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L. Murphy Smith, Editor
Murray State University

Katherine Taken Smith, Co-Editor
Murray State University

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ONLINE SALES AND ITS IMPACT ON STATE AND LOCAL GOVERNMENT REVENUES: IS THERE A SOLUTION?

Thomas Bennett, Valdosta State University
Raymond J Elson, Valdosta State University

ABSTRACT

State and local governments are challenged to find alternative revenue sources to offset the approximately $23.3 billion lost from their inability to collect sales taxes from e-tailers. The issue is also impacted by the approximately 10,000 jurisdictions that might be entitled to sales tax remittance. Since the sales tax collection and remittance involves interstate commerce, any solution must be addressed at the federal level. However, Congress response has been slow, so states are developing individual action plans to move the conversation forward.

The paper discusses the legislations that have been proposed to address sales tax collection and remittance, and their correct status. It offers a potential solution that might end the stalemate between Congress, states and local governments, and e-tailers.

INTRODUCTION

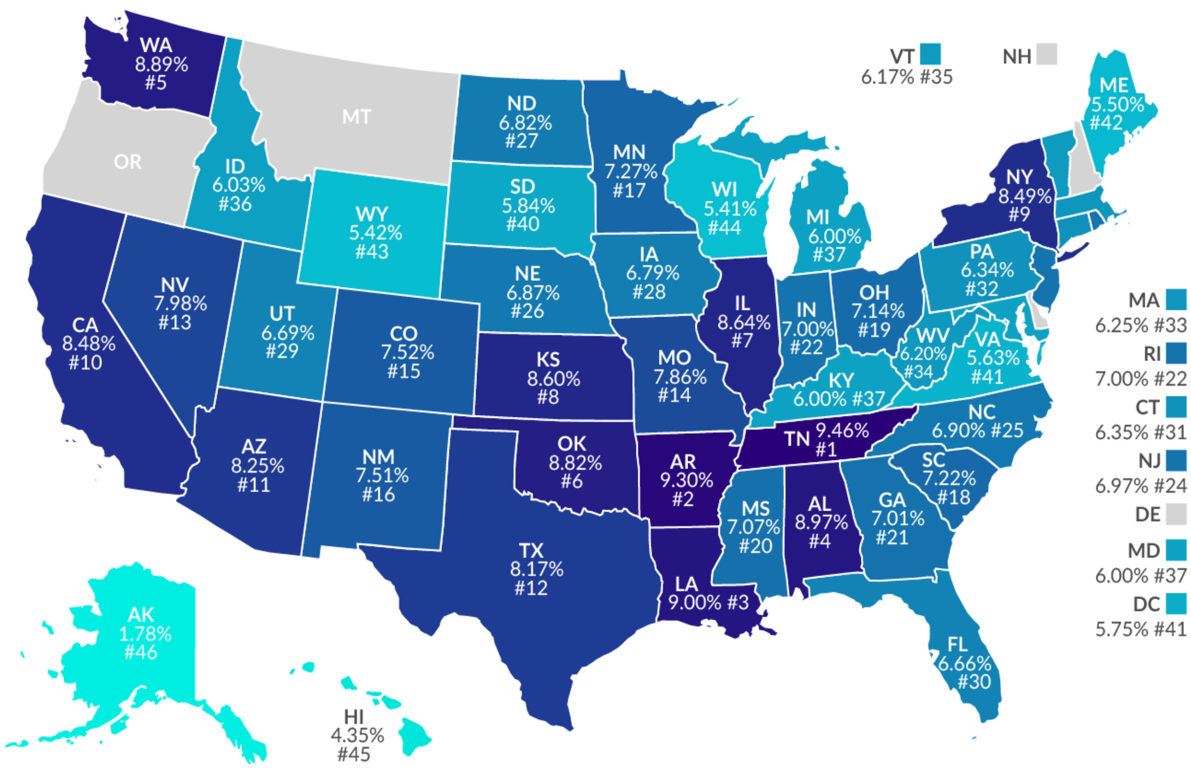
State and local governments are facing fiscal challenges due to declining revenues without a corresponding change in expenditures. As a result, these entities are exploring alternative revenue sources, such as the $23.3 billion in lost sales tax revenue in 2012 (most recent year available) that they are prohibited from collecting on online and catalog purchases (Hamilton, 2015). Alternative revenue sources such as an increase in property and income taxes are not feasible since tax increases are unpopular with the public.

Sales taxes are an important revenue source for most jurisdictions, as it represents approximately 20% of annual revenue (Streamlined, 2016). In fact, the Tax Foundation reported that 45 states and the District of Columbia collect statewide sales taxes, and that 38 states collect local sales taxes (Drenkard & Kaeding 2016). The collection of sales taxes is complicated by the number of justifications (approximately 10,000) involved in the process (Harpaz, 2015), and the different tax rates across states (Drenkard et al, 2016). The sales tax rates are depicted in Tables A and B.

Table A

How High Are Sales Taxes in Your State?

Combined State & Average Local Sales Tax Rates, 2016



Note: City, county, and municipal rates vary. These rates are weighted by population to compute an average local tax rate. Three states levy mandatory, statewide local add-on sales taxes at the state level: California (1%), Utah (1.25%), and Virginia (1%). We include these in their state sales tax rates. The sales taxes in Hawaii, New Mexico, and South Dakota have broad bases that include many business-to-business services. Due to data limitations, the table does not include sales taxes in local resort areas in Montana. Some counties in New Jersey are not subject to statewide sales tax rates and collect a local rate of 3.5%. Their average local score is represented as a negative.

Source: Sales Tax Clearinghouse; Tax Foundation calculations.

Combined Sales Tax Rate

Lower Higher

TAX FOUNDATION @TaxFoundation

Source: Drenkard & Kaeding (2016)

Table B
SALES TAX RATES BY STATE

STATE	STATE RATE	RANGE OF LOCAL RATES	LOCAL RATES APPLY TO USE TAX
Alabama	4.000%	0% - 8.5%	Yes/No (1)
Alaska	0.000%	0% - 7.5% (4), (7)	Yes/No (1)
Arizona	5.600%	0 - 7.10% (4), (7)	Yes/No (2)
Arkansas	6.500%	0% - 5.50% (4), (7)	Yes
California	7.500% (11)	0% - 2.5% (11)	Yes
Colorado	2.900%	0% - 8% (7)	Yes/No (1)
Connecticut	6.350% (8)	0% -1%	N/A
Delaware	0.000% (3)	0%	N/A
District of Columbia	5.750%	0%	N/A
Florida	6.000% (8)	0% - 1.50% (4), (7)	Yes
Georgia	4.000% (8)	1% - 4%	Yes
Hawaii	4.000% (5), (8)	0% - 0.5%	N/A
Idaho	6.000%	0% - 3% (7)	No
Illinois	6.250% (8)	0% - 4.75% (7)	No
Indiana	7.000%	0%	N/A
Iowa	6.000%	0% - 2% (7)	No
Kansas	6.500% (8)	0% - 5% (7)	Yes
Kentucky	6.000%	0%	N/A
Louisiana	5.000% (8)	0% - 7.75% (6) (7)	Yes
Maine	5.500% (8)	0%	N/A
Maryland	6.000%	0%	N/A
Massachusetts	6.250%	0%	N/A
Michigan	6.000% (8)	0%	N/A
Minnesota	6.875% (8)	0% - 1% (7)	Yes
Mississippi	7.000% (8)	0% - 1% (7)	No
Missouri	4.225%	.5% - 6.625%	Yes/No (1)
Montana	0.000%	0%	N/A
Nebraska	5.50%	0% - 2% (7)	Yes

Table B
SALES TAX RATES BY STATE

Nevada	6.85% (10)	0% - 1.3%	Yes
New Hampshire	0.000%	0%	N/A
New Jersey	7.000%	0%	N/A
New Mexico	5.125%	.125% - 6.625%	No
New York	4.00%	0% - 5%	Yes
North Carolina	4.750% (8)	2% - 3%	Yes
North Dakota	5.000% (8)	0% - 3% (4), (7)	Yes
Ohio	5.750%	0 - 2.25%	Yes
Oklahoma	4.500%	0% - 6.50% (7)	Yes/No (1)
Oregon	0.000%	0%	N/A
Pennsylvania	6.000%	0% - 2% (7)	No
Rhode Island	7.000%	0%	N/A
South Carolina	6.000% (8)	0% - 3% (7)	Yes
South Dakota	4.000% (8), (9)	0% - 2% (7)	Yes
Tennessee	7.000% (8)	1.5% - 2.75% (4)	Yes
Texas	6.250%	0% - 2% (7)	Yes
Utah	4.700% (8)	1% - 6.25%	Yes
Vermont	6.000% (8)	0% - 1% (7)	No
Virginia	4.300% (8)	1% - 2.2%	Yes
Washington	6.500%	.5% - 3.40%	Yes
West Virginia	6.000%	0% - 1%	Yes
Wisconsin	5.000%	0% - 1.75% (7)	Yes/No (1)
Wyoming	4.000% (8)	0% - 4% (7)	Yes

As noted in Table A, Tennessee and Arkansas have the highest combined state and average local tax rates for 2016 at 9.46% and 9.30% respectively. Table B shows California with the highest state tax rate at 7.5%, and three states (Delaware, Montana, Oregon) with no state or local sales taxes. Table B also shows the wide range of local sales tax rates across states with Louisiana having the highest potential rate at 7.75%. These rate differentials may induce consumers to shop across borders or buy products online.

The increase in online sales is creating an ongoing problem for states since sales taxes may not be collected by the merchant and remitted. The states in which consumers are making online purchases believe the e-retailers should collect and remit the sales taxes since the revenue is being removed from their jurisdiction, thus adding to revenue shortfalls.

Local “brick and mortar” retailers in such states are also losing sales with the relative ease that online shopping provides consumers, thus causing the individual states to lose revenue from such sales. Online retailers and selected members of Congress, believe online sales should not be taxed at all as a continuance of a legislation, the Internet Tax Freedom Act of 1998 (Harpaz, 2015). This Act is discussed later in the paper. They also believe that online retailers should only remit taxes to those states in which they have a physical presence.

Since interstate commerce is governed at the federal level, states have looked to the federal government for a solution. The issue facing Congress is determining whether existing legislation should stand or whether to adopt “pro state” legislation.

This paper discusses past legislation that attempted to assist municipalities in the collection of sales tax revenue, and offers possible solutions.

LEGISLATIVE ACTIONS

Prior legislation at the federal level has attempted to bring clarity to the sales tax collection challenges faced by states. Among these actions are (a) National Bellas Hess vs. Department of Revenue of Illinois 1967, (b) Quill Corp. vs. North Dakota 1992, (c) the Internet Tax Freedom Act of 1998, (d) the Streamlined Sales and Use Tax Agreement 1999, and (e) the Marketplace Fairness Act. These legislations, acts, and agreements are discussed in this section.

In 1967, the Supreme Court heard *National Bellas Hess vs. Department of Revenue of Illinois*. Illinois wanted Bellas Hess to collect sales tax on catalogue sales even though the company was based in another jurisdiction, Kansas City, Missouri. The Supreme Court ruled, in a 5-4 decision, that businesses had to have nexus in a state in order to collect sales tax for interstate transactions by consumers in that state. It also ruled that it would take an act of Congress to give states the ability to require businesses based in a different state to collect sales tax. With no action by Congress, the Supreme Court’s decision was the law governing whether or not states could collect the sales taxes (Bellas, 2012). This decision formed the groundwork for online sales tax collection, and was further supported by another Supreme Court Case in 1992.

The Supreme Court issued the *Quill Corp. vs. North Dakota* opinion in 1992. North Dakota believed Quill Corp. owed the state use tax collections from North Dakota residents purchasing goods through the company’s catalogue. Quill Corp. claimed that since the company did not have nexus, actual operations or employees in the state, they should not have to collect the use tax for purchases made by North Dakota residents. Atkins (2005) noted that the Supreme Court explained that a business had to be physically present in a state before that state could require the business to collect use tax on its behalf.

The Supreme Court again ruled in favor of businesses this time by a larger majority (9-1). It noted that with all of the different sales and use tax jurisdictions in the country, requiring companies to collect sales and use tax for each jurisdiction would create enormous complications for the businesses and threaten to deter them from providing interstate commerce. Unlike *National Bellas Hess vs. Department of Revenue of Illinois*, in the Quill case, the Supreme Court noted that Congress was better suited to resolve the issue and that it should do so by enacting legislation. (Bellas, 2012)

The *Internet Tax Freedom Act of 1998* (the “Act”) banned state and local governments from taxing Internet access, or imposing multiple or discriminatory taxes on electronic commerce (Stupak, 2016). This legislation was necessary for the Internet boom which later led to increased online sales. Initially, companies took this Act to mean that all online commerce was tax exempt, and online retailers enabled consumers to make tax-free purchases. This resulted in losses to state and local governments who lost sales tax collection at actual storefronts from consumers who migrated to online shopping. Stupak (2016) points out that the Act did not relate to the taxation of electronic commerce across state borders. Many online retailers such as eBay and Amazon now charge sales tax on all purchases; however, it is not clear which state is entitled to the tax collection.

The *Streamlined Sales and Use Tax Agreement* ("SSUTA") was passed in 1999 to simplify the sales and use tax collection and administration process between retailers and state governments. SSUTA was developed over eleven years by 44 states and more than 85 businesses (Marketplace Fairness, 2016). It simplified and modernized sales and use tax administration in order to substantially reduce the burden of tax compliance. SSUTA focuses on improving sales and use tax administration systems for all sellers and for all types of commerce. SSUTA levels the playing field since it provides states with the authority to compel online and catalog retailers ("remote sellers"), no matter where they are located, to collect sales tax at the time of a transaction – just like the local retailers (i.e., physical stores). However, there is a caveat - states are only granted this authority after they have simplified their sales tax laws (Streamlined, 2016)

Twenty-four states (including Georgia, Michigan, Ohio, and New Jersey), have passed legislation conforming to simplification measures of the Streamlined Sales and Use Tax Agreement. A governing body was established to oversee the terms of the agreements. The states that have passed the legislation account for thirty-one percent of the country's population (Streamlined, 2016). States participating in the *Streamlined Sales and Use Tax Agreement* can work more easily with online retailers so that both can achieve their end goal - revenue maximization.

The *Marketplace Fairness Act* ("Fairness Act") was introduced in Congress in 2011. It would allow state governments to collect sales and use taxes from online retailers that did not have operations in their state. The bill expired with no action in 2011 and was reintroduced in 2013. The Fairness Act was passed in the Senate but has not passed the House. The 2015 version, which was revised and brought to Congress, would require states to collect taxes on online sales at the time of a transaction, no matter where they are located. The only caveat is that states would need to simplify their sales tax laws. States are provided with two options[i] for simplifying their tax laws in the proposal (Marketplace Fairness, 2016). No action was taken by Congress on this proposal.

The Fairness Act seems practical in that each state would be able to receive the same sales tax on transactions regardless of the initiation point (i.e., online on storefront). Technology has enabled organizations to reduce transaction costs in the various business processes. Therefore, technology should be able to help organizations overcome the technical, administrative, and financial burden involved in tracking the various local tax rates across the country. The tax authorities would rely on retailers for voluntary compliance which is consistent with our current tax collection process.

CURRENT LEGISLATION

As noted earlier, there are approximately 10,000 different taxing jurisdictions in the US. This makes it challenging for online retailers to try and collect sales and use taxes for all of the different jurisdictions. The existence of multiple state tax rates (Table B) also complicates tax collection process. Sales tax collection is an ongoing problem, since it existed with catalogue sales, the previous hurdle that municipalities were trying to overcome. Congress has tried to provide leadership in this area with little success. Among recent proposals are the Remote Transaction Parity and Online Sales Simplification Acts.

In 2015, a group led by Representative Jason Chaffetz, the chairman of the United States House Committee on Oversight and Government Reform, proposed legislation that would allow states to collect sales taxes from businesses outside of their borders. Online retailers would be liable to any state in which the business had actual employees. The legislation, the *Remote Transaction Parity Act*, had support and help from the Marketplace Fairness Coalition (supports the Marketplace Fairness Act). The bill would provide exemption to businesses with (a) $10 million or less in annual sales in the first year, (b) $5 million or less in the second year, and (c) $1 million or less in the third year. All businesses would need to collect and remit sales taxes in the fourth year after the passage of the legislation.

Like the *Fairness Act* before it, critics believe the *Remote Transaction Parity Act* would create too many obstacles for online retailers. This includes the software expense needed to aid in the collection of the sales tax, and the ability to understand the differing tax regulations for the various jurisdiction. This could possibly lead to fraud by the online retailers in reporting the sales to the states and the classification of taxable items sold (Ota, 2015).

Representative Robert Goodlatte, Chairman of the House Judiciary Committee, with the backing of online retailers proposed legislation that challenges the Chaffetz bill. The bill, the *Online Sales Simplification Act*, proposed that online retailers only remit sales taxes in their home state. Their home state would be classified as the state in which the business has the most employees, not necessarily where the home office is located. Under this proposal, online retailers would be responsible for remitting sales tax receipts to the home state. Therefore, the consumer's home state would be able to collect sales taxes on a transaction, but only up to the level charged by the seller's home state (Ota, 2015).

Neither proposal has fared well in Congress and appeared to be "dead on arrival". *The Remote Transactions Parity Act* of 2015 was introduced in the House of Representatives in June 2015, and was referred to the Subcommittee on Regulatory Reform, Commercial and Antitrust Law. House members are split on this Act along party lines, with conservatives believing that it equates to a 'de facto" tax increase which they strongly oppose.

The *Online Sales Simplification Act* was introduced to the House in January 2015 and did not gain much traction. Its major obstacle was the U.S. Chamber of Commerce which suggested that the bill would require businesses to collect sales tax based on the seller's jurisdiction instead of the purchaser, which would require the purchaser's jurisdictional information to be reported. The draft never moved any further in the House.

STATES ACTION PLANS

With continuing decline in revenue, governments are exploring other revenue sources and cost reduction opportunities. For instance, the state of Alaska is considering the earnings from its $53 billion Alaska Permanent Fund as a new resource source. The goal is to divert the funds that were given annually to citizens to its general fund to help offset a $4 billion budget deficit (Oldham, 2016). This is not an isolated situation and holds true for many state and local governments, as sales tax, once a critical revenue source, is reduced due to the challenges of collecting sales taxes from online retailers.

Congress has multiple bills to consider and has the opportunity to help find a solution to the revenue decline from online sales that state and local governments are experiencing. Meanwhile, states cannot wait for Congress to address their ability to collect sales tax from Internet retailers in other states. As a result, thirteen states are addressing the issue in their own unique ways

For instance, Alabama has begun enforcing an old law that allows it to tax out-of-state retailers and will audit entities that do not comply with the law. Alabama's goal is that this action will lead to litigation, thus forcing Congress and the courts to respond. Colorado will require out-of-state retailers that do not collect taxes to provide it with a list of in-state customers. This will allow Colorado to enforce its use tax laws against those in-state customers (or residents). Utah is attempting to pass legislation that "would expand its definition of a retailer's physical presence to include certain third-party delivery companies." This legislation would require retailers to follow a different taxation system in Utah, but not other states (Rubin, 2016).

CONCLUSION

The collection and remittance of sales taxes has resulted in strained relationships between online retailers and state and local governments. Supreme Court cases such as *National Bellas Hess vs. Department of Revenue of Illinois* and *Quill Corp. vs. North Dakota* established early precedent for the collection and remittance of taxes. However, in a changing world, these rulings are no longer adequate and the feuding parties are looking to Congress for help in resolving this continuing battle. In this vacuum, states are creating new and unique solutions in order to increase sales tax revenue just improving their financial conditions.

However, a patchwork of states actions will not solve the overall problem. Congress can no longer remain on the sideline and differ its responsibility to states, especially since there are viable options available. There is no perfect solution to resolving the sales tax collection problem but the *Remote Transaction Parity Act* is a good starting point. For this Act to work, states would need to agree and adopt legislation that conforms to the *Streamlined Sales and Use Tax Agreement.* This would reduce the complexity online merchants face when trying to determine which of the approximately 10,000 jurisdictions are due the sales tax remittance. The sales tax rate used by the states, as shown in Tables A and B, would also need to be simplified. This would provide online retailers with the opportunity to lower their costs of collecting and administering the sales tax revenue to the state and local governments. Technology does offer online retailers the ability to reduce transaction cost especially at it relates to shipping, and this intelligence could be applied to the tax collection process.

In the past few years, Congress has been slow in performing its legislative duties. Online sales are increasing and the revenue lost from sales taxes by governments is also increasing. Congress and states must act immediately to resolve the online sales tax collection issues. As revenue shortfall and budget deficits continue, state and local governments will have no choice but to reduce services to their constituents or to raise taxes.

FOOT NOTES

1. Some of the cities and counties do apply use tax.
2. Some of the cities do apply use tax. The counties do not apply a use tax.
3. Delaware does not have a sales tax. They do have a rental tax of 1.991%.
4. A cap on the local sales/use tax applies on sales of any item of tangible personal property.
5. There is a .500% use tax on merchandise imported into the state for resale purposes. Imports for consumption are taxed at the same rate as the sales tax.
6. The combined local rates for a particular city range from 1.8% to 7.75%.
7. Some local jurisdictions do not impose a sales tax.
8. The state has reduced rates for sales of certain types of items.
9. Sales and deliveries to certain Indian reservations are subject to the Tribal sales, use and excise taxes in lieu of the state sales, use and excise tax. City sales tax may still apply.
10. The Nevada Minimum Statewide Tax rate of 6.85% consists of several taxes combined: Two state taxes apply -- 2.00% Sales Tax and the 2.6% Local School Support Tax which equal the state rate of 4.6%. Two county taxes also apply -- 0.50% Basicity-County Relief Tax and 1.75% Supplemental City-County Relief Tax equals an additional city/county rate of 2.25% for a total of 6.85%. Previously, the matrix displayed only these rates state level taxes. However, since the two county taxes apply to every county in the state, Nevada's minimum statewide tax rate is considered to be 6.85%.
11. Note that the true California state sales tax rate is 6.25%. There is a statewide county tax of 1.25% and therefore, the lowest rate anywhere in California is 7.5%. We have listed the combined state/county rate as the state rate to eliminate confusion.

Source: Drenkard & Kaeding (2016).

END NOTES

The options are:

Option 1: A state can join the twenty-four states that have already voluntarily adopted the simplification measures of the Streamlined Sales and Use Tax Agreement (SSUTA), which has been developed over the last eleven years by forty-four states and more than eighty-five businesses with the goal of making sales tax collection easy. Any state which is in compliance with the SSUTA and has achieved Full Member status as a SSUTA implementing state will have collection authority on the first day of the calendar quarter that is at least 180 days after enactment.

Option 2: Alternatively, states can meet essentially five simplification mandates listed in the bill. States that choose this option must agree to:

1. Notify retailers in advance of any rate changes within the state.
2. Designate a single state organization to handle sales tax registrations, filings, and audits.
3. Establish a uniform sales tax base for use throughout the state.
4. Use destination sourcing to determine sales tax rates for out-of-state purchases (a purchase made by a consumer in California from a retailer in Ohio is taxed at the California rate, and the sales tax collected is remitted to California to fund projects and services there).
5. Provide free software for managing sales tax compliance, and hold retailers harmless for any errors that result from relying on state-provided systems and data.

Source: Streamlined, 2016

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AN ANALYSIS OF THE ACCOUNTING AND FINANCIAL EFFECTS OF INCONSISTENT STATE AND FEDERAL LAWS IN THE RECREATIONAL MARIJUANA INDUSTRY

Kimberly Taylor, Murray State University
Randall B. Bunker, Murray State University
Leigh Redd Johnson, Murray State University
Ray Rodriguez, Idaho State University

ABSTRACT

The recreational marijuana industry exists in an environment of legislative uncertainty created by states legalizing recreational marijuana while it is still considered illegal at the federal level. The dichotomy between state and federal laws has created interesting accounting and financial effects; including how financial institutions, CPAs, and the individual marijuana businesses themselves are affected by the inconsistencies in the laws from an accounting and finance perspective. The purpose of this study is to identify and examine the accounting and financial effects of the inconsistencies between state and federal laws on the recreational marijuana industry.

INTRODUCTION

The recreational marijuana industry exists in an environment of legislative uncertainty resulting from states legalizing recreational marijuana while it is still considered illegal at the federal level. For the recreational marijuana industry, legalization did not occur until 2012 when Colorado first legalized it and has since been followed by three other states and Washington D.C. The dichotomy between state and federal laws has created interesting accounting and financial effects; including how financial institutions, CPAs, and the individual marijuana businesses themselves are affected by the inconsistencies in the laws from an accounting and finance perspective.

From a financial institution standpoint, one of the most important aspects that is influenced by the differing state and federal laws includes providing services to marijuana-related businesses while still adhering to federal banking regulations. Banks are subject to a number of federal regulations that they must follow regardless of states' stances on recreational marijuana. When considering the accounting and financial effects from a marijuana business owners perspective, there are a number of important aspects that can be considered. These include the tax rates applied to business owners, the environment in which the business operates, and the accounting methods used. From a CPAs perspective, there are numerous facets to consider such as following available guidance and providing services to marijuana businesses while remaining in accord with accounting standards.

The accounting and financial effects of the inconsistent laws from these perspectives are not mutually exclusive and often connect to each other so that an effect in one area often causes effects in the other areas as well. The purpose of this study is to identify and examine the accounting and financial effects of the inconsistencies between state and federal laws on the recreational marijuana industry.

LITERATURE REVIEW

Federal Legislation and Considerations

Past regulation-related research explores differences in societal opinions regarding the ethicality of the use and legalization of certain drugs. For example, although the use of performing-enhancing drugs (PEDs) by athletes is viewed as creating an unfair advantage and an un-level playing field by some, Osei-Hwere, et al. note that sports fans are equally divided as to whether PED use should be allowed in certain sports (2014). Likewise, much has been written regarding the morality of the use and legalization of marijuana. On the one hand, some argue that marijuana smoke is toxic and could lead to the use of more serious, dangerous drugs; however, others note that marijuana is an effective treatment for certain conditions, thereby reducing suffering (Clark, 2000), and that its legalization would reduce crime rates, save taxpayer money and generally benefit both individuals and communities (Cussen, 2000).

Recreational marijuana is an emerging industry in the United States due to four states and Washington, D.C. recently passing measures to legalize the recreational use of the drug. However, marijuana is still illegal federally because it is a Schedule I drug under the Controlled Substances Act (CSA) (CSA, 2012). Schedule I drugs are those that the federal government lists as having a high potential for abuse, no accepted medical use, and lack of safety even under medical supervision (CSA, 2012). The illegality of marijuana at the federal level allows for a number of civil and criminal penalties that can be assessed against people who cultivate, sell, or distribute marijuana even if legal by state standards (Gramlich and Houser, 2015), and the federal government has prosecuted individuals for the use and possession of marijuana even when such use and possession was permitted under state law (Barkacs, 2010). This creates a unique dichotomy between federal and state laws.

According to the Internal Revenue Code (IRC), gross income is defined as all income from whatever source derived (26 U.S.C. §61(a), 2012). As recognized in *James v. United States* (1961), there is no inclusion of the word “lawful” when describing the sources through which income can be derived. This means that although marijuana is considered illegal by the federal government it is still subject to federal income taxes. It is treated the same as all other income, whether legal or illegal.

The federal government further allows for a business to deduct all ordinary and necessary business expenses from its gross income (26 U.S.C. §162(a), 2012). At the time the business expense deduction was created it did not differentiate between businesses participating in a legal trade from an illegal trade. This allowed for people conducting illegal businesses to continue to deduct their business expenses from gross income, thus reducing their amount of taxable income and, in turn, taxes due. This was highlighted in *Jeffery Edmondson v. Commissioner* (1981) where Edmondson made the argument, and won the argument, that he should be allowed to deduct the expenses related to his business of selling amphetamines, cocaine, and marijuana. However, this deduction is no longer available for businesses that are involved in trafficking Schedule I or II controlled substances as defined in the CSA due to the passage of Section 280E of the IRC (26 U.S.C. §280E, 2012).

To further explain why Section 280E was created, the Joint Committee's *General Explanation of the Revenue Provisions of the Tax Equity and Fiscal Responsibility Act of 1982* (1983) states that:

> *There is a sharply defined public policy against drug dealing. To allow drug dealers the benefit of business expense deductions at the same time that the U.S. and its citizens are losing billions of dollars per year to such persons is not compelled by the fact that such deductions are allowed to other, legal enterprises. Congress believed that such deductions must be disallowed on public policy grounds. (p.264)*

This exclusion was created before any states legalized marijuana for medical or recreational use. The application of Section 280E to marijuana businesses that are legal at the state level but illegal at the federal level demonstrates how, although legal within their state, these businesses are still coping with the difficulties of complying with federal laws.

Although marijuana-related businesses cannot deduct their business expenses from gross income, Section 280E does not preclude businesses from deducting cost of goods sold (COGS). Continuing to allow businesses to adjust gross income by the amount of COGS was done to prevent possible challenges on the grounds of unconstitutionality (Joint Committee on Taxation, 1983). In *Californians Helping to Alleviate Medical Problems, Inc. (CHAMP) v. Commissioner of Internal Revenue* (2007), the government acknowledged that Section 280E prevents taxpayers from deducting business expenses, but it does not prevent businesses from claiming COGS. However, because marijuana-related businesses fall under Section 280E, the IRS Office of Chief Counsel issued Chief Counsel Advice which clarified that businesses should determine their COGS using the inventory costing methods that existed when Section 280E was enacted (McElroy, 2015).

A consequence of administering Section 280E in legalized states is that many cases have been brought against the Internal Revenue Service (IRS) on the basis of deducting Section 280E expenses with varying results. In *CHAMP v. Commissioner of Internal Revenue* (2007), the court held that the taxpayer's caregiving services and furnishing of medical marijuana were separate business for the purposes of Section 280E. This allowed the taxpayer to deduct the portion of expenses related to the primary, lawful caregiving portion of its business. However, in *Olive v. Commissioner of Internal Revenue* (2015), the court found that the taxpayer's business was of limited scope and consisted of trafficking marijuana, which places it under the constraints of Section 280E. Even where permitted by state law, marijuana businesses are considered to be trafficking Schedule I drugs for the purpose of determining the applicability of Section 280E (*Canna Care, Inc. v. Commissioner of Internal Revenue*, 2015).

As the number of states legalizing marijuana for medical and recreational use has increased, many have argued in federal courts that marijuana should no longer be subject to the Section 280E exclusion. However, this is not the judiciary's decision to make and must be addressed by Congress in order to be changed (*Olive v. Commissioner*, 2015). The same argument has also been made to the IRS to which the response was the same, Congress would have to change the IRC or the CSA (Keyso, 2011).

Due to the increasing number of states legalizing marijuana for medical and/or recreational use, the Department of Justice (DOJ) has issued numerous memos to address various aspects of the discrepancies in the legality of marijuana at the state and federal levels. The DOJ has focused its enforcement of the CSA to reflect the priorities of the federal government (Cole, 2013). These priorities include items that would be important to the federal government regardless of the state legalization of marijuana, including preventing the distribution of marijuana to minors and preventing driving while under the influence of marijuana (Cole, 2013). Although the DOJ has listed priorities for their enforcement of the CSA, they have also clearly stated that businesses involved in the cultivation, distribution, or sale of marijuana are in violation of the CSA and can be subject to potential prosecution (Cole, 2011). In addition to potential violations of the CSA, the DOJ also issued a memo addressing the potential violations of applicable laws that financial institutions could face in providing services to marijuana businesses (Cole, 2014).

Banks and financial institutions are subject to numerous federal laws that put the legality of working with state-legalized marijuana-related businesses into a gray area. The Money Laundering Control Act, the Prohibition of unlicensed money transmitting businesses statute, and the Bank Secrecy Act (BSA) are all laws that financial institutions must consider (Cole, 2014). Under the money laundering statutes, engaging in financial transactions with the proceeds of certain illegal activities is considered a criminal offense (Money Laundering Control Act of 1986, 2012). Similarly, a money transmitting business that is involved in the transportation of funds derived from criminal activities could be subject to fines or imprisonment for up to five years (Prohibition of unlicensed money transmitting businesses, 2012). Banks and financial institutions that fail to report transactions suspected of violating laws or regulations, the CSA in this case, would also be in violation of the BSA (BSA, 2012). Due to the illegal nature of marijuana at the federal level, it could serve as a basis for prosecution should an agency choose to do so under any of the previously mentioned laws (Cole, 2014).

The Financial Crimes Enforcement Network (FinCEN), a bureau of the Department of the Treasury, has also issued guidance to complement the 2014 DOJ memorandum with the goal of improving the availability and clarity of financial services for marijuana-related businesses (FinCEN, 2014). The guidance outlines multiple items that financial institutions should take into consideration when determining the risks involved with providing services to marijuana businesses. The basis of these items is rooted in conducting customer due diligence to ensure that the institution can evaluate the risks associated with offering their services and also effectively manage those risks (FinCEN, 2014). Furthermore, should the financial institution decide to conduct business with the marijuana-related client, the institution would be required to file suspicious activity reports (SARs) to be in compliance with FinCEN regulations (FinCEN, 2014). According to the FinCEN regulations, if the financial institution knows of or has a reason to suspect that a transaction includes funds resulting from an illegal activity, was designed to avoid regulations set forth in the BSA, or lacks a business or lawful purpose, then the institution is required to file a SAR (FinCEN, 2012).

In addition to the laws and guidance issued by the DOJ and FinCEN, it is expected that states that have legalized marijuana should have a strong regulatory environment in place to ensure that the federal interests prioritized by the DOJ are protected (Cole, 2013). Although the DOJ has issued memoranda concerning various aspects of marijuana-related businesses, they have also made it clear that even in areas with strong regulatory systems, federal enforcement action can be taken if evidence shows a person is violating any of the federal priorities (Cole, 2014). Federal guidance such as the DOJ memoranda and FinCEN guidance are not law, do not protect people from prosecution, and merely “represent exercises of prosecutorial discretion” (*Canna Care, Inc. v. Commissioner of Internal Revenue,* 2015, p. 9).

California was the first state to legalize medical marijuana in 1996 and Colorado and Washington became the first states to legalize marijuana for recreational use in 2012 (AICPA, 2016). Colorado, Washington, Oregon, Alaska, and Washington, D.C. have approved initiatives legalizing marijuana for recreational use. However, Washington, D.C. does not allow for the legal sale of marijuana that the other states have approved. Washington, D.C. only approved legalizing growing small amounts of marijuana for personal use on private property. Voter initiatives have facilitated the legalization in these states and currently no state legislature has legalized marijuana separately from a voter initiative (National Conference of State Legislatures, 2016). Although these states have legalized marijuana for recreational use, it is important to note that marijuana is still illegal at the federal level due to the CSA. Table 1 compares the tax structure for retail marijuana sales in the four states that have legalized sales.

Table 1
TAX STRUCTURES FOR RETAIL MARIJUANA SALES AS OF JANUARY 2016

State	State Excise Tax	Sales/Other Taxes	Local Sales Tax
Alaska	$50 per ounce of marijuana sold at the wholesale level	None (no statewide sales tax)	Option to apply existing local sales taxes (0-7.5%)
Colorado	15% tax on average market sale rate + 10% retail sales tax	2.9% state sales tax	Option to apply existing local sales taxes (0-8%)
Oregon	25% retail sales tax	None (no statewide sales tax)	Optional local sales taxes not to exceed 3%
Washington	37% retail sales tax	6.5% state sales tax + Business & Occupation gross receipts tax	Option to apply existing local sales taxes (0.5%-3.1%)

Source: Institute of Taxation and Economic Policy (ITEP)

Effects on Financial Institutions

In memoranda issued by the DOJ, the agency outlined eight priorities that it believes are important to the federal government (Cole, 2013, pp. 1-2):

1. Preventing the distribution of marijuana to minors;
2. Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels;
3. Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
4. Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
5. Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
6. Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
7. Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
8. Preventing marijuana possession or use on federal property.

The issuance of the 2014 DOJ memo and concurrently issued FinCEN guidance provided some clarity on the federal policies pertaining to potential marijuana-related financial crimes (Gard, 2014). However, even with the issued guidance, financial institutions are still hesitant to provide services to marijuana-related businesses because banks can be held liable for financial crimes even when acting in accordance with issued guidance and laws to their fullest abilities (Gard, 2014). To date, there has been no definitive rule made that will protect financial institutions from prosecution for providing services to state legal marijuana businesses. Although creating enforcement priorities does assist banks in their determination of whether to provide services, there is no guarantee that these priorities will continue to stay the same due to the high turnover of political leaders in Washington (Gard, 2014). In addition to the possibility of violating federal priorities and laws, large national banks are wary to provide services to marijuana clients due to the fear of losing their federal insurance (Huddleston, 2014).

Further, the Money Laundering Control Act, the BSA, and the Prohibition of unlicensed money transmitting businesses statute provide a possible basis for the prosecution of financial institutions working with marijuana-related clients and constitute much of the basis for resistance from banks (Cole, 2014). Financial institutions are hesitant to put themselves in a situation of receiving money, directly or indirectly, from marijuana sales for fear of violating various laws at the federal level (Stinson, 2015).

The DOJ also expects states to have a strong and effective regulatory system in place. If a strong regulatory environment is not present then providing services to marijuana-related businesses could conflict with the priorities set forth by the DOJ not by any particular fault of the bank, but merely because of a lack of substantial, effective regulations in the state (Cole, 2014). The evaluation of how strong and appropriate state regulations are in addition to the federal laws currently in place are two important factors for financial institutions to consider when determining their position on providing services to the marijuana industry.

The uncertainties that banks face when determining whether to allow marijuana-related clients often lead them to err on the side of caution and causing them to not provide services to the marijuana industry (ArcView Market Research, 2016). As such, many of the basic financial functions that ordinary businesses and citizens utilize on a daily basis are not available to marijuana-related businesses, including basic checking and credit card services (Stinson, 2015). In addition to these basic functions, marijuana-related businesses are also generally unable to receive loans and utilize electronic funds transfer systems (ArcView Market Research, 2016). According to the director of the FinCEN, only 105 banks accept money from legal marijuana businesses out of the 100,000 in the U.S. (Stinson, 2015). That amounts to approximately 0.105% of all banks in the nation.

Effects on Marijuana Business Owners

Although marijuana businesses are operating legally under certain state laws, much of their business is still considered illegal by the federal government (Huddleston, 2015). Section 280E not only affects retail marijuana businesses but also any business that participates in the cultivation, processing, or sale of marijuana whether for medical or recreational use (National Cannabis, 2015). Marijuana businesses are disallowed from claiming the basic expenses that other ordinary businesses are allowed to deduct such as advertising and employees' salaries (Huddleston, 2015).

Due to the existence of Section 280E, these marijuana businesses legalized by state law are facing an effective federal income tax rate of up to 75 percent (Hargreaves, 2013). These comparatively high effective tax rates stem from the inability to deduct business expenses when determining taxable income for federal purposes (National Cannabis, 2015). The impact of the high effective tax rates were mitigated slightly by high profits achieved by businesses with an early mover advantage in the beginning. However, as more businesses enter the market and the industry becomes more competitive, the impact will increasingly affect businesses (ArcView Research, 2016). All things remaining equal, a marijuana business and an ordinary business with the same revenue, COGS, and business expenses, can experience largely different effective tax rates (National Cannabis, 2015). The tax burden experienced by marijuana businesses, coupled with the lack of access to services provided by financial institutions, makes operating and remaining profitable in the industry difficult (Barreras, Ittleman, & Fuerst, 2014).

As businesses attempt to navigate and comply with complex laws and regulations, the guidance issued to assist them can sometimes have the opposite effect. Rather than encouraging businesses to create a working relationship with the IRS, a recent IRS memo regarding how to calculate COGS for the purposes of Section 280E is more likely to prompt businesses to consider sidestepping the IRS (National Cannabis, 2015). This is because the memo narrowed the scope of what expenses were considered to be a part of COGS, especially for retailers who are disallowed from deducting the costs of storing and handling marijuana and general administrative expenses (Huddleston, 2015). The current situation with Section 280E has led some people to ignore the exclusion or choose to not pay taxes at all rather than lose the revenue they would have made had the Section 280E exclusion not been in place (National Cannabis, 2015).

Although some businesses have chosen to circumvent the IRS when it comes to taxes, most marijuana businesses that are licensed with a state want to pay state and federal taxes; this legitimizes their businesses and the industry (National Cannabis, 2015). However, the complex laws, exclusions, and guidance issued are often more than the average business owner can understand. According to Karen Hawkins, director of the IRS's Office of Professional Responsibility, the recently issued memo regarding COGS calculations was too indecipherable for most people to comprehend (Davison, 2015). This furthers the difficulties faced by businesses when trying to correctly determine their taxable income and file their federal and state taxes.

While the Joint Committee's *General Explanation of the Revenue Provisions of the Tax Equity and Fiscal Responsibility Act of 1982* stated that the Section 280E exclusion was created for public policy reasons (1982), some have questioned whether disallowing the deductions for the legalized state licensed businesses is in line with the original legislative intent of the exclusion (Barreras, Ittleman, & Fuerst, 2014). Regardless of whether the exclusion's current application is consistent with its original purpose, it is part of the federal law that is applicable to all businesses that fall within its described bounds, which are those businesses trafficking Schedule I and II controlled substances.

The high tax rates experienced by marijuana businesses and the inability to form relationships with financial institutions are increasing hindrances to industry growth as a whole (Huddleston, 2015; ArcView Research, 2016). High taxes are also often seen as an incentive for businesses to commit tax evasion and a reason that the black market is still present even in states that have legalized marijuana for recreational use (Merriman, 2010). One of the primary reasons for legalizing marijuana is to bring it into a legal market and in turn eliminate the black market where it was originally sold (Tax Policy Issues, 2016). According to a Marijuana Business Daily research report, in states that have legalized marijuana for recreational use, 17 percent of users still purchase solely from the black market and 16 percent purchase from both the black market and legal market (Olson, 2015).

Effects on Certified Public Accountants

In addition to the lack of clear guidance for financial institutions, CPAs face similar uncertainties when approaching the decision to provide services to marijuana-related clients. Although almost half of the United States has legalized some form of marijuana, and four states have completely legalized it, only seven state boards of accountancy have issued guidance in relation to CPAs providing services to marijuana clients (AICPA, 2016). Of those seven state boards, three are in states that have legalized marijuana for recreational use. The Colorado, Oregon, and Washington state boards of accountancy have issued guidance for CPAs licensed in their states, while Alaska has yet to issue any specific information in relation to providing services for the marijuana industry (AICPA, 2016).

The Colorado State Board of Accountancy's statement on providing services to the marijuana industry states that there is nothing specifically prohibiting CPAs from providing services for marijuana-related clients who are in compliance with the Colorado Medical Marijuana Code and Colorado Retail Marijuana Code (AICPA, 2016). The guidance also expresses that the Board's position statement is not an endorsement for CPAs to work with marijuana clients, does not act as a statement on the practicality of complying with all applicable standards when providing services to marijuana-related businesses, and is not a statement about marijuana enforcement outside of its jurisdiction (Colorado State Board of Accountancy, 2015).

Similar to Colorado, the Washington State Board of Accountancy's position statement on performing professional services to clients in the marijuana industry states that there is nothing specifically prohibiting CPAs from providing these services (AICPA, 2016). However, Washington's Board of Accountancy is also careful to begin its statement with the phrase, "Pending changes in federal marijuana enforcement policy" (Washington State Board of Accountancy, 2014, p. 1). Beginning their position statement in this manner addresses the dichotomy between state and federal laws and conveys that there is potential for the federal government to adjust its position on marijuana. It also makes clear that the Board's position statement in regards to CPAs providing services to the marijuana industry is dependent on federal policy. Through the position statement, the Executive Director also recommends that CPAs providing services to the emerging marijuana industry carefully evaluate the potential risks associated with providing these services and address them appropriately (Washington State Board of Accountancy, 2014).

The Oregon Board of Accountancy took a similar but slightly different approach to its guidance regarding providing services to the marijuana industry. The guidance provides that the decision to offer services to marijuana clients is up to each individual CPA or firm and that should they choose to provide any services they should consider all the potential risks involved, including those that arise from the inconsistencies in state and federal laws (Oregon Board of Accountancy, 2015). However, differing from Colorado and Washington, the Oregon State Board of Accountancy's guidance states that CPAs and CPA firms that choose to provide services to the marijuana industry will not face action by the Board based solely on providing services to marijuana businesses (AICPA, 2016).

In an issue brief prepared by AICPA staff in conjunction with the Colorado and Washington state CPA societies, the AICPA recommended that firms considering the idea of providing services to marijuana-related clients should review all guidance issued by the DOJ

(AICPA, 2016). According to the DOJ memo, *Guidance Regarding Marijuana Enforcement*, providing services in states that have an effective regulatory system in place, but that threaten the federal priorities listed previously, "will subject that person or entity to federal enforcement action, based on the circumstances" (Cole, 2013, p.4). The lack of clear, explicit guidance and rules relating to services that CPAs could offer makes it difficult for these licensed accountants to determine what will put them in jeopardy of violating federal priorities (AICPA, 2016).

From an attestation standpoint, it is difficult for CPAs to determine what will and will not violate federal priorities when comprehensive auditing standards for marijuana-related clients are nonexistent (Barreras, Ittleman, & Fuerst, 2014). Although there is no explicit guidance for providing services to the marijuana industry, there are a number of standards that are applicable to all CPAs regardless of the industry in which they work that must be complied with throughout an audit. According to the AICPA Code of Professional Conduct, Rule 1.400.001, members should not act in a way that is discreditable to the accounting profession which includes failing to follow the requirements of governmental bodies, commissions, or other regulatory bodies (AICPA, 2014).

The difficulties for CPAs providing attestation services are especially prevalent in states such as New Mexico and Minnesota, which have legalized marijuana for medicinal use. Both states require annual audits of producers to be performed by independent CPAs (Minnesota Statutes, 2015; New Mexico Administrative Code, 2015). According to an AICPA brief on state marijuana laws and the CPA profession, a CPA in New Mexico sought advice from the New Mexico Department of Health, who in turn wrote to the New Mexico Public Accountancy Board, for direction on how to provide services to marijuana businesses (AICPA, 2016). The Board responded by saying that it could not issue a letter authorizing CPAs to conduct audits of marijuana businesses because it did not have the authority and that the Department of Health should remove its audit requirement until federal and state laws no longer conflict (AICPA, 2016).

Another part of the AICPA Code of Professional Conduct is Rule 1.300.001 which addresses the general standards that accountants in practice are expected to follow including: professional competence, due professional care, planning and supervision, and sufficient relevant data (AICPA, 2014). In terms of competency, CPAs who consider providing services to the marijuana industry must decide whether they have sufficient knowledge to plan the engagement properly. Although CPAs can gain competence through research, continuing professional education, and working with people experienced and knowledgeable in the industry, this is not easy due to the recent emergence of the industry and limited availability of such resources (AICPA, 2016).

In addition to competency, when planning an engagement, CPAs must have a complete understanding of a business entity, including the regulatory and legal environment of the industry, in order to assess the risk of material misstatement for that client (AICPA, 2016). This is an ever-present challenge for CPAs when the marijuana industry is constantly changing, there are inconsistencies between the state and federal laws, and the possibility exists that the federal government could criminalize the industry at the state level at any time (Borchardt, 2015). This can also make it difficult for CPAs to obtain sufficient relevant data in relation to a client's compliance with laws and regulations, especially when the industry is illegal in itself from a federal perspective (AICPA, 2016).

In determining the risk of material misstatement CPAs must consider the risks associated with businesses participating in the marijuana industry (AICPA, 2016). The risks for marijuana-related businesses are especially numerous. These risks result from multiple factors but one of the most noticeable is the fact that marijuana businesses currently operate in an almost entirely cash based industry (Gard, 2014). Operating solely in cash results in a lack of transparency for accounting and auditing purposes (Stinson, 2015). This lack of transparency stems from bookkeeping difficulties that result from working on a cash-only basis (Tax Policy Issues, 2016). Auditors also typically reconcile a client's count of funds to a bank's count to increase the reliability of information, however, this reliability is eliminated when businesses do not have a relationship with a bank and CPAs must rely solely on the business's record of cash (AICPA, 2016). Another concern for CPAs to consider is that operating on a cash basis provides businesses with the opportunity to underreport revenues in order to report lower income for tax purposes (Tax Policy Issues, 2016).

The difficulties CPAs face for providing services to marijuana-related clients from a tax perspective are just as pervasive as for providing attestation services. There are numerous issues that arise when businesses must determine their amount of taxable income for state and federal purposes. These issues stem, in part, from the Section 280E exclusion that disallows the deduction of business expenses from gross income for marijuana businesses (26 U.S.C. §280E, 2012). Tax practitioners are in need of clear guidance as to what can and cannot be deducted under Section 280E (Davison, 2015). In order for CPAs to provide tax services to clients in an industry that is characterized by legislative ambiguity, they must exercise due diligence throughout the process of providing these services (AICPA, 2016). Part of the CPA's due diligence includes considering all information that is available to them to determine whether they can ethically and practically perform the services. The Statements on Standards for Tax Services (SSTS) and AICPA Code of Professional Conduct are particularly helpful when determining the ethicality of providing services to marijuana-related clients (AICPA, 2016).

SSTS No. 1, 2, and 3 can help guide practitioners throughout the process of providing services to marijuana-related clients. SSTS No. 1 provides practitioners with guidance on recommending tax return positions. This is especially important for CPAs providing services in the marijuana industry because due to the lack of firm guidance, practitioners must ensure positions recommended to the client have a reasonable basis and are properly disclosed, if necessary (AICPA, 2010). A prime example of this would be the COGS calculation, practitioners should determine whether the taxpayer's calculation is reasonable and if it should be disclosed or not. The practitioner should also advise the taxpayer of any potential penalties that could be a consequence of not disclosing certain tax return positions (AICPA, 2010).

SSTS No. 2 states that practitioners should make a reasonable effort to obtain all necessary information for appropriate answers to questions on a tax return (AICPA, 2010). In addition, SSTS No. 3 provides that a practitioner can, in good faith, use information provided by the taxpayer without verification, unless the law requires supporting documentation (AICPA, 2010). It also provides that they should attempt to obtain support for tax information provided whether through inquiry or referring to the prior year's return, if feasible (AICPA, 2010). When operating in a cash-based industry there is likely to be little verification available for much of a marijuana business's tax information. As such, practitioners should refer to SSTS No. 2 and 3 to obtain answers to all necessary questions to sign the return, to determine whether information can be included on the return, and the possible penalties that could arise from not including information or including inaccurate information.

Due to the numerous concerns CPAs face when determining whether to provide services to marijuana businesses, the AICPA provided the following eight questions for CPAs to consider prior to providing services to the industry (AICPA, 2016, pp.12-13):

1. What, if any, is the position of my State Board of Accountancy on CPAs providing services to marijuana growers/distributors?
2. What are the legal risks of providing services to these businesses in my state?
3. Is there a risk of prosecution to a CPA firm that provides services to marijuana-related businesses?
4. What is the likelihood that the Drug Enforcement Administration (DEA) or the Department of Justice is going to prosecute this marijuana-related business?
5. How are CPAs in my state currently offering services to state-recognized medical marijuana dispensaries?
6. How will providing the contemplated services affect my malpractice insurance? How will it affect my professional liability insurance?
7. What is the likelihood that I may be disciplined, sanctioned, or lose my license for providing services to these businesses?
8. What procedures/policies should I consider to assess whether the prospective client understands the laws of his or her state concerning marijuana-related businesses and does the client follow those rules?

The AICPA also recommends that CPAs consult with their lawyer and state board of accountancy when venturing into the legal gray area that is involved with providing services to the marijuana industry (AICPA, 2016). Although marijuana may be legal at the state level, the illegality of the substance at the federal level results in an uncertain and risky area of business for CPAs providing tax and audit services (Gramlich and Houser, 2014).

In addition to considering the preceding questions, prior to providing services to clients in the marijuana industry, CPAs should also determine how their state board of accountancy defines the “good moral character” requirement (AICPA, 2016). The issue with determining what is considered good moral character is that few states define what it is, they merely state that a CPA must have it in order to obtain a license (AICPA, 2016). As such, there is the potential for states to consider providing services to the marijuana industry as violating the good moral character requirement (Gramlich and Houser, 2015). This in turn could result in states choosing to not grant or renew a license (Borchardt, 2015). CPAs could also theoretically face difficulties in obtaining a reciprocal license from a state that has not legalized marijuana after providing services to a marijuana business in a state that has legalized it (AICPA, 2016).

In addition to the potential difficulties with licensing, CPAs could face issues with their malpractice insurance as well. A CPA must know what is specifically included and excluded in their insurance coverage because liability policies typically have an exclusion for criminal acts (AICPA, 2016). An example of this occurred in the legal profession where a Denver lawyer lost her insurance coverage for providing services to marijuana clients even though the substance is legal in Colorado (Wilson, 2014).

CONCLUSIONS AND COMMENTS

The dichotomy between state and federal laws concerning the marijuana industry has created numerous issues for financial institutions, the accounting profession, and for business owners. To date, no action has been taken on the part of the federal government to specifically prohibit or encourage it. If this trend continues, of states legalizing recreational marijuana and the federal government not taking explicit action, there are number of consequences that could occur from an accounting and financial perspective.

If the federal government continues to issue limited guidance concerning recreational marijuana and the enforcement of policies in regards to it, then businesses will continue to operate in an environment of legal uncertainty. Consequently, as states continue to legalize recreational use, it is likely that more precedents will be set in court for which businesses will be able to use as a form of guidance. This would be similar to that of the CHAMP case that set the precedent for entities with separate business activities being allowed to deduct expenses related to the non-marijuana portion of the business. The experiences of businesses that have been in practice for a number of years will essentially become the guidance and standards for the industry due to the lack of federal guidance.

A lack of action at the federal level may also encourage more states to consider the legalization of recreational marijuana if they believe businesses in the state will not be penalized by the federal government for choosing to do so. More states legalizing marijuana will result in the creation of additional marijuana-related businesses and, as such, the issues that are already present for the businesses will continue and new issues are likely to arise. As new problems come about, businesses will seek further guidance on how to approach them, which may not be available due to the inconsistencies between the state and federal laws.

As the dichotomy between the state and federal governments continues, financial institutions will remain wary of providing services to marijuana-related businesses due to the possibility of being penalized by the federal government under a number of federal regulations. The federal government has issued some guidance in regards to financial institutions providing services to marijuana clients, stating that they must ensure they are in compliance with the applicable federal regulations. This requires increased effort and diligence by the financial institutions that many are currently not willing to engage in, the cost and potential risks of providing services are not yet worth the benefits from the banks' perspectives. If banks continue to remain wary of providing services to the industry, it is likely that the number of intermediary institutions that have begun to develop in recent years will increase in order to service the growing marijuana business market.

However, if states continue to legalize recreational marijuana and the number of marijuana-related businesses increases, it is possible that banks may reconsider their stance on providing services if they believe the situation has reached a point where the benefits will outweigh the potential costs. This situation is likely a long ways away though due to the high number of regulations banks must adhere to, that if not complied with can be a criminal offense. Financial institutions are currently not willing to risk their established positions in federally legal industries to obtain a comparatively small portion of the federally illegal recreational marijuana industry.

In order to comply with all existing standards and guidance, financial institutions must be very knowledgeable of their potential clients. This includes performing customer due diligence when considering providing services. As listed in Table 2 below, there are a number of activities that can be performed in order to obtain this knowledge of the customer. By implementing these activities, financial institutions are more likely to adhere to applicable standards and lessen the risk of federal scrutiny.

Table 2
SAMPLE DUE DILIGENCE ACTIVITIES

1. Verifying with the appropriate state authorities whether the business is duly licensed and registered;
2. Reviewing the license application (and related documentation) submitted by the business for obtaining a state license to operate its marijuana-related business;
3. Requesting from state licensing and enforcement authorities available information about the business and related parties;
4. Developing an understanding of the normal and expected activity for the business, including the types of products to be sold and the type of customers to be served (e.g., medical versus recreational customers);
5. Ongoing monitoring of publicly available sources for adverse information about the business and related parties;
6. Ongoing monitoring for suspicious activity;
7. Refreshing information obtained as part of customer due diligence on a periodic basis and commensurate with the risk.

Source: Financial Crimes Enforcement Network

From the perspective of the marijuana business owner, if new precedents arise from court cases, proprietors will be able to implement those precedents accordingly into their businesses if applicable. This provides for the possibility that business owners may find other legal ways to reduce their taxable income and thus reduce their effective tax rates. As long as financial institutions remain wary of providing services to the marijuana industry and business owners are unable to establish relationships with banks, the recreational marijuana industry will continue to work in a cash-only environment. This will result in businesses still being a target for theft due to the large amounts of cash they have on hand. However, if financial institutions begin to offer services to marijuana businesses or intermediary institutions grow, the industry will have the opportunity to move away from a cash-only basis and the dangers for business owners and their employees will be reduced.

If states continue to legalize recreational marijuana and the federal government maintains their current position on the substance, CPAs will have to choose what they want to do. There is nothing specific that prohibits CPAs from providing services to marijuana clients, however there are standards that must be followed for all services they provide that they must consider. CPAs, like financial institutions, would have to increase their level of due diligence when performing work and be aware of the potential consequences should they do something incorrectly. Understanding and applying the SSTS and the AICPA Code of Professional Conduct would be beneficial from this perspective.

CPAs should also be careful to review their malpractice insurance coverage to ensure that providing services to marijuana clients will not cause them to lose their insurance. As long as marijuana remains illegal at the federal level it is possible that insurance carriers can consider marijuana businesses to be taking part in a criminal act. In addition, each state board of accountancy has separate and distinct rules governing CPAs licensed within the state. Practitioners should ensure they are in compliance with all state regulations and that they do not act in a way that could jeopardize their license. It is also worthy to note that there is the potential for an uptick in IRS audits of marijuana-related businesses due to the increased opportunities for tax evasion. These increased opportunities arise from the cash-only environment of the industry and the lack of clear regulations and guidance that can result in business taking varying tax positions, that may not all be correct.

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TAX LOTTERIES: THE CROWDING-OUT OF TAX MORALE AND LONG-RUN WELFARE EFFECTS

Marco Fabbri, Erasmus University Rotterdam
Daniela C. Wilks, Universidade Europeia-Laureate International Universities

ABSTRACT

This paper examines tax lottery policies as a method to reward consumers who request business receipts for goods and services they have paid for. We argue that the evaluation of the welfare effects of tax lotteries based solely on short-run tax revenue variations overlooks important long- term sources of inefficiency. Tax lotteries may crowd out the willingness of individuals with leading roles in shaping social norms to engage in voluntary third-party tax enforcement, and thus cause long-term welfare losses. We sought support for our argument analyzing the case of the Portuguese tax lottery and conducting an empirical study with a sample of Portuguese nationals. Findings show that tax morale is a key determinant of voluntary third-party tax enforcement, and that the level of education is positively associated with the crowding out of the intrinsic motivation to engage in voluntary third-party tax enforcement.

INTRODUCTION

For tax authorities, efficiently monitoring and sanctioning VAT evasion is a challenging task. The 2015 VAT Gap report estimates that in 2013, EUR 168 billion in VAT revenues were lost in the European Union due to non-compliance or non-collection. The so called VAT Gap, the difference between the expected VAT revenue and the VAT actually collected, equated to 15.2% of total expected VAT revenue of the 26 member states at that time. The VAT GAP varied between 4% in the Netherlands, Sweden and Finland, and 41% in Romania.

A common strategy for business owners to evade VAT is not to issue the invoice of a business transaction and to pocket the equivalent amount of VAT. In recent years, tax authorities in different countries have devised a new behavioral approach to engage consumers in the fight against tax evasion. Tax lotteries were organized to motivate consumers to request receipts for goods and services they have paid for. To isolate the causal effects of tax lotteries on VAT revenue is not an easy undertaking, but an analysis of the tax lotteries impact suggests a significant positive increase in net tax revenue a few years after their implementation (Naritomi, 2013; Wan, 2010).

In this paper we argue that an evaluation of the welfare effects of tax lottery policies based solely on short-term variation of VAT revenue may overestimate their welfare effects by overlooking important long-term inefficiencies. Our analysis moves from the current undisputed evidence that material incentives may crowd out non-financial motives, such as moral values and civic virtues, while simultaneously determine unpredicted effects on behavior (Bowles, 2008). This has been referred to as the “crowding-out effect” (Frey and Jegen, 2001).

The argument advanced here is that implementing a tax lottery to encourage consumers to ask for sales receipts may be counterproductive due to the crowding-out of the intrinsic motivation to engage in voluntary third-party tax enforcement. An evaluation based only on the short-term effects of tax lotteries disregards possible long-term indirect effects. While the introduction of the tax lottery may determine a temporary raise of the net tax revenue, the crowding-out effect may increase over time by spilling over to future generations. This raises a fundamental question as to whether VAT losses caused by the crowding-out effect are larger than the increase in tax revenue generated by the tax lottery (taking into account the expense of the lottery prize).

Furthermore, tax lotteries may impact on the intergenerational transmission of norms regarding tax morale, defined here as the intrinsic motivation to comply with tax duties or the moral imperative to be honest regarding taxes (Feld and Frey, 2002; Lewis, 1982). This is especially likely to happen if the crowding-out effect is concentrated on people who play a pivotal role in shaping future generations' social norms and values, such as highly educated members of the population. Hence, irrespective of short-term positive impact evaluations, the choice to implement tax lotteries may still create long-term inefficiencies and even a permanent welfare loss.

The argument advanced here is supported by the findings of an empirical study conducted in Portugal, which suggest that the tax lottery has mixed effects on the propensity to engage in third-party tax enforcement. The lottery may motivate some consumers to enforce the emission of invoices, but it also crowds-out the willingness to engage in voluntary third-party tax enforcement in a sizeable fraction of the population. The crowding-out effect is concentrated on the most educated people, who are more likely to have leading roles in transferring tax morale to future generations. Hence, while evidence shows that the Portuguese tax lottery boosted tax revenues and accordingly is considered to be a success by the government, policy makers should be aware of this short-run evaluation, which may compromise the long-run welfare effects of the tax lottery policy.

Although tax lotteries have been used in different countries to fight tax evasion, they have received limited research attention. Moreover, to the best of our knowledge, no study has focused explicitly on the possibility that tax lotteries crowd-out the willingness to engage in voluntary third-party tax enforcement. The purpose of this study is to fill this gap. The article proceeds as follows. It begins with a literature review of the rationale behind the use of tax lotteries and a brief overview of work on tax evasion. The main focus is on recent articles that analyze tax lottery policies as an instrument to enhance tax compliance. The following section elaborates the claim that the crowding-out effect caused by tax lotteries, if concentrated on people with higher level of education, may generate a long-term reduction in VAT collection by hampering the intergenerational transmission of tax morale. Section 4 describes the institutional details of the Portuguese tax lottery and the results of our survey are discussed in section 5. In the last section, a conclusion is drawn and possible avenues for future research are suggested.

LOTTERIES AGAINST TAX EVASION

Neoclassical economic models consider agents' decision to engage in tax evasion as the result of cost and benefit calculations (Allingham and Sandmo, 1972; Becker, 1968; Yitzhaki, 1974). This has been disputed, but if this were the case, to achieve compliance would be prohibitively expensive (Blumenthal and Slemrod, 1992). Past regulation-related research that analyses the difficulties in contrasting frauds and tax evasion includes work by Alleyne and Elson (2013), Blazovich et al. (2013) and Drucker et al. (2012) to name a few. This line of research confirms that tax evasion remains a widespread problem (Feige, 2007), and that the costs of deterrence methods of tax enforcement are high and their effectiveness is low. This explains the growing interest of scholars and policy makers in new approaches that complement traditional enforcement methods (Feld and Frey, 2007; McMahon et al., 2016).

The current study focuses on VAT evasion. A key proposition advanced by prominent scholars is that the presence of third-party tax enforcers supplements the centralized tax enforcement system and thus constitutes a key ingredient in preventing tax evasion (Kleven et al., 2006). However, in the context of VAT evasion, consumers have no material incentives to enforce the emission of invoices. The VAT involved in the transaction will be redistributed to the entire population, but the individual benefits only from a negligible fraction of the tax paid by the business owner. On the other hand, the consumer bears material costs in requesting for a receipt. First, because the consumer forgoes the possibility to engage in a collusive agreement with the business owner which could give a discount equal to a fraction of the VAT evaded. Second, if the social norm is positive towards tax evasion, the consumer by acting as a third-party tax enforcer faces moral costs in requesting the emission of invoices (McGee, 2011).

Therefore, consumers enforcing VAT payment bear an individual cost and produce a positive externality that they do not internalize. This situation is well captured by the incentives scheme typical of a public good dilemma - voluntary contribution in the form of third-party tax enforcement would be optimal and would enhance the social good, but the dominant strategy for an individual payoff maximizer is to free-ride on contribution. Given this, it is plausible to think that consumers engage in a suboptimal level of invoices emission enforcement (Fabbri and Hemels, 2013).

Different strategies have been tried to encourage third-party enforcement of invoices emission. Some European countries, for instance Belgium and Italy, attempted to oblige consumers to request a receipt by imposing sanctions. This strategy was difficult to implement and was ultimately ineffective. Conversely, a tax lottery system based on rewards instead of sanctions may induce consumers to act as third-party tax enforcers. This is the rationale behind the tax lottery incentives scheme. Consumers want to participate in a lottery to win a prize, and accordingly are willing to request business receipts, which is the only means to participate in the lottery. If the increase in VAT revenue generated by the lottery is larger than the prize awarded, net tax revenue increases.

Although tax lottery policies have been common in some parts of the world since many decades, they have been rare in Europe. So far, and only in recent years, Malta, Portugal and Slovakia are the three EU countries that implemented a tax lottery to increase VAT compliance. It should be noted, however, that the interest of European governments for the use of lotteries in order to reinforce desirable behaviours has increased (Fooken et al., 2015). The interest of governments and policy makers in tax lotteries is due to the belief they are a cost-effective and easy to implement policy tool.

In recent years, scholarly work on the topic of lotteries has flourished. For example, Martin and Dolan (2010) propose an incentive in form of lottery participation for incentivizing timely submission of income tax declaration. Marchese (2009) shows that the provision of in-kind incentives to consumers can reduce tax evasion. In the same vein, Fabbri (2015) advances a theoretical model based on the Prospect Theory that establishes boundary conditions for an implementation of a welfare-improving lottery. Empirical results from laboratory experiments provide evidence that tax lottery can effectively reduce tax evasion. Alm et al. (1992) investigated the use of tax lotteries in a laboratory setting, and showed that lottery participation linked to compliance is more effective in lowering tax evasion than fixed rewards and audits. It should be noted that findings from another study suggest that there are gender differences. In the experiment conducted by Brockmann et al. (2015), while female participants complied more when offered a conditional reward in the form of lottery tickets, male participants reacted to the incentives by increasing tax evasion.

Contributions based on field data further confirm that implementing tax lotteries may reduce VAT evasion. For instance, Wan (2010) explored the different time of implementation of the tax lottery policy in Chinese provinces in order to estimate its effect on tax revenue over five years. He found that for each dollar paid out as a prize, the Chinese government raised additional thirty to forty US dollars of VAT revenue. In the same line, Naritomi (2015) estimated the effect of the tax lottery implementation in the State of Sao Paulo, Brazil. She explored a discontinuity in the way the level of the lottery prizes were assigned in order to draw causal inferences about the lottery effects in the first few years after the introduction. Results confirmed that the tax lottery lowered VAT evasion, and that the increase in tax revenue exceeded the cost of the lottery prizes, hence generated a net VAT revenue increase.

To sum up, theoretical predictions and empirical evidence suggest that tax lotteries are a valuable tool to fight tax evasion. However, a point worth noting is that all these studies focus on a short period after the lottery introduction. As we will argue in the next section, in a long-run over a longer period of time tax lotteries may cause a permanent reduction of VAT by crowding-out the voluntary third-party tax enforcement.

TAX MORALE, FINANCIAL INCENTIVES AND THE CROWDING-OUT EFFECT

A wide strand of research in economics, economic psychology and other social sciences suggests that incentives often fail to achieve the intended results, and in some cases can even backfire. As explained before, the crowding out of the intrinsic motivation is known in the literature as “the crowding-out effect,” and has been thoroughly studied. To give some examples of work in this field, studies show that subsidies for high school matriculation have only a small effect on girls and no effect on boys (Angrist and Lavy, 2009); incentives based on academic achievement also proved to have limited effects on performance (Fryer 2010); fines imposed to reduce hospital stay in Norway had the effect to increase hospitalization (Holmas et al., 2010); monetary incentives to foster blood donations do not affect men’s blood quantity collected and even lowered women’s contribution (Mellstrom & Johannesson, 2008); a (small) monetary reward to volunteers fundraising for non-profit organizations lowers the amount of funds gathered (Gneezy and Rustichini, 2000). The above findings are in line with the idea that to attach a financial value to something that is considered socially important degrades one’s “moral standing” (Dubas et al., 2014). Or, as Morgan (2000, p.777) claims, “the linkage between private gain from lotteries and public goods provision may actually reduce a taste for altruism or ‘warm glow’ that individuals obtain through giving behaviour”.

From the foregoing it may be inferred that tax lottery policies, by offering a receipt for enforcing the emission of a receipt, may generate a crowding-out effect and thus reduce the number of third-party tax enforcers. As mentioned before, consumers do not obtain material benefits from enforcing VAT payments. Therefore, third-party enforcement in this case may be driven by non-material reasons, such as the willingness to contribute to the community well-being (given that services are financed by taxes), or ethical concerns for justice (tax evaders are unlawfully enriching themselves at the expenses of “good citizens”, who pay their taxes).

Research related to the ethical dimension of tax compliance points in this direction (Nickerson et al., 2009; Bolt- Lee and Moody, 2009).

Empirical evidence shows that lottery incentives can be detrimental for consumers' willingness to engage in third-party tax enforcement, and can impact on business owners' reaction to the consumers' enforcement action. In a laboratory experiment, Fuster and Meier (2012) found that incentives have a detrimental effect on the peers' willingness to punish free riders. The authors run a public good game where participants *(i)* chose a level of contribution to the public good and *(ii)* could punish peers whose contribution was below the average. In a second treatment condition, subjects received an additional monetary incentive in form of lottery tickets proportional to their contribution to the public good. Results showed that, in the condition "with incentives", peers punish less harshly contributions below the average. Therefore, the introduction of the incentive did not increase the net level of public good collected. This was explained by the author as the punishers being "over motivated" by the incentive (i.e., by not contributing, the free rider had already decided to forgo the incentive) and that free riders had not felt the shame or guilt for not having contributed (i.e., they had already "paid the price" of not collecting the incentive).

The crowding-out effect discussed so far would be generated immediately by the lottery introduction. Therefore, even a short-term estimation of the tax lotteries effect on VAT revenue is sufficient to establish whether the crowding-out effect determines a net tax revenue loss or if it is more than compensated by the lottery incentive to request invoices. However, another form of crowding-out effect cannot be captured by a short-term empirical analysis. Indeed, it is possible that the crowding-out effect spillover across generations. The process of transmission of social norms and values from one generation to the following one operates through the influence of both formal and informal institutions (Tabellini, 2010).

Educators and opinion leaders play a particularly important role in accomplishing the transmission of social norms, including the willingness to engage in voluntary third-party tax enforcement. Given their special role, should their internal motivation be negatively affected for whatever reason, the consequences would be borne both directly (e.g., the immediate change in their public behavior), and indirectly in future years (e.g., the public leader would transmit to future generations a bundle of depleted values and norms) by the society as a whole. As for third-party tax enforcement, if the public leaders' internal motivation is crowded-out by the introduction of tax lotteries, the welfare effects will involve both an immediate reduction in the share of voluntary third-party tax enforcers (the direct, short-term effect), and additionally a hampered transmission of the ethical commitment to engage in third-party tax enforcement for the future generation (the indirect, long-term effect). Furthermore, the indirect effect of crowding-out will continue to spread out across generations, since for each public leader failing to transmit values and ethical norms, many citizens *and* future public leaders will be negatively affected. The effect will be thus multiplied over time, which will determine a progressive reduction of voluntary tax enforcement. Eventually, the decline in net tax revenue may generate a permanent welfare loss. We can conclude that, in spite of the benefits of the initial periods immediately after the introduction of the tax lottery, in the long-run the policy effect may result in a permanent tax revenue loss.

Considering the key role of public leaders in shaping tax morale, it is important to raise the question how the crowding-out generated by tax lotteries affects their willingness to act as voluntary tax enforcers. Public leaders are on average more educated than the average member of the population. Consistently, previous research shows that education has a positive effect on tax morale and on the propensity to act as third-party tax enforcers (Lewis, 1982; Ross and McGee, 2012). In the next section we report some preliminary evidence that the crowding-out effect caused by the lottery is concentrated on the most educated individuals. Hence, public leaders are especially affected by the crowding-out effect. This fact supports our concerns regarding the problem of transmitting social norms and values to future generations. Before presenting the results of our survey study, we shall provide a brief overview of the Portuguese tax lottery.

THE PORTUGUESE TAX LOTTERY

In Portugal lost revenue to the shadow economy is estimated to be 26.81 per cent of national output. VAT revenues represent around 60 per cent of the total indirect taxes and 25 per cent of total tax revenues. It is estimated that more than 20% of VAT remains uncollected. As it is common in many countries, business owners benefit from not issuing the invoices in all business transactions and by doing so they evade taxes. Traditional attempts to foster tax compliance based on deterrence models have been ineffective, and tax evasion has remained a widespread problem in the country. In an attempt to contrast the problem of indirect tax evasion, in 2014 the tax lottery program was launched to engage consumers in cracking down on tax evaders.

The lottery aims to motivate consumers to request receipts for goods and services they have paid for. The bills can be for any amount and of any kind. The receipts are converted into lottery tickets according to the value of each transaction. From April 2014 onwards weekly lotteries have been held and up market cars offered as prizes. According to governmental sources, the cost of the cars is outweighed by the increase in tax revenues, and the number of sales transactions communicated to the tax authorities leapt by 45.4 per cent in comparison to the previous year.

THE SURVEY STUDY

An empirical study was conducted in order to investigate the motivation underlying intentions behind requesting sales receipts and the effect of the tax lottery on consumers' willingness to act as third-party tax enforcers. More specifically, the aim of the study was twofold. Firstly, to understand the reasons beyond respondents' decision to engage in third-party tax enforcement. Specially, whether and to what extent, respondents considered that civic duties and ethical concerns were important to voluntarily enforce the emission of invoices. Secondly, to verify whether the crowding-out effect of third-party tax enforcement was confined to a specific population. Explicitly, to know if the crowding-out effect was related to the level of education of the respondents.

Methodology

A questionnaire was constructed for the purpose of this study:

1. Information on demographics, including education level, and habits of participation in lottery games was collected.
2. Respondents were asked how often they are used asked for a receipt (1 = *always*; 7 = *never*) and whether the lottery had motivated them to ask more for receipts (1 = *much more*; 7 = *much less*). Additionally, respondents were asked whether they watched the lottery draw on television (1 = *always*; 5 = *never*).

3. Two items assessed how often the respondents bought any form of lottery tickets (1=*every week*; 5=*never*) and how much they were accustomed to spend.
4. On the basis of prior research on tax compliance, nine items were developed to deal with the reasons for acting as a third-party tax enforcer. The items were rated on a seven-point scale anchored at each end with *total agreement* and *total disagreement.*
5. Tax fraud acceptability was measured by a single question: 'Generally speaking, is cheating on tax never justified, always justified or something in between? (1 = *never justified*; 7 = *always justified*). This item has been widely used in other studies (Kirchler and Wahl, 2010).
6. Six items targeted beliefs related to the reasons for tax compliance. These items were drawn from Kirchler and Wahl (2010) and used in a former study in Portugal (Wilks and Pacheco, 2014); were rated on a seven-point scale, anchored at each end by *total agreement* and *total disagreement*.
7. To explore the possibility that potential personal gains from VAT non-compliance might influence the likelihood of asking for a receipt, two hypothetical situations were included. In one of them, respondents were asked if they would request a receipt after paying €10 in a coffee shop or a restaurant, without specifying the possibility to receive personal gains in case one does not act as third-party tax enforcer. In the second situation, respondents were asked about the likelihood of requesting a receipt if a car mechanic offered a discount resulting from not charging VAT on a €500 value service. Both used a response scale in which 1=*always* and 7=*never*.

In order to minimize social desirability bias and response acquiescence, items were randomly ordered and some items repeated. A convenience sample was obtained through a snowball technique, whereby respondents were asked to pass the questionnaire to friends, colleagues and acquaintances. Data were collected in Portugal and the research was conducted in a manner that followed standard ethical guidelines. Completed data were obtained from 539 respondents. The mean age of the respondents was 45 (min. = 18; max. = 86). Forty six per cent were female. About 10 per cent of respondents were retired, 7.4 per cent were unemployed, 4 per cent were students, 79 per cent had full-time jobs, and 65.5 per cent worked either for private or public organizations. About 13 per cent were self-employed. As for education, about 14 per cent had received basic education, 17 per cent had received secondary education, 38 per cent had attended higher education, and 31 per cent had postgraduate qualifications.

Results

About twenty-two per cent of the respondents participated in lottery games every week and spent on average seven euros per month. Thirteen per cent of them always asked for sales receipts. While 26.7 per cent never provided their fiscal number for sales receipt, 27.8 always did that. Findings indicate that the lottery changed habits in terms of making receipt requests (M=3.98; SD=1.87). Whereas 15.4 per cent asked for a receipt much less often, 14.5 per cent asked much more frequently. However, when asked if they requested a receipt in order to participate in the lottery, 53.2 per cent of them responded in the negative (*totally disagreed*) and 5.6 four per cent said they did so (*totally agreed*) (M=2.42; SD=1.86). The majority (55.5 per cent) did not watch the lottery draw on the television.

Requesting sales receipts was the dependent variable in the following three conditions:

a) Asking for an invoice in general, whenever they made a purchase.
b) Asking for an invoice after paying a €10 bill.
c) Asking for an invoice in a situation in which there were potential personal gains from VAT noncompliance (Euro 500 in form of price discount).

Variables related to the respondents' socio-demographics, degree of participation in lottery games, reasons for acting as a third-party tax enforcer, attitudes towards taxes, moral beliefs regarding taxes (tax morale/civic duty)/, tax evasion acceptability and reasons for tax compliance were treated as independent.

An exploratory Factor Analysis followed by Varimax rotation was conducted on the nine items regarding the reasons for requesting a receipt. Two factors were extracted explaining 56 per cent of the total variance. Considering the pattern of loadings, the first factor was labeled tax morale according to the content of the items, and explained 36.3 per cent of the variance; the second factor was identified as being related to an interest in participating in the tax lottery, and explained 19.7 per cent of the variance.

A Factor Analysis of the five items regarding the reasons for paying taxes yielded a two-factor solution explaining 65.2 per cent of the variance. The first factor explained 44.7 of the variance and was associated with a sense of public spirit in tax compliance. The Cronbach alpha was .73. The second factor was fear of tax audits and explained 20.5 per cent of the variance. Table 2 shows the means, standard deviations, Cronbach's alphas and intercorrelations among the variables. Composites were formed on the basis of the extracted components and used in subsequent analyses as predictors in multiple regressions with the other aforementioned independent variables. All the predictors were entered simultaneously into the model. The model obtained explained 24.7 per cent of the variable "asking for a receipt in general" and was statistically significant, F(13, 539) = 13.25, $p < .001$.

Table 1
MEANS, STANDARD DEVIATIONS, CRONBACH'S ALPHAS AND INTERCORRELATIONS AMONG VARIABLES (N=539)

Variables	*M*	*SD*	*α*	1	2	3
1. Moral beliefs regarding taxes	4.92	1.32	.73	-		
2. Tax morale	5.42	1.20	.80	.46**	-	
3. To participate in the lottery	2.86	1.54	.70	.03	.20**	-

*p<.05 level; **p<.01 (2-tailed).

Question 1) Which are the key determinants of third-party tax enforcement?

Condition a) Results for requesting a receipt in general

As shown in Table 3, there were significant effects for age and education. Consistent with previous studies (McGee et al., 2012), older respondents and those with more years of education asked for a receipt more frequently than younger respondents and those with fewer years of education. Compared to the proportion of full-time employees, the share of unemployed respondents who asked for a receipt was lower. There was no significant relationship between asking for a receipt and reasons for tax compliance and fear of audits. Tax morale was the largest contribution to the model.

Condition b) Results for requesting a receipt for a 10 Euro bill

The multiple linear regression with all the predictors and requesting a receipt after paying €10 as the dependent variable explained 25.7 per cent of the variance and was statistically significant, F(13, 539) = 13.95, $p < .001$. There were significant effects for education and the variable is positive associated with requesting the receipt. This result signals that, consistent with our reasoning in the previous section, more educated people tend to engage in a higher level of voluntary third-party tax enforcement. Respondents who were unemployed requested a receipt less often than those who were retired and employed. The more respondents that feared tax audits, the higher was their tax morale. Respondent attracted by lottery participation were also more willing to request a receipt.

Table 2
MULTIPLE REGRESSIONS

Regression I Asking invoices whenever one makes a purchase
Regression II Asking an invoice for 10 Euro bill – no personal gain
Regression III Asking an invoice prevents potential personal gains (price discount)

Predictors	*Beta*	*Sig.*	*Beta*	*Sig.*	*Beta*	*Sig.*
(Constant)		.000***		.000***		.001**
Sex	-.171	.250	-.069	.704	.123	.497
Age	.017	.021*	-.005	.552	.020	.030*
Working for an organization	.476	.048*	.842	.004**	.661	.025*
Self-employed	.543	.070	1.142	.002**	.966	.008**
Retired	-.370	.357	.831	.089	.447	.364
Education	.401	.000***	.302	.001**	.112	.227
How often do you participate in lottery games?	.033	.501	.013	.821	.021	.725
How much do you spend?	.005	.360	.010	.132	.009	.198
Tax evasion acceptability	-.131	.013*	-.008	.905	-.197	.002**
Moral beliefs regarding taxes	-.049	.530	.211	.028*	.350	.000***
Fear of audits	-.042	.289	-.179	.000***	-.036	.458
Tax morale	.562	.000***	.684	.000***	.476	.000***
To participate in the lottery	.361	.000***	.648	.000***	-.043	.633
R^2	.247		.257		.191	
F	13.25***		13.95***		9.56***	

* $p < .05$; ** $p < .01$; *** $p < .001$

Condition c) Requesting a receipt when there is a possibility of personal gains

The multiple linear regression with all the independent variables as predictors and the hypothetical situation in which there were personal gains from VAT non-compliance explained 19.1 per cent of this variable and was statistically significant, $F(13, 539) = 9.56$, $p < .001$. Age differences were statistically significant, indicating that older people are more willing to request a receipt in this condition. Respondents who were unemployed requested a receipt less often than those who were either retired or employed. The respondents who found tax evasion less justifiable and had higher levels of tax morale were more likely to ask for a receipt. As can be seen in Table 3, tax morale provides the largest contribution for the model.

Question 2) Is the crowding-out effect influenced by education?

To answer this question, we explored the association between the level of education and the crowding out of the willingness to engage in voluntary third-party tax enforcement. Respondents stating that they never or almost never requested invoices were excluded from the analysis, and the remaining respondents were divided into two categories according to their level of education -"high education" (first degree or post-graduate education) and "low" levels of education. The crowding-out effect was assessed by the question whether the lottery had motivated them to ask more for receipts (1=*much more*; 7= *much less*).

Findings clearly indicate that the percentage of respondents who show a crowding-out effect in the group of the most educated respondents is nearly the double of the group with lower level of education (15% vs. 8% respectively). We then considered the impact of the lottery on the will to request retail invoices with the view of wining the prize. Respondents were motivated by the tax lottery to request invoices across different levels of education (31% for both the high- and low- levels of education). This preliminary evidence suggests that a sizeable fraction of consumers, who would not request for invoices, could be persuaded by the tax lottery to engage in third- party tax enforcement.

Nevertheless, respondents who were willing to act as voluntary third-party tax enforcers before the lottery, refused to continue doing so. Most importantly, the crowding-out effect was found to be positively associated with the level of education, which supports our argument regarding the possibility that the crowding-out effect might spill over across generations. Should this be the case, an evaluation of tax lotteries effects on welfare would not be fully captured by an empirical analysis focusing solely on the few years after the implementation of the policy.

CONCLUSION

The purpose of the present investigation was to examine tax lottery policies as a method to reward consumers who ask for sales receipts in order to reduce VAT collection. It was argued that evaluations of the results of tax lotteries based on a short period of time might overestimate the benefits of the policy due to the crowding-out effect of the willingness to act as third-party tax enforcement, particularly of the most educated individuals. Given that these individuals are responsible for the transmission of social norms, a consequent progressive erosion of the willingness to act as third-party tax enforcement would spill over to future generations at an increasing rate causing a decrease of the net tax revenue.

Our empirical study suggests that our concerns are well grounded. In the light of the findings tax morale is an important determinant of third-party tax enforcement, and the crowding-out effect caused by the tax lottery is concentrated on the most educated individuals. These results provide support for our concerns about the possibility of long-term negative welfare effects.

Whether the long-run increase in tax revenue generated by tax lotteries is larger than the sum of direct and indirect crowding-out effects it is worth studying, but lies outside the scope of the present study. The main conclusion to be drawn is that a short-term estimated increase in net VAT revenue collected can be consistent with a long-term welfare loss. Hence caution is necessary to evaluate the success of tax lotteries considering solely short-term variation in tax revenue. Further research on the welfare effects of tax lotteries is clearly needed to fully comprehend their welfare effects.

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ENDNOTES

1. CASE- Center for Social and Economic Research, Study to quantify and analyse the VAT Gap in the EU Member States, 2015 Report. TAXUD/2013/DE/321, http://ec.europa.eu/taxation_customs/resources/documents/common/publications/studies/vat_gap2013.pdf(accessed 16 September 2015).
2. There are other reasons in addition to the crowding-out effect to explain why economic incentives might not work. First, strong monetary incentives might "overmotivate" an agent, leading to a more-than-optimal arousal during the performance (Ariely et al., 2009). Second, incentives might alter individuals' beliefs about the behavior chosen by others (Galbiati and Vertova, 2008).
3. Public opinion perceived the measures as being unfair and protested vigorously against them (cit. needed). As a consequence, Belgium and Italy revoked the sanctions soon after their introduction. Some countries provided incentives to consumers for requesting receipts. Argentina and Bolivia tried to give consumers a monetary refund equal to a percentage of the total VAT registered in each business receipt. However, this scheme was difficult and costly to manage, and was soon abandoned it (see Fabbri and Hemels, 2013 for deeper discussion of this issue).
4. The first tax lottery was introduced in Taiwan in 1951. For a historical overview about the use of tax lotteries, see Fabbri (2015).
5. The term "incentives" used here refers to any intervention aiming at influencing the behavior by modifying costs and benefits of a certain action, thus appealing exclusively to self-regarding preferences.
6. A complete review of studies reporting empirical evidence of motivation crowding-out effect lies outside the scope of the present article. On the topic see Bowles & Polania-Reyes, 2012.
7. For official OECD statistics, see http://www.oecd.org/portugal/Portugal-Deepening-structural-reform-to-support- growth-and-competitiveness.pdf
8. See http://www.oecd.org/ctp/consumption/presentation-session-5-filipe-abreu-portugal-second-global-forum-on- vat.pdf.
9. For data analysis purposes, the results were reverse-coded.

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MANAGING SOCIAL ENTERPRISES IN THE PHILIPPINES: CHALLENGES AND STRATEGIES

Raymund B. Habaradas, De La Salle University
Patrick Adriel H. Aure, De La Salle University

ABSTRACT

The purpose of this paper is to uncover the challenges faced by Philippine for-profit social enterprises as they pursue both financial and social objectives, and to determine the strategies they utilize to achieve these dual bottom-lines. Our research builds on Dees and Anderson's work (2002) that proposed a set of strategies to address the challenges faced by for-profit social ventures.

Utilizing multiple case study research design as proposed by Yin (2003), we gathered primary data by interviewing key informants involved in the following social enterprises: Greenius, Bayani Brew, and ECHOstore Sustainable Lifestyle. We also examined publicly available data on these three companies, including those taken from their web sites, published articles, and other studies conducted on these companies. We analyzed our data using the following theoretical lenses: resource dependence theory and stakeholder theory. We also made references to existing social entrepreneurship literature to augment our analysis.

Our case study research reveals that Philippine social enterprises indeed encounter tensions as they pursue both their economic and social objectives. Successfully reconciling dual bottom lines requires business acumen on the part of the social enterprise's owners / managers, who must not only know how to manage their internal operations efficiently, but also be able to leverage on the resources of stakeholders that are sympathetic to the enterprise's social mission. Developing a strong brand attached to a quality product is also critical.

Our study contributes further to the vastly growing yet still largely unexplored area of social entrepreneurship in the country. It also provides some guidance not only to aspiring social entrepreneurs but also to business educators who could contribute to the development of a new breed of entrepreneurs and managers of mission-driven enterprises. Our study also shows policy makers that they should put in place measures that will encourage cross-sector collaborations between the private sector, government, and civil society.

INTRODUCTION

Managers of for-profit social enterprises, just like their counterparts in traditional profit-oriented firms, must adopt and implement appropriate business strategies to keep their operations viable. In addition, they must deal with the complexity of creating both financial and social value. According to Dees and Anderson (2002), for-profit social enterprises must face market pressures that could lead to compromising social value. They must likewise face social and political pressures that could lead to compromising financial performance.

For this study, we attempted to answer the following questions: (1) What are the challenges faced by select Philippine social enterprises in their attempt to generate both financial and social value? (2) What strategies do these social enterprises utilize to achieve both their financial and social bottom lines? How do they implement them? Taking our cue from Dees and Anderson (2002), we attempted to validate the following propositions:

Proposition 1: Philippine social enterprises experience tension in their attempts to jointly achieve financial and social objectives, and are likely to comprise one bottom line over another

Proposition 2: Social enterprises that utilize Dees and Anderson's proposed strategies better manage challenges associated with having dual objectives.

BRIEF REVIEW OF RELATED LITERATURE

Heeding the Call for Social Responsibility

Our idea about what purpose business serves in society has evolved substantially over the years. While there are still those who subscribe to Friedman's (1970) contention that "the business of business is business", there has been increasing support for the notion that business must fulfil an increasingly active role in addressing social problems. This idea is built along the lines of Carroll's (1991) articulation of the different responsibilities of business (economic, legal, ethical, and philanthropic), which has since been labelled variously by scholars and practitioners as corporate social responsibility, corporate citizenship, corporate governance, and corporate sustainability. More recent conceptualizations of social responsibility that have gained prominence in the business literature are 'creating shared value' (Porter & Kramer, 2006, 2011), which encouraged big businesses to rethink how they can simultaneously create financial and social value; and CSR 2.0 or transformative CSR (Visser, 2010, 2011), which calls for businesses to embed CSR in their business models by adopting a systems perspective.

Businesses are driven to be more socially responsible for a variety of reasons. Some engage in corporate social initiatives to promote advocacies or to address issues important to their company's target stakeholders (Taran & Betts, 2015). Others engage in corporate social initiatives as a way to enhance their competitive contexts (Habaradas, 2013; Porter & Kramer, 2002). Others still see the need to embed ethics and governance in their company's management systems to meet global expectations (Obay, 2009).

For some businesses, though, addressing social problems is their primary goal, and keeping themselves profitable is essential to sustain their operations. These are what we now know as social enterprises (Dees & Anderson, 2006; Martin & Osberg, 2007; Yunus, 2007; 2010; Yunus, Moingeon, & Lehmann-Ortega, 2010).

Conceptualizations of Social Enterprise

Social enterprises refer "to the rapidly growing number of organizations that have created models for efficiently catering to basic human needs that existing markets and institutions have failed to satisfy" (Seelos & Mair, 2005, p.1). In other words, their primary business goal is to create social value. For a social enterprise to be sustained, it must combine the four elements of innovation, entrepreneurship, social value, and financial stability (Seelos & Mair, 2005).

A social enterprise is a tangible result of social entrepreneurship, which Mair and Marti (2005) defined as a management process that produces both economic and social value through improved use of resources to address a social need; and which Alvord, Brown, and Letts (2004) defined as a business process that produces "innovative solutions" to address a social issue and that subsequently mobilizes resources "for social transformation".

Ridley-Duff and Bull (2011) identified two types of social enterprises: non-profit and for-profit.

Non-profit social enterprises give more importance to fulfilling their missions over making money (Dees, Emerson, & Economy, 2001; Nicholls, 2006; Ridley-Duff & Bull, 2011). Though they may use commercial methods and adopt business practices in generating resources, their ultimate bottom line is the social value they create through their services. Under the eyes of the law, these enterprises often take the legal form of the traditional non-profit and civil society organizations (Yunus, 2010).

For-profit social enterprises, on the other hand, are “legally incorporated as for-profit entities” and “explicitly designed to serve a social purpose” (Dees and Anderson, 2002, p.2). Dees and Anderson distinguish *for-profit social enterprises* from the following: (1) *socially responsible businesses* or entities that seek financial gain while respecting ethics, communities, and the planet; and (2) *purely profit-motivated firms operating in the social sector.* Sebastian (2010), Yunus (2010), and Meloto (2013) refer to for-profit social enterprises as *social business enterprises* or *social businesses*. Typically, these enterprises take the legal form of business organizations.

Some scholars adopt a rather restrictive definition of a social enterprise, which excludes non-profit organizations. Thompson and Doherty (2006), for example, defined social enterprises as organizations “seeking business solutions to social problems” (p. 362). According to them, social enterprises must be distinguished from other socially-oriented organizations “that bring (sometimes significant) benefits to communities” but that do not seek to be ‘businesses’ (p.362).

However, most scholars (Dees, Emerson, and Economy, 2001; Dees and Anderson, 2002; Mair and Noboa, 2003; Abu-Saifan, 2012) favor a more inclusive definition of social enterprises. For example, Borzaga and Solari (2001, as cited by Mair and Noboa, 2003) said that a social enterprise incorporates “traditional resources of non-profit organizations (donations and voluntary participation), commercial revenue (originating from public and private customers and founders), and business activity” (p.333), all towards achieving a social objective. Thus, social enterprises can generally be characterized as organizational forms that have the following characteristics: (a) they have a social purpose, i.e. they seek to solve pressing social problems; and (b) they utilize commercial methods in their operations. These could include for-profit enterprises with ‘mission-driven strategies’ or non-profit organizations with ‘earned income strategies’ (Abu-Saifan, 2012).

Of particular interest to us are for-profit social enterprises, which Dees and Anderson (2003) say “have virtues that are not easily mimicked” (p.5) by their non-profit or public sector counterparts. For-profit social enterprises, they add, have the following potential benefits: (a) promoting efficiency and innovation, (b) leveraging scarce public and philanthropic resources, (c) being more responsive to fluctuating market demand, and (d) improving access to skilled personnel.

Social Enterprise Organization Models

In implementing activities that create both financial and social value, social enterprises must adopt the appropriate organizational design. Alter (2006) conceptualized alternative organizational models of how social enterprises can pursue both mission and money while managing the potential conflicts between the two bottom-lines.

The *embedded social enterprise model* shows how the social programs and the enterprise activities are synonymous, meaning the implementation of activities simultaneously pursue the money-mission relationship. Alter (2006) considers this organizational model sustainable and viable due to the comprehensive relationship between the financial and social bottom lines.

The *integrated social enterprise model* shows how social programs only overlap with business activities. Instead of synchronicity between enterprise activities and social programs, there is only a sharing of costs, assets, and attributes. The relationship between money-making activities and social programs is synergistic, i.e., both add value to one another (Alter, 2006).

The *external social enterprise model* shows social programs and business activities as distinct from one another. This is seen typically in businesses being completely separate from their non-profits (e.g., corporate foundations or partner NPOs). Businesses single-mindedly focus on making money, often funding the efforts of non-profits. The latter solely focuses on pursuing the social mission.

Alter (2006) states that social enterprises can combine models to capture more opportunities in both commercial markets and social sectors.

Core Challenges and Strategies

Brown and Knudsen (2012) argue that for businesses that have both financial and social objectives, it might be necessary to change the entire business culture to avoid ambiguous visions and strategies. This argument builds on the points of Dees and Anderson (2002), who articulated the core challenges in pursuing financial profit and social value generation. Other authors (Abu-Saifan, 2012; Bull, 2007; Bull 2008; Cukier et al., 2011; Emerson, 2003; Nicholls, 2006; Yunus, 2010) echo the idea that social enterprises are engaged in a constant tug-of-war on which to prioritize. Void of innovative and strategic thinking, the pursuit of one bottom line seems to be at the expense of another bottom line.

To address these tensions, Dees and Anderson (2002) proposed the following strategies: (a) avoid strategic vagueness regarding organization's mission; (b) craft an integrated and compelling business model; (c) measure performance creatively and test assumptions rigorously; (d) maintain control in sympathetic hands; (e) invest time and energy creating a committed team; (f) anticipate resistance and develop a strategy for dealing with it; (g) develop a brand reputation for quality and performance; and (h) recognize limits of what can be done for-profit and use non-profit partners or affiliates to provide complementary services.

Research Gap

Early literature on social enterprise / social entrepreneurship focused on its conceptualization and definition. Recently, there have been attempts to create theories and frameworks intended to improve the practice of managing social enterprises. However, these theories require further testing and empirical evidence that could vary from country to country. The Philippine setting offers an exciting context to test these theories and frameworks, given the rising interest of individuals to set up, or be part of, for-profit social enterprises.

Given that social enterprises only got mainstream attention in both the academic and practicing community in recent years, it is understandable that social enterprise theories are still largely untested. As evidence, the casebook of Sebastian (2010) focused mostly on describing social enterprises in the country. It is important, however, for researchers to develop, test, and refine social enterprise frameworks so that we can be confident about their relevance as practical guides for social entrepreneurs. To fill the aforementioned gap, we built on the frameworks of Alter (2006) and of Dees and Anderson (2002) by undertaking this empirical study on Philippine social enterprises.

RESEARCH FRAMEWORK, DESIGN, AND METHODOLOGY

Theoretical Foundations

For this study, we used resource dependence theory and stakeholder theory to help us make sense of our data, and to generate relevant insights about the experiences of the social enterprises we examined. Since strategy is basically interacting with the environment to achieve organizational goals (Daft, 2007), these two theoretical lenses are relevant to our study, which focused on strategies of social enterprises.

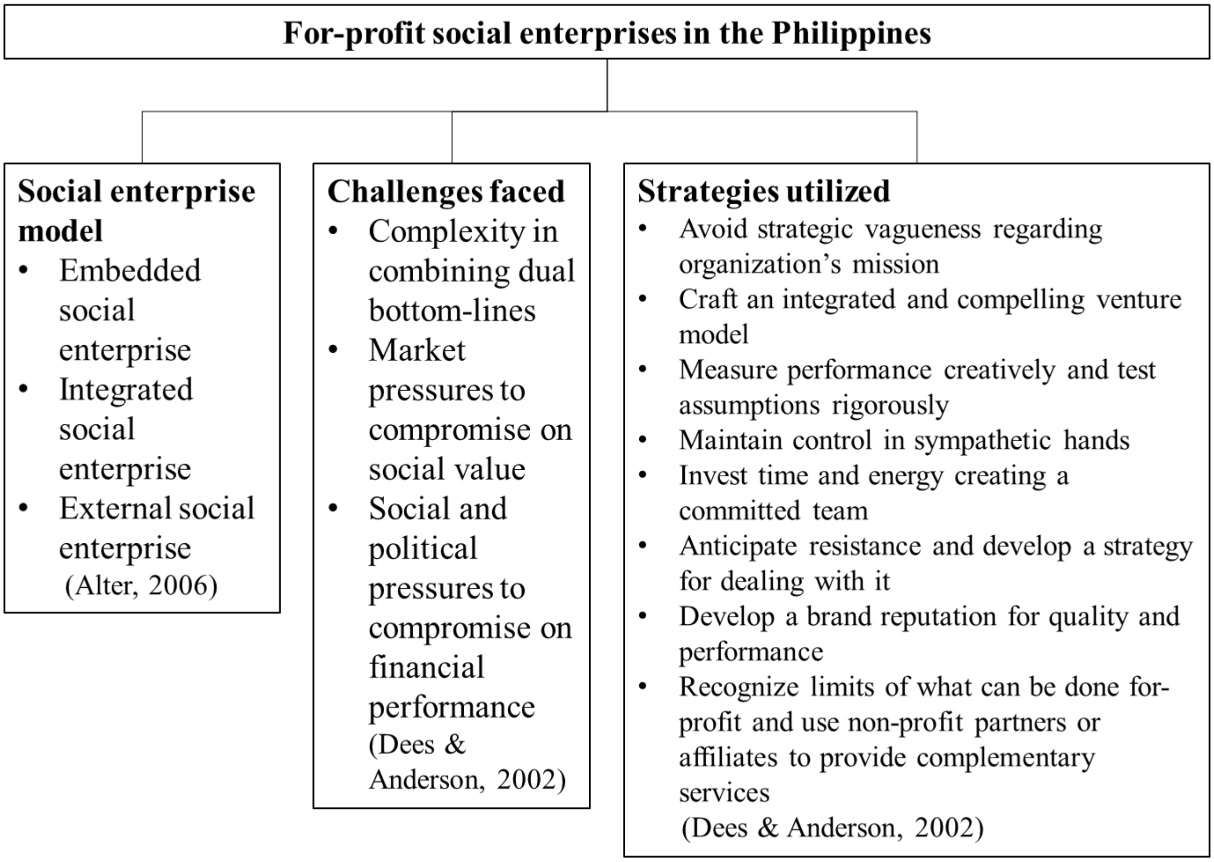
Resource dependence theory, as first articulated by Pfeffer and Salancik (1978), characterizes business organizations as open systems that are dependent on contingencies in the external environment. As Pfeffer and Salancik (1978) put it: "to understand the behavior of an organization you must understand the context of that behavior – that is, the ecology of the organization" (p.1). Resource dependence means that businesses depend on the environment for scarce and valued resources they need for survival. To minimize their dependence, however, businesses attempt to acquire control over these resources (Ulrich & Barney, 1984) in a variety of ways. According to Daft (2007), adapting to or altering interdependent relationships is a strategy that firms resort to when faced with resource or supply constraints. This could involve "purchasing ownership in suppliers, developing long-term contracts or joint ventures to lock in necessary resources, or building relationships in other ways" (pp. 90-91).

Stakeholder theory, on the other hand, looks into how managers see the purpose of the firm and how they create relationships with the firm's stakeholders to deliver on that purpose. According to Freeman, Wicks and Parmar (2004), "economic value is created by people who voluntarily come together and cooperate to improve everyone's circumstance"; therefore, managers must "develop relationships, inspire their stakeholders, and create communities where everyone strives to give their best to deliver the value the firm promises" (p. 364).

Operational Framework

In our study, we combined the ideas of Alter (2006), who came up with three social enterprise organizational models; and of Dees and Anderson (2002), who identified the core challenges faced by for-profit social ventures and proposed several strategies to address these. Together, these serve as our framework for description and analysis (see Figure 1). Given the qualitative nature of our study, we simply determined whether there was evidence the three social enterprises indeed encountered these challenges, and whether they utilized the proposed strategies based on published accounts and statements given by key informants. We, then, placed these social enterprises under one of the three categories identified by Alter, depending on how their economic activities and social activities overlap.

Figure 1
OPERATIONAL FRAMEWORK



Case Study Research Design

We chose the case study research method because we examined a contemporary phenomenon with some real life context, over which we had little control. We adopted the multiple-case design because analytic conclusions independently arising from multiple cases "will be more powerful than those coming from a single case alone" (Yin, 2003, p.53). We recognize, though, that case studies are only "generalizable to theoretical propositions and not to populations of universes." Therefore, we cannot establish correlational or causal relationships, but simply explain why or how these relationships exist (Yin, 2009).

Data Collection and Analysis

Consistent with the case study research design, we utilized as many sources of evidence as practicable so as to achieve data triangulation (Yin, 2009). We began by collecting relevant information about the three social enterprises (e.g. history, vision-mission, products and services) from their web sites, published sources, and other available studies previously undertaken about some of these social enterprises, including those by Aure, et. al. (2013) and Aguilar, et al. (2013).

For the challenges faced by these enterprises and the strategies they utilized, we depended largely on data collected from in-depth interviews conducted among key individuals involved in these social enterprises. Our interviewees include the following: (1) the co-founder of Greenius; (2) Ron Dizon, co-owner of Bayani Brew; (3) Xilca Alvarez, co-owner of Bayani Brew; (4) Pacita Juan, co-founder of ECHOstore; (5) Jeannie Javellosa, President of ECHOsi Foundation. We explained to these individuals the purpose of our study and secured their consent to provide us with information through the in-depth interviews they granted.

The data we gathered became part of our case study database, which included the following: interview transcriptions, detailed interview summaries, field notes, audio files, printed materials, and online materials. Using these data, we came up with detailed case descriptions, which included the following information: background of the company, its economic and social activities, the challenges faced by the enterprise, and the strategies undertaken by the enterprise. We largely depended on qualitative data coming from our interviews, which were either paraphrased or expressed in actual quotations.

We then did a cross-case analysis that allowed us to uncover patterns across the three social enterprises, and to understand how the different circumstances probably resulted into varying levels of success. The results of this qualitative cross-case analysis allowed us to test the propositions we earlier listed.

CASE DESCRIPTIONS

Case 1 – Greenius

Greenius started out in 2009 as a feasibility study school requirement submitted by five students to a business incubation program in one of the Philippines' prestigious business universities. Its vision is to "raise the competitiveness of Philippine indigenous materials and communities that produce them through global design brands", while its mission is to "'wow' the world with stylish products from our very own indigenous materials".

Greenius' product line includes the following lines: bags, which were handmade and crafted for women; and journals, which can be used to take notes during meetings and listing down to-do's, or by creative types to write a novel, sketch, or record thoughts, ideas, or feelings; and tablet covers, a collection they claimed to be designed with balance between style and functionality in mind — a great fit for 1st - 4th generation iPads. These products reach the market through traditional stores (some retail stores and bookstores) and through online selling. Journals and tablet covers are also sold as corporate giveaways.

Greenius received an initial boost when it won P350,000 worth of start-up capital and a web site development package for its entry to a business plan competition in 2009. This encouraged the team members to execute their business plan. At the time of the study, only two of the original five former students were still involved in the business—the creative director, and the director for marketing and social aspects of the business. They were later joined by two other individuals as they ventured into what they claim as "eco-fashion".

Greenius was not originally meant to be a social enterprise, but actually evolved into one. According to our respondent: "My co-founders and I simply wanted to work with Philippine indigenous materials." This led them to a resettled community in Laguna that the Department of Trade and Industry (DTI) recommended because of its flagship project involving the conversion of water hyacinth into woven products. These water hyacinth are invasive plants that caused the clogging of Laguna de Bay, which resulted into floods and which threatened the livelihood of fishermen who found it difficult to navigate the waters to catch fish and shellfish. Community members, however, were resourceful enough to convert the stalks of these water hyacinth into material that looked like leather when a shiny coat was applied to it.

By engaging the women in rural communities in sourcing the company's raw materials and in producing their products, J&L provided livelihood to these communities even as it addressed an environmental concern at the same time by helping restore water bodies previously infested by the water hyacinth plant. According to our respondent, interacting with the community made them appreciate how a business could affect people. "It was [our] consciousness that grew," she said.

Case 2 – Bayani Brew

Bayani Brew, a social enterprise affiliated with Gawad Kalinga, originated from the drink that community mothers residing in the Gawad Kalinga (GK) Enchanted Farm mixed: native iced tea. Using indigenous ingredients such as lemongrass, pandan, and *talbos ng kamote* (sweet potato), Bayani Brew provides an "exciting alternative" to the usual sweetened powdered iced teas and fruit juices. The enterprise sells locally prepared iced teas, which retails at approximately Php48.00 per bottle. These ready-to-drink beverages, which come in two variants – *Kickass Lemongrass* and *Camotea Commotion* –are sold in some restaurants, cafes, and social enterprise stores across the Philippines.

In 2010, three GK volunteers – Ron Dizon, Shanon Khadka, and Xilca Alvarez (the Brew Crew, for short)– stumbled upon an opportunity when Linda Manigas, one of the GK community mothers (*nanays*), served guests and volunteers this "*tsaang bukid"*(farm tea) using a special recipe passed on from previous generations (Aguilar, et. al., 2013).

GK founder Tony Meloto saw the massive potential for this native tea as a cold bottled drink, which could revitalize a saturated beverage industry while fulfilling the mission of developing the countryside and uplifting the plight of the farmers. Despite lacking experience in the fast-moving consumer goods (FMCG) sector, the Brew Crew endeavored to craft a proudly Filipino beverage that can eventually compete in the global market. The three capitalized on the potential of this native tea as a cold bottled drink by engaging in product development. They later registered the business in October 2012 (Bayani Brew, 2013). Bayani Brew's vision and mission is "brewing a generation of Filipinos crazy in love with our country" (https://www.facebook.com/BayaniBrew). Its drinks are targeted at young adults aged 18-29 and parents aged 30-44 concerned with the health of their children (Aguilar et al., 2013).

Aside from its efforts to promote its products through social media, Bayani Brew got the attention of traditional media. It was featured in the Social Business Summit 2013 and in a segment of ABS-CBN's Kris TV. After the exposure in Kris TV, the demand for Bayani Brew increased substantially from the previous average of three boxes a day to six to eight boxes a day.

Bayani Brew also began exploring different distribution channels. It is one of the first social enterprises in the Philippines that has penetrated independent restaurants, such as Juju Eats, Wrong Ramen, Bo's Coffee, Chicken Charlie, and Taste Central. Recently, it entered the chain of wholesale clubs, S&R as well. Bayani Brew has also partnered with other social enterprises, such as Human Nature, Souvenir Shop, and Dairy Hut, by selling its products in their stores.

Bayani Brew pursues its social objective by creating sustainable livelihood opportunities for the residents of the GK Enchanted Farm community. The company trains farmers and other suppliers and makes sure that all production inputs are sourced locally. In the GK Enchanted Farm alone, the farmers grow lemon grass, sweet potato, and pandan, which are used in the production of tea. The company sources its raw materials from the farm and nearby communities, and pays the farmers a relatively higher price. According to Ron Dizon, this is the company's way of "securing the supply chain".

Also worth noting is how Bayani Brew builds a culture that greatly values the people involved in the company. This is attested to by the employees, who appreciate the importance the company gives to work-life balance. Since the farm is located very close to the community, this allows farmers to go home to their families whenever there is a need to do so. Mothers who live in the community can also easily monitor their children even while working.

Case 3 – ECHOstore Sustainable Lifestyle

ECHOstore Sustainable Lifestyle is the first green retail store in the Philippines. Founders Pacita "Chit" Juan, Jeannie Javelosa, and Reena Francisco (also known as the ECHOtrio) brought their extensive corporate / entrepreneurial experience to this venture that advocates sustainable living. They set up a store that showcases the finest products made from raw and all-natural materials, and created by talented craftsmen from various parts of the country.

ECHOstore Serendra, which targets the high-end urban market, opened its doors in September 2008. It was here where Juan, Javellosa, and Francisco brought together their network of social enterprises, communities, foundations, and other organizations that needed not only support but also a space for their products (home care, fashion, gifts, and personal care). Some of the products were made by marginalized groups, including women prisoners, and the urban poor. The retail store also offered organic, natural, and nontoxic goods, ranging from home cleaning products to staples such as organic rice, sugar, and other produce.

ECHOstore, soon after, opened its second branch at the Podium in Mandaluyong City. In 2011, the ECHOtrio opened ECHOmarket Sustainable Farms and ECHOcafe (Culture, Community, Coffee), two related concepts that completed the ECHOstore retail triad. Today, ECHOstore has branches in Makati (ECHOstore Salcedo), Quezon City (ECHOstore Centris Walk), Davao (ECHOstore Davao), and Cebu (ECHOstore Cebu). It also has an online store, launched in 2013, which features lifestyle books authored by the ECHOtrio.

ECHOstore fulfills its social mission by serving as an outlet for products of women's groups, cultural communities, and other marginalized groups. But unlike other retail businesses that simply source from these groups, ECHOstore has gone the extra mile by helping build the capabilities of these groups in product design, packaging, and other important aspects of running a business.

As the pioneering retail store that focused on fair-trade products made by small communities, ECHOstore began to attract community-based enterprises that wanted their products displayed for sale in the store. However, the ECHOtrio had to reject majority of the products due to poor design and lack of visual appeal. They eventually worked closely with national NGOs serving poor communities, which requested them to critique the product design and packaging of these small producers. The ECHOtrio volunteered their time and expertise to serve as mentors, and eventually launched the ECHOdesign Lab as a program.

Thus, the ECHOtrio, within a year of operating their first store found themselves involved in a variety of activities. According to Javellosa, who was ECHOstore president during its early years, "we were struggling at that period helping communities, selling products, and trying to manage the whole process of bringing products to the market." They later set up the ECHOsi (Enabling Communities with Hope and Opportunities Sustainable Initiatives) Foundation, which received funds from external parties that wanted to support their advocacy and social mission. "We could not put the money under ECHOstore," Javellosa explained, "because it was not part of the business."

The establishment of the foundation allowed the ECHOtrio to receive support from government, and to work in partnership with various groups, especially NGOs, that are similarly concerned with These are ongoing partnerships that allow ECHOstore to spread its advocacy for sustainable living across the supply chain.developing communities. For example, they have worked with the Peace and Equity Foundation (PEF) and the Partnership and Access Center Consortium, Inc. (PACCI) in setting up ECHOVILLAGE stores throughout the country; and also with the Department of Trade and Industry (DTI) and the Philippine Commission of Women (PCW) for the GREAT Women Program.

CROSS-CASE ANALYSIS

Business Models of the Three Companies

For all three social enterprises, they create social value by providing employment to, or creating business opportunities for, individuals and groups based in poor communities (see Table 1). All three firms initially provided training to their adopted (partner) communities and also facilitated market access for their products. All three also developed recognizable brands even at the early stages of their business life cycles.

Table 1
BUSINESS MODEL

Social enterprise	Business model
Greenius	Sourcing indigenous raw materials (e.g. water hyacinth fiber) from target communities → outsourcing the conversion of these raw materials into stylish products (e.g. luxury bags, leather journals, tablet covers) → selling these products at a premium price to high-end markets through traditional stores, online selling, and targeted corporate accounts
Bayani Brew	Buying raw materials at relatively higher prices from GK Enchanted Farm and from other local communities → producing Bayani Brew in a rented brewing facility → selling the bottled iced tea to various distribution outlets
ECHOstore	ECHOsi Foundation develops capabilities of women entrepreneurs to design, produce and package quality products and to effectively manage other aspects of their businesses → ECHOstore buys and sells these products, using its own brand, in its retail outlets.

Based on Alter's typology of social enterprise models, Greenius started out as an integrated social enterprise because there was a sharing of assets and costs between enterprise activities and social programs. However, it later became more of a conventional business that simply sourced materials from, and outsourced the production to, communities.

Bayani Brew, on the other hand, has the characteristics of an integrated social enterprise, in the sense that there is an overlap between the money-making activity of the business and its social program. By providing employment, training, and some scholarships to the members of the GK Enchanted Farm, the company fulfills its social mission. At the same time, the company benefits from its affiliation with Gawad Kalinga, particularly in terms of using the farm's facilities for prototyping and market testing.

Finally, ECHOstore can be categorized under the embedded social enterprise model. While there are two legal entities in the forms of the business and the foundation, there is a comprehensive relationship between the economic and social activities of the two. Unlike other typical corporate foundations that operate independently of the mother company and just depends on it for funding, the ECHOsi Foundation plays a crucial role in the product development and supplier management aspects of the business.

Challenges

All three social enterprises face the typical concerns of any other business, especially those associated with keeping costs and expenses below revenue.

In the case of Greenius, for example, its desire to help its adopted community meant having to procure the hyacinth leatherette for its luxury bags at a much higher price. This meant that the company had to sell its bags at a premium price, which affected the demand for its flagship product. The bags, which are priced at P2,500 to P4,000 per piece, are "a bit expensive", admits its creative director in an interview in 2012 with Entrepreneur Philippines, "but this is due to the amount Greenius spends on the workers' wages." The co-founder of Greenius also hints at the difficulties involved in producing luxury bags – "*Ang dami kasing learning points sa bags, it has to be… mas okay talaga yung quality*" (There are a lot of learning points in producing luxury bags, which must be impeccable in quality) (personal communication, October 25, 2013).

In the case of Bayani Brew, on the other hand, the owners' decision not to draw salaries from the company means that they are subsidizing business operations. Also, three French interns / volunteers are contributing their time doing much of the marketing and communication efforts of the company. While Bayani Brew is not shelling out cash for these services, these are legitimate expenses that the company must later account for if it wants to make sound decisions about its cost structure. The goal is for the company to eventually reach sales volumes that will allow it to generate enough revenue to cover the full cost of its operations. Higher sales volumes also means higher production levels, which will bring unit costs down.

Both companies also acknowledged the need to professionalize the management of their businesses. Greenius addressed this by bringing in two partners that have strong managerial and entrepreneurial backgrounds. These partners, however, prioritized the financial objectives of the company, which led to a decision to deal with its suppliers in a more arms-length fashion, as opposed to its more supportive and collaborative approach in the past. This was contrary to the desire of one of the original co-owners to establish a strong presence in their target communities, especially since they were initially involved in production and the development of raw materials. However, this took much of her time, preventing her from dealing with actual and potential customers. Being in the community also entailed additional costs, which the company could not afford. This eventually led the company to move away from actual production, which it now outsources, and to focus instead on marketing and branding activities. According to one of the co-founders: "That was the decision I had to make, and my partners had to force me to make that decision. We realized we can't be all heart, but we can't be just all money either. We needed to make some compromises" (personal communication, October 25, 2013).

For Bayani Brew, the three owners (not all of whom have business backgrounds) now juggle the various responsibilities among themselves. These responsibilities include setting meetings, supervising the farm, overseeing production, and handling logistics. Khadka acknowledged that the business has reached a stage, during which it needs someone who can introduce a more systematic way of doing things. A more formal organizational set-up might be required to facilitate the scaling up of the business (Aguilar, et. al., 2013). "We need people, such as accountants and operations managers, who really know what they're doing," admits Alvarez, who added that even if they wanted to involve fresh graduates in the business, "we cannot train them since, in the first place, even we, as co-owners, do not know the details in managing these functions."

Fortunately for the owners and employees of Bayani Brew, they are largely operating within the confines of the GK Enchanted Farm, an incubator that, according to Gawad Kalinga founder Tony Meloto is both "forgiving enough" to allow for growth, yet "demanding enough" to stimulate quality. The farm serves as a free research and development facility, where the company can source its raw materials, do rapid prototyping, and undertake initial market research through the feedback of people visiting the farm.

Among the three, only ECHOstore claims to be profitable, and has, in fact, expanded its operations. It does not have a problem in terms of the ability of its founding owners, who have clearly divided among themselves the responsibilities of running the affairs of the business and of the foundation. It is now more concerned with improving the reliability of its network of suppliers, who are mostly women entrepreneurs supported by the Great Women Project and village enterprises selling their produce through the ECHOVILLLAGE stores. Given its profitable status, it could very well grow the business steadily, and thus create more social value in the process.

Strategies

Using the proposed strategies of Dees and Anderson (2006) as a guide, we determined that ECHOstore utilizes all eight, Bayani Brew utilizes six out of the eight, and Greenius utilizes two (see Table 2). All three have invested time and energy in creating a committed team, and have developed a brand reputation for quality and performance. Based on our interviews, all three recognize the importance of branding in selling their products.

Table 2
EVIDENCE THAT SOCIAL ENTERPRISES EXECUTE DEES AND ANDERSON'S (2002) PROPOSED STRATEGIES

Strategies	Greenius	Bayani Brew	ECHOstore
Avoid strategic vagueness regarding organization's mission	No	Yes	Yes
Craft an integrated and compelling venture model	No	Yes	Yes
Measure performance creatively and test assumptions rigorously	No	No	Yes
Maintain control in sympathetic hands	No	Yes	Yes
Invest time and energy creating a committed team	Yes	Yes	Yes
Anticipate resistance and develop a strategy for dealing with it	No	No	Yes
Develop a brand reputation for quality and performance	Yes	Yes	Yes
Recognize limits of what can be done for-profit and use non-profit partners or affiliates to provide complementary services	No	Yes	Yes

It is worth noting that Greenius does not have a non-profit partner or affiliate that allows it to sustain its involvement in its adopted community. Its initial involvement with the resettled community in Laguna did not have any follow-up. This could be due to a shift in strategic direction brought about by the entry of two new partners, which made the company more focused on its economic bottom line.

In contrast, Bayani Brew and ECHOstore have continuing engagements in their adopted communities, which reflect their strong commitment to their social objective. Bayani Brew does this by working closely with Gawad Kalinga, while ECHOstore does this through the ECHOsi Foundation. This could be partly attributed to the clarity of vision of the leaders of these two organizations.

In addition to the strategies listed by Dees and Anderson, the three companies have also implemented several operational and functional strategies. Greenius, for example, has decided to expand its product line and is now looking at other indigenous raw materials for its products. To bring down its production costs, it is using multiple suppliers and outsourcing its production activities. It is not clear, at this point, whether it will once again take an active role in developing the capabilities of communities.

Bayani Brew, on the other hand, is aggressively seeking additional distribution outlets for its bottled iced tea. In terms of production, the company is now renting a manufacturing facility, which enables it to produce bigger volumes of its product. It is also engaged in product development efforts directed towards the use of other local agricultural produce. The owners have mentioned their intention of eventually turning over the business to the community, but it has not reached the point of formulating its ownership and management succession plan.

For ECHOstore, the strategy is to develop more village enterprises through the ECHOVILLAGE stores and the GREAT Women Project. This directly feeds into its retail operations, and allows it to influence a wider network of suppliers and customers into adopting practices that are consistent with a sustainable lifestyle.

CONCLUSIONS AND RECOMMENDATIONS

It is clear that for-profit social enterprises must deal with the same challenges faced by traditional businesses. However, social enterprises carry the self-imposed burden of addressing the needs of those belonging to the bottom-of-the-pyramid, at the risk of putting a strain on their already limited resources.

For all three social enterprises, the resources available to them were scarce, especially in the early stages of their respective business life cycles. For Greenius, it helped that it received some start-up capital for having won a business plan competition in 2009. This allowed it to support its operations, including its community development activities. When revenues did not meet expectations, however, the company looked into bringing its costs down, which led to its arms-length purchasing strategy towards its suppliers. With the entry of new business partners, the interests of the shareholders took precedence over those of their supplier communities.

In contrast, ECHOstore did not allow the lack of resources to prevent it from fulfilling its social mission. Through the smart execution of a compelling business model, it succeeded in getting support from its various stakeholders. First, ECHOstore convinced its target market that it was worth their money to buy green and all-natural goods at a premium, which allowed the company to pay its suppliers at fair-trade prices. Second, it invested in the training of its suppliers, particularly women entrepreneurs, instead of simply purchasing goods from them. Third, it worked closely with government agencies, NGOs and funding institutions in fulfilling its social mission. From a stakeholder perspective, ECHOstore succeeded in getting all its stakeholders to work together to support its advocacy for sustainable living.

To a certain extent, Bayani Brew also depends on its various stakeholders to support its social mission. What is being given priority, at this stage, is the interest of the employees and community members of the GK Enchanted Farm. The shareholders / owners are subordinating their economic interests to support the growth of the enterprise, which they eventually plan to turn over to the community. They choose to do this in support of the mission of Gawad Kalinga, which, in turn, provides it with the resources they need to undertake research and development activities in the farm. GK also lends its goodwill to the business, which finds it easier to expand its network of distribution outlets because of its GK connection. Therefore, its resources are effectively augmented by being part of the GK network of social enterprises.

One important insight here is that while individual firms have a limited pool of resources, whether human or material, there is an abundance of resources at the aggregate level, i.e. beyond the traditional confines of a typical for-profit organization. Government agencies, non-government organizations, other concerned groups and individuals have resources that can be leveraged by social enterprises as they attempt to meet their dual objectives. This explains the evident success of entities such as ECHOstore and GK Enchanted Farm. Could it be that the tensions experienced by budding social enterprises are partly a result of the scarcity paradigm that dominates current business and economic discourse? As our cases show, there seems to be viable and exciting alternative – one that is based on collaborative effort and an abundance paradigm.

Propositions Validated

Our three case studies provide some evidence that supports our propositions that: (a) Philippine social enterprises experience tension in their attempts to jointly achieve financial and social objectives; and (b) those that utilize Dees and Anderson's proposed strategies are better able to manage these challenges (see Table 3).

Table 3
VALIDATION OF PROPOSITIONS

Propositions	Validated?
Proposition 1: Philippine social enterprises experience tension in their attempts to jointly achieve financial and social objectives, and are likely to comprise one bottom line over another.	Yes
Proposition 2: Social enterprises that utilize Dees and Anderson's proposed strategies better manage challenges associated with having dual objectives	Yes

This tension is quite pronounced in the case of Greenius, the original owners of which were generally composed of greenhorns who had to deal with the challenge of keeping the business viable even as they attempted to create additional social value. In the case of the owners of Bayani Brew, it is quite clear to them that the social objective takes precedence. This explains their decision not to receive compensation for their efforts, in the meantime, as the business approaches the take-off stage. For them, especially Ron Dizon (who left a lucrative IT career in a multinational company), the greater return on their investment is non-monetary. "If I would work X hours a week, I might as well do it for something more meaningful," says Ron. They realize, though, that the social value created by Bayani Brew cannot be sustained without a viable business model.

The tension is less pronounced in the case of ECHOstore, which seems to have found a way to effectively address both financial and social objectives when it decided to create the ECHOsi Foundation. The ECHOstore / ECHOsi structure is unique in the sense that the social programs undertaken by ECHOsi, with the support of institutional partners, directly feed into the retail business of ECHOstore. However, ECHOstore, as a distinct entity, is insulated from the challenges of running a social program, and could focus on daily business concerns. It helps that the ECHOtrio all have extensive business and / or entrepreneurial backgrounds before they established ECHOstore. They brought with them a wealth of expertise that allows them to effectively engage in supplier relations, product development, inventory management, and market development, among others. Their business network and stature in the business community have also allowed them to leverage on the resources of other groups that believed in, and supported, their unique business and social proposition.

Clearly, ECHOstore has been most successful in utilizing the strategies proposed by Dees and Anderson. And perhaps, this is the reason why, among the three social enterprises, it is also the only one that claims to be profitable. The business is also growing as evidenced by its retail outlets in Quezon City, Cebu, and Davao. However, ECHOstore will only expand further if it finds like-minded people who subscribe to the sustainable living. Says Chit Juan: “It’s not about the money. It’s the lifestyle. This is about walking the talk” (personal communication, November 22, 2013).

RECOMMENDATIONS

Drawing from the insights generated from the experiences of the three social enterprises, we present the following recommendations to social enterprise owners / managers, policy makers, and other researchers.

For Social Enterprise Owners / Managers

Social enterprises are more likely to succeed when they work closely with other groups in fulfilling their social mission. This means that they must be open to collaborative arrangements with other businesses, government agencies, or NGOs, especially those that bring along resources and expertise that the social enterprise might not have. Bayani Brew’s experience shows how it benefits from its association with other social enterprises affiliated with Gawad Kalinga, and how synergies could be generated when they engage in joint activities.

Needless to say, social enterprises must be managed by people who have the qualifications and / or the experience in running a business. For those established by young entrepreneurs, there must be mechanisms to speed up the learning curve (e.g. training programs, mentorships) that will enable them to gain the basic competencies needed to run various aspects of the business, from production to marketing; and from human resource management to finance. It also helps to be part of a community of like-minded people who can serve as a support group for these young social entrepreneurs, something that is found in the GK Enchanted Farm.

For Policy Makers

Government can most effectively help social enterprises by creating an ecology of support for enterprises that attempt to address specific community needs. The burden of creating social value is, thus, shared by several concerned players, making it easier for the social enterprise to achieve its dual objectives.

Through the Great Women Project of the Philippine Commission on Women (PCW), for example, the government provided funding and institutional support for the ECHOsi Foundation to develop the business skills of women entrepreneurs. This means that ECHOstore itself does not have to carry the financial burden of providing grassroots training, but still provides social value by providing women entrepreneurs in the rural areas market access for their products. This successful partnership should be used as a model by other government agencies tasked to support small and medium enterprises (SMEs), which would include a majority of social enterprises.

Government must also provide support to initiatives such as the GK Enchanted Farm in Bulacan, which has served as a business incubator for several emerging social enterprises. A similar business incubator for social enterprises can, perhaps, be replicated in another province in Visayas or Mindanao, and be designated as a special economic zone that provides facilities and incentives to business locators.

For Other Researchers

While our study provides empirical support for the propositions of Dees and Anderson (2002) and illustrations of Alter's (2006) social enterprise models, it would not hurt to do more case studies, especially about social enterprises based in the Visayas and Mindanao, to determine whether similar insights will be generated by additional cases operating in different contexts. It might be worth testing too whether the following variables that we uncovered in our study are indeed important factors in the success of social enterprises: (a) business acumen of social enterprise owners / managers, (b) collaboration with other groups, and (c) ecology of support.

Since most of the social enterprise research, so far, are qualitative in nature, the insights generated could not be generalized to a bigger population. This will require a sample survey that will allow scholars to better understand the profiles, practices, challenges, concerns, structures and strategies of social enterprises in the Philippines.

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THE PROPERTY TAX DEDUCTION - IMPACT ON GOVERNMENTS AND TAXPAYERS

Tina Owens, Valdosta State University
Raymond J. Elson, Valdosta State University

ABSTRACT

With an increasing federal deficit, lawmakers are looking at alternative revenue sources to help reduce it. One such source is the approximately $182 billion that would be saved by eliminating the deductibility of local real estate property taxes. This deduction is facing critics who believe that the property tax deduction simply subsidizes local government for their excessive spending while passing on the tax burden to the federal government. The authors believe that all revenue generating sources should be explored by policy makers, including the elimination of the property tax deduction. The paper explores the impact this decision could have on homeowners, taxpayers, and local governments.

INTRODUCTION

With the federal debt at an all-time high and policy makers wanting to broaden the tax base in exchange for lower marginal tax rates, legislators continuously look at tax reform, specifically, deductions for mortgage interest, state and local taxes, and charitable contributions, to serve their purposes. For decades there has been much debate about the possibility of eliminating certain state and local taxes, to include state and local income taxes, real estate and personal property taxes, and general sales taxes. While at a quick glance we see that these eliminations could reap great monetary benefits for the federal government, a closer look will reveal that there is more at stake than just the revenue gained. This paper examines the ways different constituents are affected by the deductibility of real estate property taxes and whether eliminating this tax provision is a viable option.

BACKGROUND

The Revenue Act of 1913 was enacted during Wilson's presidency, and created the first federal income tax, substantially replacing the revenue that was being acquired from tariffs with revenue acquired by taxing an individual's income. The Revenue Act of 1913 allowed itemized deductions for taxes paid, to include almost any tax paid during the year.

In 1944, the standard deduction was introduced in the Individual Tax Act, as income taxes were becoming more standard for everyone, instead of only the wealthy. It offered a tax break to those middle and lower class taxpayers who did not have substantial deductions to itemize. Itemized deductions grew between 1947 and 1979 and included deductions for items such as state and local taxes, certain interest paid, charitable contributions, and special health expenses. The revenue gained from these itemized deductions was diminished somewhat by the also growing standard deduction, because taxpayers were benefiting more from the amount received in the standard deduction than what they received when they itemized. In 1986, the Tax Reform Act of 1986 (TRA86) was introduced, which eliminated or amended some of the tax deductions, including the temporary elimination of the state and local sales tax deduction and restrictions on the home mortgage interest deduction (CBO, 2008).

BENEFICIARIES OF THE PROPERTY TAX DEDUCTION

Currently the Internal Revenue Service allows an individual to deduct taxes paid for real estate and personal property. The amount a taxpayer saves in federal taxes is found by multiplying the amount being deducted by their marginal tax rate. Maguire & Stupak (2015) noted that there is a strong correlation between individuals with higher income and property ownership with greater values, as well as higher income correlating with higher tax brackets. This means the amount of taxes a taxpayer pays on their property will be higher because of progressive state taxes, allowing them a larger deduction, which is then multiplied by a higher marginal tax rate, resulting in more of a tax savings than those with lower incomes. However, for incomes over $200,000, the tax savings decline because those taxpayers are subject to the Alternative Minimum Tax (AMT), which disallows the property tax deduction.

In order to take advantage of these deductions, the taxpayer must itemize their deductions, rather than take the standard deduction. They would only itemize if they can claim enough deductions for the itemization to be higher than the standard deduction, and this also usually applies to those in the higher income ranges. As shown in Table 1, when the adjusted gross income range is between $0 and $25,000, the percent of taxpayers itemizing is less than 10%. Between $25,000 and $50,000, the percent of taxpayers increases to between 13% and 30%. Between $50,000 and $100,000, about 50% of taxpayers itemize. Finally, just under 80% of all taxpayers who make over $100,000 itemize their deductions, with that percentage increasing substantially as the AGI increases (Statistics, 2013). Clearly, the real estate property tax deduction disproportionately benefits high-income taxpayers at the expense of low-income taxpayers (Lundeen, 2013).

Table 1

Size of Adjusted Gross Income	Number of Total Returns	Number of Itemized Returns	Percent of Itemized Returns	Amount of Total Deductions
All returns, total	**147,351,299**	**44,330,496**	**30.08%**	**$1,188,594,808**
No adjusted gross income	2,113,013	0	0.00%	0
$1 under $5,000	10,608,111	352,950	3.33%	5,784,355
$5,000 under $10,000	12,030,388	434,830	3.61%	6,686,603
$10,000 under $15,000	12,503,345	742,962	5.94%	10,929,550
$15,000 under $20,000	11,621,535	902,415	7.77%	13,572,230
$20,000 under $25,000	10,125,285	988,360	9.76%	15,428,954
$25,000 under $30,000	8,809,515	1,211,423	13.75%	18,917,966
$30,000 under $40,000	14,473,606	2,886,977	19.95%	45,354,288
$40,000 under $50,000	11,279,394	3,292,604	29.19%	53,069,189
$50,000 under $75,000	19,229,309	8,015,510	41.68%	142,513,575
$75,000 under $100,000	12,574,107	7,356,600	58.51%	150,184,183
$100,000 under $200,000	16,425,446	12,950,515	78.84%	333,749,044
$200,000 under $500,000	4,488,110	4,208,986	93.78%	187,351,081

$500,000 under $1,000,000	724,251	668,727	92.33%	59,933,251
$1,000,000 under $1,500,000	156,269	142,203	91.00%	23,112,957
$1,500,000 under $2,000,000	64,235	58,573	91.19%	12,986,625
$2,000,000 under $5,000,000	91,128	83,993	92.17%	32,815,865
$5,000,000 under $10,000,000	21,412	20,375	95.16%	17,636,345
$10,000,000 or more	12,839	12,493	97.31%	58,568,747

Source: Internal Revenue Service, Statistics of Income - Returns with Itemized Deductions by AGI; http://www.irs.gov/uac/SOI-Tax-Stats---Individual-Statistical-Tables-by-Size-of-Adjusted-Gross-Income; Table 1.2 - 2013

PROPERTY TAX IMPACT ON VARIOUS CONSTITUENTS

Federal Government

A report prepared by the Joint Committee on Taxation defines tax expenditures as revenue losses attributable to provisions of the federal tax laws which allow a special exclusion, exemption, or deduction from gross income, or which provide a special credit, a preferential rate of tax, or a deferral of tax liability. Tax expenditures include any reduction in income tax liabilities (Joint, 2013). Toder et al. (2013) identified the top five permanent tax expenditures for owner-occupied housing. Listed at number three was the deductibility of state and local property taxes at $30.6 billion (based on the 2010 federal budget).

State and local taxes, including property taxes, are one of the biggest deductions taken by taxpayers. According to the Joint Committee on Taxation (2014), $182 billion will be lost revenue between 2014 and 2018 due to property tax deductions. Not taking into consideration the other effects that might come into play, such as behavior changes or a rise in the use of other non-deductible taxes and fees, this is a large amount that policy makers often use to promote the repeal of property tax deductions.

Feldstein & Metcalf (1987), however, argue that the actual amount of gained revenue from eliminating state and local tax deductions could be lower than what is estimated. When taxpayers are allowed to deduct taxes paid from their adjusted gross income, they develop the perception that the cost of their property is lower. It is possible that eliminating a tax deduction at the federal level could cause taxpayers to change their spending habits in ways that would lower the amount of taxes they pay on their property in order to achieve the same lower cost. If state and local governments aren’t raising enough revenue through the property taxes, they will turn to financing their spending with non-deductible taxes and fees. Many of these non-deductible taxes and fees come from higher taxes and fees to corporations, which have a larger impact on federal revenue than individual income taxes. This means that even though federal revenue will be increased by eliminating the property tax deduction, if you take into account the revenue lost due to the higher taxes imposed upon corporations, the amount gained is not nearly what it looks like at a glance.

There is also the issue of tax rate stability. Policy makers use tax reform as a way to generate revenue for the federal budget. Sometimes, instead of raising the tax rate, tax reform will broaden the tax base. For example, eliminating the deduction for property taxes does not involve a raise in the federal tax rate, but would gain more revenue due to individuals having greater taxable income because of the loss of the deduction from their adjusted gross income.

This means that the tax rate stays stable, yet the federal government can collect more in revenues.

State and Local Governments

Property taxes constitute the largest source of a local government's own revenue. According to the Tax Policy Center, approximately 76 percent of the local revenue in the United States in 2013 was derived from property taxes (Tax, 2013). This is illustrated in Table 2. These taxes pay for expenditures toward education, roads and highways, police protection, and utilities.

Table 2
LOCAL PROPERTY TAXES AS A PERCENTAGE OF TOTAL LOCAL TAX REVENUE, SELECTED YEARS 2009-2013

State	2009	2010	2011	2012	2013
United States	**80.5%**	**79.7%**	**77.5%**	**75.9%**	**76.0%**
Alabama	40.6	38.5	38.2	39.0	40.1
Alaska	78.6	80.0	79.8	80.3	79.3
Arizona	81.8	80.5	79.5	79.1	75.9
Arkansas	90.9	90.4	89.9	90.1	89.0
California	85.2	84.8	70.9	69.2	69.7
Colorado	75.9	73.5	71.8	69.3	68.7
Connecticut	99.1	99.0	98.9	98.9	98.8
Delaware	85.0	84.9	86.7	87.2	86.5
District of Columbia	22.4	23.4	24.2	23.3	24.8
Florida	84.4	84.1	83.0	81.4	81.9
Georgia	81.3	79.1	76.2	72.9	72.5
Hawaii	80.1	79.6	80.3	79.4	77.0
Idaho	97.3	96.8	97.1	96.4	96.3
Illinois	81.9	80.6	80.2	77.1	74.0
Indiana	96.6	96.2	95.3	95.0	96.1
Iowa	96.9	97.8	96.0	97.9	98.1
Kansas	94.1	93.5	92.9	92.0	91.4
Kentucky	66.9	58.0	56.9	56.5	55.9
Louisiana	48.5	45.0	40.8	41.0	39.3
Maine	99.3	99.3	99.3	99.4	99.4
Maryland	65.1	64.7	62.2	59.8	60.5
Massachusetts	99.4	99.1	99.3	99.3	99.2
Michigan	91.6	91.4	91.5	92.3	93.2
Minnesota	96.0	95.8	95.6	95.3	95.3
Mississippi	94.5	94.6	94.4	94.1	94.0
Missouri	69.8	67.9	65.4	64.2	62.5
Montana	96.1	96.5	96.4	96.9	97.3
Nebraska	93.3	91.6	91.2	90.1	89.5
Nevada	67.5	66.5	66.4	61.1	63.8

New Hampshire	98.1	98.1	98.3	98.3	98.4
New Jersey	90.1	89.0	88.5	87.5	97.8
New Mexico	81.7	79.1	77.1	74.0	72.2
New York	68.4	67.9	67.7	64.9	63.0
North Carolina	82.4	81.8	81.1	81.1	81.6
North Dakota	96.5	95.7	96.4	95.8	96.7
Ohio	76.3	74.6	73.4	72.7	72.3
Oklahoma	70.0	65.9	65.3	63.2	59.9
Oregon	92.3	91.1	89.6	89.7	90.7
Pennsylvania	66.2	66.0	65.8	63.6	65.4
Rhode Island	99.1	99.1	99.0	99.0	99.1
South Carolina	93.2	93.1	93.1	92.6	91.8
South Dakota	90.6	89.8	89.3	88.5	87.8
Tennessee	67.9	66.1	64.2	64.3	67.4
Texas	85.8	85.0	84.3	83.5	83.6
Utah	81.8	77.8	77.7	77.7	77.3
Vermont	98.7	99.0	99.4	99.3	99.3
Virginia	69.0	68.6	67.9	67.5	68.5
Washington	69.9	69.2	66.9	62.4	61.7
West Virginia	81.8	81.0	80.7	80.1	79.6
Wisconsin	98.7	98.3	98.5	98.4	98.5
Wyoming	92.0	89.7	88.4	87.4	86.8

Source: Tax Policy Center - Local Property Tax as a Percentage of Local Tax Revenue; http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?DocID=518&Topic2id=90&Topic3id=92

While eliminating the property tax deduction does not take away from the amount of tax dollars collected on real property, it may cause behavioral changes, as mentioned earlier. Taxpayers may decide to buy a smaller home, a less expensive car, or decide against a boat entirely, simply because they are no longer receiving a benefit from the taxes they are paying on those assets. If their behavior results in lower property taxes collected, the local governments could be largely impacted. The reverse also applies – if a taxpayer is getting a deduction for their property taxes paid, they might be more apt to spend their savings on other state and local initiatives such as education.

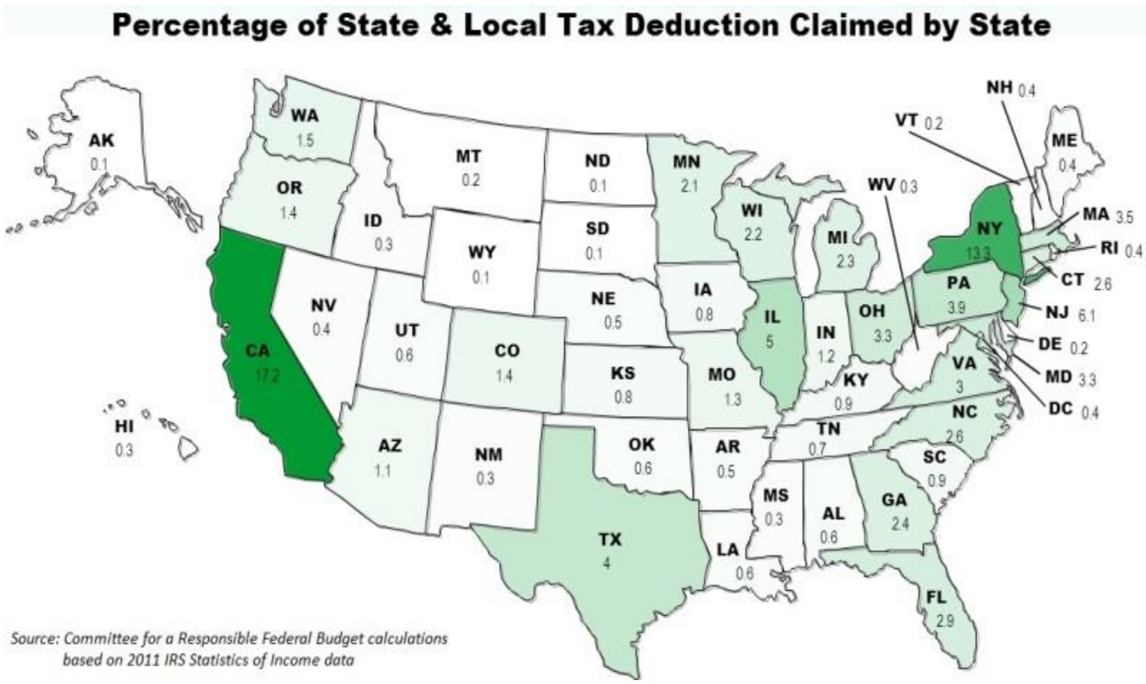
States rely more on income and sales taxes for their source of revenue, so the change in behavior won't be as impactful as it will be for local governments. In order to make up for the lack in revenue from deductible taxes, state and local governments will have to raise their tax rates or rely more heavily on non-deductible taxes.

The Congressional Budget Office (2008) noted that the property tax deduction serves as a type of subsidy to the state and local governments. The state and local governments keep every dollar of the tax revenue they bring in, but the residents do not bear the full burden of those taxes because the deductions for those taxes that they paid lower their federal tax liability. For example, if a taxpayer in the 28 percent tax bracket pays $100 in property taxes to their local government, they will be able to deduct $28 from their federal taxes. This suggests that essentially the taxpayer paid $72 to their local government and the federal government paid $28. States that have higher incomes or higher tax rates will receive a larger subsidy from the federal government than the lower income states. These state and local governments can then fund projects that may not have a value equal to or greater than the cost of the project, but because the federal government is essentially paying for a portion of it, their cost is lower, making the value seem better. For example, if a city wants to build a parking garage that costs $1 million but only has a value of $900,000, it is not an economically sound decision. But if that city relies on taxes that are deductible, and the federal government is allowing deductions at an average of 25%, then the cost of the garage to the city is now only $750,000, which makes it a great investment for them, but is harmful when looking at the nationwide picture (Greszler & Dayaratna, 2015).

Heim & Abbas (2015) point to the theory of perception in discussing the deductibility of real property taxes. When taxpayers are able to deduct their taxes paid from their federal income tax, they have a perception of cost savings. This allows states to levy higher marginal tax rates to support their spending, with the taxpayers believing that they are not spending more, because they know they will be able to deduct their paid taxes. The changes states make to their tax rates have a direct effect on federal revenues. If a state raises taxes and a taxpayer is allowed to deduct more in taxes paid from their federal income, the federal government loses more revenue from the expenditure of those deductions. Also, if a state lowers their tax rate, taxpayers deduct less and federal revenue goes up. Therefore, the higher the marginal tax rate at a state or local level, the higher the expenditure the federal government will have in property tax deductions, and the lower their revenue will be. This encourages the federal government to then raise the federal marginal tax rate. The higher federal marginal tax rate applies to every taxpayer, in every state, regardless of income. All taxpayers will pay more in federal taxes.

Therefore, states and local governments are affected by the amount of taxes collected in other states if those taxes are then being deducted from federal income (Horpedahl & Searles, 2014). When taxpayers from high income/high tax rate states deduct their paid taxes, and the federal government decides to raise the marginal tax rate, those in the lower income/lower property tax rate states get punished. They are already not getting the same kind of deductions on their federal taxes, and now their taxes are going up to help offset the deductions taking place in the wealthier states. This relationship is illustrated with the US map in Table 3 (Kapur, 2014). As noted within, California and New York are high tax states and so their citizens receive the highest benefit from property tax deduction (17 percent and 13 percent respectively). The other states have much lower percentages of deductions, many less than 1 percent, yet the citizens are paying the same marginal tax rates.

Table 3



School Districts

The primary income sources for school budgets are local assessed property taxes, state subsidies, and Federal government subsidies. A report by the National Center for Education Statistics noted that in fiscal year 2012, school districts reported $600.4 billion in total revenues. The Federal government contributed $61.0 billion or 10.2 percent of all revenues, state governments accounted for $271.4 billion or 45.2 percent of all revenues, and local governments provided $267.9 billion or 44.6 percent of all revenues (Cornman, 2015).

Riddle (2011) discusses the impact that the deductibility of state and local income taxes has on the education system. He suggests that taxpayers are more apt to take part in initiatives such as college savings, higher education, or payment of education services if they know these acts will later produce benefits on their federal tax return. This indirect subsidy can have a notable impact on the education system and if taken away, could result in decreased revenue for public education. In addition, Riddle (2011) points out that those states that receive the highest amount of state and local tax deductions also tend to be the same states that are raising above average revenues for K-12 education; likewise, the states that have the lowest average deductions of state and local income taxes are bringing in lower than average revenues. This impact tends to be felt on a larger scale in the states that have higher income and higher taxes (Riddle, 2011).

Taxpayers

One reason for support of the deductibility of property taxes is that it avoids the issue of double taxation. Property is taxed at the state and local level, which, when paid, reduces the amount of discretionary income. Supporters of the deduction claim that taxpayers should not be taxed on income that was already paid to the state or local government for property taxes.

However, because the property tax deduction is only available to those who itemize, 69% of taxpayers in 2012 did not even benefit from the deduction (Table 4). Those individuals are already paying double taxes on their income. Of the other 31%, almost all of them claimed the property tax deduction. As mentioned earlier, those with higher incomes pay higher taxes and are in a higher tax bracket, making the amount of their deduction higher. This means that lower income individuals do not benefit from the deduction the same way that higher income individuals do. There are many supporters of the property tax deduction being eliminated who want to see it gone simply for reasons of equality (Liebschutz & Lurie, 1986).

Table 4
INDIVIDUAL TAX RETURNS WITH ITEMIZED DEDUCTIONS

Tax year	Total number of returns	Returns with Itemized Deductions	Percent of Total Returns	Real estate taxes	Percent of Itemized Returns
2004	132,226,042	46,335,237	35%	40,457,920	87%
2005	134,372,678	47,755,427	36%	41,310,587	87%
2006	138,394,754	49,123,555	35%	42,584,481	87%
2007	142,978,806	50,544,470	35%	43,604,421	86%
2008	142,450,569	48,167,223	34%	41,643,497	86%
2009	140,494,127	45,695,736	33%	39,987,898	88%
2010	142,892,051	46,644,509	33%	40,982,684	88%
2011	145,370,240	46,293,834	32%	40,138,213	87%
2012	144,928,472	45,581,697	31%	39,251,103	86%
2013	147,351,299	44,330,496	30%	37,803,131	85%

Source: Column B from Internal Revenue Service, Statistics of Income - Individual income tax returns filed; Table 1.1
Source: Columns C, E, & G from Internal Revenue Service, Statistics of Income - Individual income tax returns with itemized deductions; Table 2.1; http://www.irs.gov/uac/SOI-Tax-Stats---Individual-Statistical-Tables-by-Size-of-Adjusted-Gross-Income

However, the US tax system as a whole is highly progressive and disproportionately impacts the top 20% of taxpayers who pay more than 80% of income taxes (Saunders, 2015). On the other hand, the bottom 20% have a negative tax rate, i.e., they receive in tax credits than they pay in taxes (Desilver, 2016).

The issue of fairness in the tax system is an area of concern for many. However, reaching a consensus is quite challenging since some taxpayers argue for even higher rates on the top 20%, and other for flatter tax rates. The impact of tax revenue on the federal government will depend on the political climate and the personal situations of taxpayers. According to Desilver (2016), based on 2014 adjusted gross income, the top 2.7% of taxpayers paid approximately 52% of individual income taxes, while the lower 62% only contributed 5.7% of total taxes. Clearly, the income lost from the lower taxpayers will not have a large impact on federal revenue.

REFORMING THE DEDUCTION

The public, and hence policymakers, are interested in reducing tax expenditures, especially the favorable treatment of real estate taxes. However, policymakers are moving slowly towards a decision in order to satisfy their various constituents. It is clear that maintaining the status quo is not an option since the public is asking for change. A survey on property tax deductions conducted by the National Journal of 1,001 adults noted that 42% of respondents favored limiting it for all owners, 19% supported reducing it for high-income households and 31% recommended no change in the system (Harney, 2012).

There have been many solutions discussed, most of them being more middle of the road options, instead of allowing or repealing property deductions altogether. One solution would be to take the revenue the federal government gains from eliminating the deduction and use it to lower the marginal tax rate (Grezler & Dayaratna, 2015). This is something that everyone, regardless of income, would benefit from, instead of allowing the wealthy to become even wealthier. Gravelle & Lowry (2015) offer four suggestions, to include putting a dollar cap on the deduction, restricting the deduction to a certain percentage of adjusted gross income, limiting the marginal tax rate of the deductions taken, and placing a floor at which the deduction can be taken. Rueben (2005) suggests eliminating or making changes to the current AMT tax policy.

CONCLUSION

It is evident that allowing the deduction for property taxes benefits some homeowners and not others. As noted in the paper, only approximately one-third of the total tax filers have the opportunity to claim the property tax deduction because they are the percentage that itemize their deductions. Most low-income households do not itemize and therefore forego the deduction. Therefore, some property owners may not get to claim the deduction even though they pay taxes, since they are unable to itemize. Higher-income households obtain the largest benefit and have no limit on the amount they can deduct.

Policy makers are exploring various tax expenditures in an attempt to reduce the federal budget deficit. The deficit is growing and these tax expenditures, if eliminated or reduced, could bring in extra revenue to the federal government. However, the effect of these property tax deductions will be concentrated on the local level of government because this is their main source of revenue. Most importantly, it affects the school districts to an even greater extent. The majority of the schools’ funding comes directly from property taxes. Many argue that eliminating the deduction will decrease property tax revenues and eventually decrease the value of education. In addition, the progressive nature of the tax system could potentially negatively affect the work/earnings motivation of top earners as well as have a negative impact on home sales and the housing market if the property tax deduction is eliminated.

A budget can be balanced in one of two ways – by increasing revenue or reducing expenditures. The authors support Harney (2014) and others who believe that the property tax deduction should be eliminated for all tax payers since most taxpayers will not see a major tax increase. Perhaps this change will encourage local governments to become better stewards of tax revenues, since citizens, having lost their tax deduction, will be unwilling to fund excessive spending through tax increases.

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USING CAFRS TO ESTIMATE THE COSTS OF CORPORATE MISCONDUCT ON SOCIETY A FRAMEWORK FOR CIVIC ACTION

Shirley A. Hunter, University of North Carolina at Charlotte

ABSTRACT

This study uses the event study methodology to question whether public officials in Massachusetts adjudicated a reasonable settlement under Section 102A ½ (d) of Massachusetts General Laws, Chapter 266, Crimes Against Property, against the Turner Broadcasting Company. It uses statistical information disclosed in the Comprehensive Annual Financial Reports (CAFRs) of Massachusetts to measure the impact of a corporate misdeed on society. In 2007, the Turner Broadcasting Company violated Massachusetts state laws by carrying out a guerilla marketing campaign which resembled a terrorist threat. The advertising hoax created mayhem in Boston, Cambridge, and Somerville resulting in the untimely provision of public services to citizens. Turner Broadcasting Company made immediate restitution of $2 million to Massachusetts. The results from applying algorithm measures to statistical data reported in the CAFRs, provide evidence that Massachusetts accrue $1,999,341 in state expenditures and loss productivity to remediate the event; thus the settlement of $2 million was reasonable. This study has practical application for policymakers and the general public, it demonstrates the value-relevance of the CAFRs and how they could be used to estimate the costs of corporate misdeeds on society.

Keywords: *CAFRs; public information; guerilla marketing; viral advertising*

INTRODUCTION

What is the cost to society when corporations misbehave? At what level of the corporate hierarchy is management deemed accountable for third parties' agreements which violate the public trust? This study provides a framework which government officials and accounting and legal professionals could use to estimate the costs of corporate or any misconduct on society. Public records, such as the Comprehensive Annual Financial Reports (CAFRs), provide detailed financial and statistical information on local, state, and federal governments operations which are publish annually on their websites. This is the first study to empirically use statistical data disclosed in the CAFRs to measure the effects from a guerilla marketing campaign on society. Guerilla marketing (Levinson, 1984) is defined as the art of being able to execute marketing activities, using unconventional tactics to elicit consumer interest at minimum costs to the advertisers. The majority of guerilla marketing is stage in public places (Cova and Saucet, 2014); hence, if sites are not properly researched (Zuo and Veil, 2007) before execution, pandemonium could result.

On January 31, 2007, a guerilla marketing campaign financed by the Turner Broadcasting Company, a subsidiary of Time Warner Company, created mayhem in Boston and its surrounding communities when an advertising hoax was classified as a suspected terrorist threat. Following immense media coverage and finger pointing, a deal was announced in which Turner Broadcasting agreed to pay $2 million to reimburse state, federal, and local law enforcement agencies for the cost of responding to the threat (Zuo and Veil, 2007). As part of the settlement, the Turner Broadcasting Company was resolved of all criminal and civil claims.

The ordeal surrounding the Turner Broadcasting Company's advertising hoax is the object of this study. This research uses the event study methodology to demonstrate how citizens access to public and emergency services in the affected areas were severely compromised. It shows that Turner Broadcasting Company paid a reasonable settlement of $2 million in retribution to Massachusetts to offset remediation expenses incurred of $1,999,341. Thus, this study has practical application for policymakers and the general public; it presents a framework which can be used to estimate the social costs for corporate as well as individual acts which are detrimental to society.

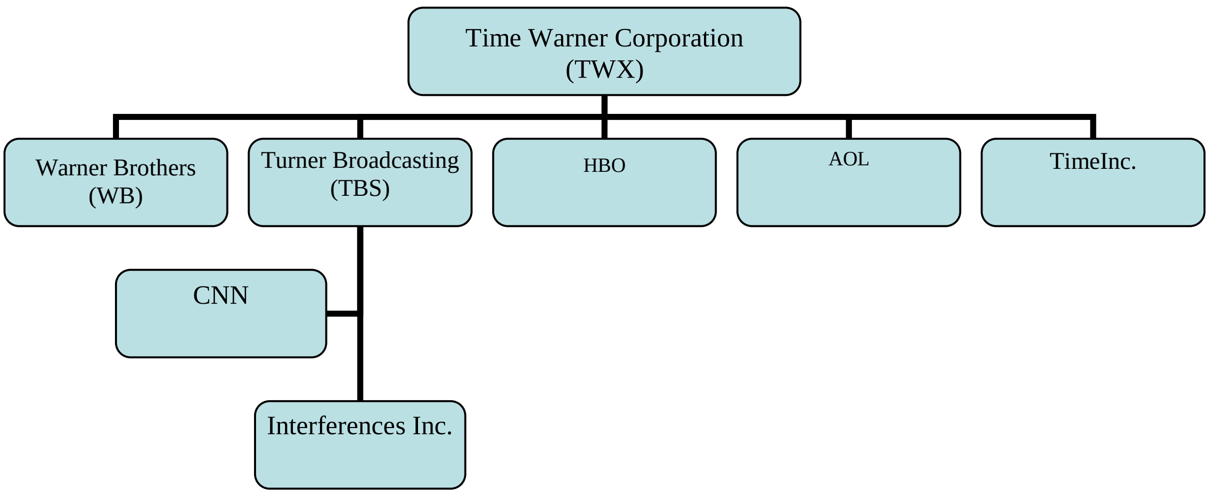
Corporate governance is increasingly becoming a topic of interest by scholars and practitioners in public administration (Becht, Bolton, and Röell, 2005). The term corporate governance is derived from an analogy between the governments of cities, nations or states and the governance of corporations (Becht et al., 2005). Corporate governance refers to a framework of rules, processes, or laws controlling an entity's operations (Becht et al., 2005). Governance policies are designed by internal and external stakeholders and senior management is responsible for their enforcement. Corporations should ensure that their employees and third parties doing business with them adhere to a code of professional conduct which supports their governing philosophy. This study, involving Turner Broadcasting Company's guerilla marketing campaign, demonstrates that a corporation deemed to have a high standard of corporate social responsibility may knowingly agree to a deceptive practice to promote a brand.

Levinson (1984, 1999) coined the term guerilla marketing and defines it as designing unconventional systems of extreme advertising that rely more on time, energy, and imagination to target consumers at minimal costs to the promoters. He further states that the innovative approaches to guerrilla marketing utilize cutting edge technologies to create a memorable brand experience. Typically, guerilla marketing campaigns are interactive and consumers are targeted in unexpected places. Guerilla marketing tactics have become vogue due to the advent of the social media networks. A variety of Fortune's 500 are using guerilla marketing tactics, including Unilever, Microsoft, Sony, and Ford, to enhance their brand image (Van der Lans, Van Bruggen, Eliashberg, and Wierenga, 2009).

The guerilla advertising campaign financed by Turner Broadcasting System involved hiring a third party, the Interference Company, to place electronically wired devices under bridges and other obscure public locations throughout the three municipalities of Boston, Cambridge, and Somerville (Boston Globe, 2007; Driscoll, 2007). The campaign went awry because many of the citizenry reported the presence of the foreign objects to local fire and police departments. These departments responded by initiating high alert safety procedures which were constantly broadcast by the local media. For six intense hours on January 31st, 2007, travel between and within the three municipalities was halted as investigations were conducted. In the end, after sheer pandemonium, the local news announced that they had received a communication from Time Warner, stating that what had ensued was in fact a hoax designed to introduce a television show.

The late admittance of responsibility for the advertising event was not in the public interest. Boston is the originating site of two of the hijacked 9/11 flights, so citizens may have a heighten sense of awareness about public security (Zuo and Veil, 2007). Throughout the event day, the story of the suspected terrorist threat was one of the wired headlines carried by Reuters, CBS, and ABC, which are news dispatchers to CNN[1]. As shown in Figure 1, CNN is the cable news network owned by the Time Warner Company. From a public interest perspective, this study argues that news of the advertising debacle should have been more timely communicated through the corporate hierarchy resulting in an immediate decision by management to suspend the promotion.

Figure 1
The Time Warner Corporation



Time Warner is a leading media and entertainment company, its business segments include Turner Broadcasting System, Inc., Warner Brothers, TimeInc., HBO, and AOL.

The remainder of this study is organized as follows. Section II presents prior literature on corporate ethics, background information on the laws in Massachusetts which protect public and private property, and a demographic profile of the citizens in the affected communities. Section III discusses the research methodology and develops the set of suppositions about the timely provisions of public services. In Section IV, the Comprehensive Annual Financial Reports provide the data and contains a discussion of the results. Section V provides the concluding remarks.

LITERATURE REVIEW AND PUBLIC INFORMATION

Literature Review

Past ethics-related research includes studies such as Blazovich and Smith (2011), which examine the relationship between ethical corporate citizenship and financial performance and the existence of a market premium for ethical corporate conduct over a four year period (2000 to 2003). Their sample data consist of the top 100 ethical firms identified by the *Business Ethics* magazine. The sample was matched to a control group of firms based on a number of accounting-based performance measures. Time Warner was one of the media and communication firms recognized by *Business Ethics*; its two-digit SIC code 48, represented

1.89% of the sample. Blazovich and Smith (2011) concluded that firms deemed ethical by independent assessors are perceived as been less risky by investors; thus, they enjoy a lower cost of capital than their counterparts.

A firm specific ethics-related study by Mobus (2012) scrutinized corporate social responsibility (CSR) reporting by British Petroleum (BP) in the aftermath of an environmental disaster that occurred on April 20, 2010. An explosion on the BP Deepwater Horizon rig resulted in the spillage of over 4.9 million barrels of crude oil into the Gulf of Mexico and the death of a number of rig employees. Drawing on prior literature examining financial transparency in capital markets, Mobus (2012) questioned whether voluntary CSR reporting satisfies the tenets of full disclosure for public investors. In the eight day event window following the disaster, Mobus (2012) performed a comparative analysis of 45 media articles published by seven newspapers to information voluntary disclosed by BP to test for transparency. The analysis was organized around the three themes which normally guide CSR reporting of economics, environmental, and social performance. The intent was to determine the accuracy of BP's theme base CSR reporting. Mobus (2012) conclusions suggest that voluntary CSR disclosure by BP provided them with too much leeway for self-promotion rather than self-reflection or accountability for their actions. A subsequent investigation by an independent commission revealed that refinery exploration accidents have plagued BP for decades, thus not consistent with BP's professed commitment to safety and risk management in its CSR reports (Mobus, 2012).

Prior ethics related literature shows that corporations strategically manage their public image. Reputational capital in contrast to earned capital can be easily swayed by public investors. Most likely, the subscribers to the *Business Ethics* magazine constitute a distinguish group of investors who limit their investment decision to socially responsible firms (Mobus, 2012). The oil and gas industry is under constant pressure by public interest groups, so BP was managing its corporate image by voluntary disclosing selected CSR information to public investors (Blazovich and Smith, 2011). Time Warner, the company of interest to this study, took swift action to mitigate a public outcry against its advertising hoax. As social media evolves, public awareness of corporate-ethics could increase and possibly influence the investment decision.

Massachusetts General Laws, Chapter 266, Crimes against Property

Prior literature states that the most common pitfalls of guerilla marketing are trespassing on private property, defacing private or public property and not getting the proper permits or forewarning local authorities of the activities (Zuo and Veil, 2007). Massachusetts General Laws, Chapter 266, contain147 Sections governing crimes against public and private property. Chapter 266, Section 102, provides broad guidance on crimes involving the willful throwing or placing of explosives at or near persons or property or the unlawful possession of such items. It states individuals engaging in such acts shall be punished by imprisonment in the state prison for not more than twenty years, or in the house or correction for not more than two and one half years, or by a fine of not more than twenty-five thousand dollars, or both. Section 102A½, a refinement, specifically outlines the penalty for the possession, transportation, use or placement of hoax devices. Section 102A½ states as follows:

(a) Whoever possesses, transports, uses or places or causes another to knowingly or unknowingly possess, transport, use or place any hoax device or hoax substance with the intent to cause anxiety, unrest, fear or personal discomfort to any person or group of persons shall be punished by imprisonment in a house of correction for not more than two and one-half years or by

imprisonment in the state prison for not more than five years or by a fine of not more than $5,000, or by both such fine and imprisonment.
(b) For the purposes of Section 102A½, the term "hoax device" shall mean any device that would cause a person reasonably to believe that such device is an infernal machine. For the purposes of Section 102A½, the term "infernal machine" shall mean any device for endangering life or doing unusual damage to property, or both, by fire or explosion, whether or not contrived to ignite or explode automatically. For the purposes of this Section 102A½, the words "hoax substance" shall mean any substance that would cause a person reasonably to believe that such substance is a harmful chemical or biological agent, a poison, a harmful radioactive substance or any other substance for causing serious bodily injury, endangering life or doing unusual damage to property, or both.
(c) Section 102A½ shall not apply to any law enforcement or public safety officer acting in the lawful discharge of official duties.
(d) The court shall, after a conviction, conduct a hearing to ascertain the extent of costs incurred, damages and financial loss suffered by local, county or state public safety agencies and the amount of property damage caused as a result of the violation of Section 102A½. A person found guilty of violating Section 102A½ shall, in all cases, upon conviction, in addition to any other punishment, be ordered to make restitution to the local, county or state government for any costs incurred, damages and financial loss sustained as a result of the commission of the offense. Restitution shall be imposed in addition to incarceration or fine; however, the court shall consider the defendant's present and future ability to pay in its determinations regarding a fine. In determining the amount, time and method of payment of restitution, the court shall consider the financial resources of the defendant and the burden restitution will impose on the defendant.

In accordance with Massachusetts General Laws, Chapter 266, Crimes against Property, the two individuals, Berdovsky and Stevens, hired by interference to carry-out the guerilla marketing campaign were arrested in the evening by the Boston Police. They were charged with violating Section 102A½ (a) and (b), which makes it a crime to place a “hoax device” with the intent to incite the public. Both individuals were released on $2,500 bail from the Charlestown District Court on February 1st. On February 2nd, the Turner Broadcasting Company agreed to a $2 million settlement and on February 10th, the director of the Cartoon Network resigned. On May 11th, criminal charges were dropped against Berdovsky and Stevens in exchange for community services and a public apology. Berdovsky and Stevens subsequently completed between 60 and 80 hours of community services at the Spaulding Rehabilitation Center in Boston.

The succession of remedial actions on the part of Time Warner Company suggests that its intent was to preserve its corporate image. In less than 72 hours, Time Warner with reported revenues of $15.955 millions in 2007[2] settled a breach of the public trust, involving 765,746 citizens in Massachusetts, for $2.0 millions. This study, thus, provides a framework to answer the research question as to whether Massachusetts, whose functional mandate is to protect and serve its citizens, adjudicated a reasonable settlement under Section 102A½ (d) on behalf of the citizens of Boston, Cambridge, and Somerville against the Time Warner Company.

The Demographic Profile of Massachusetts

The public interest is central to a framework for civil action. Prior literature report disparate views on how many individuals must be affected by an action for it to be viewed as a topic of public interest (Jordan, 2008). The unit of calculation of public interest is also debatable.

From a utilitarian perspective, public interest is calculated with regard to the rights of its members (Jordan, 2008). This suggests that certain doctrines, instituted by the federal (Bill of Rights) and state (public safety) governments, could define the realm of public interest. For this paper, public interest is limited to the individuals in Boston, Cambridge, and Somerville who were affected by the guerilla marketing campaign.

Tables 1 and 2 present a profile of the average citizen most likely living or working in one of the communities affected by the advertising hoax. Table 1, Panel A shows Boston with 589,141 citizens in 2007 to be more heavily populated than Cambridge at 102,200 and Somerville at 74,405. Panel B reports employment statistics across four years; it shows that the largest percentage (23%) of the state income tax filers consistently fall within the salary range of $25,000 to $50,000. Panel C shows that the 2007 per capita income for Massachusetts was $49,142 and that the services sector paid the highest mean salary at $151,712. Panel D shows that the services sector routinely employs the largest number of individuals followed by the Education and Health sectors. Panel E lists sixteen corporations which have headquarters located in either Boston or Cambridge, so their employees would have been affected by the hoax resulting in loss productivity on the event day.

Table 2, Panel A shows that higher education is the second largest employer in Massachusetts. Panel B reports that 137,925 students were enrolled full-time in a public university or college. Boston, Cambridge, and Somerville are the educational headquarters for more than ten private colleges and universities, including Harvard, the Massachusetts Institute of Technology, Northeastern, and Tufts with student populations exceeding 10,000. Statistics culled from the websites of major universities in the Boston area report that approximately 30% of the undergraduates commute on public transportation and that 90% of the graduate students live in off-campus housing.

Table 1
Descriptives Statistics by Personal Income and Private Sector Employers

Panel A: Population

City	2004	2005	2006	2007	2008
Boston	559,034	559,034	596,763	589,141	575,993
Cambridge	100,135	100,135	102,740	102,200	101,303
Somerville	77,498	74,963	77,012	74,405	75,970
Massachusetts	6,439,000	6,434,000	6,429,000	6,434,000	6,450,000

Panel B: Massachusetts Personal Tax Filers by Personal Income Level

Income Level	2005 Filers	% of Total	2006 Filers est.[a]	% of Total	2007 Filers	% of Total	2008 Filers est.[a]	% of Total
$100,000 or higher	442,551	13%	483,066	14%	523,580	15%	564,095	16%
$75,001 to $100,000	270,812	8%	276,245	8%	281,678	8%	287,111	8%
$50,001 to $75,000	448,419	14%	451,322	13%	454,225	13%	457,128	13%
$25,001 to $50,000	792,312	24%	791,001	24%	789,690	23%	788,379	23%
$10,001 to $25,000	669,959	20%	662,540	20%	655,121	19%	647,702	19%
$10,000 or lower	690,528	21%	694,411	21%	698,293	21%	702,176	20%
Total	3,314,581	100%	3,358,584	100%	3,402,587	100%	3,446,590	100%

Footnote: (a) Estimates include - 2006 Fliers average of 2005 and 2007 fliers. 2008 fliers reflect 2007 fliers plus change from 2006 fliers.

Panel C: Massachusetts Mean Income Per Capita by Industry

			Mean Income by Industry									
Year	Population (thousands)	Per Capita Income	Agricultural Mining	Construction	Manufacturing	Transportation Utilities	Wholesale Trade	Retail Trade	Services	Federal Govt	State Local Govt	Military Services
1998	6,115.0	32,524	879	7,839	26,378	7,952	11,031	13,397	74,721	3,545	15,235	532
1999	6,144.0	34,227	1,007	8,886	27,798	8,542	12,378	14,231	81,706	3,766	16,172	534
2000	6,175.0	37,750	1,101	10,097	31,272	9,506	13,411	15,308	93,694	3,894	16,885	556
2001	6,363.0	38,875	760	11,463	26,675	5,238	10,806	11,358	112,815	4,023	17,461	562
2002	6,408.0	38,862	708	11,779	25,519	5,140	10,350	11,660	111,346	4,171	18,130	597
2003	6,432.0	39,449	769	11,808	25,616	5,206	10,931	12,047	113,871	4,223	18,527	661
2004	6,439.0	41,444	815	12,303	25,807	5,463	11,516	12,614	124,152	4,600	20,061	931
2005	6,434.0	43,355	1,091	12,963	26,009	5,424	11,450	12,771	129,116	4,659	20,214	1,031
2006	6,429.0	46,363	883	13,172	26,242	5,997	12,642	12,496	137,091	4,877	21,647	983
2007	6,434.0	49,142	945	12,819	28,498	6,224	13,271	12,601	151,712	5,037	23,473	1,028
2008	6,450.0	46,287	973	12,985	26,916	5,882	12,454	12,623	139,306	4,858	21,778	1,014

Panel D: Massachusetts Mean Number Employed by Industry

Year	Manufacturing	Construction	Trade, Transportation,Utilities	Education and Health	Financial Services	Information Services	Leisure and Hospitality Services	Professional Services	Natural Resources and Mining	Government
1998	413.0	108.5	575.7	536.4	221.6	97.8	262.8	441.6	1.4	421.8
1999	400.3	118.8	588.0	538.2	226.8	100.3	270.5	462.2	1.4	428.3
2000	403.1	129.2	596.8	545.6	228.1	111.1	274.6	493.0	1.4	435.3
2001	388.6	139.1	592.3	554.9	230.6	111.4	279.5	485.2	1.5	440.3
2002	348.8	140.8	579.8	568.4	228.1	99.6	284.9	453.6	1.6	436.1
2003	324.3	136.8	573.8	575.5	223.7	91.3	287.6	440.6	1.8	425.9
2004	312.9	138.4	572.1	582.2	219.7	87.4	290.8	451.1	1.9	421.5
2005	306.0	142.0	568.0	597.0	225.0	88.0	294.0	469.0	2.0	412.0
2006	306.0	142.0	568.0	597.0	225.0	88.0	294.0	469.0	1.8	412.0
2007	292.0	135.0	568.0	637.0	223.0	89.0	305.0	489.0	1.6	436.0
2008	292.0	135.0	568.0	637.0	223.0	89.0	305.0	489.0	1.4	436.0

Source: Commonwealth of Massachusetts - Comprehensive Annual Financial Report - Statistical Section

Table 1 *continued*

Panel E: Largest Private Sectors Employers in Massachusetts (2005 to 2008)

Employer	Location of Headquarters	Product or Service	Stock Ticker
American Tower Corporation	**Boston**	Telecommunications	AMT
Analog Devices	Waltham	Electronic Equip. & Instruments	ADI
Bay State Medical Center, Inc.	Springfield	Hospital	
Beth Israel Deaconess Medical Center	**Boston**	Hospital	
Big Y Foods, Inc.	Springfield	Supermarket	
Biogen IDEC Inc.	**Cambridge**	Electronic Equip. & Instruments	BHB
Boston Medical Center Corporation	**Boston**	Hospital	
Boston Properties	**Boston**	Financials	BXP
Boston Scientific	Natick	Health Care Equipment	BSX*
Boston University	**Boston**	University	
Brigham and Women's Hospital, Inc.	**Boston**	Hospital	
DeMoulas Supermarkets, Inc.	Tewksbury	Supermarket	
EMC Corporation	Hopkinton	Computer Storage and Periherals	EMC*
Friendly Ice Cream Corporation	Wilbraham	Restaurants	
General Hospital Corporation	**Boston**	Hospital	
Genzyme Corporation	**Cambridge**	Health Care	GENZ
Massachusetts Institute of Technology	**Cambridge**	University	
Millipore Corp	Billerica	Electronic Equip. & Instruments	MIL
New England Medical Center	**Boston**	Hospital	
Novell Inc.	Waltham	Information Technology	NOVL
Parametric Technology	Needham	Application Software	PMTC
PerkinElmer, Inc.	Wellesley	Biotechnology	PKI
President and Fellows of Harvard College	**Cambridge**	University	
Raytheon Company	Lexington	Electronics and Defense	RTN*
Shaw's Supermarkets, Inc.	West Bridgewater	Supermarket	
Southcoast Hospitals Group	New Bedford	Hospital	
Staples Inc.	Framington	Speciality Stores	SPLS*
State Street Corporation	**Boston**	Banking	**STT***
Teradyne, Inc.	**Boston**	Semiconductors	TER
The Children's Hospital Corporation	**Boston**	Hospital	
Thermo Electron	Norwood	Semiconductors	TMO
TJX Corporation	Framington	Apparel Retail	TJX*
Tufts University	Medford	University	
UMASS Memorial Medical Center, Inc.	Worcester	Hospital	
Verizon New England, Inc.	**Boston**	Telecommunications	
Waters Corporation	Milford	Electronic Equip. & Instruments	WAT

* Denotes Standards and Poor's 500 Companies Headquartered in Massachusetts

Source: Commonwealth of Massachusetts - Comprehensive Annual Financial Report -Statistical Section

Table 2
Descriptive Statistics by Occupation (Full Time Equivalent)

Panel A: Massachusetts Full Time Equivalent Employees

Functions or Programs	2005	%	2006	%	2007	%	2008	%
General Government	5,750	7%	6,177	8%	6,204	8%	6,368	8%
Judiciary	7,467	9%	7,635	9%	7,993	10%	8,021	10%
Environmental and Recreation	2,744	3%	2,686	3%	2,847	3%	2,928	4%
Health and Human Services	22,855	29%	22,935	28%	22,972	28%	23,322	28%
Transportation and Construction	2,759	3%	2,708	3%	1,903	2%	2,892	3%
Education	587	1%	651	1%	617	1%	615	1%
Public Safety and Homeland Security	13,152	17%	13,517	17%	14,550	18%	14,242	17%
Economic Development	2,299	3%	2,264	3%	2,339	3%	2,302	3%
Higher Education:								
University of Massachusetts	12,807	16%	13,360	17%	13,602	17%	13,651	16%
State Colleges	4,224	5%	4,301	5%	4,495	5%	4,519	5%
Community Colleges	4,523	6%	4,603	6%	4,689	6%	4,775	6%
Total Number of Employees	79,167	100%	80,837	100%	82,211	100%	83,635	100%

Panel B: Massachusetts Public Higher Education Full Time Enrollment

Education System	Fall 2005	%	Fall 2006	%	Fall 2007	%	Fall 2008[a]	%
University System								
Undergratuate	38,286	29%	39,283	29%	40,806	30%	19,729	22%
Graduate	8,549	7%	8,906	7%	9,328	7%	4,464	5%
Sub-total System Enrollment	46,835		48,189		50,134		24,193	
Tuition and Fees Per Resident Student	$8,697		$9,000		$9,305		$9,001	
State College System								
Undergraduate	30,464	23%	31,384	24%	32,106	23%	15,659	17%
Graduate	4,258	3%	4,352	3%	4,428	3%	2,173	2%
Sub-total System Enrollment	34,722		35,736		36,534		17,832	
Tuition and Fees Per Resident Student	$5,448		$5,855		$6,123		$5,809	
Community College Stystem								
Undergraduate	48,555	37%	49,347	37%	51,257	37%	49,720	54%
Tuition and Fees Per Resident Student	$3,477		$3,526		$3,654		$3,552	
Total Undergraduate	117,305		120,014		124,169		85,108	
Total Graduate	12,807		13,258		13,756		6,637	
Total Student Enrollment	130,112	64%	133,272	64%	137,925	64%	91,745	74%

Footnote: (a) 2008 estimate average from 2005 to 2007.

Source: Comprehensive Annual Financial Report - Commonwealth of Massachusetts

The summary information reported in Tables 1 and 2 suggests that Boston, Cambridge, and Somerville are densely populated communities; therefore, at any hour of the day, there is a constant demand for public services. The Turner Broadcasting Company's guerilla campaign created social disorder in these communities. The average person who was affected by the advertising hoax was a resident and either working or studying in one of the municipalities.

RESEARCH METHODOLOGY

Event Study Methodology

This study uses the event study methodology (Brown and Warner, 1980, 1985) to analyze the effect of Turner Broadcasting Company's marketing hoax in Massachusetts. An event study is a statistical method that estimates the effect of a phenomenon on the value of the firm (MacKinlay, 1997; McWilliams and Siegel, 1997). Event study methodology is typically used in capital market research. The methodology computes the abnormal price return attributable to the event being studied by adjusting it to the return that would occur from normal fluctuations in the financial market (MacKinlay, 1997; McWilliams and Siegel, 1997).

For this research, the event study methodology is applied from a public interest perspective; the phenomenon is the guerilla marketing campaign. The variable of interest is time. The element of time is used to estimate the effect of the advertising hoax on the average citizen. Normalcy in this context is defined as the prevailing safety and environmental conditions that existed during similar hours on the days preceding and following the guerilla marketing event. Abnormality from a public interest perspective is defined as any variances from the normal response time of public officials to emergency requests from its constituents on the event day.

The event study framework for civil action entails a four step process. The first step is to precisely define the event; for example, this incident stems from a guerilla marketing contract negotiated between the Turner Broadcasting Company and Interference, a New York advertising firm. The second step is to establish the event date and time. For example, the initial electronic placard was discovered on January 31, 2007 at 9:00am by local citizens. Precise knowledge of the circumstances surrounding the incident provides an audit trail which can be independently validated. The third step is to define an estimation period or event window surrounding the incident. For this study, a 3 day event window is used. The estimation period begins at 9:00am on January 30th (day -1) and ends at 4:00pm on February 1st (day +1). The shorter the event window, the easier it becomes to control for any extraneous noise (MacKinlay, 1997), the event window is further restricted to the business hours of 9:00am to 4:00pm. This refinement of the hours surrounding the event window leads to a more accurate measure of the phenomenon on normality. The final step in the framework is to obtain data that is readily available to the public. This study uses information from the Statistical Section of the Comprehensive Annual Financial Report for Massachusetts (CAFR, 2007).

In Figure 2, the event study method is applied to test the market reaction to the Time Warner Company's (TWX) share price (MacKinlay, 1997; McWilliams and Siegel, 1997). On January 30th, day -1, TWX closed at \$48.85 per share. It opened on January 31st at \$48.20 per share rose to a high of \$48.83 and later closed at \$48.47. This analysis shows that while the market was open, TWX realized a \$0.63 increase in share price on volume traded. Figure 3 shows that the trading volume for TWX was highest on January 31st at 12, 210,436 shares from day -1 at 7,906,372 shares and later declines on day +1, or February 1st to 10,829,576. The magnitude of the trading volume was significantly positive at a 54.4% increase in shares traded on the event day which later declined by -11.3% on day +1. The fluctuations in TWX's stock volume could suggest that a nebulous event had transpired which the market was trying to interpret. Zuo and Veil (2007) state that due to the [Massachusetts] government response to the advertising hoax, the Aqua Teen Hunger Force cartoon received more media attention than anticipated, as well as accolades for Turner Broadcasting and Interference, as companies willing to cross the line between creativity and recklessness.

Figure 2
Time Warner Corporation Stock Price Week of January 29, 2007

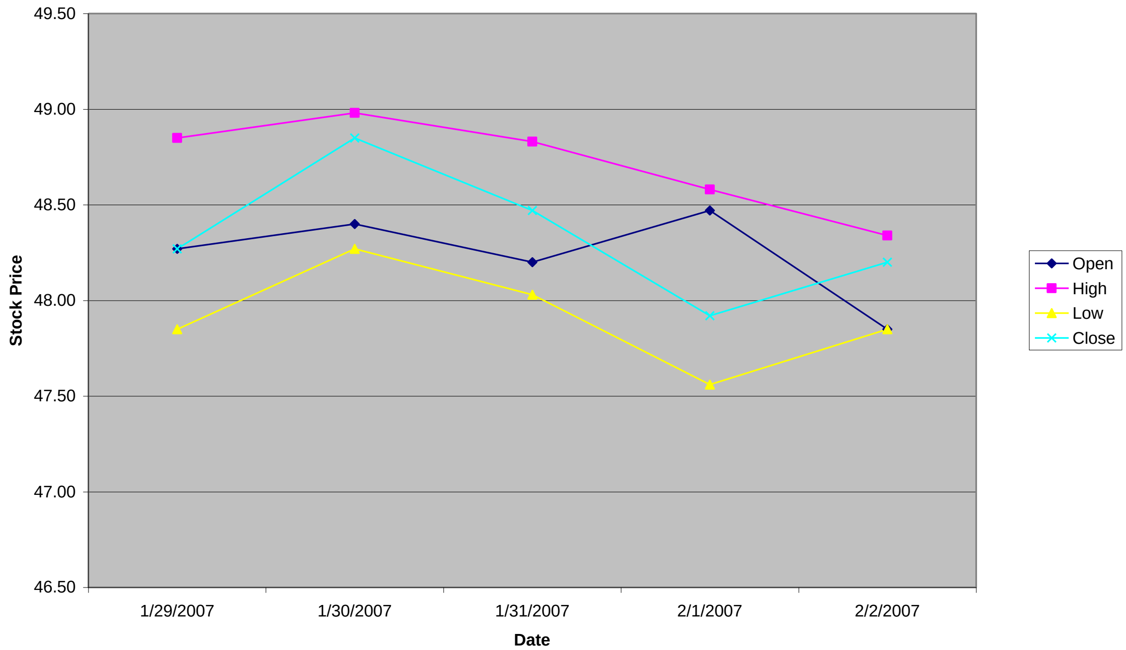
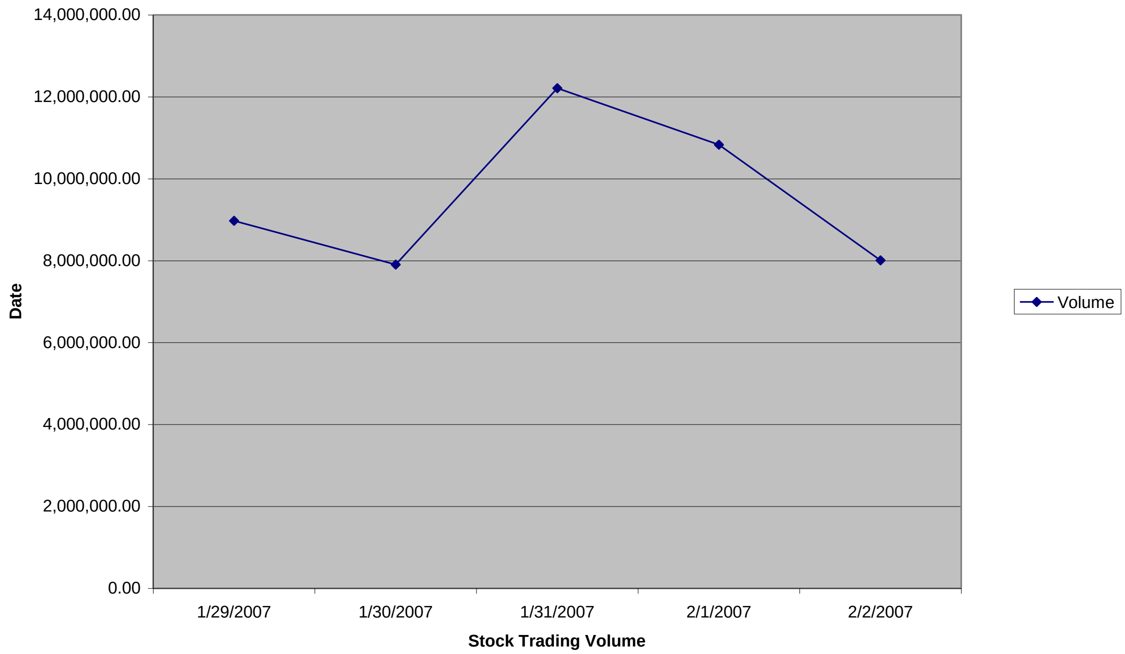


Figure 3
Time Warner Corporation Trading Volume Week of January 29, 2007



Development of the Suppositions

The event study framework is applied from a public interest perspective to determine whether public services were compromised in Massachusetts by the hoax. The first group of service providers examined using this framework is public safety officials. On the event day, January 31st, the police and fire departments from Boston, Cambridge, and Somerville responded to emergency calls reporting multiple sightings of the electronic placards. This study questions whether an increase in the requests for emergency assistance compromised the normal response time for emergency services? Prompt decisions had to be made by the dispatchers for the police and fire departments on the most expedient way to allocate the available resources to meet this increase in demand for public safety. This leads to the first supposition:

***S1:** Were public services, as measured by the response time of fire and police officials, in Boston, Cambridge, and Somerville affected on January 31st by the advertising hoax financed by the Turner Broadcasting Company?*

The Massachusetts Bay Transportation Authority constitutes the second group of public service providers (Massachusetts Bay Transportation Authority (MBTA), 2007). The MBTA is the fifth largest transportation system in the United States. It provides services across 191 bus routes, 14 commuter rail lines, 3 heavy rail lines, 3 ferry routes, and 1 light rail line. The MBTA provides annual transportation services for approximately 4,510,400 riders or 357,578,991 trips across their system. On the event day, the media advised the public of delays in MBTA's services. The MBTA suspended subway services at the Red, Green, and Orange subway stations around the affected areas, instead bused commuters to surface sites along the subway route. This interruption in services increased the commuting time for individuals. For example, the average run time for the subway line from beginning to end station is 30 minutes. The second supposition is as follows:

***S2**: Were public services, as measured by the commuting time on the MBTA system, in Boston, Cambridge, and Somerville affected on January 31st by the advertising hoax financed by the Turner Broadcasting Company?*

The final provision of public services questions the impact of the hoax on road safety. At 9:00am on January 31st, local radio stations advised the public to avoid Sullivan Square in Somerville (Exit 28 on Interstate 93) due to increased police presence in the area. No reasons were given for this diversion, thus, traffic started to stall on Interstate 93 as lanes were closed and cars were detoured off of the interstate into Boston. Several roadways were closed including access to the Longfellow and Boston University Bridges in Cambridge. These detours lead to traffic congestion on Interstate 93 and the city streets. The third supposition follows:

***S3**: Were public services, as measured by travel time on Interstate 93 and around Boston, Cambridge, and Somerville affected on January 31st by the advertising hoax financed by the Turner Broadcasting Company?*

Statistical Test and Sample Data

The Means Difference T Test is used to answer the questions as to whether there are any differences in each of the variables testing the response time for public services during the sample period. A standard for normalcy will be derived from an estimation period calculated for similar daily activities that occurred from January 30th (day -1) to February 1st (day +1) during the event window. The impact of the hoax is measured by the difference between the actual time (AT_t) that was consumed on the event date, January 31st , relative to the expected normal times of January 30th $E(AT_{t-1})$ and February 1st $E(AT_{t+1})$. The difference will be called an Abnormal Time Variable (ATV_t). The expectation is that the $E(ATV_t)$ should equal zero, providing evidence that the hoax did not impact on normal operations as hypothesized:

$$ATV_t = AT_t - E[AT_{t-1}] \quad (1)$$

$$ATV_t = AT_t - E[AT_{t+1}] \quad (2)$$

$$E[ATV_t] = 0 \quad (3)$$

To answer supposition one, the data disclosed in the CAFRs of Boston, Cambridge, and Somerville that measured the response rate of public officials to emergency situations was applied. The time frame is from 9:00am to 4:00pm; it is segmented into hourly increments, for example peak and off-peak working hours, to estimate the volume of the workload on public safety officials.

The data for supposition two**,** examining the impact of the event on public transportation was derived from the performance indicators reported by the MBTA. For example, on the event date, January 31st 2007, local radio stations announced the suspension of transit station services on the MBTA Red Line at many stops so the individuals were bused to the connecting stations. The MBTA subway lines affected by the advertising hoax included the section of the Red Line which runs from the JFK/UMass transit station in Boston through Harvard Square in Cambridge to the Alewife Terminal Station in Somerville; the Orange Line which connects the transit station Sullivan Square in Somerville to downtown Boston Downtown Crossing; and the Green Line which runs from the Terminal Station Government Center with connectivity through transfer stations surrounding Boston University bridge. The Coast Guard closed the Charles River to water traffic, so all passengers riding on the MBTA Water Transportation Ferries were rerouted to surface transportation (MBTA, 2007).

The third and final supposition examines the impact of the event on travel time on the roadways using data also reported in the CAFRs. On the event date of January 31st, the local radio stations broadcasted the travel times through various arteries in Boston, Cambridge, and Somerville. Interstate 93, which connects the three municipalities, was reduced to one lane earlier in the day and later traffic was rerouted to local roads. Motorists were also prohibited from crossing the Longfellow and Boston University bridges due to the security risks. There were 40 foreign objects investigated on the event date, the location of all of the sites were not made available to the public.

RESULTS

Public Safety Services

To answer supposition one, the 2007 CAFR reports total expenditures in Massachusetts at $48.9 millions of which 2.6% was spent on public safety and homeland security. About 2,389 police officers were assigned to Boston, 272 in Cambridge, and 109 officers to Somerville. The total estimated calls to the Boston police in 2007 was 560,595, (CAFR, 2005) so each officer had to respond to a minimum of 235 calls. The workload is slightly higher for the Cambridge police department, where each officer had to respond to 345 calls. In Somerville, the workload factor at 4,225 calls for police services was 39.

The total calls for fire and non-fire services in Massachusetts increased by 1.7% to 642,322 calls in 2007. Approximately 90% of the calls were for non-fire but other emergency services. In Boston, the total count for fire personnel was 1,611 (CAFR, 2004); Boston received 4,915 calls for services for a workload factor of 3.05. In Cambridge the number of calls for fire and non-fire services increased slightly from 630 calls in 2006 to 669 in 2007 while Somerville realized a 21% decline in request for services to 52 calls in 2007.

In Boston, the Police District A-1 was one of the areas targeted by Interference. In 2007 there were 2,831 police assisted crimes in District A-1 less than 0.1% of these crimes occurred in January 2007. On a city wide basis 24,227 crimes were reported, 9.7% of these crimes occurred in January. To meet the increase in emergency calls to District A-1 on the event day, police personnel had to be reassigned from other high risks' Districts to assist District A-1 with their response to the advertising hoax.

For Cambridge, the focus area was the Massachusetts Institute of Technology (MIT) and Harvard University (HU) since their campuses flank the Charles River. The Red Line subway runs through these sections of Cambridge. Adjacent to the MIT campus, the Longfellow Bridge connects Cambridge and Boston; and the Boston University and Harvard Street Bridges link the HU section of Cambridge to Boston. Approximately 14.67% of the total reported crimes in the MIT District or 11 out of 75 occurred in January. This number could be understated because all of the major universities have public safety departments which students are more likely to call for assistance than the local authorities. In the Somerville area, where Tufts University is located, Tufts and downtown Somerville are covered by Police Precincts 1 to 3, approximately 8.4% of their total crimes or 39 out of 463 happened in January.

The demand for public safety services is high in Boston; of the 24,227 crimes committed in Boston; most were associated with acts of larceny and attempted larceny. Yet Boston records one of the lowest levels of staffing ratios for police protection to the actual number of crimes committed at 10.28 relative to Cambridge at 13.65 and Somerville at 36.76 per crime. These statistics suggest that public safety, especially in the Boston area, was at risk on the event day because police resources were already insufficient to serve the public interest.

Table 3 Panels A and B present the national statistics released by the Bureau of Justice (BOJ) which show on average 31.0% of the police departments, including Massachusetts, respond to larceny and attempted larceny in 10 minutes or less. For all other crimes with the exception of Burglary and Vehicle Theft, more than 26.6% of the police departments respond within 5 minutes. On January 31st, due to the heightened awareness alert issued by the Homeland Security Agency, normal requests for police services were significantly delayed to the within one day category.

Table 3

Panel A: Bureau of Justice - National Statistics of Mean Percentage Response Time of Police to Calls by Type of Crime *(2007)*

National Criminal Victimization Survey	Within 5 minutes	6-10 minutes	11 minutes-1 hour	Within 1 day	Longer than 1 day	Length of time not known	Unknown	Total
Homicide	28.6%	29.8%	30.7%	5.4%	1.8%	3.6%	0.1%	100.0%
Rape	28.6%	29.8%	30.7%	5.4%	1.8%	3.6%	0.1%	100.0%
Robbery and Attempted	29.0%	28.7%	27.5%	6.3%	4.6%	3.4%	0.5%	100.0%
Aggravated Assault	33.3%	28.9%	29.9%	4.8%	0.4%	2.6%	0.1%	100.0%
Burglary and Attempted	10.2%	20.2%	48.7%	13.7%	1.2%	6.0%	0.1%	100.1%
Larceny and Attempted	25.9%	31.0%	31.8%	5.5%	1.6%	4.1%	0.1%	100.0%
Vehicle Theft and Attempted	9.5%	19.5%	49.0%	14.9%	0.7%	5.7%	0.7%	100.0%
Average Response Time	23.6%	26.8%	35.5%	8.0%	1.7%	4.1%	0.2%	100.0%

Source: Bureau of Justice Statistics-National Victimization Survey, Klaus and Maston (estimated from 2004 to 2006 statistics)

Panel B: Bureau of Justice - National Incidents by Type of Crime and Time of Occurrence *(2007)*

Type of Crime	Number of incidents	Daytime 6 a.m.- 6 p.m.	6 p.m. - midnight	Midnight - 6 a.m.	Not known	Unavailable	Total
Crimes of violence	5,061,870	52.0%	34.4%	10.5%	1.1%	2.0%	100.0%
Homicide	1,663,967	43.6%	39.0%	15.0%	1.0%	1.4%	100.1%
Rape/Sexual assault/a	217,277	33.4%	30.8%	31.3%	2.0%	2.4%	100.0%
Robbery	558,407	42.9%	41.2%	13.7%	0.6%	1.5%	100.0%
Aggravated Assault	2,622,220	54.4%	33.6%	9.0%	1.1%	2.0%	100.1%
Property crimes	18,536,690	36.8%	13.4%	17.1%	13.2%	19.6%	100.0%
Household burglary	3,481,610	39.5%	13.1%	12.5%	8.4%	26.4%	100.0%
Motor vehicle theft	995,050	22.7%	16.3%	36.1%	16.3%	8.6%	100.0%
Theft and Larcency	14,060,030	37.1%	13.3%	16.8%	14.1%	18.7%	100.0%
Total Crimes and Average %	23,598,560	44.4%	23.9%	13.8%	7.2%	10.8%	100.0%

Source: Bureau of Justice Statistics-National Victimization Survey, Klaus and Maston (estimated from 2004 to 2006 statistics)

Panel C: Massachusetts Fire Department Indicators *(2007)*

Type of Fires	Fires by Type	Property Damage	Average Property Damage	Reported Arsons
Structure Fires	16,722	$268.0	$16,027	343
Motor Vehicle Fires	3,317	$14.7	$4,432	130
Other Fires	13,483	$4.1	$304	739
Total Number of Fires	33,522	$286.8	$20,763	1,212

Number of Injuries and Deaths	2007
Civilian Deaths	61
Fire Service Deaths	3
Civilian Injuries	394
Fire Service Injuries	675
Total Number of Injuries	1,133

Number of Fire and Non-Fire Responses in January	2007
Fire[a]	2,794
Non-Fire Responses	50,786
Total Number of Responses	53,580

Footnote: a - Estimates prorated across all months based on total fires per year.
Source: Massachusetts Comprehensive Annual Financial Reports (2004 to 2008)

Table 3 *continued*

Panel D: Impact of the Delay in Response Time for Public Safety Services

The Police Department									
				Impact of Delayed Response Time					
City	2007 Population	1% Population Request Police Services	Standard Response Time	50 minutes	1 hour 50 minutes	2 hours 50 minutes	3 hours 50 minutes	4 hours 50 minutes	5 hours 50 minutes
Boston	589,141	5,891	10 minutes	$134,029.58	$294,865.07	$455,700.56	$616,536.06	$777,371.55	$938,207.04
Cambridge	102,200	1,022	10 minutes	$23,250.50	$51,151.10	$79,051.70	$106,952.30	$134,852.90	$162,753.50
Somerville	74,405	744	10 minutes	$16,927.14	$37,239.70	$57,552.27	$77,864.83	$98,177.40	$118,489.96
Total	765,746	7,657	-	$174,207.22	$383,255.87	$592,304.53	$801,353.19	$1,010,401.85	$1,219,450.51

The Fire Department			
City	2007	1% Request Fire Services	Structual Fire at $16,027
Boston Population	589,141	5,891	$94,421,628.07
Fires and Non-Fires	4,915	49	$787,727.05
Fires and Non-Fires Per 1,000	8.34	na	na
Cambridge Population	102,200	1,022	$16,379,594.00
Fires and Non-Fires	669	7	$107,220.63
Fires and Non-Fires Per 1,000	6.55	na	na
Somerville Population	74,405	744	$11,924,889.35
Fires and Non-Fires	52	1	$8,334.04
Fires and Non-Fires Per 1,000	0.70	na	na

Panel B reports the BOJ statistics on crime by time of occurrence. More than 50.0% of the crimes of violence, especially aggravated assault, occur during the daytime hours from 6:00am to 6:00pm. On average 36.8% of the property crimes also occur during this period with household burglary being the most frequent crime. These statistics suggest that citizens in the affected areas in Massachusetts who were accustomed to a police response time of less than 10 minutes for services, for example, aggravated assault or household burglary, were under duress for a minimum of 50 minutes to a maximum of 6 hours as a result of the diversion of police resources in response to the advertising hoax.

Table 3 Panel C presents the statistics from the CAFRs (2007) for the fire department. The total number of fires in residential and commercial structures increased to 16,722 in 2007 from 15,507 the prior year. The overall increase in the demand for fire services comes at a time when there has been a decline in the number of paid and volunteer fire fighters in Massachusetts. The number of other fires, including those at outdoors parks or in vacant lots, increased by 17.9% in 2007 to 13,483. The amount of property damages due to structure fires decline in 2006 to $165.0 millions than drastically increased in 2007 to $268.0 millions. About 75.0% of the fires in residential structures are caused by cooking and heating elements, these fires caused a mean estimate of $16,027 in structural damages. The number of injuries and deaths from fire increased to 1,133 in 2007 from 971 in 2006; Massachusetts lost 3 fire fighters in the line of duty and fire personnel suffered 675 injuries. When resources are scarce, it becomes difficult for the fire department to provide coverage over a broad area. Unlike the police department which may experience a more constant demand for services, the request for fire service is somewhat seasonal in Massachusetts. During the winter months from November through March, the fire departments operate at peak capacity. In January, the fire department responded to 53,580 calls for services.

Table 3 Panel D summarizes the results from testing for a difference in the response time for public safety services as posited by supposition one. The assumption is a per capita hourly wage of $27.30 (based on $49,142 annual salary). The standard response time is within 10 minutes for police services. Assuming that 1% of the population in Boston placed calls for police services, a 50 minutes delay in the response time create duress in the public interest to the equivalent of $134,029. As the delay persisted throughout the day in Boston, up to 5 hours and 50 minutes, about $938,207 from civil damages could be attributed to the hoax. The maximum estimated financial consequences to the public interest in Cambridge and Somerville amount to $162,754 and $118,490, respectively.

The standard response time for a fire department in the United States is within 4 minutes for the first unit to arrive on the scene after notification (Nadile, 2008). The time for the initial full alarm assignment to arrive is within 8 minutes. The fire unit initiates tactical operations within 2 minutes of arrival. The standard response time in Boston is 8 minutes for one engine company and three firefighters (Massachusetts Fire Incident Reporting System (MFIRS), 2007). A 2 to 4 minutes variance adjustment is made to the response time depending on the time of day and the location of the fire. The configuration of fire equipment responding to an alarm depends on the seriousness and type of fire.

The risk to the public from a delayed in the response time due to fire is fairly pervasive because of the spread effect in urban areas; a prolonged response time could result in a catastrophe loss or injuries. For every minute beyond the standard 8 minutes response time for fire services, could for example in Boston result in property damage ranging from an estimate of $304 for an outdoor fire to a high of $16,027 for a structural fire. It is reasonable to assume that the fire unit would arrive within 50 minutes, so the structural loss exposure estimated for 1% of the fires in Boston, Cambridge, and Somerville is $903,282.

In summary, supposition one questions whether there were any differences in the response time for public safety services in Boston, Cambridge, and Somerville due to the advertising hoax. The results from Table 3 show that the public interest was not timely served during the event window, consequently, the answer to supposition one is yes. Using the 1% baseline estimate of the demand for services, the minimum cost to the public due to the abnormal response time by public safely officials is estimated at $1,077,489.

Public Transportation Services

Table 4 presents the results from testing supposition two**,** the effect of the hoax on public transportation. The MBTA estimates that 3,030,720 individuals age sixteen years of age and older annually use its services. The standard weekday operating schedule has the first subway train departing at 5:05am and the last train departing at 1:00am. The average commuting time on the subway is 27.0 minutes. The AM rush hour is from 6:30am to 9:00am. The Midday subway schedule runs from 9:00am to 3:30 and the PM rush hour is from 3:30pm to 6:30pm. During rush hours, a train departs from the Alewife Station on the Red Line approximately every 9 minutes and from the Oak Grove Station on the Orange Line and from Government Center on the Green line every 6 minutes. During the Midday, the subway trains run on a slower schedule departing from an Orange Line station every 9 minutes and on the Red Line every 13 minutes.

Table 4
Public Transportation Subway System

Panel A: Effect of Event on MBTA - Red Line

Time of Day	Travel State	Stations: Departing	Stations: Arriving	Mode of Travel	Travel Time (minutes)	Ridership (Peak and Off-Peak): Mean	Ridership: Time of Day	Ridership: Total	Number of Round Trips: 6:30-9:00	9:00-3:30	3:30-6:30	Total Travel Time (minutes)	Total Riderships
9:00 a.m.	Normal	JFK/UMass	Harvard Square	Subway	22	238	334%	795	3.3			73	2,650
	Detour	JFK/UMass	Park Street	Subway	12								
		Park Street	Harvard Square	Bus	59								
				Total Travel Time	71	238	334%	795	3.3			237	2,650
				Excess Travel Time	(49)								
12 noon	Normal	JFK/UMass	Harvard Square	Subway	19	238	170%	405		30.0		570	12,138
	Detour	JFK/UMass	Park Street	Subway	10								
		Park Street	Harvard Square	Bus	63								
				Total Travel Time	73	238	170%	405		30.0		2,190	12,138
				Excess Travel Time	(54)								
4:00 p.m.	Normal	JFK/UMass	Harvard Square	Subway	24	238	334%	795			2.5	60	1,987
	Detour	JFK/UMass	Park Street	Subway	13								
		Park Street	Harvard Square	Bus	57								
				Total Travel Time	70	238	334%	795			2.5	175	1,987
				Excess Travel Time	(46)								
9:00 a.m.	Normal	JFK/UMass	Alewife Station	Subway	31	238	270%	643	3.3			103	2,142
	Detour	JFK/UMass	Park Street	Subway	12								
		Park Street	Alewife Station	Bus	112								
				Total Travel Time	124	238	270%	643	3.3			413	2,142
				Excess Travel Time	(93)								
12 noon	Normal	JFK/UMass	Alewife Station	Subway	28	238	140%	333		30.0		840	9,996
	Detour	JFK/UMass	Park Street	Subway	10								
		Park Street	Alewife Station	Bus	113								
				Total Travel Time	123	238	140%	333		30.0		3,690	9,996
				Excess Travel Time	(95)								
4:00 p.m.	Normal	JFK/UMass	Alewife Station	Subway	33	238	334%	795			2.5	83	1,987
	Detour	JFK/UMass	Park Street	Subway	13								
		Park Street	Alewife Station	Bus	106								
				Total Travel Time	119	238	334%	795			2.5	298	1,987
				Excess Travel Time	(86)								

*Computation of Excess Cost =((Excess Travel Time/60 minutes) * Hourly Wage * Total Riderships)*
Source: Massachusetts Bay Transportation Authority (MBTA) Annual Report Summary - http:www.mbta.gov

Panel B: Effect of Event on MBTA - Green Line

Time of Day	Travel State	Stations: Departing	Stations: Arriving	Mode of Travel	Travel Time (minutes)	Ridership (Peak and Off-Peak): Mean	Ridership: Time of Day	Ridership: Total	Number of Round Trips: 6:30-9:00	9:00-3:30	3:30-6:30	Total Travel Time (minutes)	Total Riderships
9:00 a.m.	Normal	Govt Station	Boston Univ West	Subway	27	238	225%	536	3.3			90	1,785
	Detour	Govt Station	Boston Univ West	Bus[a]	59	238	325%	774	3.3			197	2,578
				Excess Travel Time	(32)								
12 noon	Normal	Govt Station	Boston Univ West	Subway	27	238	140%	333		30.0		810	9,996
	Detour	Govt Station	Boston Univ West	Bus	68	238	240%	571		30.0		2,040	17,136
				Excess Travel Time	(41)								
4:00 p.m.	Normal	Govt Station	Boston Univ West	Subway	33	238	225%	536			2.5	83	538
	Detour	Govt Station	Boston Univ West	Bus	73	238	325%	774			2.5	183	776
				Excess Travel Time	(40)								

Footnote - a: Bus service is a normal alternate to subway services on the Green line. Bus ridership is at 100% under normal circumstances.

Panel C: Effect of Event on MBTA - Orange Line

Time of Day	Travel State	Stations: Departing	Stations: Arriving	Mode of Travel	Travel Time (minutes)	Ridership (Peak and Off-Peak): Mean	Ridership: Time of Day	Ridership: Total	Number of Round Trips: 6:30-9:00	9:00-3:30	3:30-6:30	Total Travel Time (minutes)	Total Riderships
9:00 a.m.	Normal	Sullivan Square	Downtown Crossing	Subway	17	238	225%	536	3.3			57	1,785
	Detour	Sullivan Square	Downtown Crossing	Bus	32	238	225%	536	3.3			107	1,785
				Excess Travel Time	(15)								
12 noon	Normal	Sullivan Square	Downtown Crossing	Subway	17	238	140%	333		30.0		510	9,996
	Detour	Sullivan Square	Downtown Crossing	Bus	29	238	140%	333		30.0		870	9,996
				Excess Travel Time	(12)								
4:00 p.m.	Normal	Sullivan Square	Downtown Crossing	Subway	17	238	225%	536			2.5	43	538
	Detour	Sullivan Square	Downtown Crossing	Bus	34	238	225%	536			2.5	85	538
				Excess Travel Time	(17)								

*Computation of Excess Cost =((Excess Travel Time/60 minutes) * Hourly Wage * Total Riderships)*
Source: Massachusetts Bay Transportation Authority (MBTA) Annual Report Summary - http:www.mbta.gov

The MBTA has an operating standard of 150 minutes for the AM Rush hour, during this period based on a 9 minutes departure time approximately 16.7 trains could run roundtrip from the Alewife Station. The run from beginning to end terminal is about 30 minutes for the Red, Orange, and Green Line trains. For the Midday schedule, about 43.3 roundtrips could be run on the Green Line from Government Center and at the PM rush hour about 35 roundtrips from Oak Grove on the Orange Line.

During the AM rush hour, the standard run time for the Red Line train from the JFK/UMass station to the Harvard Square station in 22 minutes. The unit standard for the MBTA load capacity is 238 passengers per run. The load factor is adjusted upward by 334% for the time of day; the demand for subway service is higher during the AM and PM rush hours than during the Midday periods. On January 31st between 8:30 and 9:00am, the standard load factor estimates that 795 passengers boarded the Red Line train; a total of 3.3 roundtrips take 73 minutes to transport 2,650 individuals.

Table 4 Panel A shows that the disruption in services on the Red Line increased the commuting time by 49 minutes at 9:00am due to a detour on the JFK/UMass to Harvard Square Station for estimated ridership of 2,650 passengers. The highest time delay of 95 minutes was experienced at 12:00 noon on the JFK/UMass to Alewife Station near Tufts University. On the Red Line from 9:00am to 4:00pm, total ridership estimated at 30,900 passengers, especially students, was delayed due to the change in the mode of transport from subway to bus services. The hourly wage is reduced fifty-percent to $13.65 to account for the student riders on the Red Line, so civil damages are estimated to be $499,684.

Panels B and C report the results for passengers on the Green and Orange Lines, a highly diverse group of commuters either working in the public and private sectors or students. Riders on these subway lines were delayed a minimum of 12 minutes at 12:00 noon on the Orange Line from Sullivan Square to Downtown Crossing to a maximum of 41 minutes at 12:00 noon on the Green Line from the Government Center Station to Boston University West. The estimated ridership along the Green Subway Line is 20,490 including 8,171 individuals who normally commute by bus. Since passengers were off-loaded from the Green Line to busses, the commuting time by bus increased 32 minutes at 9:00am on the Govt. Station to Boston Univ West Station. The passenger load capacity for the Orange Line routes is 12,319, this route was the least affected by the advertising hoax. Holding the hourly wage constant at the fifty percent level of $13.65 due to the highest level of ridership occurring during non-peak hours at 12:00 noon, the estimates for commuters on the Green Line is $185,666 and $35,461 for the Orange Line.

To sum up, the answer to supposition two is yes; there were time differences in the provision of public transportation services during the event window. An analysis of the MBTA services on January 31st relative to January 30th and February 1st revealed that the commuting time on three of the subway lines was longer because passengers were diverted to surface transportation services. The public interest was not served as a result of these unexpected delays in the MBTA system. The advertising hoax caused an estimated $720,811 in loss productivity for commuters using MBTA services.

Public Road Services

The third and final supposition examines the effects of the advertising hoax on the roadways. Massachusetts has 3,213 miles of interstate highway and Interstate 93 takes up 1.9% of the state's interstate inventory. Table 5 provides the most recent information on the Annual Average

Daily Traffic on Interstate 93 by county and traffic patterns. Items 3 to 19 cover Exits 13 to 31 off of Interstate 93 which were directly affected by the advertising hoax.

Table 5

Interstate 93 Annual Average Daily Traffic (AADT)

Item	County	From	To	AADT Composite	Year
1	Norfolk/ Suffolk	Exit 11 TO MA 203 Granite Ave. Ashmont	Exit 12 MA 3A south Neponset Quincy	183,235	2002
2	Suffolk	Exit 12 MA 3A south Neponset Quincy	Exit 13 Freeport Rd. Dorchester	n/a	n/a
3	Suffolk	Exit 13 Freeport Rd. Dorchester	Exit 14 Morrissey Bl. JFK Library	199,000	1993
4	Suffolk	Exit 14 Morrissey Bl. JFK Library	Exit 15 Columbia Rd. & Boston St.	176,570	1994
5	Suffolk	Exit 15 Columbia Rd. & Boston St.	Exit 16 Southampton St. & Andrew Sq.	179,000	1993
6	Suffolk	Exit 16 Southampton St. & Andrew Sq.	Exit 18 Mass Avenue Roxbury	n/a	n/a
7	Suffolk	Exit 18 Mass Avenue Roxbury	Exit 20 Interstate 90	174,284	1997
8	Suffolk	Exit 20 Interstate 90	Exit 22 South Station Chinatown	n/a	n/a
9	Suffolk	Exit 22 South Station Chinatown	Exit 23 High & Congress Streets	n/a	n/a
10	Suffolk	Exit 23 High & Congress Streets	Exit 24 Callahan Tunnel Logan Airport	n/a	n/a
11	Suffolk	Exit 24 Callahan Tunnel Logan Airport	Exit 25 Haymarket Square	n/a	n/a
12	Suffolk	Exit 25 Haymarket Square	Exit 26 Storrow Drive	n/a	n/a
13	Suffolk	Exit 26 Storrow Drive	Exit 26A MA 28 to MA 3 Leverett Circle Cambridge	n/a	n/a
14	Suffolk	Exit 26A MA 28 to MA 3 Leverett Circle Cambridge	Exit 27 U.S. 1 north Tobin Bridge	155,000	1994
15	Suffolk/ Middlesex	Exit 27 U.S. 1 north Tobin Bridge	Exit 28 Sullivan Square Charlestown	108,000	1995
16	Middlesex	Exit 28 Sullivan Square Charlestown	Exit 29 MA 28 & 38 Somerville Everett	n/a	n/a
17	Middlesex	Exit 29 MA 28 & 38 Somerville Everett	Exit 30 MA 28 & 38 Mystic Av. Somerville	148,763	2002
18	Middlesex	Exit 30 MA 28 & 38 Mystic Av. Somerville	Exit 31 MA 16 Tufts Univ Arlington Revere	167,568	2002
19	Middlesex	Exit 31 MA 16 Tufts Univ Arlington Revere	Exit 32 MA 60 Medford Sq. Malden	164,643	2002
20	Middlesex	Exit 32 MA 60 Medford Sq. Malden	Exit 33 MA 28 Fellsway West Winchester	174,524	2002
21	Middlesex	Exit 33 MA 28 Fellsway West Winchester	Exit 34 MA 28 north Stoneham Melrose	n/a	n/a
22	Middlesex	Exit 34 MA 28 north Stoneham Melrose	Exit 35 Winchester Highlands Melrose	184,305	2002
23	Middlesex	Exit 35 Winchester Highlands Melrose	Exit 36 Montvale Rd. Stoneham Woburn	190,689	2002
24	Middlesex	Exit 36 Montvale Rd. Stoneham Woburn	Exit 37AB Interstate 95 & MA 128	161,900	2001
25	Middlesex	Exit 37AB Interstate 95 & MA 128	Exit 37C Atlantic Av. & Commerce Way	163,479	2002
26	Middlesex	Exit 37C Atlantic Av. & Commerce Way	Exit 38 MA 129 Reading Wilmington	n/a	n/a
27	Middlesex	Exit 38 MA 129 Reading Wilmington	Exit 39 Concord Street	134,145	2002
28	Middlesex	Exit 39 Concord Street	Exit 40 MA 62 N. Reading Wilmington	156,266	2002
29	Middlesex	Exit 40 MA 62 N. Reading Wilmington	Exit 41 MA 125 Andover North Andover	154,813	2002
30	Middlesex	Exit 41 MA 125 Andover North Andover	Exit 42 Dascomb Road Tewksbury	140,827	2002
31	Middlesex	Exit 42 Dascomb Road Tewksbury	Exit 43 MA 133 Andover N. Tewksbury	139,184	2002
32	Middlesex	Exit 43 MA 133 Andover N. Tewksbury	Exit 44AB Interstate 495	137,737	2002
33	Middlesex	Exit 44AB Interstate 495	Exit 45 River Road S. Lawrence	133,351	2002
34	Middlesex	Exit 45 River Road S. Lawrence	Exit 46 MA 110 & 113 Lawrence Dracut	130,669	2002
35	Middlesex	Exit 46 MA 110 & 113 Lawrence Dracut	Exit 47 MA 213 Methuen Pelham St.	125,922	2002
36	Middlesex	Exit 47 MA 213 Methuen Pelham St.	Exit 48 MA 213 Methuen Haverhill Pelham St.	86,300	1998
37	Middlesex	Exit 48 MA 213 Methuen Haverhill Pelham St.	NH state line	93,008	2002

Source: Mass Highway Traffic Volume Counts (2002)

The professional employment population is rather dense along Interstate 93, some of the largest public and private sector employers are located along this interstate (see Table 1 Panel E). For example reviewing Item 3 which describes Exit 13, on the Boston side of the Charles River are the JFK Library and the University of Massachusetts. Items 8 and 9 describe Exits 20 and 22 which lead to Chinatown, Tufts Medical and Dental Schools, and the South Station – Amtrak; Exits 23 through 25 affect the financial district, Suffolk University, the State Capital, and the Callahan Tunnel to Logan Airport. Crossing the Longfellow and Boston University bridges to the Cambridge side, at Exits 26 and 26A, there are MIT and HU campuses and at Exit 31 in Somerville is Tufts University.

The Annual Average Daily Traffic (AADT) data shows vehicular traffic entering and exiting Interstate 93 on a continuous basis and that these traffic patterns tend to be the highest during the AM and PM rush hours. From Exits 13 to 31, the total AADT averages 1,472,828 vehicles. Throughout the event day, the radio stations periodically announced that the detours off of Interstate 93 were causing traffic delays of more than 30 minutes. If 1% of the AADT was affected for a minimum of a half-hour by these detours, then the public was penalized $201,041 in loss time. However, when consulting Tables 1 and 2, the mean salary for an individual working in the professional services sector is $151,712 ($84.28 hourly wage). If 1% of the professional services personnel were caught up in the traffic congestion along Interstate 93, then the estimated costs to society for the 30 minutes delay increase to $1,241,276. Finally, this analysis leads to a positive answer of yes to supposition three; it provides evidence that travel time along Interstate 93 was adversely affected by the advertising hoax.

Discussion of the Results

In summary, this section demonstrates the value relevance of information reported in the CAFRs. It shows how the event study methodology could be applied to examine statistical data explaining a civil action. For this study, an event study framework was used to determine whether an advertising contract negotiated between the Turner Broadcasting Company and Interference served the public interest. The expectation that the Abnormal Time Variable ($E(ATV_t)$) would be equal to zero, as evidence that the advertising hoax did not affect normal operations was proven false. The results as examined by the three suppositions questioning the timely provision of public services show that the public was abnormally affected by the guerilla marketing event. The study estimates the costs associated with Supposition 1: Public Safety Services at $1,077,489, Supposition 2: Public Transportation Services at $720,811, and Supposition 3: Public Road Services of $201,041; thus showing that Massachusetts suffered a loss of $1,999,341 either in state expenditures or loss productivity due to the advertising hoax carried out by Interference. The Turner Broadcasting Company paid a settlement of $2,000,000 in retribution to Massachusetts for the publicity stunt which appears to be reasonable when applying conservative algorithms to the statistical data disclosed in the CAFRs.

CONCLUSIONS

This study provides an empirical framework for civic action. It used public information to explore the circumstances under which a significant public reaction ensues around a corporate advertising event in Massachusetts. Specifically, the study examines the extent to which a viral marketing campaign influenced the timely receipt of public services in Boston, Cambridge, and Somerville on January 31st, 2007. The tests of the performance indicators governing the timely delivery of public safety, transportation, and road services were done using a three day event window. This analysis satisfies the precepts for the use and presentation of the event study methodology as scientific evidence (Tabak and Dunbar, 1999).

Further, the study provides evidence of the emergent of a new advertising medium, viral marketing (Zuo and Veil, 2007), which could challenge the public interest. Corporate boards of directors and managers are legally bound to act in the best interest of their shareholders in their pursuit of profits (Blazovich and Smith, 2011). Sometimes, this creates a moral hazard for management when the quest for increased earnings trumps corporate governance policies placing society in harm's way. Despite the appeal of viral marketing to corporations, prior literature states that no forecasting tools exist to measure its effects or to balance the risks inherent in its application on the public (Van der Lans *et al*., 2009).

From a policy perspective, the study makes an important contribution to the growing literature on social responsibility and government accounting. It shows the value relevance of statistical information disclosed in the CAFRs. Future research in this area could include applying the framework for civic action to estimate the costs accruing to governments for remediating the effects from corporate misconduct including, for example, chemical spillages into waterways which could adversely affect citizens (Moghe, 2014; Mobus, 2012). The study provides public officials and accounting and legal professionals with an analytical framework which could be easily adapted to measure the impact of any phenomenon on society.

END NOTES

1. http://www.cnn.com/2007/US/01/31/boston.bombscare/

2. Time Warner Inc. changed its basis of presentation of financial information in its 2009 Annual Report. This change resulted in a recast of 2007 Revenues to $26.211 million from originally reporting of $15.955 million (TWX, 2009).

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MANAGEMENT DISCRETION OF ACCRUALS PRIOR TO THE DEMUTUALIZATION OF PROPERTY-LIABILITY INSURANCE COMPANIES

Jane M. Weiss, University of Wisconsin-Whitewater

ABSTRACT

This study examines whether management of property-liability insurance companies use their discretion in estimating the claim loss reserve in the year preceding demutualization. Since valuation of a mutual insurance company is a critical component of the conversion process. I posit that the incentive to manage surplus by either overstating or understating the insurer's largest accrual, claim loss reserves, is dependent on management's role subsequent to the conversion process. If management has a significant role (i.e., principal shareholder) after conversion, the incentive is to overestimate the loss reserves to transfer wealth from policyholders to themselves. The regression for 48 property-liability insurance companies that demutualized identifies that claim loss reserves are overstated as a means to decrease surplus and that a significant role by management in the post conversion company provides the incentive to overstate the loss reserve in the year preceding the conversion. The study provides an opportunity to study the impact of the regulatory process on management discretion in loss reserves, provides further insight into the demutualization process, and extends earnings management research. Finally, while prior literature identified stabilization of earnings and avoidance of regulatory intervention as reasons for management discretion in loss reserves, this study documents management of policyholders' surplus for management benefit, as an additional effect of discretion in the reserve estimate.

INTRODUCTION

The purpose of this study is to evaluate management flexibility in determining accounting estimates in a specialized setting; property-liability insurance companies conversions from mutual ownership to stock ownership. As discussed more fully below, the valuation of the mutual insurance company is a critical component of the conversion process and provides incentives for earnings (surplus) management. Therefore, surplus management is particularly salient in the demutualization setting.

An insurance company's claim loss reserve is by far the largest accrual that involves management discretion for these companies. Overestimating (underestimating) the reserves has the effect of decreasing (increasing) policyholders' surplus. Insurance companies experiencing growth and/or financial distress have an increased demand for additional surplus. Two methods of obtaining this additional surplus are through internally generated funds (e.g., underwriting profits) or externally generated funds (e.g., surplus notes, demutualization).

Demutualization is the conversion of a mutual insurance company to a stock company. The difference between the two forms of organization is the claim to unassigned surplus. The amount of unassigned surplus limits the amount of non-liquidating dividends available to policyholders in a mutual insurance entity and to stockholders in a stock company. Even if the company is a stock company, the stockholders' claims are subordinate to the claims of policyholders and other creditors.

This study examines whether managers of property-liability insurance companies use their discretion in estimating the claim loss reserve accrual prior to the demutualization of the company. The incentive to either overstate or understate the claim loss reserve is dependent on management's role subsequent to the demutualization process. If management has a significant role (i.e., principal shareholder) after demutualization, management's incentive will be to overstate the estimated reserves to transfer wealth from policyholders' to themselves. By overstating reserves, surplus is decreased resulting in a lower value for the company and lower price paid to policyholders, therefore transferring wealth. I hypothesize that if management has more than a limited role as an investor, in their self-interest, they will overestimate the insurer's loss reserve in years preceding demutualization as a method to decrease surplus. Alternatively, if management has a limited role as an investor and an insurer intends to generate funds through demutualization, managers acting in the best interests of policyholders will have the incentive to increase firm value prior to demutualization. A limited role by management, after demutualization, predicts that managers will increase surplus to increase firm value by underestimating the loss reserve in the year preceding demutualization

The regression results of 48 property-liability companies that demutualized during the period of 1982-1999 are consistent with the hypothesis of overstatement of reserves as a means to decrease surplus. No evidence was found to support the understatement of reserves. The results indicate that the management process has an impact on the reserve estimate in the year preceding demutualization with the evidence suggesting that management incentives impact the demutualization process. The impact on the demutualization process exists when there is no change in management. The direct impact on surplus management by the demutualization transaction itself appears to be limited. An insurance company's financial condition does not appear to impact the results.

The primary contribution of this paper is twofold. The first contribution is identifying other potential reasons for management discretion in determining the reserve estimate. Prior literature finds that management uses discretion in estimating claim loss reserves as a method of stabilizing underwriting results and that financially distressed firms use their discretion as a means to smooth earnings to avoid regulatory intervention. This study examines the management of policyholders' surplus. Specifically, it addresses management's discretion in estimating loss reserves as a result of managers' incentives within the conversion process. The second contribution is to give further insight to the incentives of an insurer to demutualize. Prior literature has found mixed results as to the reasons for an insurer to demutualize. Testing the hypotheses of surplus management prior to demutualization will add further insight into these incentives, including better access to capital, reduction in agency costs, and management self-interest.

A secondary contribution is the extension to prior earnings management research. The advantage of the insurers providing losses reserve development in regulatory reports allows more direct and accurate tests of earnings management. Other earnings management research relies on models that estimate potential earnings management. The insurance setting also provides an opportunity to study earnings management research and the impact of the regulatory process on management discretion. Within the insurance industry, regulation prevents some discretion in the choice of accounting policies as well as the active involvement in the stock conversion process through the state insurance commissioners.

The organization of this paper is as follows: Section 2 develops the demutualization environment. Section 3 outlines the theoretical development for earnings management. The sample is described in Section 4 with the model described in Section 5. Section 6 presents the results of the empirical test while Section 7 summarizes the paper.

DEMUTUALIZATION ENVIRONMENT

Surplus

For the test conducted in this paper, it is important to understand the role that policyholders' surplus has in an insurance company and the demutualization transaction. Three primary purposes of surplus include 1) providing the initial funds to establish the company and begin operations, 2) providing a continuing source of funds for growth, and 3) providing a safety cushion to absorb adverse underwriting and investment experience without loss to policyholders. Factors affecting surplus are derived from the second and third purposes and include underwriting results, investment performance, loss reserve developments and growth rate. Due to the adverse effects these factors could have on surplus, insurers are required by state insurance regulators to maintain minimum surplus levels to continue operations and protect policyholders from loss.

Insurance companies experience increased demand for capital as a result of growth and/or financial distress. If a company intends to grow, this growth must be accompanied by increased surplus. The traditional method to support growth is through internally generated profits. If the internally generated funds are insufficient, the insurer looks for other sources to obtain the surplus requirements. Financially distressed firms are firms that do not meet regulatory requirements or meet the requirements but their financial strength is vulnerable to unfavorable changes in underwriting or economic conditions. Not meeting or barely meeting the requirements results in regulatory surveillance. Therefore, financially distressed insurance firms have incentives to increase surplus by various methods. Raising capital through an equity offering is one method. However, mutual insurance companies, which are owned by the policyholders, do not have this option and are therefore required to demutualize to raise capital through an equity offering.

Demutualization

There are various incentives for companies to demutualize. The two most prominent incentives are better access to capital and reduced agency costs (Mayers & Smith, 2004). Companies, both financially healthy and financially distressed, want better access to capital to meet economic and competitive changes. Companies can meet these changes by either restricting operations to reduce costs or to expand operations to spread its overhead (Fitzgerald, 1990). Companies choosing the latter require additional capital and the necessary capital is obtainable through either internally generated funds or externally generated funds, such as demutualization. Up-front capital is required for expansion because statutory accounting principles do not allow the acquisition expenses to be matched with the generated revenue as in generally accepted accounting principles. Therefore, surplus is decreased as new business is written with the level of surplus measuring the company's underwriting capacity and expansion through internally generated funds (i.e., policyholders' surplus) is extremely difficult when underwriting losses occur in successive years[4].

Reduction of agency cost is another incentive for demutualization. The three functions performed within an insurance company include: 1) the management function, 2) the owner function, and 3) the customer function. These three functions of management, owner (shareholder), and customer (policyholder) are separate in stock companies while owner and customer are merged in mutual companies (policyholder) (Mayers & Smith, 1988). Fama and Jensen (1983) argue that separation of decision making and risk bearing is likely to accompany separation of decision making and decision control to minimize agency conflicts. Mayers & Smith (1988) and Cagle, Lippert & Moore (1996) summarize the advantages and disadvantages of stock and mutual companies in regards to agency conflicts.

An important stock company advantage is that many decision control mechanisms are already in place, therefore limiting the agency conflict between managers and shareholders. Some decision control mechanisms include: 1) shareholder monitoring, 2) the market for corporate control, 3) the managerial labor market, 4) monitoring by analysts, institutions and regulatory authorities, and 5) the capital and product markets. Another advantage to a stock company is the ability to align manager's interest with shareholders' interest through performance incentives. The disadvantage to stock companies is the additional agency conflicts between shareholders and policyholders. In a stock company, managers are agents for the shareholders. This relationship gives management the incentive to increase share value by altering investment, financing, and dividend policies at the expense of policyholders. The expense to policyholders may be increased probability of insolvency and reduced expected benefits of policyholders. This incentive is further increased if performance incentives exist. This becomes an advantage to mutual companies, because the merging of owner and customer functions eliminates the owners' incentive to transfer wealth from the policyholder to shareholders.

At the same time, the advantages of stock companies are disadvantages for mutual companies. In general, mutuals have fewer methods to monitor management, therefore increasing agency problems between management and policyholders. Control mechanisms include: 1) regulatory authority oversight, 2) presence of redeemable claims held by policyholders, and 3) supervision by the board of directors. Heller (1986) argues that regulatory oversight is the strongest control mechanism but at the expense of the mutual's flexibility and efficiency in operations. A mutual's management is immune to pressures from policyholders due to a lack of a mechanism for concentrating ownership (Heller, 1986). The only method to influence management is through threat of exit (i.e., presence of redeemable claims) by policyholders. However, the presence of redeemable claims is only effective if it is inexpensive for policyholders to change insurers. If the cost of changing insurers is high, management is immune to pressures from the owners.

Supervision by the board of directors also is limited since internal managers and residual claimants choose outside board members. Since mutual companies are owned by policyholders, performance incentives are unavailable to management. Because both forms of structure minimize agency costs through different means, companies demutualizing may seek to reduce existing agency conflicts. For example, a company may determine that the agency problem between shareholders and policyholders is less costly than the agency conflict between management and owners. While changing to a different organization structure may result in a trade-off of conflicts and benefits, the demand for capital may outweigh this trade-off and lead to demutualization.

The various methods of demutualization are determined by states (Fitzgerald, 1990). The majority of states adopt a straight conversion plan and a majority of the companies included in this paper's sample demutualized through some form of straight conversion. The general process of a straight conversion is the valuation of the embedded equity claims of the policyholders, the identification of policyholders, and the settlement in some form of stock, cash, or both to policyholders. The remaining shares are sold to interested parties which accomplish the goal of obtaining additional surplus[2]. Other types of conversions, but not as widely used, are preferred stock bail-out, bulk reinsurance, and merger or consolidation (Fitzgerald, 1990).

Valuation

Important in the demutualization process is the valuation of the embedded equity claim of policyholders. The valuation is important because insurance regulation requires distribution of the embedded equity claim to policyholders. Demutualization is a corporate-control transaction and corporate control transactions result in a high demand for information (DeAngelo, 1986). The valuation process in the demutualization transaction occurs in a non-market setting since there are no separately traded equities of these companies. Valuation of a company relies heavily on accounting numbers, especially policyholders' surplus (Mayers & Smith, 2004). Due to the impact of the valuation process on both the distribution of wealth and the social welfare of parties involved, appropriate valuation in this non-market setting is a concern (Perry, 1990). Determination of value affects the feasibility of control transactions.

Heller (1986) argues that there are two methods in determining value. The first method is to value it administratively and consists of commissioning an appraisal committee to estimate market value. This method is appropriate when the market for the firm's assets is thin, with few bidders. The second method is a capital market valuation. This method is applicable only if there are many bidders with the bids ultimately converging to a market price. Capital market valuation is seldom used since most demutualizations do not solicit bids. All states except New York, Ohio, and Wisconsin use an appraisal committee to determine value.

A common approach used by many state regulators is the adjusted book value approach (Tillman, 1985). The approach starts with statutory financial statements (policyholders' surplus) with adjustments to generally accepted accounting principles with other relevant adjustments. One of the more significant adjustments is the elimination of the loss reserve deficiency/redundancy. Due to the relative weight in valuation and the subjectivity in determining reserve levels, reserve adjustments are sensitive to the valuation process. Once the value of the embedded equity is determined, the processes of actual distribution to policyholders and issuance of stock begins. In general, the distribution process uses a formula whereby mutual policyholders, either overall or by type of policy over a predetermined time period, receive a pro-rata portion of the equity (Heller, 1986). The stock issuance can be in the form of a private offering (e.g., to a holding company and/or management) or a public offering.

Prior Research

Demutualization

Limited research exists regarding accounting issues of property-liability insurance companies. A 20-year demutualization case study identified overall characteristics of companies that have demutualized (Fitzgerald, 1990). The study documented that firms were primarily older Midwest firms that operated in limited lines of insurance. These companies wrote insurance in limited states and developed financial difficulties as a result of unprofitable underwriting practices over a period of time. Unprofitable underwriting practices results in a combined ratio exceeding 100% implying that the estimated insurance claims and operating expenses exceeded the premium income[3]. Investment income is only remaining item to offset this loss and if it is not sufficient to cover the excess insurance claims and operating expenses over premium income (i.e., underwriting loss), depletion of capital is the result. Losses over a period of time mean that net income is an unreliable source of expansion financing.

If net income is an unreliable source of financing, an insurer requires other access to capital (i.e., additional surplus) to expand or survive. As mentioned earlier, one disadvantage of mutual companies is the restricted access to capital. Unprofitable underwriting practices further limit the access to capital which leads to demutualization as a means to raise additional surplus. Fitzgerald (1990) results were determined without the use of any controls for exogenous factors.

In addition to examining the incentives to demutualize, Mayers & Smith (2004) examine the accounting managements incentives associated with demutualization. They argue that accounting information is important in the valuation process and that management is interested in reducing the embedded equity value allocated to policyholders by managing surplus. To investigate this argument, they examine the increase in loss reserves, the recognition (non-recognition) of losses (gains) in the company's asset portfolio, and the acceleration in claims settlement to increase underwriting losses. Their results support the growth hypothesis in that demutualization facilitates the acquisition of capital and reduces the growth restrictions imposed by mutual companies. In managing surplus, their results suggest that companies have more discretion in adjusting liabilities than managing investment and underwriting returns. The evidence is also consistent with controlling management having personal motives for demutualization. Their study does not evaluate the actual claim loss reserve development to test management of loss reserves. They use a model that evaluates the discretionary component of the change in total liabilities.

Earnings Management

Management's incentive to manage earnings has been examined in various contexts. The form of the earnings management varies among these contexts and is not identified in all contexts. DeAngelo (1986) and Perry & Williams (1994) studied going private transactions, McNichols & Wilson (1988) examined income smoothing through the provision of bad debts, Petroni (1992) and Weiss (1985) studied earnings management in insurance companies through estimated loss reserves.

Demutualization is similar to going private transactions in that accounting numbers are used to assess the fair value of the firm for settlement to shareholders in going private transactions and policyholders in demutualization transactions. In both transactions, the role management has subsequent to the transaction determines the incentive management has to manage earnings. DeAngelo (1986) found no evidence that managers manage earnings prior to the transaction but Perry & Williams (1994) identified mixed results of earnings management in this context.

The similarity between McNichols & Wilson (1988), Weiss (1985), and Petroni (1992) is that all three chose a single accrual to examine income smoothing. McNichols & Wilson (1988) examined the allowance for bad debts and found evidence supporting earnings management through this accrual. Weiss (1985) did a multivariate analysis of loss reserve estimates for stock and mutual automobile insurers and found evidence supporting the smoothing of reported financial position by discretion in estimating loss reserves. The study examined the automobile liability insurance line using a pooled, cross-section time series regression. The smoothing of financial results was examined by testing the significance of the relationship between loss reserve error and actual combined ratio. Loss reserve error is the difference between the estimated and actual development of claims paid using a five-year lag period. Tests also examined exogenous economic developments such as inflation and interest rates. An increase in inflation and/or interest rates will result in underreserving the loss reserve estimate. The empirical analysis supported the hypothesis and concludes that exogenous economic developments affect the degree of accuracy of loss reserve estimates.

Petroni (1992) investigated only stock property-liability insurance company's managerial choices in their estimates of the claim loss reserve. The findings support the hypothesis that the incentive to underestimate the claim loss reserve is a decreasing function of the insurance company's actual financial position. The sample was chosen from all stock property-liability companies domiciled in the United States in 1979 and does not identify companies that have demutualized. To test the understatement of reserves, Petroni divided the sample between companies having financial difficulties and financially healthy companies. The subsamples were developed using a set of ratios that determined the financial condition of the companies. After controlling for tax rates and exogenous factors, the results of the research indicated that managers of the financially troubled institutions bias downward their liability relative to other insurers. This bias toward understating reserve increases as the risk of receiving regulatory scrutiny increases. Regulatory scrutiny increases as insurers become more financially distressed.

A significant difference between this paper and the non-insurance industry papers is that, like Petroni (1992), this paper is able to test the understated (overstated) liability directly by the use of regulatory reports. In general, tests of abnormal accruals in other industries are based on expected future cash receipts and payments from past and current transactions. The accuracy of expected future cash flows is very difficult to measure directly. Measuring the accuracy of the claim loss reserve can be done directly through regulatory reports that are issued subsequent to the recording of the estimated liability. The reports identify the actual claims incurred to date and enable comparison between actual and estimated reserves.

Since the (Weiss, 1985) paper studies both mutual and stock companies and the (Petroni, 1992) paper studies only stock companies, this paper differs because its sample only consist of mutual companies. This paper also differs from the (Petroni, 1992) study in that the prior study investigated financial distressed stock companies and management discretion in the claim loss reserve. This paper also is interested in management discretion of reserves but is interested in determining if the discretion is an effect of mangers' incentives within the demutualization process. Demutualization does not necessarily mean that the company has financial troubles, although financial troubles could be the reason for demutualizing.

For example, Heller (1986) argues that a company's decision to demutualize depends on the risks of the conversion process as well as on the advantages of operating as a stock company. He argues that companies most likely to demutualize are rapid growth companies and companies that face dim prospects as a mutual and therefore convert to revitalize the company. Therefore, this paper will look at mutual firms that demutualize and control for financially troubled firms. This study will differ from the (Weiss, 1985) study in that it will examine demutualized companies and more than the automobile liability line of business. It will examine the total business of property-liability companies that have demutualized. Instead of looking at management discretion in estimating loss reserves for smoothing effects, this paper is interested in management's surplus management within the demutualization transaction.

HYPOTHESES

The claim loss reserve is one of the largest liabilities on an insurance company's balance sheet. Because of their relative size and degree of difficulty in achieving reasonable accuracy in their determination, claim loss reserves are the most important and critical liability in the balance sheet. In the short-run, overstatement (understatement) of this liability results in a decrease (increase) to underwriting gains and policyholders' surplus. As the overstated (understated) reserves develop, the overreserving (underreserving) of those losses will strengthen (depress) future underwriting gains. The concern of regulators is that serious misestimating in reserves affects the future financial condition of an insurer, possibly leading to insolvency. Exhibit A summarizes the effects of understating claim reserves.

Anderson (1971) studied the effects of under-and-overevaluations in loss reserves. His findings included the following conclusions. First, errors in loss reserves are of sufficient magnitude to have significant effects on surplus and thus an influence on financial stability. Second, changes in loss reserve margins may be a tool in stabilizing underwriting results. While the evidence suggests the use of reserves as a smoothing technique, the evidence is not conclusive. This paper is testing for the significant effect on surplus from overstatement (understatement) of loss reserves.

Development of the hypothesis must consider management's incentive between loss reserve management and demutualization. Schipper (1989) recommends that to test for earnings manipulation, both economic incentives and circumstances surrounding the transaction need to be considered. Demutualization requires valuation of the mutual company and the level of surplus is a key component of the valuation process. Since loss reserve management impacts surplus and therefore valuation, the link between loss reserve management and demutualization is established. I review management's role (i.e., ownership/control) in the demutualization process to identify the different economic incentives facing managers. It is recognized that in a regulatory environment, there are features of the insurance setting that may control management incentives. Examples of these features are the policyholders' contracts, fewer opportunities to manage earnings, and active involvement in the demutualization process by state insurance regulators. What is difficult to determine is the net effect of these features on management incentives. An example of this difficulty is the possibility of ineffective controls due to the regulators' lack of expertise in determining earnings management.

Management’s incentives to manage surplus for valuation purposes are dependent on the role of management in the demutualization process. If management has much to gain from the transaction, such as significant ownership interest in the newly formed stock company, their incentive would be to manage earnings by overstating reserves, thereby reducing surplus. Decreasing the surplus by overstating reserves could result in a lower value of the company and therefore lower stock prices. Lower valuation results in a lower settlement to policyholders as well as enables managers to buy stock at a lower price. This transfer of wealth from existing shareholders to themselves result in an agency conflict between policyholders and management. This incentive leads to the first hypothesis:

H1: *The year prior to demutualization, managers of property-liability insurance companies who have a significant ownership interest after demutualization will overstate their estimates of claim loss reserves as a means to decrease the companies' surplus.*

The incentive to overstate reserves reflects management's significant role subsequent to the demutualization transaction. In contrast, if management has a limited role subsequent to the demutualization process, they may have an incentive to understate the loss reserves and therefore overstate surplus. An incentive is to act in the best interest of policyholders; increase firm value. Reported firm value would be increased as a result of the increase to surplus by understating loss reserves. Increasing reported firm value results in policyholders receiving a higher payoff from the conversion process. Also, considering the cost of demutualization, the additional surplus could be used to offset the cost[4]. This incentive leads to the second hypothesis:

H_2: *The year prior to demutualization, managers of property-liability insurance companies will act in the best interest of policyholders by understating their estimates of claim loss reserves as a means to increase the companies' surplus.*

Claim Loss Reserve and Claim Loss Reserve Error

The claim loss reserve is a liability for unpaid claims and unpaid loss adjustment expenses incurred as of a given valuation date[5]. Included in the reserve are estimates of unpaid losses for reported cases, incurred but not yet reported (IBNR) claims, and future loss adjusting expenses to settle the unpaid claims. The loss reserve estimate is determined by individual case estimates and/or formulas and requires management judgment.

Subsequent to the reserve valuation date, additional information becomes available about the actual incurred losses from prior periods. This information is the continuing development of the claim payments made subsequent to the period the claims were incurred. After all claims are paid for that prior period, the actual losses for that period are known. The actual loss amount is then compared to the original estimate of incurred losses and any difference is adjusted and charged to the current year's operations as a change in accounting estimate. The change in estimate is referred to as the claim loss reserve error and is measured as follows:

$$\begin{pmatrix}\text{Claim Loss}\\ \text{Reserve Error}\end{pmatrix}_t = \frac{(\text{Originally Reported Incurred Losses})_t - (\text{Losses as Actually Developed})_{t+2}}{(\text{Admitted Assets})_t} \times 100$$

where t denotes the end of year values for the variables. The originally reported incurred losses include settled and unsettled reported claims, IBNR and incurred loss adjustment expenses (paid and estimated). Losses actually developed are adjusted for inflation. The adjustment is the difference between the geometric average rate of inflation over the years losses are developed and the geometric average rate of inflation in the five years prior to the year losses were originally reported as incurred (Weiss, 1985)[6]. A positive (negative) loss reserve error indicates overreserving (underreserving).

Petroni (1992) and Weiss (1985) used similar measures with the exception that they both used 5 years development in comparison to the 2-year development used in this study[7]. Kazenski, Feldhaus'' and Schneider (1992) did a study on loss development horizons. They found that that the precision of the reserve estimates converge to fully developed values during the third development year. They also find evidence that 2 to 3 years of development is sufficient to find statistically significant reserve errors if testing a sample of insurers. If individual insurers are analyzed, a longer horizon may be needed. Because of those results and the fact that less data would be required therefore keeping as many firms in the sample as possible, this study tests the reserve error using a 2-year development horizon.

SAMPLE

The initial sample for this study consists of companies that demutualized during the period of 1968-2004. The initial sample of 97 insurance companies was collected from *Best's Insurance Reports Property-Casualty (Best's Reports)*. *Best's Reports* are compiled by A.M. Best Company, Inc. and contain qualitative as well as quantitative information about individual companies. Annual statement information as well as a financial rating of individual companies is included in this data source. Firms are eliminated from the sample if financial statement data and loss reserve development data are not available. This data is used directly to measure the financial health of the firm and the error in the claims loss reserves. The financial health of a firm is determined from financial statement data available from either *Best's Reports* or the insurer's Annual Statement. Loss reserve development data is obtainable from Schedule P of the insurer's annual statement and includes a ten-year loss reserve development identifying actual claims paid subsequent to the financial statement date when the original reserve estimate was recorded (Exhibit A)[8].

Forty-nine of the firms are eliminated from the initial sample for the following reasons: 1) no information was available for thirty-one insurers[9], 2) five firms converted from a Lloyd's company to a stock company[10], 3) two firms were placed in conservatorship after demutualization[11], 4) eight firms primarily issue workers' compensation or medical malpractice policies[12] and, 5) three firms are 100% reinsured[13]. The final sample consists of 48 companies that demutualized during the years of 1982 through 1999. During this period, 16 firms were from the first half of this period (1982-1990) with 32 firms from the last 9-years of the period (1991-1999). None of the sample firms demutualized in either 1989 or 1990. Exhibit B identifies the 48 firms and dates of the demutualizations.

Table 1 reports the descriptive statistics for the 48 insurers. Panel A of the table gives the statistics for a ten-year time period which includes the five years preceding demutualization, the demutualization year and four years after demutualization. Panel B of Table 1 gives the statistics for the five years prior to demutualization and Panel C gives the statistics for the year of demutualization and the four years following the demutualization. For all data in Panel A, the loss reserve mean (median) represents 31% (33%) of admitted assets and Panel B and Panel C report means (medians) of 33% (33%) and 30% (31%) of admitted assets, respectively. Net premium written increased in mean (median) by 25% (30%) between the years prior to demutualization (Panel B) and the year of and after demutualization (Panel C). Surplus also increased in mean (median) by 58% (69%) between the years. The increase in net premium written and surplus would support the expansion and/or distress incentives for demutualization. In addition, the descriptive statistics shown, combined with large standard deviations, suggest that size varies significantly across demutualized insurers.

Table 1
DESCRIPTIVE STATISTICS FOR 48 PROPERTY-LIABILITY INSURERS
(In thousands)

Panel A: All Data [a]

	Insurer -Years	Median	Mean	Standard Deviation	Minimum	Maximum
NPW	449	8,619	26,404	43,941	-3,014	235,863
Admitted Assets	449	17,325	57,547	92,907	316	590,920
Loss Reserve	445	5,696	18,096	29,313	22	163,156
Surplus	447	7,139	17,870	24,965	141	127,528

Panel B: Data for years –1 to –5 [b]

	Insurer -Years	Median	Mean	Standard Deviation	Minimum	Maximum
NPW	243	7,862	23,733	40,700	-1,663	227,073
Admitted Assets	243	14,048	47,468	76,480	316	436,793
Loss Reserve	237	4,679	15,654	26,401	26	154,504
Surplus	241	5,046	14,083	19,535	141	114,347

Panel C: Data for years 0 to 4 [c]

	Insurer -Years	Median	Mean	Standard Deviation	Minimum	Maximum
NPW	206	10,248	29,554	47,388	-3,014	235,863
Admitted Assets	206	22,413	69,437	108,148	2,931	590,920
Loss Reserve	208	6,879	20,879	32,152	22	163,156
Surplus	206	8,504	22,300	29,539	557	127,528

[a] 10 years include 5 years prior to demutualization through 4 years after demutualization
[b] Years include 5 years prior to demutualization to the year prior to demutualization
[c] Years include year of demutualization to four years after demutualization
NPW: Net premium written

MODEL

I test whether a claim loss reserve error exists as a result of management's incentive to adjust policyholder surplus through the claim loss reserves. The regression results are based on pooled cross-sectional time series data with controls for various insurer and exogenous economic factors.

The model used to test the hypotheses is expressed as follows:

$$ERROR_{i\,t} = \alpha_t + \beta_1 DIS_{i\,t} + \beta_2 TAX_{i\,t} + \beta_3 DM_{i\,t} + \beta_4 DM{*}DIS_{i\,t} + \beta_5\, DM{*}MGMT_{i\,t} + \varepsilon_{i\,t} \quad (1)$$

where

i	=	insurer index
t	=	year index
ERROR	=	reserve estimation error scaled by total admitted assets in year *t;*
DIS3	=	dummy variable assigned a value of 1 if an insurer is determined to be financially distressed and 0 otherwise <u>or</u>
DIS4:	=	Best rating assignment;
TAX	=	dummy variable, taking on the value of one in year *t* if insurer *i* incurred taxes and 0 otherwise;
DM	=	dummy variable assigned value of 1 if year before demutualization and 0 otherwise;
MGMT	=	dummy variable assigned a value of 1 if change in management resulted from the demutualization and 0 otherwise;
ε	=	error term.

Table 2 reports the descriptive statistics for all variables in the regression. The median (mean) for the dependent variable, *ERROR*, is 2.525 (2.162). The positive numbers indicate that overall, the firms' claim loss reserves are overstated.

The paper's focus is on the year prior to demutualization and management incentives to manage surplus through the estimated loss reserves. I use the control variable *DM* to determine if the demutualization event had an effect on the claim reserve error in the year preceding demutualization. In the year prior to demutualization, the variable is assigned a 1; otherwise a 0 is assigned. A positive relationship to claim reserve error is expected with the coefficient predicted to be positive when reserves are overstated.

The variable *MGMT* controls for the management incentive effects of managing surplus through the estimated loss reserves. *Best's Reports* for years prior to and after demutualization were reviewed to determine if a change in management occurred. If there is no change in management, the variable is assigned a 0; otherwise a 1 is assigned for a change in management. The mean of the *MGMT* variable is 0.182, indicating that approximately one-fifth of the firms changed management with demutualization.

The regression controls for financially distressed firms. Financially distressed firms have incentives to understate reserves to avoid regulatory intervention. The regression is tested separately using two different variables with both variables developed from the Best Rating system[14]. Best classifies the overall rating of A++ through B+ as secure ratings and the ratings of B through F as vulnerable. Best uses NR for not rated. At times, Best will assign a FPR but not an overall rating. Best classifies FPR's of 5 through 9 as secure and FPR's of 1 through 4 as vulnerable. *DIS3* is a dummy variable of 0 if rating is a secure rating and a variable of 1 if a vulnerable rating[15]. From Table 2, the mean of *DIS3* is 0.269, suggesting that approximately one-quarter of the insurer-years is considered distressed. Since *DIS3* involves some subjectivity, *DIS4* is an alternate variable used and is the same variable that Petroni (1992) used in her paper to test the adequacy of ratios used in determining distress. Financial ratings of A or A+ (FPR 8 or 9) are assigned a 1, B+ or A- (FPR 5-7) a 2, B- or B (FPR 4) as 3, C+ (FPR 3) a 4, and C or lower (FPR 1 or 2) a 5. Non-rated insurers are assigned a 6[16]. From Table 2, the mean of *DIS4* is 2.702, suggesting an average of B ratings and therefore vulnerable. Since non-rated insurers are assigned a 6, *DIS4* may be biased towards distressed. If distressed firms have more incentive to understate and not overstate reserves, the coefficient would be positively correlated to a negative claim loss error (Petroni, 1992). Since the claim reserve error reported in this study is positive, indicating overreserving, the coefficient should be negatively correlated. A negative coefficient is predicted.

I interact the *DM* variable with both *MGMT* and *DIS* to determine if *MGMT* and *DIS* are different in the year prior to demutualization, in comparison to other years, as a result of the demutualization. The coefficient on *DM*MGMT* will be negative since an overreserve (underreserve) of losses is a result of no change (change) in management indicating a negative relationship. The *DM*DIS* variable will be negatively correlated (coefficient negative) to the claim loss reserve error if the error is a result of overstatement.

The model also controls for taxes and the effects of tax rates on the estimated loss reserves[17]. Scholes *et al*. (1990) argue that firms with a net operating loss (NOL) carryforward are expected to have low tax rates and firms with no NOL carryforward high tax rates. The insurance industry has a similar structure[18]. Since the tax status of companies is not disclosed in *Best's Reports* but taxes incurred or refunds received/receivable are identified in the reports, companies not currently paying taxes or receiving a refund on prior-year taxes are assigned a variable of 0. Companies indicating incurred taxes for the year are assigned a variable of 1. The mean is 0.481, indicating that slightly more insurer years are without taxes. Since overreserving the loss reserve results in less income and underreserving produces more taxable income, the tax variable should be negatively correlated to the reserve error. Since the average claim loss error identifies overstatement, it is predicted that the coefficient is negative.

Table 2
DESCRIPTIVE STATISTICS OF VARIABLES FOR THE 48 PROPERTY-LIABILITY INSURERS USED IN THE REGRESSION ANALYSIS

Variable	Insurer-Years	Median	Mean	Standard Deviation
ERROR	377	2.525	2.162	5.104
DIS3	450	0	0.269	0.444
DIS4	450	2	2.702	1.905
MGMT	455	0	0.182	0.387
TAX	455	0	0.481	0.500
DM	455	0	0.107	0.310
DM*DIS3	450	0	0.038	0.191
DM*DIS4	450	0	0.356	1.221
DM*MGMT	455	0	0.018	0.132

ERROR = reserve estimation error scaled by total admitted assets in year *t;*
DIS = DIS3: dummy variable assigned a value of 1 if an insurer is determined to be financially distressed and 0 otherwise or *DIS4:* Best rating assignment;
MGMT = dummy variable assigned a value of 1 if change in management resulted from the demutualization and 0 otherwise;
TAX = dummy variable, taking on the value of one in year *t* if insurer *i* incurred taxes and 0 otherwise;
DM = dummy variable assigned value of 1 if year before demutualization and 0 otherwise;

RESULTS

Univariate Analysis

I first examine the claim loss reserve error in the 5 years prior to demutualization. To examine the claim loss reserve error, I calculate averages for each firm of various groupings of years prior to demutualization and compare the averages to the year(s) prior to demutualization for each firm. A paired comparison t-test is applied to the difference. Results for comparison of three different groupings of the 5 years are reported in Table 3. The analysis of the first group consisted of 5 years prior through 2 years prior to demutualization compared against the year prior to demutualization. Group two compared the 5 years to 3 years prior to demutualization against the year prior to demutualization. The last group compared the 5 years to 3 years prior to demutualization against the prior 2 and 1 years.

Table 3 reports the results of the univariate analysis. The means for all three groups and the median for the first two groups indicate overreserving rather than underreserving. Even though the univariate results indicate no statistical significance, the results indicate that when the year prior to demutualization is separated from the other prior years, a difference in the reserving pattern appears. The mean and median for the first two groups are similar but the mean and median of the third group differ from the mean and median of the first two groups. If the year prior to demutualization is grouped with the second year prior to demutualization, not much difference exists between those two years and the 5-years through 3-years preceding demutualization[19]. Statistical insignificance may be a result of other confounding factors that are not controlled for in the univariate analysis. The sensitivity analysis section will test the claim loss reserve error in the years preceding demutualization in a multiple regression setting.

Table 3
UNIVARIATE ANALYSIS OF CLAIM LOSS RESERVE ERROR FOR 48 INSURERS
2-YEAR DEVELOPMENT OF CLAIM LOSS RESERVE ERROR

Group	Mean	t-test p-value	Median	Wilcoxon p-value
1. Year = -1 Year = -5 to -2	0.823	0.323	0.236	0.296
2. Year = -1 Year = -5 to -3	0.802	0.417	0.217	0.374
3. Year = -1, -2 Year = -5 to -3	0.300	0.638	-0.133	0.578

$$\begin{pmatrix}\text{Claim Loss}\\ \text{Reserve Error}\end{pmatrix}_t = \frac{(\text{Originally Reported Incurred Losses})_t - (\text{Losses as Actually Developed})_{t+2}}{(\text{Admitted Assets})_t} \times 100$$

Regression Results

Table 4 reports the results of the multiple regression estimated over the ten-year period for each of the 48 insurers resulting in 375 insurer-years. Panel A of Table 4 reports the regression results with the distress variable *DIS3*. Since *ERROR* is positive, it is predicted that the *DIS3*, *TAX*, *DM*DIS3*, and *DM*MGMT* coefficients are negative and the *DM* coefficient positive. All variable coefficients are as predicted.

The *DM*MGMT* has a negative coefficient of -5.163 that is statistically significant at less than the 0.01 level. The *DM* coefficient of 1.695 is significant at the 0.10 level. The *DIS3, TAX,* and *DM*DIS3* coefficients are as predicted but are all insignificant. The insignificance of the distress variables and interactive distress variables may be a result of approximately only one-quarter of the firms being classified as distressed. I will test the sensitivity of the regression to this variable in the sensitivity analysis section.

The results support the first hypothesis in that management will overstate the estimates of claim loss reserves. It is hypothesized that managers with significant ownership interest will have the incentive to overstate the estimated claim loss reserve as a means to decrease surplus. The lower level of significance of the *DM* variable suggests that the management of claim loss reserves is not only impacted by the intent to demutualize. The results do suggest that the management process impacts the demutualization process. The results for the variable *DM*MGMT* imply that, in comparison to other non-demutualization years, more management incentive exists to overstate reserves in the year prior to demutualization.

Panel B of Table 4 reports the regression results with the distress variable, *DIS4*. The results report the predicted negative coefficient for *DM*MGMT (*–4.383) and is statistically significant at the 0.05 level. Similar to the first regression, since the *ERROR* is positive, it is predicted that *DIS4*, *TAX*, and *DM*DIS4* coefficients are negative and the *DM* coefficient positive. All the coefficients are as predicted but only the *DIS4* coefficient is significantly negative at the 0.10 level. Achieving this level of significance for the *DIS4* in this regression but not for *DIS3* in the first regression must be interpreted with caution. Since non-rated insurers are arbitrarily assigned a 6, *DIS4* may be biased towards distress.

Similar to the regression with the *DIS3* distress variable, the first hypothesis is supported. The difference between the two regressions is that the insignificance of the *DM* variable in the second regression suggests that the management of claim loss reserves is not directly impacted by the intent to demutualize. Similarities in both regressions include the suggestion that management incentives do impact the demutualization process.

Sensitivity Analysis

In the univariate analysis, there exists some significance and therefore an indication of changing reserve patterns between the year preceding demutualization and the other years prior to demutualization. To test for the possibility of other factors influencing the results, I ran the full regression but only for the years preceding demutualization. Table 5 reports the results of the regression estimated over the 5-year period for the 48 insurers (234 insurer-years). The coefficients of all variables are as predicted. The regression, with either distress variable, results in significant *DM, DM*MGMT* and *TAX* coefficients.

Similar to the full regression with all insurer-years, the second hypothesis is supported. The difference between the results of all years and the pre-demutualization years is that with either *DIS* variable, the significance of the *DM* variable suggests that the management of claim loss reserves is directly impacted by the intent to demutualize. This may be a result of truncating the data. The significance of the *DM*MGMT* variable remains consistent throughout all regressions and supports the hypothesis that more management incentive exists to overstate reserves in the year prior to demutualization.

Table 4
REGRESSION RESULTS FOR 48 INSURERS
(375 Insurer-Years)

$$ERROR_{i\,t} = \alpha_t + \beta_1 DIS_{i\,t} + \beta_2 TAX_{i\,t} + \beta_3 DM_{i\,t} + \beta_4 DM{*}DIS_{i\,t} + \beta_5\, DM{*}MGMT_{i\,t} + \varepsilon_{i\,t},$$

Panel A: Two-Year Development with DIS (N=375)

Dependent Variable[a]	Independent Variable	Coefficient	Standard Error	t-statistic
ERROR				
Adjusted R^2 = 0.011	***DIS3***	-0.073	0.638	-0.12
	TAX	-0.422	0.543	-0.78
	DM	1.695	1.006	1.69*
	DM*DIS3	-1.441	1.669	-0.86
	DM*MGMT	-5.163	1.989	-2.60***

Panel B: Two-Year Development with DIS4 (N=375)

Dependent Variable [a]	Independent Variable [a]	Coefficient	Standard Error	t-statistic
ERROR				
Adjusted R^2 = 0.022	***DIS4***	-0.279	0.151	-1.85*
	TAX	-0.688	0.546	-1.26
	DM	2.012	1.469	1.37
	DM*DIS4	-0.253	0.410	-0.62
	DM*MGMT	-4.383	2.110	-2.08**

***(**/*) Statistical significance at the 0.01 (0.05/0.10) level
a Variables:
ERROR = reserve estimation error scaled by total admitted assets in year *t;*
DIS = *DIS3*: dummy variable assigned a value of 1 if an insurer is determined to be financially distressed and 0 otherwise or *DIS4:* Best rating assignment;
TAX = dummy variable, taking on the value of one in year *t* if insurer *i* incurred taxes and 0 otherwise;
DM = dummy variable assigned value of 1 if year before demutualization and 0 otherwise;
MGMT = dummy variable assigned a value of 1 if change in management resulted from the demutualization and otherwise.

In the pre-period, the results of the two distress variables, *DIS3* and *DIS4*, are insignificant, indicating less variation in distress across firms. The insignificance of the distress variables and interactive distress variables may be a result of the subjectivity used in assigning a distress variable and/or approximately only one-third of the firms being classified as distressed. To test the sensitivity of this variable to the regression, I ran the regressions for all years without the distress variable. Table 6 reports the results of this regression. The results report similar coefficients and significance. The coefficient of -5.418 for *DM*MGMT* is as predicted and is significant at less than the 0.05 level. The negative *TAX* coefficient of -0.366 and the *DM* coefficient of 1.228 are as predicted but statistically insignificant. Results are similar to the full regression and therefore continue to support the second hypothesis[20].

Table 5
REGRESSION RESULTS FOR 48 INSURERS YEARS PRIOR TO DEMUTUALIZATION
(234 Insurer-Years)

$$ERROR_{i\,t} = \alpha_t + \beta_1 DIS_{i\,t} + \beta_2 TAX_{i\,t} + \beta_3 DM_{i\,t} + \beta_4 DM{*}DIS_{i\,t} + \beta_5\, DM{*}MGMT_{i\,t} + \varepsilon_{i\,t},$$

Panel A: Two-Year Development with DIS3 (N=234)

Dependent Variable	Independent Variable	Coefficient	Standard Error	t-statistic
ERROR				
Adjusted R^2 = 0.019	***DIS3***	-0.213	0.945	-0.23
	TAX	-1.530	0.822	-1.62*
	DM	2.252	1.245	1.81*
	DM*DIS3	-1.514	2.041	-0.74
	DM*MGMT	-5.284	2.344	-2.25**

Panel B: Two-Year Development with DIS4 (N=234)

Dependent Variable [a]	Independent Variable [a]	Coefficient	Standard Error	t-statistic
ERROR				
Adjusted R^2 = 0.034	***DIS4***	-0.407	0.231	-1.76*
	TAX	-1.671	0.817	-2.04**
	DM	2.227	1.815	1.23
	DDIS4	--0.166	0.503	-0.33
	DMGMT	-4.472	2.481	-1.80*

***(**/*) Statistical significance at the 0.01 (0.05/0.10) level.
[a] Variables:
ERROR = reserve estimation error scaled by total admitted assets in year *t;*
DIS = *DIS3*: dummy variable assigned a value of 1 if an insurer is determined to be financially distressed and 0 otherwise or *DIS4:* Best rating assignment;
TAX = dummy variable, taking on the value of one in year *t* if insurer *i* incurred taxes and 0 otherwise;
DM = dummy variable assigned value of 1 if year before demutualization and 0 otherwise;
MGMT = dummy variable assigned a value of 1 if change in management resulted from the demutualization and 0 otherwise.

CONCLUSION

This study examined whether managers of mutual property-liability insurance companies use their discretion in estimating the claim loss reserve accrual in the year preceding demutualization of the company. Insurance companies experiencing growth and/or financial distress have a need for additional surplus. The paper examines one of two methods that companies have in obtaining additional surplus; demutualization. The insurance industry and the demutualization process provide a specialized setting to examine earnings management. Since the valuation process is a key component in the conversion process, opportunity for management discretion in determining the reserve estimate is established. Because of the more accurate and direct tests of the largest accrual on the balance sheet, claim loss reserves, the insurance industry also provides a richer environment for examining earnings management. Therefore, the paper not only provides a strong motivation for management incentives, but also grants the opportunity to improve the measurement of earnings management since actual losses are compared to estimated losses.

Table 6
REGRESSION RESULTS FOR 48 INSURERS
(375 Insurer-Years)

$$ERROR_{i\,t} = \alpha_t + \beta_1 TAX_{i\,t} + \beta_2 DM_{i\,t} + \beta_3\, DM{*}MGMT_{i\,t} + \varepsilon_{i\,t},$$

Two-Year Development (N=375)

Dependent Variable	**Independent Variable**	**Coefficient**	**Standard Error**	**t-statistic**
ERROR				
Adjusted R^2 = 0.014	***TAX***	-0.366	0.524	-0.70
	DM	1.228	0.850	1.45
	DM*MGMT	-5.418	1.966	-2.76**

***(**/*) Statistical significance at the 0.01 (0.05/0.10) level
[a] Variables:
ERROR = reserve estimation error scaled by total admitted assets in year *t;*
TAX = dummy variable, taking on the value of one in year *t* if insurer *i* incurred taxes and 0 otherwise;
DM = dummy variable assigned value of 1 if year before demutualization and 0 otherwise;
MGMT = dummy variable assigned a value of 1 if change in management resulted from the demutualization and 0 otherwise.

With companies changing from mutual companies to stock companies, I predict that management will increase their discretion in estimating reserves to adjust surplus in alignment with their incentives. It was predicted that if management has a limited role in the newly formed company, the incentive of management would be to understate reserves as a means to increase surplus, which would result in increased firm value for the policyholders. If managers have a significant interest in the newly formed company, their incentive would be to overstate reserves, to decrease surplus, resulting in lower firm value and lower payoff to policyholders. This would enable mangers to buy the stock at a lower price.

The regression results support the hypothesis of overstatement of reserves. No evidence was found to support the understatement of reserves. The results indicate that, in comparison to other non-demutualization years, more management incentive exists to overstate reserves in the year prior to demutualization. The demutualization transaction itself has limited impact on surplus management.

Better access to capital for growth and/or financial distress is one reason for demutualization. The descriptive statistics identify an increase in net premium written and surplus as a result of the transaction, indicating expansion, which supports prior research (Mayers & Smith, 1996). The regression results do not support poor financial condition as a factor in demutualization.

The results of this study imply that a change in organizational structure does give management an opportunity to manage earnings. Limitations of the study include small sample size and the use of a proxy for some distress classifications. It is possible that stronger results are not obtained because of the regulatory environment in which the change in organizational structure operates. Future research could study the impact of the regulatory environment on the insurer’s transactions.

ENDNOTES

1. Besides underwriting capacity constraints, other constraints are imposed on other traditional funding mechanisms for mutuals. Fitzgerald (1990) states, "restricted access to capital is inherent in the structure of a mutual, for using traditional means to obtain capital-contribution notes and surplus is limited by the financial resources of the contributor and legal restrictions that limited marketability of these notes."
2. An example of a conversion is as follows: An insurance company domesticated in Wisconsin must adopt a plan of conversion and have resolution by the board that it is in the best interest of policyholders. The plan includes the number of shares proposed to be authorized for the new stock corporation, their par value and their price at which they will be offered to policyholders, which may not exceed one-half of the median equitable share of all policyholders under par. Determination of policyholders is any person who has been a policyholder and has paid premiums within 5 years prior to the resolution. The policyholders need to vote for approval of the conversion. These are the general rules. More detail is included in the statutes. WI Statute ¶611.76.
3. The combined ratio is the sum of the claims and claims expense ratio and the expense ratio. Claims and claims expense ratio (loss ratio) = incurred losses and loss adjustment expenses/earned premiums. The ratio measures the company's underlying profitability (or loss experience) on its total book of business. Expense ratio = underwriting expenses/premiums written. The ratio measures the company's operational efficiency in underwriting its book of business. Premium written is the premium on all policies a company has issued in a period of time, as opposed to earned premiums.
4. Fitzgerald (1990) interviewed 25 mutual insurers. A question asked was whether the company considered conversion in the past or future and what their reaction to demutualization was. A sample of the responses indicated that demutualization is a relatively expensive option and very time consuming.
5. Unpaid claims are claims reported but not paid and incurred but not yet reported claims (IBNR). Unpaid loss adjustment expenses are unpaid expenses that were incurred to estimate the amount of loss for reported claims and an estimate for the adjustment expense related to the IBNR claims. Unpaid losses and unpaid loss adjustment an expense is the claim loss reserve.
6. $$[(\text{Index of average weekly wages})_{t+2} / (\text{Index of Average Weekly Wages})_{t}]^{1/2} -$$

   $$[(\text{Index of average weekly wages})_{t-6} / (\text{Index of Average Weekly Wages})_{t-1}]^{1/5}$$

   Data for average weekly wages are taken from Business Statistics. For 13 firms, a proxy for the inflation adjustment is used for the 2-year development of reserves set in 1994. They proxy is the average of the inflation adjustment factor over the past 5 years.
7. The regression was also run with the error weighted by the original reserve estimate (Weiss, 1985) instead of admitted assets:

   $$\begin{pmatrix}\text{Claim Loss}\\ \text{Reserve Error}\end{pmatrix}_t = \frac{(\text{Originally Reported Incurred Losses})_t - (\text{Losses as Actually Developed})_{t+2}}{(\text{Originally Reported Incurred Losses})_t} \times 100$$
8. The 10-year loss reserve data became available for the 1989 Annual Statement. Statements prior to 1989 only included 5 year development for the liability lines and 2-year development for the casualty lines.
9. The majority of the 28 firms are demutualizations prior to 1984. Prior to 1989, the reserve development for most lines of business is only 2 years. The 1989 Annual Statement is the first year to include a 10-year reserve development for all lines.
10. The sample includes reciprocals and Lloyd's firms. A reciprocal is a group of persons, firms, or corporations that exchange insurance contracts through an attorney-in-fact. They are similar to a mutual in that the policyholders own the firm, but differ from mutuals in terms of legal control and capital requirements. Lloyds firms are similar to stock in the residual claim holders assume the risk, but it is a proprietary rather than corporate form.
11. Conservatorship is a firm that is in financial distress and operations are scrutinized and directed by regulatory agencies.
12. Management has less discretion in reporting loss reserves for this line since well-establish actuarial tables determine the reserves for workers' compensation and medical malpractice claims are long-tail claims.

13. Reinsurance is the transaction in which a reinsurer (the assuming party) assumes all (100%) or part of a risk undertaken originally by another insurer (the ceding party). The ceding party pays the reinsurer a premium for this transaction. The legal rights of the insured are not affected by this transaction. The insurance company issuing the policy remains liable to the insured for payment of policy benefits.
14. A study comparing the Best's Ratings and selected financial ratios (Ambrose and Seward, 1988) for predicting insolvency concluded the two methods are statistically equivalent. (Petroni, 1992) used a subset of the financial ratios from the (Ambrose and Seward, 1988) paper. The ratios consist of eight of the eleven ratios that regulators use to evaluate financial condition and adequacy of claim loss reserves. The ratios are industry-specific and are part of the Insurance Regulatory Information System (IRIS). This paper will use the Best's overall rating or financial performance rating (FPR)
15. Many firms were not rated during the year of demutualization and other years for various reasons. For those years with no rating, the most recent rating prior to those years was used as a proxy for the non-rated period.
16. Assigning a 6 for non-rated is subjective and is unclear if non-rating is related to lower financial strength relative to other ratings. Ambrose and Seward (1988) do find an increase proportion of insurers are not rated prior to insolvency.
17. In general, demutualization is a tax-free transaction (per conversation with a partner of an accounting firm). There are special circumstances that may cause the demutualization to be taxable. Since the data does not indicate whether the transaction is tax-free or taxable, I make the assumption that the transactions are tax-free.
18. Basically, insurance companies are taxed as ordinary corporations. The differences include 1) modification of tax law for insurance companies to allow expense recognition that is consistent SAP which results in a mismatching of revenue and expenses and reduced taxable income in a period of expansion and 2) discounting of claim loss reserves for tax purposes (present-value basis).
19. The tests were also run with the claim loss reserve error scaled by original reserve. The trend in the claim loss reserve error for groups 1 and 2 in comparison to group 3 are similar to the tests when scaled by admitted assets.
20. The error term is tested on all regressions for heteroscedasticity and autocorrelation. Heteroscedasticity is tested using the White (1980) method. The specification test does not reject the null hypothesis of homoscedastic errors or independence of the error terms and explanatory variable (p=0.34). The Durbin-Watson test for autocorrelation indicates that some autocorrelation does exist (⑧ = 0.199).

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Exhibit A
ACCOUNTING EFFECTS OF SELECTED LOSS TRANSACTIONS

The following table illustrates the recording of a claim with an underestimation of the loss. Transactions two and four would be affected in the opposite direction if the initial reserve was overestimated.

The first transaction is to record the claim liability and incurred expense as a result of policyholder's submitting claims for their losses. Transaction two records an increase to the liability and incurred losses. The original loss recorded in transaction one was underestimated.

Partial payment is made to policyholder on reported loss in transaction three. At the time of final settlement, the reserve is closed with any difference between the remaining reserve and final payment adjusted to the Incurred Losses and Policyholder's Surplus accounts.

Transaction	Loss Reserve effect [a]	Incurred Losses effect [a]	Underwriting Gain effect [a]	Policyholder's Surplus effect[a]
1. To record new loss claim-**19x6**	Increase	Increase	Decrease	Decrease
2. To increase the estimate of total cost of the loss-**19x6**[b]	Increase	Increase	Decrease	Decrease
3. To make partial payment on loss claim-**19x7**	Decrease	None	None	None
4. To make final payment at amount greater than reserve-**19x7**[b]	Decrease to zero	Increase	Decrease	Decrease (deficiency on reserve)

[a] Loss Reserve, Incurred Losses, Underwriting Gain, and Policyholder's Surplus under Statutory Accounting Principles (SAP) is similar to Current Liabilities, Cost of Goods Sold, Gross Profit, and Stockholders' Equity under GAAP.

[b] To increase the estimate of total cost of the loss is representative of initially underreserving the loss. Therefore, the initial decrease to Policyholders' Surplus is understated.

Exhibit B
CONVERSIONS - YEAR OF CONVERSION

Company New Name	***Date***
AAOMS National Insurance Company, RRG	1992
Addison Farmers Insurance Company	1985
American West Insurance Company	1986
Atlantic Insurance Company of Savannah	1987
Atlas Insurance Company	1986
Bankers Independent Insurance Company	1987
Delaware American Insurance Company	1994
EastGUARD Insurance Company	1995
Empire Insurance Company	1988
Erie Insurance Company of New York	1994
Excess Reinsurance Company	1995
Exchange Insurance Company	1992
Farm Family Casualty Insurance Company	1996
Farmers Casualty Insurance Company	1999
First Patriot Insurance Company	1997
Georgia Mutual Insurance, A Stock Company	1994
Health Care Insurance Company	1991
Intermed Insurance Company	1995
Interstate Bankers Casualty Company	1995
Lake States Insurance Company	1985
Lakeland Insurance Company	1999
MEEMIC Insurance Company	1999
Midwest Medical Insurance Company	1988
Milbank Insurance Company	1982
Minnesota Fire and Casualty Company	1993
New Castle Insurance Company of Delaware	1998
New York Bakers Insurance Company	1995
Old Guard Fire Insurance Company	1997
Old Guard Insurance Company	1997
Patrons Oxford Insurance Company	1997
Penn Millers Insurance Company	1999
Pioneer Insurance Company	1993
Pioneer Insurance Company	1998
Prairie State Farmers Insurance Company	1993
Preferred Physicians Insurance Company	1987
Progressive Max Insurance Company	1991
Prudential-LMI Commercial Insurance Company	1986
Select Risk Insurance Company	1997
Shelby Insurance Company	1986
Southern Insurance Company of Virginia	1988
Southern Michigan Insurance Company	1998
The Millers Insurance Company	1999
Uniguard Security Insurance Company	1984
Union Automobile Insurance Company	1993
Union Insurance Company of Providence	1994
Valley Insurance Company	1988
Wausau Business Insurance Company	1987
Yorktowne Insurance Company	1996

USING PERSONALITY TESTING AS PART OF THE EMPLOYEE SELECTION PROCESS: LEGAL AND POLICY ISSUES FOR EMPLOYERS

Gerald E. Calvasina, Southern Utah University
Richard V. Calvasina, University of West Florida

ABSTRACT

An advantage often cited in the literature regarding internal hiring or promotion is that current employees are known commodities regarding their "fit" with the organization's culture and work environment (Krell, 2015). The easily acquired intimate knowledge of current employees creates a strong incentive to emphasize promoting from within when the need arises. As organizations grow and labor markets become tighter, the lack of available promotable employees may dictate that the employer look to external job markets to fill positions. Assessment as to whether an external candidate's personality will be a good fit for the organization is often described as a key factor that influences the effectiveness of those individuals and also one of the most difficult elements to assess in the selection process (Krell, 2015). In recent years, technological advances in the nature of selection systems has enabled employers to increase their use of online technology to screen job applicants' personalities as to their potential fit with an organization's culture and work environment, and this increased use has not gone unnoticed by US Equal Employment Opportunity Commission regulators (EEOC) (Lundquist, 2015). The purpose of this paper is to examine legal and policy issues for employers when utilizing technology to assess an applicant's personality as part of the employers screening of external applicants for employment and policy and practice suggestions for employers to facilitate compliance with EEOC guidelines.

INTRODUCTION

An advantage often cited in the literature regarding internal hiring or promotion is that current employees are known commodities regarding their "fit" with the organization's culture and work environment (Krell, 2015). The easily acquired intimate knowledge of current employees creates a strong incentive to emphasize promoting from within when the need arises. As organizations grow and labor markets become tighter, the lack of available promotable employees may dictate that the employer look to external job markets to fill positions. Assessment as to whether an external candidate's personality will be a good fit for the organization is often described as a key factor that influences the effectiveness of those individuals and also one of the most difficult elements to assess in the selection process (Krell, 2015). In recent years, technological advances in the nature of selection systems has enabled employers to increase their use of online technology to screen job applicants' personalities as to their potential fit with an organization's culture and work environment, and this increased use has not gone unnoticed by US Equal Employment Opportunity Commission regulators (EEOC) (Lundquist, 2015). The purpose of this paper is to examine legal and policy issues for employers when utilizing technology to assess an applicant's personality as part of the employers screening of external applicants for employment, and policy and practice suggestions for employers to facilitate compliance with EEOC guidelines.

In her April 15, 2015 testimony before the EEOC, Dr. Kathleen K. Lundqist, of APT Metrics, Inc. testified that "candidates for jobs today are increasingly being screened using online technology" (Lundquist, 2015). In the written report of Lundquist's testimony, she cited a 2011 global assessment report by Fallaw and Kantrowitz (2011) that reported that employers are utilizing a variety of online technology that includes

> Online applications (some of which contain scored questions the answers to which may disqualify the applicant from further consideration) ; biodata or personality tests administered online to thousands of candidates; responses to "interview" questions which may be videotaped and uploaded online, and even online background checks. In a survey of domestic and international organizations, 81 percent of the respondents indicated that they were utilizing online assessments, and 83 percent indicated that they allow applicants to complete the assessments remotely in unproctored settings (Fallaw & Kantrowitz, 2011).

As online technology that can be utilized in employee selection systems has become more "affordable" the clear rationale for employers making more use of it in their selection processes is associated with cost efficiency (Lundquist, 2015). The new technology provides employers with the capability to screen large numbers of job applicants in an efficient manner and as long as "adverse impact can be minimized or eliminated by these tools, employers are often willing to sacrifice some level of validity to increase diversity and reduce the risk of litigation (Lundquist, 2015). There has been a long standing concern associated with the validity of personality assessment tools in making selection decisions. It is this long standing concern associated with the validity of personality assessment tools in making selection decisions that is the focus of this paper. In spite of the long running concern associated with the validity of the instruments used according to Lundquist, there continues to be "surprisingly little real validation evidence being collected to substantiate the job relatedness of the instruments used" (Lundquist, 2015).

WHY PERSONALITY TESTING?

Over time, employers have utilized a variety of tools and procedures to screen applicants for entry level positions and promotion opportunities attempting to identify individuals who have more than just the requisite knowledge, skills, and abilities (KSA's) to perform. The basic answer as to why employers put so much effort in to making accurate selection decisions is the high cost associated with turnover. Typical components of the cost of turnover identified in the literature are listed in figure 1, and will vary by industry and job, but they are generally characterized as "an expensive HR and managerial issue that must be constantly evaluated and addressed" (Mathis, Jackson, & Valentine, 2014).

Figure 1

Components of Turnover Cost
Separation Costs
Vacancy Costs
Replacement Costs
Training Costs
Hidden and Indirect Costs (including lost productivity)

(Mathis, Jackson, & Valentine, 2014)

The use of personality testing as part of employer selection processes can be traced to the 1930's. Caruth and Caruth (2009) detail an interesting history of the use of personality testing, going back to Depression era employer efforts to find "hard-hitting sales types" of employees who could sell their products. Subsequently, after World War Two, employers began to use personality testing in making selection decisions for a variety of positions from "salespersons to management trainees" (Caruth & Caruth, 2009). The 1971 US Supreme Court's decision in Griggs v. Duke Power is widely regarded as a watershed event for testing in general, and the issue of personality testing "virtually vanished from view as a result of the Supreme Court's decision (Caruth & Caruth, 2009).

MAJOR LEGAL PRINCIPLES RELEVANT TO EMPLOYMENT TESTING

The most basic legal concerns related to the use of testing in an employer's selection process are associated with allegations as to whether the tests are being utilized to intentionally discriminate against minorities or do the tests have an adverse impact on minorities and are not job-related for the position in question and consistent with business necessity under Title VII of the 1964 Civil Rights Act (EEOC, 2010). The Uniform Guidelines on Employee Selection Procedures or "UGESP" adopted by the EEOC under Title VII in 1978 provide uniform guidance for employers about how to determine if their tests and selection procedures are lawful for purposes of Title VII disparate impact theory of discrimination (EEOC, 2010). Other statutes that can be utilized by plaintiffs in discrimination allegations involving employment testing and selection procedures include Title I of the Americans with Disabilities Act (ADA) and the Age Discrimination in Employment Act (ADA) (EEOC, 2010).

In a 2007 presentation to the EEOC, Carol Miaskoff from the EEOC's Office of Legal Counsel, gave a summary of the major legal principles relevant to employment testing (Miaskoff, 2007). In her statement, Miaskoff began by noting that in passing Title VII of the Civil Rights Act of 1964,

> Congress expressly allowed employment tests but only if they were not "designed, intended or used to discriminate because of race, color, religious, sex or national origin" 42 U.S.C. § 703(h). This statutory provision specifically pertained to "professionally developed ability tests." (Miaskoff, 2007).

Miaskoff (2007) further noted, citing the US Supreme Court's Griggs v. Duke Power decision, that the Supreme Court

> held that the legality of these "professionally developed tests" turned on whether they were job related. Noting that "[t]he touchstone is business necessity," 401 U.S. at 431 (Griggs v. Duke Power Co., 1971).

In the Supreme Court's 1975 decision in Albemarle v. Moody, Miaskoff (2007) noted that the Court further explained its standard regarding the use of testing and stated that "Title VII forbids employers from giving these devices and mechanisms controlling force unless they are demonstrably a reasonable measure of job performance" (Albemarle v. Moody, 1975).

Caruth and Caruth (2009) reported in their evaluation of the reemergence of the use of personality testing in employer selection processes that under the EEOC's UGESP "it is abundantly clear that any paper-and-pencil psychological measures used as selection devices are subject to statistical validation in terms of job relatedness". They also reported that the EEOC in rulings involving personality tests, have "looked upon these measures with disdain, holding that personality tests are often low in both validity and reliability" and that the agency "has also raised questions about the job relatedness of personality tests" (Caruth and Caruth, 2009).

Baez (2013), in his assessment of the use of personality test in employment selection, concluded from his review of industrial/organizational ("IO") psychology research that "there is no generalizable evidence that personality measures can be recommended as good or practical tools for employee selection… The best that can be said is that in some situations, for some purposes, some personality measures can offer helpful predictions". Baez further cited a 2010 review of the academic literature on personality tests and job success by Robins and Judge "that found correlations between personality and job success to fall in the .03 to .15 range" (Baez, 2013). Baez (2013), putting these correlations in perspective noted that "personality tests used in employee selection account for approximately 5% of an employee's job success while the other 95% of their performance is unaccounted for by personality". Baez also reported that the correlations found in the most recent research were "almost identical to what was noted in the 1960's. As a result, the conclusion is that there has been no measurable change in the data for the 50 years" (Baez, 2013).

RENEWED USE OF PERSONALITY TESTING IN EMPLOYEE SELECTION

Given the long standing legal issues and the lack of empirical support for the use of personality testing in employee selection, the question arises as to why there has been an apparent increase in the use of psychological testing, and personality testing that has been noted by Lundquist and others since the mid 2000's? Personality testing is now reported to be a "$500-million-a-year industry" that has grown by about "10 percent annually in recent years." The personality testing business is clearly resurging since the days of Griggs v. Duke Power (Meinert, 2015). Meinert (2014), citing a 2014 survey of Society for Human Resource Management members reported that "while many organizations use personality testing for career development, about 22 percent use it to evaluate job candidates". In a Business & Legal Research (BLR) promotion for a webinar on the use of personality test in hiring, it was reported that "7 in 10 applicants nationwide now take some kind of personality test as part of the hiring process. That's up from 3 in 10 just five years ago" (BLR, 2015). The BLR promotional material highlighted the potential EEO legal problem that employers can face when using personality tests as part of their selection processes and noted the August 2015 $2.8 million settlement that Target Corporation entered into with the EEOC in part because of the use of personality tests utilized in the selection process (BLR, 2015, EEOC, 2015).

Meinert (2015) detailed in her article on the use of personality assessments concerns associated with the use of personality tests and the possibility that they may discriminate against individuals with mental illnesses in violation of the Americans with Disabilities Act (ADA).

Meinert (2015) reports on allegations that an online personality assessment utilized by Kroger Co., led to complaints on behalf of an individual with bipolar disorder who was rejected for jobs by a number of companies after completing online personality assessments where the complainant alleged that "the questions on the online tests were similar to medical evaluations he had undergone". Under the ADA, pre-employment medical exams are prohibited before a conditional job offer is made (EEOC, 2011).

In addition to the previously noted cost issues associated with employee turnover, Caruth and Caruth (2009) assert the idea that "employers are continually looking for ways to improve the human resource selection process" and thus given the "alleged" ability of personality testing to provide employers with the potential to hire better qualified applicants, more employers have been utilizing them. Caruth and Caruth (2009) also cite the EEOC's lack of resources to "pursue vigorously its anti-personality testing position" that has allowed some employment practice to "fall through the cracks despite EEOC's stated objections". They also note the growth in the popularity of online dating services. Their rationale for the connection to online dating and the increased use of personality testing in selection processes by employers is interesting to say the least. Caruth and Caruth (2009) assert that employers, looking for procedures to efficiently screen large numbers of applicants and finding "compatible" employees have become enthralled with the idea of using personality tests as selection devices just as online dating services like "eHarmony and match.com hold out the promise of finding a compatible mate for dating or marriage through personality testing".

So, in spite of long standing legal issues, the lack of empirical support for their use, the growth in use continues. Whitney Martin (2014) reported on another issue that she believes "should have opened eyes and raised red flags in the business world" concerning the effectiveness of "various HR practices". Martin reported on research findings from a 2002 study to determine the consistency between HR professionals' beliefs and research findings on the effectiveness of various HR practices. The study found that the "area of greatest disconnect was in staffing… where more than 50% of respondents were unfamiliar with prevailing research findings (Martin, 2014).

The lack of familiarity with prevailing research in the use of psychological testing is further evident in the long standing wide spread misuse by both public and private sector organizations of the Minnesota Multiphasic Personality Inventory (MMPI) and the Myers-Briggs personality type indicator. The MMPI was developed initially to test mental patients in the 1930s and the Myers-Briggs "characterizes all of the world's population into just 16 personality categories hardly useful as a job-screening tool" (Daniel, 2005). Meinert (2015), citing the publishers of the Myers-Briggs Type Indicator's website, notes that the Myers-Briggs test "isn't intended to be used in the hiring process at all".

> It is unethical and in many cases illegal to require job applicants to take the Indicator if the results will be used to screen out applicants. The administrator should not counsel a person to or away from, a particular career, personal relationship or activity based solely upon type information (Myers-Briggs, 2016).

WHAT SHOULD EMPLOYERS DO?

"Hire hard, manage easy" (Mathis, Jackson, & Valentine, 2014).

For those involved in selecting employees, Mathis, Jackson, and Valentine's opening exhortation in their discussion of selection in their Human Resource Management text book, decision makers looking for short cuts to making selection decisions should be on notice that there are no quick and easy methods or measures to accurately identify who will be a top performer and a good fit (Mathis, Jackson, & Valentine, 2014). As the literature continues to note the high cost of employee turnover, employers continue to search for ways to improve their ability to find who will be right person for the position.

At the same time employers lament the high cost of employee turnover, another concern is the time and cost associated with filling vacant positions. Roy Maurer (2016) cited recent research in his June 2016 HR Magazine article that found that "the average time-to-hire for white-collar positions is now a whopping 68 business days-26 days longer than it was in 2010". Maurer also noted that "the average time-to-fill for jobs across all U.S. industries has been steadily climbing since 2009" (Maurer, 2016). This has occurred in spite of the fact that more and more organizations are attempting to utilize technology in terms of hiring to become more efficient.

More employers utilizing personality assessment in the selection process is just one of ways that employers in recent years have been attempting to improve the selection of new employees. This increase continues in spite of comments from researchers that “personality assessments are among the least effective in predicting job performance” (Meinert, 2015). So what should employers, who are concerned about the cost of turnover, concerned that their current selection processes are not identifying applicants who will “fit” and be long term top performers, and believing that utilizing personality assessments may be the missing link in their selection processes, do?

First, determine if there is a need to modify your selection processes. Do you have a turnover problem? Do you have employee “fit” issues that indicate that employees you are hiring are not fitting in to the organization’s culture? These issues could be associated with allegations of workplace harassment, bullying, and overall job satisfaction. Is the current uptick in the use of personality assessment a passing fad? Remember Caruth & Caruth’s historical account of the use of personality testing in the 1930’s? There is no apparent clear and convincing empirical research that supports the upsurge in the use of personality testing, unless of course, you hold to the growth in the online dating business (Caruth and Caruth, 2009). Firms that are serious about studying these types of issues are well advised to employ competent/qualified Industrial Organizational Psychologist (IOP) to lead the effort. Lisa Daniels in her Staffing Management piece on how to use personality tests legally and effectively, cites reports that many people “are out there putting amateur psychologist hats on and using personal opinions” and utilizing off the shelf test “they don’t know enough about” in their selection processes (Daniels, 2005). This approach, while clearly the low cost approach, can lead to enhanced legal risks. Daniels cites a prominent legal expert in this field who reported that of six lawsuits filed over personality testing by the attorney, “all tests were bought off-the-shelf and none was overseen by any IOP or an attorney” (Daniels, 2005).

Second, if you determine there is an issue that personality assessment may be part of the solution, again, competent/qualified IOP and legal assistance is in order to make sure you are following the EEOC’s Uniform Guidelines on Employee Selection. Daniels also advises that “every test should adhere to The Standards of Educational and Psychological Testing, published by the American Psychological Association in 1999” (Daniels, 2005).

Allen Smith’s 2016 article highlights the importance of familiarity with the EEOC Uniform Guidelines on Employee Selection Procedures for organizations utilizing hiring tests as part of their selection processes (Smith, 2016). The two important concepts addressed in the guidelines that can create legal problems if ignored by employers utilizing tests are the issue of the predictive validity of the test and whether or not use of the test has an adverse impact on the basis of protected class status. Smith reiterates previously stated concerns addressed by Daniels with respect to organizations utilizing “off the shelf” test in their selection processes (Smith, 2016). Smith relates a report from one prominent attorney who reports that she “cannot begin to count the number of times that an HR professional would approach me at industry meetings and confess that he or she just discovered that one of the business leaders found a test off the internet and has been using it with applicants without telling HR” and dealing with hiring managers who appear to “never heard of the Uniform Guidelines on employee Selection Procedures” (Smith, 2016). The EEOC’s guidelines give employers detailed options and direction with respect to the assessment of the validity of their test in addition to guidance with respect to the analysis of pass rates. Best practices from the EEOC are in Figure 2.

Figure 2
EMPLOYER BEST PRACTICES FOR TESTING AND SELECTION

- Employers should administer tests and other selection procedures without regard to race, color, national origin, sex, religion, age (40 or older), or disability.
- Employers should ensure that employment tests and other selection procedures are properly validated for the positions and purposes for which they are used. The test or selection procedure must be job related and its results appropriate for the employer's purpose.
- While a test vendor's documentation supporting the validity of a test may be helpful, the employer is still responsible for ensuring that its tests are valid under UGESP.
- If a selection procedure screens out a protected group, the employer should determine whether there is an equally effective alternative selection procedure that has less adverse impact and, if so, adopt the alternative procedure. For example, if the selection procedure is a test, the employer should determine whether another test would predict job performance but not disproportionately exclude the protected group.
- To ensure that a test or selection procedure remains predictive of success in a job, employers should keep abreast of changes in job requirements and should update the test specifications or selection procedures accordingly.
- Employers should ensure that tests and selection procedures are not adopted casually by managers who know little about these processes. A test or selection procedure can be an effective management tool, but no test or selection procedure should be implemented without an understanding of its effectiveness and limitations for the organization, its appropriateness for a specific job, and whether it can be appropriately administered and scored.
- For further background on experiences and challenges encountered by employers, employees, and job seekers in testing, see the testimony from the Commission's meeting on testing, located on the EEOC's public web site at: http://eeoc.gov/eeoc/meetings/archive/51607/index.html.
- For general information on discrimination Title VII, the ADA and the ADEA see EEOC's web site at http://www.eeoc.gov/laws/statutes/index.cfm.

U. S. EEOC: Employment Tests and Selection Procedures (2010).

Meinert (2015) provides decision makers with some important guidance with respect to the use of personality assessment. She starts with avoidance of a common mistake that decision makers often make when attempting to solve problems and that is "failing to focus on what they are trying to achieve". Whether you are doing training needs assessments or trying to reduce turnover, before you can begin to assess the usefulness of whatever test you utilize, you must have a goal/objective to measure success or failure going forward. Meinert also presents managers who are looking to deal with outside vendors for personality assessment suggestions regarding the right questions to ask:

Figure 3
QUESTIONS FOR VENDORS

- What is the assessment designed to measure, and how will that benefit the organization?
- Is the assessment reliable and accurate?
- Does it effectively predict important workplace behaviors that drive metrics affecting sales, customer satisfaction and turnover?
- Does it come with a job analysis tool that allows you to identify behavioral job requirements?
- How easy is the assessment to take?
- Does it come in multiple languages?
- How easy is it to interpret results?
- Is the assessment free of bias, and does it comply with federal guidelines? Meinert (2016).

One final bit of legal advice for organizations looking to utilize personality assessment as part of their selection process**, "**Under Title VII, the employer – no matter who gives them the test – is the one responsible" (Meinert, 2015). In spite of the increased use by organizations, there is still wide spread controversy as to the validity and reliability of personality assessment in the selection process. The law does not prohibit the use of any kind of test, so long as it is a valid and reliable predictor of some job related/business necessity measure of performance. Decision makers must assess the cost associated with validation, the benefits, and the potential legal risk before utilizing tools that at this point in time are still not supported by consistent empirical evidence. Until more consistent empirical evidence is forthcoming, hiring hard to manage easy should be the guiding principle for attempting to find the right person to fill positions.

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