td>
</tr>
<tr>
<td>Illinois</td>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>2012</td>
<td>2014</td>
<td>Originally supposed to be immediate enforcement but delayed one year due to agreement with Amazon.com. Struck down in Federal Court.</td>
</tr>
<tr>
<td>Kansas</td>
<td>2004</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td>2005</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>Maryland</td>
<td>2009</td>
<td>2009</td>
<td>Amazon.com removed physical presence in the state.</td>
</tr>
<tr>
<td>Nevada</td>
<td>2012</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>2009</td>
<td></td>
<td>Settled in federal court.</td>
</tr>
<tr>
<td>North Dakota</td>
<td>2006</td>
<td>2006</td>
<td>Requires retailers to give notice to individuals who buy items for which use tax is due.</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>2012</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>2009</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>South Carolina</td>
<td>2012</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>South Dakota</td>
<td>2011</td>
<td></td>
<td>Requires retailer to give notice to individuals who buy items that use tax is due.</td>
</tr>
<tr>
<td>Texas</td>
<td>2011</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>2011</td>
<td></td>
<td>Only goes into effect if 15 states pass similar reforms.</td>
</tr>
<tr>
<td>Virginia</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
</tbody>
</table>

**States with no reform:** Alabama, Alaska, Delaware, Florida, Hawaii, Idaho, Iowa, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, Ohio, Oregon, Utah, West Virginia, and Wyoming. Washington state collects taxes under traditional tax law due to Amazon.com’s headquarters in Seattle.
Figure 1: Enactment of Online Tax Reforms and Enforcement Structure by State

Source: Author’s research of state legislation.
Note: “No Sales Tax” indicates that there are no sales or use taxes at the state or local level. New Hampshire is also coded as “No Sales Tax” because they have a value-added tax, which changes the compliance issues experienced under the gross sales receipts and retail sales taxes that are employed in other states.
Figure 2: Squire’s Professionalization of State Legislatures for 2008

Source: Squire (2012).
<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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<tr>
<td>Online Tax Legislation</td>
<td>45</td>
<td>0.051</td>
<td>0.506</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Small Business Ratio</td>
<td>45</td>
<td>0.355</td>
<td>0.042</td>
<td>0.300</td>
<td>0.507</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>45</td>
<td>-0.178</td>
<td>0.128</td>
<td>-0.389</td>
<td>0.125</td>
</tr>
<tr>
<td>Ideology of State Legislatures</td>
<td>45</td>
<td>52.352</td>
<td>24.656</td>
<td>6.214</td>
<td>90.859</td>
</tr>
<tr>
<td>Fiscal Stress</td>
<td>45</td>
<td>0.029</td>
<td>0.061</td>
<td>-0.087</td>
<td>0.297</td>
</tr>
<tr>
<td>Squire’s Professionalization Index</td>
<td>45</td>
<td>0.191</td>
<td>0.117</td>
<td>0.051</td>
<td>0.626</td>
</tr>
<tr>
<td>Election Cycle</td>
<td>45</td>
<td>0.311</td>
<td>0.468</td>
<td>0</td>
<td>1</td>
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</table>
Table 3: Probit and Logistic Regression Results, Rational Behavioral Model

<table>
<thead>
<tr>
<th></th>
<th>Probit Model</th>
<th>Logit Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Business Ratio</td>
<td>-0.592</td>
<td>-0.401</td>
</tr>
<tr>
<td></td>
<td>(5.579)</td>
<td>(9.497)</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>2.948</td>
<td>4.879</td>
</tr>
<tr>
<td></td>
<td>(2.18)</td>
<td>(3.724)</td>
</tr>
<tr>
<td>Ideology of State Legislatures</td>
<td>-0.012</td>
<td>-0.023</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.020)</td>
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<tr>
<td>Fiscal Stress</td>
<td>1.683</td>
<td>3.18</td>
</tr>
<tr>
<td></td>
<td>(3.830)</td>
<td>(6.855)</td>
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<tr>
<td>Squire’s Professionalization Index</td>
<td>0.682</td>
<td>0.981</td>
</tr>
<tr>
<td></td>
<td>(2.283)</td>
<td>(3.821)</td>
</tr>
<tr>
<td>Election Cycle</td>
<td>2.005***</td>
<td>3.532**</td>
</tr>
<tr>
<td></td>
<td>(0.649)</td>
<td>(1.399)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.718</td>
<td>1.145</td>
</tr>
<tr>
<td></td>
<td>(2.272)</td>
<td>(3.850)</td>
</tr>
<tr>
<td>Observations</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>0.289</td>
<td>0.290</td>
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* robust standard errors in parentheses
* (p < 0.10), ** (p < 0.05), *** (p < 0.01), **** (p < 0.001)
## Appendix Table: Variable Descriptions and Data Sources

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>Ratio of Small Businesses</td>
<td>U.S. Census Statistics of U.S. Businesses (SUSB) focusing specifically on NAICS sector 44-45, Retail Trade. Small Businesses were considered those institutions with 0-4 employees taken as a ratio to the total number of enterprises in the state.</td>
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<tr>
<td>State Citizen Ideology</td>
<td>CBS/ NY Times survey of citizen ideology at the state level between the years of 2008 and 2011, provided by Gerald Wright</td>
</tr>
<tr>
<td>Ideology of State Legislators</td>
<td>Berry, Rinquist, et al (2012); weighted average of four institutional actors, looking at power and ideology of Republicans and Democrats within the upper and lower chamber.</td>
</tr>
<tr>
<td>Fiscal Stress</td>
<td>Ratio of Total State Revenue for 2008 subtracted from total State Revenue from 2007. That difference is then divided by total state revenue from 2007. The Total State Revenue data comes from the U.S. Census Annual Survey of State Government Tax Collections.</td>
</tr>
<tr>
<td>Squire's Professionalism Index</td>
<td>Comparison of how closely a state legislature mirrors the U.S. Congress on grounds of pay, average days in session, and average staff per member. A value of 1.0 represents a perfect similarity to Congress and 0.0 represents no semblance. Received directly from author 16</td>
</tr>
<tr>
<td>Election Cycle</td>
<td>National Council of State Legislatures data on election dates for state legislatures compared to author’s research on dates of passage of online sales and use tax legislation. Note that Senate election dates were employed to allow for continuity between all 45 states in the sample (as Nebraska is unicameral).</td>
</tr>
</tbody>
</table>

Chapter 4: Simply a Case of Expressive Interests? Evidence from State E-Commerce Sales and Use Tax Legislation

Recent literature in the field of public choice theory has explored the effects of expressive interest bias on the voting behavior of citizens, especially with regards to voters’ preferences over economic policy decisions. Expressive interests bias is defined by Brennan and Lomasky (1993) as advocating for policies against one’s own self interests. One of the pillars of the “expressive interests” bias to economic policy is the discounting of utilitarian interests (Brennan & Lomasky, 1993; Caplan, 2007). In the particular case of online sales and use tax legislation, the utilitarian interests should be those of the traditional equity-efficiency trade-offs of tax reform, where a benevolent social planner is attempting to maximize a social welfare function attempting to maximize revenue gains with minimal deadweight loss. As Brennan and Lomasky (1993) suggest, public choice theory seeks to critique this “conception of the good society promulgated by economic advisors” (p.8). Therefore, expressive interests bias, from public choice theory, suggests that those expressive interests of citizens should outweigh any utilitarian considerations.

Hillman (2010) expands upon the relative weight of expressive interest bias to identify an expressive voting hypothesis. In direct opposition of the instrumental view of rational voting (Downs, 1957), expressive voting (Hillman, 2010) takes into account both expressive utility and material utility. Therefore, expressive voting can lead to what Hillman (2010) defines as the expressive-voting trap where “there is majority support for public policies that each member of the supportive majority would veto if he or she could” (p.3). Therefore, if recent literature on public choice theory (Bischoff & Siemers, 2013; Castanheira et al., 2011) is correct, citizens should be voting for expressive interests over utilitarian interests.
Taking the expressive-voting trap one step further, if citizens are advocating for expressive interests within the voting booth, politicians should be considering these citizen requests during the passage of legislation. Therefore, the presence of the expressive-voting trap should be leading to policies that reflect these expressive beliefs (Hillman, 2010). Recent public policies should place value on expressive interests over utilitarian interests. Brennan and Lomasky (1993) argue, “electoral pressure will encourage governments to provide those goods that are highly valued expressively and to underprovide those goods that are of low expressive benefit” (p. 206). However, Brennan and Lomasky (1993) are not suggesting that policies with high levels of expressive interest will receive sole consideration and passage. Rather, Brennan and Lomasky (1993) argue that representative democracy provides a bit of a buffer for the passage of expressive interests policies. Specifically, they suggest that:

Representative government alters the domain of expressive support (towards persons away from policies) and restricts policy decisions to the smaller arena of parliament (or party room) where expressive considerations are likely to be less potent. We do not believe that the institution of representation will overcome the risk of political perversity: We do think representation will reduce that risk, and hence is to be preferred. (Brennan & Lomasky, 1993, p. 212)

Therefore, representative democracy should lead to a mixture of considerations of consideration of expressive and utilitarian interests.

The approach of this paper for discerning between expressive and utilitarian interests is to model the passage and enforcement of e-commerce tax reform legislation. Online sales and use tax reforms, often referred in the vernacular as “Amazon.com” legislation even when the scope of reform is not limited to Amazon.com, is a relatively new policy interest. Online sales and use tax legislation addresses the low compliance of sales and use taxes from e-commerce by attempting to rectify the nebulous concept of nexus for online transactions within the state. Economic theory based on utilitarian social welfare functions offers guidance on the adoption of
tax reforms and the speed with which such reforms are enforced after passage (Domeij & Klein, 2005; Feldstein, 1976a; Zodrow, 1981). An important implication of this theory is that more immediate enforcement of the adopted reforms represents a sacrifice of utilitarian economic interests. A corollary is that the more important are expressive political interests, the more immediate will be the enforcement of adopted tax reforms. Therefore, the passage of online sales and use tax legislation provides an excellent example for the testing of the interplay of expressive and utilitarian interests in representative government, as identified by Brennan and Lomasky. Specifically, the difference in enforcement speeds selected by various state legislatures allows for the testing of the relative importance of utilitarian versus expressive interests in passage of the online sales and use tax legislation.

The nature of the legislation passed by various states within the United States to pursue the collection of taxes on online transactions varies considerably. However two key categories emerge within the various pieces of legislation that are valuable for the purpose of discerning the importance of expressive interest bias: those state legislatures that seek to require immediate enforcement of legislation, thereby forcing immediate collections by online retailers, and those states that entered into negotiated agreements with online retailers where enforcement has been delayed until some later date. Delayed enforcement allows for the collection of information regarding how the enactment will affect the unexpected utility gains and losses driven by the change to the tax structure (Zodrow, 1981). Therefore, the more focused state legislatures are on the expressive interests of their constituents, the more likely they pass online sales and use tax legislation with immediate enforcement.
This paper models the determinants of online tax adoption since 2008 and the statutory speed of enforcement of the reforms among the 45 sales tax collecting states. Independent variables of interest are categorized according to their influence under utilitarian economic theory and expressive political interest theory, with their effects estimated using multinomial probit and logistic regressions. The results suggest that politicians are acting as members of Caplan (2007) political elite, where they balance the bias of expressive interests of their constituents against their role as provider of public policy in line with utilitarian economic theory.

The next section contains a review of the relevant theoretical literature from economics public choice theory as it relates to tax reform. Subsequently, a systematic description of the nature of online sales and use tax reforms is presented to provide the reader with a picture of the history of the expansion of this particular type of legislation. Models are presented attempting to test the validity of the factors drawn from the critical review of the literature, and results are analyzed. Finally, a conclusion is presented about the applicability of expressive interest bias towards explaining the passage of online sales and use tax legislation.

**Utilitarian Interests**

Normative public finance theory in the area of optimum tax reform focuses on issues such as horizontal equity, efficiency, time frame of implementation of reform, externalities, and tax administration. Feldstein (1976b) focuses on the need to balance issues of horizontal equity and efficiency. With regards to the former, the tax system should be addressing the fundamental

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17 New Hampshire, Oregon and Montana do not have sales tax at the state or the local level. Delaware collects a gross receipt tax, which is excluded from analysis due to the differences in collection between a gross receipt tax and a retail sales tax. Alaska does not collect a retail sales tax at the state level, but simply at the local level. Due to differences in administrative capacity between the state and local levels of government, Alaska was removed from analysis.
concern of the fact that individuals with the same utility function and consumption preferences should be bearing the same tax burden (Feldstein, 1976b; Musgrave, 1959). However, due to different consumption preferences of individuals, horizontal equity issues will most likely be present regardless of reform (Feldstein, 1976b). Turning to the later, Feldstein suggests that deviations from the Haig-Simons Definition of Income can lead to problems of economic inefficiency. Therefore, the Haig-Simons definition can be used for optimal tax design but not for optimum tax reform. Feldstein does not address the potential use of Kaldor definition of an expenditure tax (Kaldor, 1957). Instead Feldstein (1976b) suggests, “A tax change is desirable only if the expected gain through increased efficiency and improved distribution outweighs the utility loss imposed by a gamble” (p. 93). As there is uncertainty with regards to the economic parameters and how the tax rate changes will affect the income of all of the citizens, the optimum tax reform should increase efficiency and improve distribution of wealth.

Hettich and Winer (1988) focus on the fact that optimum tax reform combines both an attempt to maximize economic efficiency and political efficiency. Specifically, politicians are attempting to garner support for legislation that constituents dislike, due to a loss in their personal income associated with the increase in taxes. In this view, constituents within the state oppose tax reform due to the expansion of the tax base, causing an increase in their percentage of total income spent on taxes. Therefore, Hettich and Winer (1988) conclude, “the evolution of tax systems can be viewed as a sequence of responses to changing economic, administrative, and political factors” (p. 711). The ability nature of tax reforms therefore does not only depend on the economic efficiency but political efficiency as well.

Turning to the time frame of implementing the change, Feldstein (1976) considers the present value effects of three alternatives: i) immediate adoption and enforcement; ii) immediate
adoption with postponed enforcement; and iii) postponed adoption. Immediate adoption brings the tax reform into law immediately, but places a delay on enforcement of the law, effectively allowing for the breaking of the law without punishment for some period of time. Postponed adoption suggests that adoption of a law will be postponed until some future date in time, placing ambiguity within the system regarding possible changes that could be made to the proposed reform before adoption, as well as changes in adoption date (Feldstein, 1976a, 1976b). Immediate adoption with delayed enforcement allows individuals to change their behavior to account for price changes that reduce horizontal equity, whereas pure postponement would rely on advance warning to allow individuals time to change their commitments as well as induce price changes that would reduce horizontal equity. Immediate adoption with delayed enforcement acts as the “advanced warning” for the public and the market (Feldstein, 1976a, 1976b). However, Feldstein notes that the same decrease in arbitrary individual losses that would be achieved through postponement could be achieved through a reduction of the size of the tax change in the reform, as markets need longer to react to large-scale tax changes. Therefore, Feldstein (1976a, 1976b) suggests a postponed full enactment (current enactment of a tax reform with a future effective date) represents optimum tax reform.

However, Zodrow (1981) finds different results regarding the ideal preference of timing of enforcement. Zodrow considers four different outcomes: i) immediate full enactment; ii) postponing full enactment; iii) phasing-in enactment; and iv) partially enacting the measures. Immediate full enactment suggests that the entire tax reform is enacting immediately, while postponing full enactment holds off enactment of any part of the legislation until some future date. Conversely, options three and four both consider partial enactment. Option three, phasing-in enactment, allows for the gradual enactment of legislation through a tiered and time delayed
methodology. In contrast, option four suggest that part of the tax reform is enacted allowing for a collection of information regarding how the enactment will affect the unexpected utility gains and losses driven by the change to the tax structure (Zodrow, 1981). Through numerical simulations, Zodrow identifies that the final option, partially enacting the tax reform, is the optimal reform implementation policy. Zodrow (1981) confirms this finding through two different methodologies, first through a traditional unity maximization process, drawing from the initial model proposed by Feldstein (1976b), as well as through numerical simulations accounting for the social concern regarding the distribution of the income. Zodrow’s findings remain true in a later version of the model (1985) that is updated to include personal adjustment costs associated with tax reform. Specifically, “thus, the analysis suggests that for convex adjustment costs, little would be lost by following a reform implementation strategy of immediate partial enactment with small adjustment costs and postponed partial enactment with sufficiently large adjustment costs” (p. 230).

**Expressive Interest Theory and Application to Tax Reform**

Expressive interests according to Brennan and Lomasky (1993) are drawn from any sort of expressive activity, such as applause. While voters lack an instrumental incentive to vote (as the presence of one vote has little utilitarian benefit for the voter in the outcome of the election), voters do possess an expressive interest in voting. Since voters are largely voting for expressive reasons, politicians benefit by targeting the median expressive preferences instead of the median utilitarian preferences. Therefore, identification of expressive preference of the voters versus the simple utilitarian preference represents the goal of the politician; desiring to target the individuals that will vote retrospectively based on expressive interests. These expressive interests could be as personalized as a missing social security check, or as nationalized as a policy on
federal health care. Understood within the Brennan and Lomasky (1993) model is the probable deviation between the utilitarian preferences of the voter and the expressive preferences of the voter. Therefore, expressive preferences represent the salient desire, which can be in opposition of the same individual’s utilitarian preference.

Brennan and Lomasky (1993) views of expressive interests draws upon previous public policy literature, such as Buchanan and Tullock (1971) consideration of the economic man. The key assumption of the models of collective choice drafted by Buchanan and Tullock (1971) is that “individuals are motivated by utility-maximizing considerations, and that they are well informed and fully rational in their choices” (p. 297). Using this key assumption, Buchanan and Tullock (1971) go on to explain certain aspects of political activity, such as vote trading by members of legislatures.

Expressive interests are not by itself irrational behavior. Hillman (2010) argues, “expressive behavior is self-interested and rational” (p. 2). Specifically, Hillman (2010) suggests that expressive behavior possesses a position within how individuals define their total utility, defining total utility as some combination of material utility and expressive utility. The expressive utility and the material utility of the individual might be in line, such as in cases where a hard working individual objects a high tax rate to fund welfare payments. Conversely, the expressive utility and the material utility can be in direct opposition, in cases were the same hard working individual supports welfare policies that aid individuals in becoming more self-reliant. Regardless, Hillman (2010) notes that both expressive and material utility are present within individuals.

Several examples have been defined regarding the presence of expressive voting. For example, Feigenbaum, Karoly, and Levy (1988) suggest that capital owners should support
nuclear power, being in their own self interest as a low-cost source of electricity. However, they find that capital owners vote in an expressive manner to oppose nuclear power (Feigenbaum et al., 1988). Further attempting to explain the expressive voting of nuclear power, Fort and Bunn (1998) argue that since individuals bare the high costs of participating in voting, the vote against nuclear provided enough expressive utility to outweigh the participation costs. However, expressive voting is not only found with regards to nuclear power, Karahan and Shughart (2004) find expressive voting for the flag of the state of Mississippi, often under criticism for the resemblance to the flag of the Confederate States during the U.S. Civil War. Glazer (1992) argues that expressive interests are present when individual in unions vote for strikes, given the large material utility costs of possible unemployment. Voting by counties within the United Nations is largely an expressive activity, as Potrafke (2009) finds that countries are not solely voting on basis of own ideological and rational self interests.

Expressive voting behavior even holds when individuals are placed in experimental settings. Tyran (2004) provided individuals a low-cost theory of expressive voting, where individuals were provided with a proposal to tax everyone and to donate the tax revenues. Tyran (2004) finds that 40 percent of individuals were willing to switch their vote based on different expectations about the outcome of the referendum. Therefore, due to the focus on the expectations of the outcome of the referendum, voting can aggregate and lead to outcomes which most of the subjects did not prefer.

Expansion of the “expressive interests” bias to economic policy by Caplan (2007) suggests that voter choice and government economic decisions are inherently irrational. For example, citizens favor economic protectionism as a means of restricting international trade without considering the instrumental costs of such preferences. Caplan (2007) terms this
economic “expressive interest” bias as one of “rational irrationality”, where irrationality is defined as a utility-generating consumer good. This state of “rational irrationality” is deemed preferable for individuals for two reasons. First, the costs of consuming large amounts of irrational political beliefs are relatively low. As citizens do not have to commit large amounts of time into obtaining political beliefs and additional information regarding these political beliefs through news media, individuals can hold irrational political beliefs. Additionally, as individuals are not held to constantly defend their political beliefs, often the irrationality of the political beliefs is not even observed or challenged. Second, Caplan (2007) proposes that holding certain beliefs “feels better” for citizens than other beliefs. While Caplan (2007) points to items such as Stalin’s view on genetics and the effects that belief had on science in the Soviet Union, these beliefs could also be extended to include the fact that a vast majority of individuals within the United States as middle class, but few actually qualify as member of a middle economic class ("Middle Class, By the Numbers," 2008). Therefore, Caplan (2007) concludes that this state of “rational irrationality” or expressive interests bias leads to poor policy choices and decisions by politicians.

As politicians are vote-seeking individuals, they are driven by expressive interests bias. The findings of Caplan (2007) are confirmed even when the addition of good policy platforms are introduced into the model with purely populist policy goals (Bischoff & Siemers, 2013). Bischoff and Siemers (2013) find that incumbent bias as well as unclear responsibilities reduces what should otherwise be a self-correcting mechanism in retrospective voting. Therefore, retrospective voting is not correcting for the proposal of purely populist policies or “rational irrationality”.

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Furthermore, “expressive interests” have been applied to government relations (Peltzman, 1976; Stigler, 1971). All note the public opposition to traditional economic reasoning, suggesting that citizens appear to prefer policies that are often in direct conflict with their own utility curve. For example, Castanheira et al. (2011) found that that political variables carry more weight than economic variables in triggering tax reforms in labor taxation in the European Union. Castanheira et al. (2011) conclude that “expressive interests” are largely to blame as to why more reforms that are not economically optional fail to be implemented.

**Description and History of Online Tax Reforms**

Online sales and use tax policies were a concern far before the passage of the first online sales tax legislation. The traditional sales and use tax structure was designed for physical based exchanges: buyers and sellers meet at a location and trade tangible goods and services for money (Due & Mikesell, 1994). In this particular methodology, the seller is required by the state to remit some percentage of the sales price on all items, and send that money to the state. However, the buyer possesses an additional legal obligation, to remit his/her use tax if the object was purchased in one state, but used in another state (Due & Mikesell, 1994). Traditionally, use taxes are difficult to collect and enforce from retail purchases, as buyers are often unaware of their legal obligation (Due & Mikesell, 1994). While use tax laws predated the creation of mail-order catalogues, states became more aware of the loss of potential revenue through the expansion of interstate commerce. A similar concern arose again for state legislators with the expansion of online commerce.

As online retail sales began to expand in the late 1990s, scholars began to offer suggestions as to the premier methodology to correct for the compliance issues, i.e. the lack of self-reporting and payment of use tax by consumers online. For example, Mikesell (2000)
proposed the United States Congress stepping in to require registration for large scale remote vendors, but only in those states in which compliance costs would be minimal, i.e. states that lack local option use taxes. In contrast, Goolsbee and Zittrain (1999) study the costs and benefits of implementing of current sales tax laws to online transactions. While they find that the costs of compliance with taxes on Internet commerce are likely to be small for most transactions, and that not enforcing use tax laws on online commerce does disproportionally benefit the wealthy, Goolsbee and Zittrain (1999) argue for a moratorium on enforcement of online sales and use taxes in the short term, to allow for the expansion of internet commerce.

Online tax reforms, often referred to in the vernacular, “Amazon.com” legislation, regardless if the scope of reform is not limited to Amazon.com, are a relatively new policy measure. Quill Corp. v. North Dakota (1992) sets the current legal precedent regarding online sales tax collection. While the decision notes previous decisions against the bright-line physical presence statute established in National Bellas Hess, Inc. v. Department of Revenue of Illinois (1967) such as Scriptio, Inc. v. Carson (1960), the court determined that the undue burden that would be placed on the retailer to learn the local sales and use tax codes of various states falls within the Commerce Clause. Subsequently to National Bellas Hess, Inc. vs. Department of Revenue of Illinois, the Supreme Court identified a four-prong test to determine if potential state tax scheme unduly burdened interstate commerce in Complete Auto Transit, Inc. v. Brady (1977). The four-prong test considers fair apportionment, discrimination, nexus, and the nature of tax. The state would be found in violation of the Commerce Clause nexus could not be determined, if the state taxed more than a fair share of income, if instate and out-of-state taxpayers were treated differently, or if the tax did not fairly relate to services provided to the taxpayer by the state in question. The subsequent decision in Quill Corp. v. North Dakota took
the four-prong test a step forward to highlight the undue burden that would be placed on remote vendors to learn the local sales and use tax codes for various states. Therefore, regardless of physical presence, Congress must protect interstate commerce from undesirable burdens. Registration and learning of state and local sales and use tax code represents such an undue burden on interstate corporations.\textsuperscript{18}

Amazon.com began collecting sales tax on purchases in Washington relatively close to the beginning of the launching of the website in 1995, since the corporate headquarters of the company is in Seattle (Krantz, 2012). Issues with \textit{Quill Corp. v. North Dakota} were not present with the collection of sales tax by Amazon.com for purchases made by residents in the state of Washington, as the company had a clear physical presence within the state and taxation was on the sales of items to citizens within the state of Washington.

The next round of legislation regarding the collection of sales tax by Amazon.com came in the early 2000s, when the states of Kentucky, North Dakota, and Kansas required Amazon to register as a certified collector (Krantz, 2012). At the time, Amazon.com had large distribution centers within all three states. While Amazon.com would have had the right to challenge the passage of legislation by these states, due to the fact the distribution centers were operated by a subsidiary of Amazon.com, the company chose not to legally challenge the passage of legislation by these three states.

The controversial legislation requiring Amazon.com to register as an authorized sales tax collector in a state began with the state of New York in 2008. Henchman (2012) notes that the nature of the legislation passed by the New York state legislature was unique. Specifically:

\textsuperscript{18} A brief filed by John Mikesell in the Quill decision noted 6,277 sales tax jurisdictions and 4,452 use tax jurisdictions.
New York adopted a law that imposes such an obligation on a person or business with no physical presence in the state if it (1) enters into agreement with in-state resident involving commissions for referring potential customers; and (2) has gross receipts from sales by out-of-state companies from referrals within the state which total more than $10,000 in a 12-month period (p. 1).

The $10,000 amount identified, in clear dollar terms, what level of sales by a corporation constituted nexus based presence within the state in combination with the commissions provided to third parties for referral of potential customers.

Additionally, the legislature of New York most likely expected a challenge to the legislation under *Quill Corp. v. North Dakota* undue burden test and the four-prong test in *Complete Auto Transit, Inc. v. Brady* (1977). The first part of the legislation passed by New York attempts to suggest that the Amazon.com affiliates program creates a physical presence within the state, addressing the prong of nexus in *Complete Auto Transit, Inc. v. Brady*. Amazon.com's affiliates program appears to be free to join, and does not specifically limit its members to particular states. Henchman (2012) clearly identifies the legal difficulties the state of New York encountered in its attempt to actually enforce said legislation. The undue burden portion of the Commerce Clause was not directly addressed by the state of New York in their legislation, but the total sales limit appears to suggest a targeting of large corporations. However, Amazon.com has been collecting sales tax on items for the state of New York and localities since 2009, suggesting a possible legal definition of physical nexus similar to as *Scriptio, Inc. v. Carson* (Noonan et al., 2013).

The legal problems that New York experienced did not deter other states from following suit. Since the passage of New York's “Amazon.com” law in 2008, several other states have followed suit. Table 3 notes the states that have passed legislation requiring Amazon.com to collect sales taxes on sales made to residents in their states. The legislation found in this table
represents a combination of affiliate nexus laws and click through nexus laws. Several of these laws have met legal challenges, such as the legislation passed by the state of North Carolina in 2009. North Carolina settled with Amazon.com in federal court in 2010, regarding privacy rights issues of customers (Henchman, 2012). The legislation passed by the state of North Carolina required the release of all items purchased by customers from North Carolina since 2003. Colorado passed legislation in 2010 requiring large retailers, like Amazon.com to send comprehensive purchase reports to consumers and the state Department of Revenue. Since the passage of the legislation in 2010, Colorado’s law has been struck down in federal court, reinstated, and most recently, blocked by a state judge in Denver19 (Hanel, 2014; Zelinsky, 2011). Colorado is currently considering House Bill 1269, which will hold that online businesses are presumed to have nexus to Colorado, but the company has the right to dispute the nexus claim when the state chooses to collect the tax (Hanel, 2014).

Several states have chosen to delay the implementation of the “Amazon.com” laws. These delayed enforcement agreements typically postpone the collection of sales taxes by online retailers such as Amazon.com in exchange for the creation of additional jobs within the state, through the opening of one or more warehouse fulfillment centers, or the removal of the threat of closing previously present warehouses. For example, the day that the New York legislature passed their version of an “Amazon.com” law, Amazon.com responded by discontinuing its relationships with all affiliates within the state (Henchman, 2012; Noonan et al., 2013). Therefore, amid concerns of being considered legislators that “kills” jobs in a recession, several states have opted instead for the negotiated agreement. For example, Indiana made the strategic decision to engage in an agreement with Amazon.com delaying enforcement until 2014. In

19 Direct Marketing Association v. Huber (2011)
exchange for delayed enforcement, Amazon.com agreed to not close two warehouse fulfillment centers.

South Carolina took the negotiated agreement with Amazon.com and other major retailers one step further than simply delaying implementation. The legislators of South Carolina delayed implementation of sales tax collection to 2016 in exchange for the following items being completed by the businesses: one, put a distribution facility in service between December 31, 2010 and December 31, 2013; two, make a capital investment of at least $125 million during the same period; three, create at least 2,000 jobs with comprehensive healthcare plans; and four, maintain at least 1,000 jobs after 2013. Therefore, the legislature of South Carolina provided a delayed enforcement of collections in exchange for job creation and business investment within the state (Setze, 2011).

Finally, Vermont took an interesting step towards delaying collections of sales and use tax by online retailers, suggesting that that the state would only begin collections once 15 other states had passed similar “Amazon.com” collection laws (Henchman, 2011). This particular clause found within the sales and use tax revenue legislation represents a unique example of the desire for politicians to see enactment in neighboring states before choosing to enact tax legislation in their own state (F. S. Berry & Berry, 1992).

Additionally, the U.S. federal government is considering two pieces of legislation that would address the previous undue burden test of Quill Corp. v. North Dakota regarding sales by online retailers. If passed, this legislation would free up any potential legal barriers for other states to pursue taxation on online retailers.
Model and Estimation of State Implementation of Online Tax Policy

The dependent variable identifies whether or not a state has passed e-commerce tax legislation, and if this legislation was to be immediately enforced or contained a delay. Both expressive political and utilitarian economic theory provide justification for the passage of a reform, but delaying the enforcement is a utilitarian gain with no clear benefit to expressive interests. The coding of this variable is illustrated with Figure 1. Multinomial regression models serve to determine how independent variables contributed to identifying which choice of legislation receives the greatest support. These models allow for the comparison of explanatory factors in the passage of legislation with immediate or delayed enforcement to the baseline of no online sales and use tax legislation.

Figure 1 highlights the spectrum of the states within each of the three categories, with additional details found in Table 1. States are coded to have immediate enforcement if enforcement began during the same legislative session or at the beginning of the subsequent fiscal year. States were considered to have delayed enforcement if time between passage and enforcement was greater than one year.20 The remaining states without legislation by the end of March 2013 are coded to have no adoption. New Hampshire, Montana, and Oregon were excluded from the calculations, as these states do not collect any sales taxes at the state or local level. Delaware was excluded from analysis due to the differences between gross receipt taxes collected by the state and a traditional retail sales tax system. Half of the 45 states in the

20 The one unique exception to this general guideline would be Vermont. Vermont currently has legislation in place suggesting that the state legislature can require enforcement of collection of sales and use taxes by online vendors when 15 other states have passed similar nexus based legislation (Henchman 2011). However, the legislation required companies to immediately notify customers that a use tax was owed for their purchases. Therefore, Vermont was coded as delayed enforcement state, since the legislature indicated some interest in collecting sales and use taxes in the future, but the actual date of future collections is undefined at this time.
analysis have no online tax legislation, and 11 of the 21 adopting states have delayed enforcement.

The model reads as the following:

$$ \text{OnlineTaxLegislation}_j = f(\alpha_j + Utilitarian\delta_j + Expressive\gamma_j + StateCharacteristics\theta_j) $$

The dependent variable, OnlineTaxLegislation, contains the identification of the state $j$ with regards to the pursuing of legislation to require the collection of taxes on online transactions by major retailers. The nature of the coding of the dependent variable can be seen graphically in Figure 1. The coding of the variable identifies a value of 0 for states that have pursued no legislation in attempt to force online retailers to register as certified sales and use tax collectors within the state. The coding of 0 includes those states that have passed legislation requiring vendors to indicate to consumers that a sales and/or use tax might be owed on the purchases, as these legislations do not actually require the collection of sales and use taxes by the retailer. The coding of 0 also includes those states that have recently passed legislation to include a line on the state income tax form requesting citizens provide their own use tax liability. Previous research by Due and Mikesell (1994) found that Maine obtained the largest impact from line on individual income tax forms, but that impact was only approximately 3 percent of total use tax collections. For example, in 1992 Idaho collected $98,347 from 5,120 individual income tax returns reporting use tax owed (Due & Mikesell, 1994). Therefore, by in large, the passage of legislation to add a line to the state income tax form does not possess the same enforcement success as requiring the collection of sales and use tax by the retailer. The coding of 1 identifies those states

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21 Maine was unique in the fact that citizens of Maine were confronted with two alternatives: the exact amount owed or 0.04 percent of the adjusted gross income of Maine plus any additional taxes on purchases over $1,000.
that have passed legislation requiring immediate enforcement of collections. Immediate enforcement is defined as enforcement within the same legislative cycle as passage.

Finally, a coding of 2 identifies those states that have delayed enforcement of the legislation. Delayed enforcement legislation includes states that entered negotiated agreements with companies such as Amazon.com to delay collection by large-scale online retailers. While some states chose to pass legislation validating the negotiated agreement (for example, Tennessee), and applying the policy to all retailers within the state that meet a certain yearly revenue criteria, other states have chosen to simply act upon the negotiated agreement with Amazon.com (such as Indiana). Largely the sheer market share of Amazon.com within online commerce drives the inclusion of these two different methodologies into one category. Specifically, according to Internet Retailer, a trade publication for online retailers, Amazon.com sells more online than the next 12 biggest competitors combined, which includes such retail giants as Staples and Wal-Mart (Banjo & Ziobro, 2013). In the second quarter of 2013 alone, Amazon.com had a 30 percent increase in North American sales (Banjo & Ziobro, 2013). The sheer growth of Amazon.com e-commerce comes at stark contrast to companies such as Fifth & Pacific, who own luxury lines Kate Spade and Juicy Couture. In communications with the SEC in May 2013, Fifth & Pacific declined to report the contribution of e-commerce towards overall sales, because the separate disclosure was not considered relevant to investors (Banjo & Ziobro, 2013). The relative small size of e-commerce of several corporations who also maintain brick and mortar locations in comparison to companies such as Amazon.com suggests that Amazon.com will collect a large proportion of sales tax revenue created from these pieces of legislation. Therefore, negotiated agreements with Amazon.com represent a collection of a large portion of online sales tax revenue.
Turning to the independent variables, they are characterized according to their purpose in the model. Economic variables are those which are motivated by the normative economic theory of optimal tax reform derived from utilitarian welfare functions, and expressive interest variables are included in the vector of political variables. The specification also includes state characteristics that are likely correlated with the main economic and political variables of interest that could bias a model predicting policy adoption. Table 2 contains a listing of the independent variables.

The vector of variables that serve to test economic utilitarian determinants, *Utilitarian*, includes the sales and use tax rate, as well as the relative cost of state tax collectors, and the status of the state within the Streamline Sales Tax Project (SSTP). These variables should incentivize delayed enforcement of adopted reforms. The relative cost of state tax collectors compares the average annual salary of a public finance employee for the state to the average annual salary of a citizen in that particular state.\(^2\) The average salary of a citizen in the state does not include self-reported salary information, but rather only salary values provided to the BLS by companies, to remove possible errors associated with self-reported salary data. The average salary of public finance employee for a state comes from a NAICS code that includes the individuals in government directly related to public finance, taxation, and monetary policy. While the NAICS code contains some individuals not directly connected to revenue collections, the overall investment in public finance activities of the state gets at the concept of administrative investment in public finance, and allows for a clear comparison among the states. The intuition for this measure is to serve as a proxy for the cost of expanding administrative responsibilities for collecting and enforcing sales and use taxes relative to other public

\(^2\) Drawn from BLS data on employment records, NAICS code: 921130.
administration efforts. The greater the relative cost of expanding tax administration, the less likely a state is to immediately enforce tax collections.

The sales tax rate represents a combination of state sales tax and any local add-on sales tax for the state. As states may have numerous local add-on sales taxes, the average of the local add-on rates is combined with the state rate to create one state tax rate. Economic theory indicates that deadweight loss of taxation rises with the square of the tax rate, and that expanding the base to all forms of consumption is welfare improving by reducing the distortion to vary the form of consumption. In other words, the greater the tax rate, the more efficiency gains that can be realized when the base is expanded. Given that several states have in addition to a state sales tax rate, a local add-on option, where localities within the state have the option to levy an additional sales tax above the state rate on purchases within their jurisdiction, this analysis employs the average sales tax rate for the state and local governments.²³

The status of the state within the Streamline Sales Tax Project (SSTP) represents a binary variable measuring if the state was a full member or not a full member by January 1, 2013. The SSTP focuses on simplification of state and local tax codes, created in part to address the undue burden test from Quill Corp. v. North Dakota. Specifically, the SSTP required states to edit their tax codes to simplify state-level administration, tax base, tax rates, and sales sourcing rules. According to the Streamline Sales Tax Governing Board, Inc. website²⁴, states must address all four simplification criteria to achieve full member status. While the complete variation of status within the SSTP can be seen in Figure 2, a binary variable was created identifying if a state was a full member or lacked full membership. As of January 1, 2013, 23

²³ Online retailers would be liable for the collection of both the state rate, as well as any local add-on rates, the same way a brick-and-mortar location within the state has to remit both taxes.²⁴ http://www.streamlinedsalestax.org
states were full members of SSTP, and 22 states were lacking full membership. Part of the rationale for the creation of the binary variable was the near prediction power between those states that were classified as advisory states, non-conforming, and the passage of online sales and use tax legislation with immediate enforcement. Included within the SSTP process is the simplification of the remission process. For example, Arizona, a non-conforming SSTP state possesses 123 different filing locations. Louisiana, another non-conforming SSTP state possesses 69 different remission locations. The number of filing locations in Arizona and Louisiana are in stark contrast to the 2 filing locations in both Nebraska and Nevada, both full SSTP states. Turning to simplification of sales tax rates, Texas, a non-participating state in the SSTP has over 1,000 different sales taxation districts. Conversely, Indiana, a full membership state only possesses one state rate for general retail sales. Therefore, full membership in the SSTP suggests a desire by the state legislature to focus on utilitarian concerns of sales tax administration with simplification of both structure and rate.

The vector of variables for effective political interests, *Expressive*, contains five variables that incentivize the adoption of tax reform with *immediate* enforcement. A proxy measure for state culture, state citizen ideology, professionalization of the state legislature, and ideology of the state legislatures all represent expressive interests. These factors are driving consideration of expressive voting of the citizens of the state.

Political culture of the state is measured based on Elazar’s classification of states as moralistic, individualistic, and traditional (Elazar 1974). Moralistic political culture views government as a positive force, and democracy is a means towards the creation of a good society. In contrast, individualistic political culture states view the role of government as a utilitarian provider. Therefore, government should be largely focused on private initiative, and focusing on
utilitarian maximization. Finally, in a traditional political culture, government is seen as a positive actor, charged with maintenance of the social order. While Elazar’s classification of state political culture is imperfect and a range of cultural values represents many states, the measure gives a concise way to account for the overall cultural sentiment in a state. The state culture should play a decisive role in the effects of expressive interests upon policy outcomes; states with moralistic political culture should be focused on immediate enforcement, to even the playing field between brick and mortar stores and online retailers.

State citizen ideology is derived from CBS/New York Times survey data between 2007 and 2011. This survey data is a continuation of the data collection initially presented in Erikson et al. (1993)\textsuperscript{25}. Between 2007 and 2011, 89,314 individuals were surveyed about their political ideology, allowed to respond with liberal, moderate, or conservative. State citizen ideology represents a weighted average of the three scores, where states that possess a negative score contain a citizen ideology that is more conservative, and states that possess a positive citizen ideology are more liberal. Citizen ideology should play a role in the passage of online sales and use tax legislation, as states that lean liberal should be more open to additional tax reform.

The level of professionalization in the state legislature is captured based on Squire’s Index (Squire 2009). Squire’s index is calculated based on the average pay of state legislatures, the average number of days in session the state legislature holds, and the average number of professional staff that is provided to each member. The index ranges from values of 0 to values of 1, where a value of 1 represents a state that perfectly mimics the U.S. Congress in terms of professionalization. The justification for the inclusion of this variable within the model stems from previous research in political inertia (Rose, 1985b; Rose & Karren, 1987). States with more

\textsuperscript{25}Thanks are offered to Dr. Gerald Wright for providing the data.
professionalized legislatures will likely seek to retain their office by satisfying expressive interests, as member of state legislature is their sole occupation. Professionalized legislators should be more concerned about reelection and the appeasement of expressive voting of their constituents.

Finally, ideology of the state legislators should play a role in the influence of expressive interests bias in passage of legislation. The ideology of the state legislature is captured by W. D. Berry et al. (2010), as version of state government ideology based upon the “nominate” scores initially identified by Keith T. Poole and Howard Rosenthal to map the members of the chambers of the United States Congress on an ideological scale. W. D. Berry et al. (2010) took this methodology and applied it to state level legislatures. The measure included in the model is an average chamber ideology for year 2008 on a spectrum of 0 to 100, where 0 is perfectly conservative and 100 is perfectly liberal. The inclusion of this variable within the analysis allows for possible differences in passage of tax reform legislation based on the ideological predisposition of the chamber.

The vector of state specific control variables, StateCharacteristics, contains three factors: median household income, the number of retail storefronts within the state (in thousands), and the unemployment rate. A vast majority of consumption and the subsequent collection of consumption taxes come from citizens within their own state. As consumption directly correlates with personal income and unemployment, these measures are included to avoid omitted variable bias. Therefore, the input of the median income per household for each state from the Bureau of Economic Analysis was collected and introduced into the model. While a few states rely heavily on the consumption of tourists within their states, the vast majority of states within the United States directly rely on consumption by their own citizens. Therefore,
looking at the average amount of income a citizen and the number of citizens within a state have to possibly spend on consumption represents a potential measure of base. In particular, the presence of storefronts within a state to purchase items represents an important factor driving the use of online retailers. Specifically, if more and more store fronts or the traditional “brick and mortar” establishments close, individuals within a state would be more likely to pursue “virtual” store fronts as a means to purchase items. Storefronts are in direct competition with online stores for purchases made by individuals. Additionally, the distribution of retail storefronts is not random, but rather systematic around population centers.

Expressive interests bias suggests that politicians should be acting in ways to fulfill the expressive interests rather than strictly utilitarian interests. Therefore, one should expect the coefficients of the economic variables to be not as significant towards explaining the passage of online sales and use tax legislation with immediate enforcement, as members of state legislatures should not be looking to pass revenue legislation simply as a utility maximization operation; closing a loop hole in the sales and use tax legislation that makes enforcement of the collection of sales and use taxes on online transactions difficult. Instead, political variables like the state citizen ideology should be significant, suggesting a political culture more accepting of tax increases in exchange for increased governmental service. Specifically, state legislatures should be focusing on expressive interests as a first and foremost consideration in passage of legislation with immediate enforcement. Turning to delayed enforcement, expressive interests bias appears to suggest that politicians should not prefer delaying enforcement, as delaying enforcement represents a utilitarian versus “expressive interests” consideration. Therefore, if state legislators do choose to pass legislation with delayed enforcement, largely economic considerations rather
than political interests should drive that decision. Table 3 contains a summary of these specific considerations.

In addition to the multinomial regressions, another set of estimates to explain the adoption of any online tax reform is presented. The binary logistic and probit regressions allow for a robustness check upon the results of the multinomial specifications, as the significance of similar variables would suggest the strength of relationship between the variable and online sales and use tax legislation, as these factors were significant to explain the presence of legislation, regardless of consideration of enforcement strategy.

Results

Table 4 contains the results of the logistic and probit multinomial regressions. The findings are largely in line with the expectations as dictated by previous theory, as well as the subsequent binary tests of explanation of the presence of online sales and use tax legislation provided in Table 6. The similarity of the results from all four models suggests robust findings with regards to the effects of variables on explaining both the passage of online sales and use tax legislation, as well as the timing of enforcement of said legislation. Additionally, the multinomial probit model fit the data slightly better than the multinomial logistic regression. As such, marginal effects were calculated on the multinomial probit model and can be found in Table 5. Therefore, interpretation will focus on the multinomial probit results, but the results of the two models are extremely similar.

Focusing on the economic variables, the combined sales and use tax rate is consistent with utilitarian economic theory of optimal tax reform as evidenced by a significant, positive relationship with legislation passage, and especially with the passage with delayed enforcement. These findings are revealed in the difference in the relative size of the two coefficients between
immediate and delayed enforcement. As within the probit model, the value of state tax collectors was significant in explaining the passage of immediate sales and use tax legislation, and the directionality of the relationship disputes what was predicted by normative theory. The more expensive state tax collectors are relative to other public administration servants, expanding the tax base to include more difficult-to-enforce taxes is more costly for state legislatures and therefore they are less likely to pursue online tax legislation, especially with immediate enforcement. The membership in the SSTP suggests that while full members are likely to pursue legislation with immediate and delayed enforcement, the larger coefficient on delayed enforcement suggests a preference toward delayed enforcement, following utilitarian economic theory.

Turning to the expressive political interest theory variables, states with individualistic state culture, less professionalized legislatures, and more liberal state legislatures were likely to pursue legislation with immediate enforcement. Conversely, ideology of the citizen, states with traditional culture, states with less professionalized legislatures, and states with more conservative state legislatures were likely to pursue legislation with delayed enforcement. Against normative theory, ideology of the citizen does not play a significant role in predicting passage of legislation with immediate enforcement, but does play a significant and positive role in predicting passage of legislation with delayed enforcement. The ideology of the state legislature plays a significant and opposite role in prediction of enforcement speed of legislation. Specifically, the chamber ideology appears to matter in selection of desired enforcement speed. Overall, states with professionalized legislatures are less likely to pursue online sales and use tax reform, which follows previous research on the large perceived costs associated with passage of tax reform legislation. State culture also appears to play a significant role in the desired
enforcement speed of legislation, with states that are individualistic preferring immediate enforcement and states that are traditional preferring delayed enforcement. This finding is against normative theory, as we should expect individualistic states to pursue delayed enforcement, as government is seen for largely utilitarian reasons in these states.

Turning to the results of the binary logistic and probit regression models, testing the passage of online sales and use tax legislation against the states, which have failed to pursue e-commerce tax legislation, the results presented in Table 6 are mixed against the expectations as dictated by previous theory. Looking at the economic variables, results were mixed with regards to mirroring the expectations dictated from normative theory. The directionality of the relationship between the combined sales and use tax rate and the passage of online tax legislation is consistent with economic utilitarian theory. However, this finding goes against expressive interests bias, as one would not expect economic factors to play a role in the passage of legislation. Conversely, the cost of state tax collectors was insignificant in explaining the passage of online tax reform legislation.

Returning to the variables for expressive political interest theory, the results regarding the predicted relationships and the observed relationships are mixed. Ideology of the state legislature is insignificant towards explaining the passage of online sales and use tax legislation. Conversely, Squire’s Professionalism Index was in line with normative theory, as more professionalized legislatures were less likely to make the risky political decision to pass revenue policy. The more professionalized the legislature, the larger the risk of punishment for passage of unpopular tax legislation. The citizen ideology and traditional states also play a significant and positive role in passage of online sales and use tax legislation. These findings are consistent with
political theories regarding aversion to revenue policy by legislatures, but not necessarily expressive interest bias.

**Conclusion**

Members of state legislatures appear to be acting in such a way to both address the expressive interests of their constituents along with economic utilitarian theory concerns. Expressive interests do not fully describe the story of passage of e-commerce tax reform legislation, as the sales and use tax rate still plays a significant and positive role in the passage, suggesting that members of the state legislature are acting in some utilitarian function in hopes of garnering lost revenue from online transactions, which studies have attempted to identify (Bruce et al., 2009). The passage of online sales and use tax legislation appears to suggest that politicians are acting as political elite, as referenced by Caplan (2007) where they acknowledge the “expressive interests” of their constituents, but will pass legislation as a benevolent social planner, i.e. in line with economic utilitarian theory, when the public is not as focused on the legislation.
References


Middle Class, By the Numbers. (2008). Retrieved September 24, 2013


### Table 1: Online Tax Legislation Passage and Enforcement Years by State

<table>
<thead>
<tr>
<th>State</th>
<th>Passage Year</th>
<th>Enforcement Year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>2011</td>
<td>2011</td>
<td>Amazon.com shut down its affiliate program in the state.</td>
</tr>
<tr>
<td>California</td>
<td>2011</td>
<td>2012</td>
<td>Originally supposed to be immediate enforcement but delayed one year due to agreement with Amazon.com. Struck down in Federal Court.</td>
</tr>
<tr>
<td>Colorado</td>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connecticut</td>
<td>2011</td>
<td>2011</td>
<td>Amazon.com terminated its relationships with affiliates.</td>
</tr>
<tr>
<td>Georgia</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>2011</td>
<td></td>
<td>Struck down by judicial review.</td>
</tr>
<tr>
<td>Indiana</td>
<td>2012</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Kansas</td>
<td>2004</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td>2005</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>Maryland</td>
<td>2009</td>
<td>2009</td>
<td>Amazon.com removed physical presence in the state.</td>
</tr>
<tr>
<td>Nevada</td>
<td>2012</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
<td>2012</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>2009</td>
<td></td>
<td>Settled in federal court.</td>
</tr>
<tr>
<td>North Dakota</td>
<td>2006</td>
<td>2006</td>
<td>Requires retailers to give notice to individuals who buy items for which use tax is due.</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>2012</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>2009</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>South Carolina</td>
<td>2012</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>South Dakota</td>
<td>2011</td>
<td></td>
<td>Requires retailer to give notice to individuals who buy items that use tax is due.</td>
</tr>
<tr>
<td>Texas</td>
<td>2011</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>2012</td>
<td>2013</td>
<td>Only goes into effect if 15 states pass similar reforms.</td>
</tr>
</tbody>
</table>

**States with no reform:** Alabama, Alaska, Delaware, Florida, Hawaii, Idaho, Iowa, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, Ohio, Oregon, Utah, West Virginia, and Wyoming. Washington state collects taxes under traditional tax law due to Amazon.com’s headquarters in Seattle.
**Figure 1: Enactment of Online Tax Reforms and Enforcement Structure by State**

*Source:* Author’s research of state legislation.

*Note:* “No Sales Tax” indicates that there are no sales or use taxes at the state or local level. New Hampshire is also coded as “No Sales Tax” because they have a value-added tax, which changes the compliance issues experienced under the gross sales receipts and retail sales taxes that are employed in other states.
### Table 2: Independent Variables

<table>
<thead>
<tr>
<th>Utilitarian</th>
<th>Expressive</th>
<th>State Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales and Use Tax Rate</td>
<td>State Citizen Ideology</td>
<td>Median Household Income (Thousands)</td>
</tr>
<tr>
<td>Expense of State Tax Collectors</td>
<td>State Culture</td>
<td>Retail Storefronts (Thousands)</td>
</tr>
<tr>
<td>Streamline Sales Tax Agreement</td>
<td>Squire’s Professionalism Index</td>
<td>Total Employment</td>
</tr>
<tr>
<td></td>
<td>Ideology of State Legislators</td>
<td></td>
</tr>
</tbody>
</table>

Note: See Appendix Table for variable definitions and data sources.
Figure 2: Streamline Sales Tax Agreement Status by State
Table 3: Expected Significance for Variables of Interest if Expressive Interest Theory is Primary Determinant

<table>
<thead>
<tr>
<th>Variable Category</th>
<th>Immediate Enforcement</th>
<th>Delayed Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>δ Utilitarian</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Best</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Best</td>
</tr>
<tr>
<td>Y' Expressive</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Best</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Best</td>
</tr>
</tbody>
</table>
Table 4: Multinomial Probit and Logit Results for Type of Online Tax Legislation

<table>
<thead>
<tr>
<th>Pass with Immediate Enforcement</th>
<th>Logit Model</th>
<th>Probit Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Sales and Use Tax Rate</td>
<td>93.08**(44.83)</td>
<td>74.24**(31.19)</td>
</tr>
<tr>
<td>Expense of State Tax Collectors</td>
<td>-3.70*(2.10)</td>
<td>-2.78**(1.41)</td>
</tr>
<tr>
<td>Streamline Sales Tax</td>
<td>2.47**(1.12)</td>
<td>1.91***(0.73)</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>2.64(5.78)</td>
<td>1.58(4.17)</td>
</tr>
<tr>
<td>State Culture Individualistic</td>
<td>1.69(1.17)</td>
<td>1.48(0.80)</td>
</tr>
<tr>
<td>State Culture Traditional</td>
<td>0.30(1.49)</td>
<td>0.35(1.09)</td>
</tr>
<tr>
<td>Squire's Professionalism Index</td>
<td>-22.44*(12.05)</td>
<td>-15.99***(6.94)</td>
</tr>
<tr>
<td>Ideology of State Legislators</td>
<td>0.09****(0.02)</td>
<td>0.07****(0.02)</td>
</tr>
<tr>
<td>Median Household Income (Thousands)</td>
<td>0.14(0.13)</td>
<td>0.11(0.07)</td>
</tr>
<tr>
<td>Retail Storefronts (Thousands)</td>
<td>0.09(0.07)</td>
<td>0.06(0.03)</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>1.03**(0.46)</td>
<td>0.80*(0.32)</td>
</tr>
<tr>
<td>Constant</td>
<td>-18.27*(9.77)</td>
<td>-15.15***(5.19)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pass with Delayed Enforcement</th>
<th>Logit Model</th>
<th>Probit Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Sales and Uses Tax Rate</td>
<td>236.27**(103.40)</td>
<td>180.17***(70.01)</td>
</tr>
<tr>
<td>Expense of State Tax Collectors</td>
<td>-4.01(4.57)</td>
<td>-2.53(3.08)</td>
</tr>
<tr>
<td>Streamline Sales Tax</td>
<td>4.89**(2.44)</td>
<td>3.68***(1.70)</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>30.19**(14.11)</td>
<td>23.32***(9.16)</td>
</tr>
<tr>
<td>State Culture Individualistic</td>
<td>1.08(1.98)</td>
<td>1.00(1.24)</td>
</tr>
<tr>
<td>State Culture Traditional</td>
<td>8.24***(3.49)</td>
<td>6.44***(2.42)</td>
</tr>
<tr>
<td>Squire's Professionalism Index</td>
<td>-29.85(20.71)</td>
<td>-22.23**(11.79)</td>
</tr>
<tr>
<td>Ideology of State Legislators</td>
<td>-0.08**(0.04)</td>
<td>-0.07***(0.03)</td>
</tr>
<tr>
<td>Median Household Income (Thousands)</td>
<td>0.36(0.19)</td>
<td>0.27*(0.12)</td>
</tr>
<tr>
<td>Retail Storefronts (Thousands)</td>
<td>0.12(0.11)</td>
<td>0.08(0.05)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>1.60(0.95)</td>
<td>1.20(0.63)</td>
</tr>
<tr>
<td>Constant</td>
<td>-33.42**(14.97)</td>
<td>-26.18***(9.86)</td>
</tr>
</tbody>
</table>

Observations | 45 | 45 |

Notes: Robust standard errors reported in parentheses. Reference case is no passage of online tax legislation. Statistical significance indicated using * (p < 0.10), ** (p < 0.05), *** (p <0.01), **** (p < 0.001). Variable descriptions and data sources found in the appendix table.
<table>
<thead>
<tr>
<th></th>
<th>Immediate Enforcement</th>
<th>Delayed Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Sales and Use Tax Rate</td>
<td>14.56 * (7.91)</td>
<td>6.92 (8.58)</td>
</tr>
<tr>
<td>Cost of State Tax Collectors</td>
<td>-0.61 * (0.35)</td>
<td>-0.07 (0.10)</td>
</tr>
<tr>
<td>Streamline Sales Tax</td>
<td>0.32 ** (0.16)</td>
<td>0.19 (0.14)</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>0.00 (1.06)</td>
<td>1.02 (1.34)</td>
</tr>
<tr>
<td>State Culture Individualistic</td>
<td>0.35 * (0.28)</td>
<td>0.02 (0.06)</td>
</tr>
<tr>
<td>State Culture Traditional</td>
<td>-0.22 * (0.12)</td>
<td>0.90 *** (0.12)</td>
</tr>
<tr>
<td>Squire's Professionalism Index</td>
<td>-3.39 ** (1.67)</td>
<td>-0.75 (1.04)</td>
</tr>
<tr>
<td>Ideology of State Legislators</td>
<td>0.02 *** (0.00)</td>
<td>-0.00 (0.01)</td>
</tr>
<tr>
<td>Median Household Income (Thousands)</td>
<td>0.02 (0.02)</td>
<td>0.01 (0.01)</td>
</tr>
<tr>
<td>Retail Storefronts (Thousands)</td>
<td>0.01 (0.01)</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>0.17 ** (0.08)</td>
<td>0.04 (0.05)</td>
</tr>
</tbody>
</table>

Notes: Robust standard errors reported in parentheses. Reference case is no passage of online tax legislation. Statistical significance indicated using * ($p < 0.10$), ** ($p < 0.05$), *** ($p < 0.01$), **** ($p < 0.001$). Variable descriptions and data sources found in the appendix table.
Table 6: Probit and Logit Results for Determinants of Passing Online Tax Legislation

<table>
<thead>
<tr>
<th></th>
<th>Probit Model</th>
<th>Logit Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Sales and Uses Tax Rate</td>
<td>55.86*** (20.76)</td>
<td>97.48** (43.78)</td>
</tr>
<tr>
<td>Expense of State Tax Collectors</td>
<td>-1.06 (0.94)</td>
<td>-1.81 (1.78)</td>
</tr>
<tr>
<td>Streamline Sales Tax</td>
<td>1.16** (0.49)</td>
<td>2.01** (0.95)</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>5.50* (3.09)</td>
<td>9.90* (5.81)</td>
</tr>
<tr>
<td>State Culture Individualistic</td>
<td>0.44 (0.60)</td>
<td>0.63 (1.25)</td>
</tr>
<tr>
<td>State Culture Traditional</td>
<td>1.45** (0.68)</td>
<td>2.42* (1.28)</td>
</tr>
<tr>
<td>Squire's Professionalism Index</td>
<td>-10.27** (4.78)</td>
<td>-18.44* (9.97)</td>
</tr>
<tr>
<td>Ideology of State Legislators</td>
<td>0.01 (0.01)</td>
<td>0.01 (0.02)</td>
</tr>
<tr>
<td>Median Household Income (Thousands)</td>
<td>0.11** (0.05)</td>
<td>0.19 (0.12)</td>
</tr>
<tr>
<td>Retail Storefronts (Thousands)</td>
<td>0.04* (0.02)</td>
<td>0.07 (0.05)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.53** (0.23)</td>
<td>0.95** (0.46)</td>
</tr>
<tr>
<td>Constant</td>
<td>-10.21**** (3.90)</td>
<td>-17.62** (9.30)</td>
</tr>
<tr>
<td>Observations</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.4451</td>
<td>0.4462</td>
</tr>
</tbody>
</table>

Notes: Robust standard errors reported in parentheses. Reference case is no passage of online tax legislation. Statistical significance indicated using * (p < 0.10), ** (p < 0.05), *** (p < 0.01), **** (p < 0.001). Variable descriptions and data sources found in the appendix table.
## Appendix Table: Variable Descriptions and Data Sources

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Sales and Use Tax Rate</td>
<td>Summation of sales tax rate and average local add-on option rate for each state in 2008, drawn from Tax Foundation</td>
</tr>
<tr>
<td>Expense of State Tax Collectors</td>
<td>Ratio of average salary for employee of state department of revenue(^{26}) to average salary of citizen in the state, both taken from BLS for year 2008</td>
</tr>
<tr>
<td>Streamline Sales Tax Agreement</td>
<td>Dummy variable for full membership (1) in Streamline Sales Tax Agreement, drawn from Streamline Sales Tax Governing Board, Inc.</td>
</tr>
<tr>
<td>State Citizen Ideology</td>
<td>CBS/ NY Times survey of citizen ideology at the state level between the years of 2008 and 2011, provided by Gerald Wright</td>
</tr>
<tr>
<td>State Culture</td>
<td>Taken from Elazar (1974), confirmed in Abramowitz (1980); Windett (2011), states are described as moralistic (1), individualist (2), or traditionalistic (3).</td>
</tr>
<tr>
<td>Squire's Professionalism Index</td>
<td>Comparison of how closely a state legislature mirrors the U.S. Congress on grounds of pay, average days in session, and average staff per member. A value of 1.0 represents a perfect similarity to Congress and 0.0 represents no semblance. Received directly from author(^{27})</td>
</tr>
<tr>
<td>Ideology of State Legislators</td>
<td>Berry, Rinquist, et al (2012); weighted average of four institutional actors, looking at power and ideology of Republicans and Democrats within the upper and lower chamber.</td>
</tr>
<tr>
<td>Total Retail Storefronts (Thousands)</td>
<td>U.S. Census retail trade, number of establishments</td>
</tr>
<tr>
<td>Total Unemployment</td>
<td>BLS, total unemployment by state</td>
</tr>
<tr>
<td>Median Household Income (Thousands)</td>
<td>U.S. Department of Commerce, Bureau of Economic Analysis</td>
</tr>
</tbody>
</table>

\(^{26}\) Drawn from BLS data on employment records, NAICS code: 921130.  
Chapter 5: Concluding Thoughts

The expressive interest voting trap (Hillman, 2010) appears to play a significant role in the explanation of the passage of online sales and use tax legislation. However, state legislatures are not simply relying on expressive interests or utilitarian interests to justify the passage of online sales and use tax legislation. Members of state legislatures appear to be acting in such a way to both address the expressive interests of their constituents along with economic utilitarian theory concerns. Expressive or symbolic interests do not fully describe the story of passage of e-commerce tax legislation, as the sales and use tax rate still plays a significant and positive role in the passage, suggesting that members of the state legislature are acting in some utilitarian function in hopes of garnering lost revenue from online transactions. The passage of online sales and use tax legislation appears to suggest that politicians are acting as political elite, as referenced by Caplan (2007) where they acknowledge the “expressive interests” of their constituents, but will pass legislation as a benevolent social planner, i.e. in line with economic utilitarian theory, when the public is not as focused on the legislation.

Attempting to explain the passage of online sales and use tax legislation as well as the difference in enforcement speeds selected by state legislatures with economic utilitarian theory is only looking at one of the potential considerations of state legislatures. Specifically, the relative sales tax efficiency and number of use tax filing locations within the state played no role in explaining the passage of legislation with either immediate or delayed enforcement compared to a baseline of no online sales or use tax legislation. While the number or retail storefronts within the state did play a role in explaining the selection of delayed enforcement versus a baseline of no e-commerce sales tax legislation, the significance of this variable was minimal. Drawing from normative theory, testing for the effects of balancing sales and use tax efficiency losses with
equity concerns, there is lack of importance of the traditional equity-efficiency trade-offs of tax reform in explaining the passage of online sales and use tax legislation. This finding suggests that state legislatures are most likely considering other factors other than equity and efficiency when passing sales and use tax legislation.

Attempting to explain the passage of online sales and use tax legislation using the rational behavioral model of tax structure (Hettich & Winer, 1984; Hettich & Winer, 1988) is as unsuccessful as simply looking at the passage through a lens of an equity-efficiency tradeoff. By in large, the initial findings of the applicability of the rational behavioral model of revenue legislation towards explaining the passage of online sales and use tax legislation proved to be insignificant. While the election cycle variable is marginally significant towards explaining the odds of states passing legislation with immediate enforcement, the other factors appear to be insignificant towards explaining why certain states have chosen to pass “Amazon.com” legislation. Therefore, the actions of state legislatures in passage of e-commerce sales tax legislation cannot be explained thoroughly through an analysis of political costs and benefits.

Instead, passage of e-commerce sales and use tax legislation, as well as the entering into negotiated agreements between state legislatures and large e-retailers, such as “Amazon.com” depends on a combination of average state sales and use tax rate, expense of sales tax collectors, the presence of passage of previous legislation to aid in ease of enforcement (measured through full membership in the Streamline Sales Tax Agreement), the geographical location of the state, as well as professionalization of the state legislatures and their ideology. Citizen ideology only appears to play a significant role when considering legislation with delayed enforcement or negotiated agreements with delayed enforcement.
Therefore, while neither expressive interest bias nor utilitarian economic theory taken on their own can provide a significant explanation for the passage of online sales and use tax legislation, legislatures appear to be considering both simultaneously when passing legislation. Looking to future analyses of revenue policies, studies would be served by considering both explanations simultaneously versus separately.

Looking broadly, this research acts as a first step towards understanding under what conditions policy outcomes are created through symbolic means acceptable, allowing for policy that does not completely discount the utilitarian interests of citizens. As tax policy debate symbolically attracts discussion of merits and of symbolic purposes behind reform, it represents a fertile ground for comparing alternative theories of policy adoption, both symbolic and economic. Previous research in tax reform appears to focus on either the economic explanations for the reform, or the political justifications for the reform. These previous lines of research focused on one explanatory variable to advocate for their particular means of reform, whether that variable is economic or political in nature, and tested the applicability of that measure towards explaining some previous tax reform. If the differing side (political or economic) was mentioned at all, it was simply through a control variable or two.

This research tested the reliability of both schools of thought (political or economic) through independent analyses of existing methodologies. Expressive or symbolic interests allows for the combination of these two previously opposed explanations, through the fact that voters can hold both symbolic and utilitarian beliefs when advocating for policy. Therefore, if members of state legislatures are mirroring the interests of their constituents, they should be considering both symbolic and utilitarian arguments for passage of the legislation.
The consideration of these possible opposing justifications, symbolic and utilitarian, does not necessarily lead to the creation of “bad” public policy. In the case of e-commerce tax legislation, while expressive interest theory is a main driver passage, the outcomes of the legislation with regards to enforcement speed are aligning with favorable characteristics in the tax policy criteria favored in utilitarian economic analysis. Characteristics specific to e-commerce tax legislation might be leading to this particular conclusion, such as the fact that e-commerce tax legislation could be seen as an expansion of the base to deal with previously evaded tax revenues by constituents. Therefore, future research should consider how other tax policies, which are similar or different from e-commerce tax legislation lead to similar or different outcomes, i.e. the creation of good or bad public policy. These future analyses can be aided by the identification of measures of expressive interests bias as well as the methodology for testing difference in enforcement methodology identified in this document. Consideration should be taken of different tax policies and the potential influence of expressive interests upon creation, as well if these expressive interests outweigh or negate any utilitarian concerns. Regardless, future research should work towards the inclusion of both symbolic and utilitarian concerns simultaneously in analysis, rather than ignoring the other motivating factors of both citizens and legislators in policy passage.
References


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“Conflicting Theories of Democratic Reform: Evidence from State E-Commerce Tax Reform.” 25th Annual Conference Association for Budgeting and Finance Management

“Polarization and the Power Suit: Polarization and the Descriptive Representation of Female Candidates.” (With Nichole Bauer) Annual Meeting of the Midwest Political Science Association

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