TAX COMPLIANCE IN A SOCIAL SETTING: THE INFLUENCE OF NORMS, PERCEPTIONS OF FAIRNESS, AND TRUST IN GOVERNMENT ON TAXPAYER COMPLIANCE

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Many taxing authorities, including those in the United States (U.S.), rely on voluntary tax compliance and continually search for ways to increase tax revenues. Most of these methods are costly and labor intensive, such as audits and penalties for noncompliance. Prior tax compliance research has heavily investigated the influence that economic factors, such as tax rates and penalties, have on individual compliance intentions. However, economic models fail to fully predict individual tax compliance. Psychology literature suggests that social factors may also play an important role in individual tax compliance decisions. The purpose of this study is to examine the influence that social and psychological factors have on individuals’ tax compliance intentions. Specifically, a model of taxpayer compliance is hypothesized that suggests that norms, perceived fairness of the tax system, and trust in government have a significant influence on compliance intentions.

Results of a survey of 217 U.S. taxpayers found support for the influence of social factors on tax compliance. This research concludes that social norms have an indirect influence on compliance intentions through internalization as personal norms. Specifically, as the strength of social norms in favor of tax compliance increase, personal norms of tax compliance also increase, and this leads to a subsequent increase in compliance intentions. This dissertation also finds that trust in government and the perceived fairness of the tax system have a significant influence on compliance intentions. Supplemental analyses indicate that trust in government fully mediates the relationship between perceived fairness of the tax system and compliance intentions.
This research offers several contributions to accounting literature and provides valuable insight for taxing authorities. First, this study examines taxpayer compliance from a psychological, rather than an economics driven, perspective. The suggested model of taxpayer compliance posits that social norms have a significant influence on compliance intentions. This information may help taxing authorities develop less costly and more effective strategies for increasing taxpayer compliance. This study also examines the influence that perceived fairness of the tax system has on compliance intentions. This is a widely debated topic in the media and social settings and may have a particularly strong influence on compliance intentions during these times of political and social arguments regarding tax equity. Finally, trust in government around the world has seen a continual decline. The results indicate that decreased trust in government and decreased perceived fairness of the tax system lead to decreased intention to comply with tax laws. Such information may help governments understand actions they can take to improve tax compliance.
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CHAPTER 1

INTRODUCTION

The U.S. income tax system relies on voluntary compliance of taxpayers\(^1\). Therefore, factors that influence taxpayer compliance are of interest to the Internal Revenue Service (IRS), policymakers, academics, tax practitioners, and the general public. The individual income tax is the greatest source of revenue for the U.S. Federal Government (IRS.gov 2012c)\(^2\). Given the recent economic downturn and the looming budget deficit, the federal government (and governments at all levels) is exploring opportunities to increase revenue by reducing tax evasion and increasing taxpayer compliance. Typical efforts include increasing detection risk, levying higher penalties on offenders, etc.; such efforts can be rather expensive. For instance, the IRS spends approximately $28 per tax return on administrative costs (Alm & Yunas 2009). Despite such costly efforts, the revenue lost due to noncompliance is substantial. The most recent IRS estimate indicates that approximately $385 billion in tax revenues was lost in 2006 due to tax evasion (IRS.gov 2012a). The need to reduce noncompliance in the face of shrinking enforcement budgets has forced the IRS and U.S. state departments of revenue to better identify factors that influence compliance decisions. Consequently, this paper focuses on a subset of such factors, namely psychological and social factors, and how they influence an individual’s tax compliance decision.

Three principal factors motivate this study: First, early theories of tax compliance framed compliance as rational decisions based on expected utility (Allingham & Sandmo 1972). Compliance decisions were modeled as a game between taxpayers and the IRS where

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\(^1\) Although the IRS may take actions to require tax compliance, the IRS budget does not allow for investigation of every tax return. Therefore, in order for the U.S. tax system to function efficiently, most taxes must be reported and paid without government intervention.

\(^2\) In 2010 gross collections in the U.S. from individual income taxes was $1,163,688 million, whereas gross collections from corporate income taxes was $277,937 million (IRS.gov 2012c).
compliance was based on the potential tax evasion amount, audit rates, and the amount of penalties to be paid if caught. Behavioral research in tax compliance continued to focus on similar factors while explaining the response in terms of prospect theory (Jackson & Hatfield 2005), framing (McCaffery & Baron 2004) and accountability (Sanders et al. 2008). However, more recent research has found that individuals’ compliance decisions are influenced very strongly by social factors as well (Torgler 2007). Andreoni et al. (1998) note that research concerning the influence of social dynamics is “largely undeveloped.” Torgler (2003b) and Kornhauser (2007) underline the need for more research in the area of “tax morale” which is defined as the influence of non-economic factors (social and psychological factors) on compliance decisions. The primary motivation of this study is to show that taxpayer compliance intention is not shaped merely by economic considerations or perceptions of detection risk and severity of sanctions; social norms and behaviors of others (especially those that are closest to the taxpayer) influence a taxpayer’s perceptions regarding tax compliance and hence his/her compliance behavior.

Second, one of the major themes in current political debates centers on the notion of tax “fairness.” Claims and counterclaims have been made regarding whether the current tax system is fair. Popular press and political rhetoric is replete with stories of millionaires paying lower rates of tax than middle income people. The Occupy Wall Street protests represent the collective response of the public to such perceived unfairness. To the extent the tax system is perceived as unfair, it provides an easy rationalization for individual taxpayers to justify noncompliance with the tax law. That is, continuous changes in political environments highlight the need to reevaluate the direct effect of social factors on compliance. It is possible that relationships seen in prior research do not hold under all circumstances. For instance, even with decreased
perceptions of fairness individuals may continue to comply with tax laws, but this relationship may have a boundary condition; at some point taxpayers may change their compliance attitudes and behavior.

Third, trust in government is reaching record low levels (Newport 2012)\(^3\) perhaps because citizens perceive that politicians are beholden to corporations and special interests. Consequently, tax laws are perceived to be full of “loopholes” inserted on behalf of special interests represented by lobbyists while the “common taxpayer” is left to fend for him/herself. Similar to perceived unfairness, lack of trust in government provides an easy justification for taxpayers’ noncompliance behavior.

This study develops and tests a model of taxpayer compliance behavior that considers three social factors: norms, perceptions of tax system fairness, and trust in government. Prior studies in the area have focused on individual perceptions and their direct impact on compliance. However, many questions remain as to whether these factors are interrelated and if so, how they collectively impact compliance decisions.

This study finds that compliance decisions are a result of many interrelated social factors. Specifically, social norms have an influence on compliance decisions, but only indirectly through internalization as personal norms. Trust in the government and perceived fairness of the tax system also have an interrelated influence on intended tax compliance such that perceived fairness of the tax system fully mediates the influence of trust in the government on compliance decisions.

\(^3\) In August, 2012 only 10 percent of the U.S. population approved of Congressional work (Newport 2012). This was an all-time low. Congress was viewed favorably by only 13 percent of Americans in March, 2013 (Newport 2013).
This is an area where there has been a dearth of research. This understanding of how social factors simultaneously influence compliance with tax laws provides valuable insights on how compliance may be influenced and improved.

Chapter 2 reviews relevant tax, economic, and psychology literature and develops the hypotheses. Chapter 3 discusses the methodology used to test the hypotheses. Chapter 4 presents the results. The paper concludes in chapter 5.
CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In this chapter, relevant literature is reviewed and hypotheses are developed to help explain taxpayer compliance behavior. First, general tax compliance research is discussed along with an explanation of the importance of social issues. Next, the three social factors of interest in this study are explained.

2.1 General Tax Compliance Research

Tax compliance is defined as “reporting all income and paying all taxes in accordance with the applicable laws, regulations, and court decisions” (Alm 1991 p. 577). Evasion, on the other hand, is illegal and involves deceitful action by taxpayers to conceal their true tax liability (Rezac & Urofsky 2011).

The sixteenth amendment to the U.S. constitution allows the federal government to impose an income tax and was passed in 1913, shortly before the First World War. At the time, citizens were generally happy to pay income taxes in an effort to support the U.S. in the war (Rezac & Urofsky 2011). However, attitudes towards tax compliance have drastically changed since that time. The latest report by the Internal Revenue Service (IRS) estimates noncompliance for the year 2006 alone to be $385 billion (IRS.gov 2012a). The estimated non-compliance percentage in 2006 was 14.5 percent and has remained relatively stable over the last several decades despite IRS efforts to increase voluntary compliance (IRS.gov 2012a; IRS.gov 2007).

The U.S. tax system relies on taxpayers to voluntarily comply with the tax law (Kaplan et al. 1997). IRS estimates indicate that small changes in voluntary compliance percentages can
have a significant impact on tax revenues\(^4\). As a result, the U.S. government is continually trying to increase compliance.\(^5\)

Tax compliance is a major concern for the IRS in the U.S., but it is also a concern for nations around the world (Andreoni et al. 1998). Every nation with a voluntary income tax system must consider the potential for evasion. An understanding of why taxpayers evade can help governments understand which compliance programs are likely to have the greatest influence.

Due to the substantial economic effect that evasion can have on nations’ economies, researchers in several disciplines have sought to determine factors that influence taxpayers’ compliance decisions. Allingham and Sandmo’s (1972) model of taxpayers’ compliance decisions, suggests that taxpayers make rational compliance decisions by appropriately considering all economic risks and expected returns of underreporting income. According to this theory, a taxpayer will evade taxes if the expected penalty on underpaid taxes, taking into consideration the probability of audit, is less than the regular tax rate. This theory is based on expected utility theory and assumes that taxpayers make rational decisions. However, research has consistently found that this model fails to fully explain taxpayer behavior. Recent audit rates in the U.S. have been about 1 percent for individual taxpayers (IRS.gov 2012b). Given these facts, the Allingham and Sandmo model predicts a much higher level of evasion than current estimates in the U.S. of 14.5 percent (IRS.gov 2012a).

\(^4\) Specifically, tax revenues would increase by $7 to $10 billion dollars for each percentage point increase in voluntary compliance (Wall Street Journal 1994).
\(^5\) Evasion by individual taxpayers also influences the intended distribution of the tax burden. Evasion allocates the tax burden from evaders to honest taxpayers (Nur-tegin 2008). A reallocation of the tax burden changes the fairness of the tax system, even if the system was carefully designed.
Andreoni et al. (1998) suggest social factors may help explain the inability for economic models to predict compliance. Traditional economic models, such as the Allingham and Sandmo (1972) model, do not consider psychological and social issues. The present study focuses on the influence that social factors have on tax compliance in an effort to gain a better understanding of taxpayers’ decisions.

Torgler’s (2007) model of tax compliance incorporates social issues and argues that three social factors influence taxpayers’ decisions: (1) moral rules and sentiments, which includes norms, (2) perceptions of tax fairness, and (3) the relationship with the government which may include trust in the government. Andreoni et al.’s (1998) observation of important factors that influence tax compliance is substantially similar to Torgler’s (2007) model. The present study considers the influence of each of these three social factors. The underlying theme of this study is that individuals’ perceptions regarding tax compliance are influenced by their social network and perceptions of the government. Collectively these factors determine their compliance behavior. In the following sections, the theoretical background of each factor is explained, linkages between the factors are explored and testable hypotheses between each factor and compliance behavior are derived.

2.2 Norms

Social psychology suggests that social interactions can have a significant impact on individuals’ behavior. Some of this research seeks to determine why individuals conform to the wishes of others. Conformity occurs when an individual changes his or her behavior due to “the real or imagined influence of other people” (Aronson et al. 2010 p. 246). The influence of “others” is often manifested in the social norms of the group. Social norms are informal or formal rules of a group that guide the behavior and values of the group (Aronson et al. 2010;
Cialdini & Trost 1998). Kallgren et al. (2000) noted that norms are present in every social situation, even if their influence is not salient to members of the group. Therefore, social norms have important implications for behavior in any type of situation.

2.2.1 Effect of Norms on Compliance Behavior

Social norms are hypothesized to influence behavior in a variety of situations (Kallgren et al. 2000), including individuals’ tax compliance decisions. Davis et al. (2003) modeled the determinants of tax compliance behavior and found that social norms\(^6\), along with enforcement and “others’” behavior, should influence compliance. Alm (1991) found that individuals who internalized a social norm\(^7\) of compliance were more likely to comply. He also noted that individuals that believe others evade taxes are more likely to evade themselves.

Using archival data, some studies have tested the theory that social norms influence compliance. Alm and Yunas (2009) examined the influence of social norms\(^8\) by examining geographic compliance trends. The influence of social norms may be concentrated geographically since individuals in close proximity to each other are more likely to desire to be a part of the groups within their proximity. They found that geographic location, along with individuals’ prior experiences, was a significant predictor of compliance.

Wenzel (2004) considered the influence of educational communications regarding sanctions on compliance. He found that the influence of sanction severity on compliance was moderated by social norms; severe sanctions were more effective at encouraging compliance when social norms favored compliance. This suggests that the public scrutiny threatened by evasion is only an effective deterrent if the social norms encourage compliance.

\(^6\) In his analytical model, the concept of social norms was closely related to injunctive and subjective norms, and descriptive norms were captured in the behavior of others.

\(^7\) This internalized social norm may be from descriptive, injunctive, or subjective norms, but Alm’s (1991) study did not specifically identify nor study different types of norms.

\(^8\) Alm and Yunas (2009) did not attempt to differentiate the influence of different types of social norms.
Prior research has typically considered norms as a single construct. However, social psychology research suggests that there are four different types of norms: (1) personal, (2) descriptive, (3) injunctive, and (4) subjective. These norms differ in their source and the influence they have on individuals’ conformity to the group. In contrast to personal norms that are internal to an individual, descriptive norms, injunctive norms, and subjective norms are social norms because they relate to the influence that society has on an individual’s behavior (Wenzel 2004). These norms not only influence tax compliance decisions in varying degrees but are also inter-related. The relationship among these norms and their individual impact on compliance behavior is important because efforts to increase compliance can be targeted to influence a specific subset of norms. It is important for tax researchers to understand which type of norm influences tax compliance decisions. Such insight may help governments understand how actions to change social norms may influence compliance rates.9

2.2.2 Personal Norms

Personal norms denote an individual’s own moral standards and behavioral expectations (Wenzel 2004; Cialdini & Trost 1998). Personal norms develop through internalization of the social norms of the groups an individual identifies with (Wenzel 2004). That is, some of the most important social norms become part of the individuals’ own moral standard. Since personal norms reflect an individual’s own beliefs they should have a significant influence on all behavior including tax compliance behavior. Thus the first hypothesis is as follows:

H1: Personal norms of tax compliance have a positive effect on compliance intentions.

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9 Besides Bobek et al. (2007), no other study has examined the influence that each separate type of norm has on tax compliance.
2.2.3 Descriptive Norms

Descriptive norms are perceptions of how other members of a group actually behave (Aronson et al. 2010). These norms influence the behavior of an individual within a social group. Descriptive norms are based on the actual actions of other members of a group and may sometimes conflict with behavior the group approves of (Cialdini & Trost 1998; Aronson et al. 2010). Individuals may rely on descriptive norms when the appropriate behavior in a situation is unclear (Festinger 1954).

Cialdini et al. (1990) illustrated the influence that descriptive norms can have on behavior in a series of studies examining individuals’ littering behavior. In these studies the experimenters manipulated the descriptive norm of littering by varying the amount of litter in a public area, such as a parking lot, and observing participants’ littering behavior. Participants in a littered environment were more likely to litter than participants in a clean environment.

Descriptive norms provide information to help individuals guide their behavior in a variety of situations. Milgram et al. (1969) found that descriptive norms can entice individuals to engage in a behavior that they otherwise would not, such as staring aimlessly up at the sky simply because others stared aimlessly up at the sky.

Descriptive norms can encourage compliance with tax laws or evasion by helping individuals justify their actions. For instance, if taxpayers believe that everyone else evades taxes, then they may be able to rationalize evasion (Pommerehne et al. 1994). Therefore, if an individual perceives that others have a low intention to comply, then he/she will have a lower moral cost relating to evasion, and will be more likely to evade (Torgler 2003b).

Additionally, individuals want to take actions that have proven effective for others (Cialdini & Trost 1998). For some individuals, such effective actions may be those that they

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10 Individuals do not always behave in a manner that is approved by the group.
perceive will lead to the greatest monetary benefit and fewest legal sanctions. Descriptive norms explain the behavior of others and can provide information on what behaviors were successful for other individuals (Cialdini & Trost 1998). Therefore, descriptive norms may help individuals determine the potential success of their compliance and evasion actions (based on the success stories of others). Since descriptive norms provide valuable information to individuals to guide behavior, the second hypothesis predicts that such information will also influence tax compliance decisions.

H2: Descriptive social norms of tax compliance have a positive effect on compliance intentions.

In addition to the direct effect that descriptive norms may have on tax compliance decisions, descriptive norms may also be internalized by an individual and influence his/her personal morals. Blanthorne and Kaplan (2008) found that personal norms fully mediate the relationship between social norms and evasion. Wenzel (2005) also found support for personal norms as a mediator of the social norms-compliance relationship, but found that personal norms were only a partial mediator of this relationship. However, the overall conclusion of these studies is similar: if an individual’s perception of others’ compliance increases, personal norms of compliance and subsequent compliance will increase.

Therefore, descriptive norms will also influence compliance decisions through internalization as personal norms.

H3: Descriptive social norms of tax compliance affect compliance intentions positively and indirectly through personal norms of tax compliance.
2.2.4 Injunctive Norms

The second type of social norms is injunctive norms. Injunctive norms are perceptions of what behaviors most people in a group approve or disapprove of (Aronson et al. 2010; Cialdini & Trost 1998). These are the norms that most people refer to when they discuss social norms in general (Allison 1992). In contrast to descriptive norms that describe how people actually do act, injunctive norms represent how people should act (Kallgren et al. 2000). Compliance with injunctive norms is the result of individuals’ desire to conform to the expectations of group members to maintain a positive appearance within the group (Deutsch & Gerard 1955; Cialdini et al. 1991; Nail et al. 2000).

Injunctive norms often provide information to individuals on what behavior is required to gain popularity. Crandall (1988) examined the correlation between binge eating and popularity in two different sororities. Regardless of variations in actual binge eating in each of the sororities (descriptive norms), compliance with socially approved levels of binge eating (injunctive norms) was correlated with popularity. This finding is consistent with the idea that injunctive norms help explain what is socially acceptable within a group, and that individuals seeking social approval will comply with those norms.11

Injunctive norms should influence behavior in a wide variety of situations including tax compliance situations. Bobek et al. (2007) examined the separate influence that injunctive norms have on tax compliance behavior and found that injunctive norms help predict compliance

11 If a group desires to change the behavior of group members, manipulation of injunctive norms is more effective than manipulation of descriptive norms (Kallgren et al. 2000). This is due to individuals’ desire to be accepted by the group. A message manipulating injunctive norms will describe the group’s approval and disapproval for various actions (Schultz et al. 2007). Although injunctive norms are more effective than descriptive norms in shaping group behavior, the most powerful message to influence a change in behavior includes information about both injunctive and descriptive norms (Schultz et al. 2007). These messages explain what is socially acceptable (injunctive norms) as well as what other members of the group actually do (descriptive norms). Individuals are most likely to change their behavior when injunctive and descriptive norms support the same behavior.
behavior. Due to individuals’ desire for social approval, it is hypothesized that injunctive norms have a significant influence on tax compliance decisions.

**H4:** Injunctive social norms of tax compliance have a positive effect on compliance intentions.

As discussed previously, social norms are often internalized by individuals of a group and become part of that individual’s own personal norms. Since injunctive norms will likely be internalized as personal norms and subsequently influence compliance decisions through such personal norms, it is also hypothesized that injunctive norms have an indirect effect on compliance decisions through internalization as personal norms.

**H5:** Injunctive social norms of tax compliance affect compliance intentions positively and indirectly through personal norms of tax compliance.

### 2.2.5 Subjective Norms

The final social norm is subjective norm. Subjective norms are the perception of how most people important to an individual believe he/she should act (Fishbein & Ajzen 1975). Subjective norms are a specific type of injunctive norm. Whereas injunctive norms explain what society as a whole approves of, subjective norms explain what those close to an individual approve of.

Subjective norms are often referred to as peer pressure. Since subjective norms represent the norms of those closest to an individual, their influence on behavior may be stronger than other norms. Subjective norms may be the first norms considered when an individual evaluates various courses of action. Subjective norms may help individuals determine whether compliance with tax law or evasion will lead to approval or disapproval by his/her closest group members (hence, stronger or weaker social relationships with those important to them) (Aronson et al.
Therefore, it is hypothesized that subjective norms have an influence on tax compliance decisions.

H6: Subjective social norms of tax compliance have a positive effect on compliance intentions.

Subjective norms may also be the norms most likely to be internalized by individuals. In some situations it can actually be difficult to differentiate between personal norms and subjective norms (Bobek et al. 2007). Therefore, it is hypothesized that subjective norms will also have an indirect influence on tax compliance decisions through internalization as personal norms.

H7: Subjective social norms of tax compliance affect compliance intentions positively and indirectly through personal norms of tax compliance.

2.3 Perceptions of Tax System Fairness

2.3.1 General Theories of Perceptions of Fairness

Perceived fairness of the tax system is an important factor that is likely to affect individuals’ tax compliance decisions. Equity theory helps explain how individuals make fairness judgments. Equity theory suggests that individuals continuously evaluate their inputs and the outputs they receive (Walster et al. 1978). If individuals perceive that outputs do not properly align with inputs, they experience distress. The distress could be related to either an underpayment inequity or an overpayment inequity. Underpayment inequity occurs when an individual believes that his inputs are greater than the outputs he receives. This theory is often used in organizational research to examine the influence compensation has on employees’ behavior. In an organization this occurs when an individual believes he is not paid enough for the work he does. In a tax compliance setting, an underpayment inequity could result from an individual’s perception that the benefits received from government are not sufficient given the
amount of taxes paid. On the other hand, overpayment inequity is an individual’s perception that the inputs are less than the outputs received (Walster et al. 1978). Since the perception of inequity causes distress, individuals seek to remedy the inequity (Walster et al. 1978). It is rare for a perception of overpayment to persist for an extended period of time because individuals quickly rationalize that they deserve the additional output. To solve an underpayment inequity, individuals may take one of two basic actions: (1) individuals may change their inputs and/or outputs, or (2) change their cognitions (Walster et al. 1978). Individuals may change their inputs in an organizational setting by working less, but in a tax compliance situation a change to the inputs could result in an individual paying less tax. Alternatively, individuals may seek to change the outputs by requesting a raise in an organization, or appealing to politicians to provide more social benefits.

Inequity may also be based on how equal or unequal the tax law treats them vis-à-vis others (distributive justice). That is individuals compare their relative contributions to the tax system to the relative contributions of others. To the extent they perceive that they have been treated unfairly, they may attempt to rectify it via noncompliance (Verboon & van Dijke 2007). A comparison of one’s own tax burden relative to one’s income compared to that of a richer person who pays less can also lead to a perception of distributive injustice (Verboon and van Dijke 2007).

A related theory, social exchange theory, also provides insight into individuals’ perceptions of fairness. Blau (1964) defined social exchange as voluntary interactions between individuals that are motivated by expected returns from such actions. Blau contrasts social exchanges with economic exchanges by arguing that economic exchanges have very specific outcomes, but social exchanges require trust. Since returns from paying taxes are not guaranteed,
taxpayers often need to trust the government, thus tax compliance can be seen as a social exchange.

Similar to equity theory, social exchange theory suggests that individuals evaluate inputs and outputs. Social exchange theory argues that three factors influence an individual’s happiness with a social exchange: (1) the inputs he contributes, (2) the outputs he receives, and (3) his perception of how likely it would be for him to obtain a more favorable exchange relationship (Aronson et al. 2010). In addition to insight gained from equity theory, this suggests that an individual may continue to contribute to the social exchange if they perceive few alternative options even if he is not completely satisfied with the inputs provided and outputs received.

Equity theory, organizational justice research, and social exchange theory all agree that perceptions of fairness can have a significant influence on individuals’ decisions (Deconinck 2010; Masterson et al. 2000). For instance, in an organization an employee’s perceptions of fairness can have a significant influence on behaviors, such as organizational citizenship behaviors (Masterson et al. 2000).

2.3.2 Influence of Personal Norms on Perceptions of Tax System Fairness

Perceptions of fairness are based on an individual’s evaluation of a situation. If the individual perceives that the inputs contributed and outputs received are equal they will perceive the situation as fair (Walster et al. 1978). An individual’s evaluation of the situation may be influenced by his personal norms. For instance, if an individual’s personal norms include a dislike for any uneven allocation of goods regardless of the situation this will likely influence their perceptions of the fairness of any good allocations. Therefore, it is hypothesized that personal norms influence individuals’ perceptions of tax system fairness.
H8: Personal norms of tax compliance have a positive effect on perceptions of tax system fairness.

2.3.3 Perceptions of Fairness in Tax Research

Perceptions of fairness may be especially important in tax compliance decisions. Rezac and Urofsky (2011) argued that the purpose of an income tax system is to raise revenue to support activities for the betterment of society, and that “taxes ought to serve as a means to human flourishing” (p. 3). They argue that if individuals perceive that the tax system is fairly achieving these goals, they may be willing to sacrifice personal benefit for the benefit of society. However, if individuals do not perceive the tax system as accomplishing these goals in a fair manner, it is unlikely that they will comply with tax laws.

General theories of tax compliance also support the idea that perceptions of fairness influence tax compliance. Torgler’s (2007) theory of tax compliance purports that perceptions of fairness are one of three important determinants of compliance. In Andreoni et al.’s (1998) review of the tax compliance literature they also observed that perceptions of fairness are important for tax compliance decisions.

Equity theory argues that individuals change their cognitions or change the inputs or outputs in response to a perceived inequity. If taxpayers believe that their tax burden is unfair or that other taxpayers are not paying their fair share, they may rationalize evasion (Andreoni et al. 1998). Spicer and Becker (1980) experimentally tested this hypothesis and found that when individuals were told their tax burden was higher than that of others they were more likely to evade.12

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12 Webley et al. (1991) performed a similar experiment but found no significant differences between those that were told their tax liability was higher than others and those told their tax liability was lower.
In addition to inequity of inputs, equity theory predicts that perceptions of output inequity from a tax system have a significant effect on compliance. Becker et al. (1987) tested this hypothesis and find that when individuals perceived fewer benefits from tax revenues they were more likely to evade.

Despite research conceptualizations of the theory, equity theory argues that individuals jointly consider their relative inputs and outputs in equity judgments. Overall inequity is the motivation for individuals to change their inputs or outputs, or change their cognitions. Bordignon (1993) concluded that taxpayers evade taxes when they believe that the level of public goods, the outputs, is not sufficient given their tax liability, or if they believe the tax schedule is unfair. Survey evidence supports this theory by indicating that taxpayers’ perceptions of the way they are treated relative to others is significantly correlated with compliance (Alm 1991).

Alm (1991) noted that there are potential mechanisms whereby perceptions of tax fairness could be improved. He reported that individuals who voted on the way their tax payments would be used had a higher likelihood of compliance even when the tax liability was the same as those that did not vote. This finding suggests that changes in perceptions of fairness can change compliance. However, if taxpayers perceive that a tax system lacks fairness they will be able to rationalize evasion (Davis et al. 2003). Overall, these results suggest that perceptions of fairness are positively related to compliance (Falkinger 1995). Therefore, it is hypothesized that a taxpayer’s perceptions of the fairness of a tax system will have a direct and significant influence on compliance decisions.

H9: Perceptions of tax system fairness have a positive effect on compliance intentions.
Perceptions of tax system fairness may also have an indirect effect on behaviors through other cognitions, such as trust. Information on the fairness of an entity or individual can provide information about the trustworthiness of such a party and may therefore influence trust in that party (Mayer et al. 1995; DeConinck 2010).

2.4 Trust

2.4.1 General Trust Theories

Trust in the government may have a significant impact on taxpayers’ behavior. Mayer et al. (1995) argued that the importance of trust is continually increasing. Trust is a cognitive state (Bryanov & Sandholm 2002) defined as the “willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al. 1995 p. 712). A trustor is the trusting party and the trustee is the party to be trusted.

In order to explain individuals’ trust in work settings, Mayer et al. (1995) developed a model which proposes that a trustee’s perceived trustworthiness influences the extent of trust, moderated by the trustor’s propensity to trust. That is, if the level of trust is greater than the perceived riskiness of the situation, the trustor will engage in risky behavior involving such trust. The outcomes of the risk-taking behavior will serve to inform the trustor’s future decisions (Mayer et al. 1995).

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13 The definition of trust implies several key points. First, the trustor must have something at risk and they must be aware of that risk before trust can impact the trustor’s decisions (Mayer et al. 1995; Deutsch 1958). Also, trust is not the actual risk-taking behavior, but it is the willingness to take risk; this willingness can have a significant impact on behavior. Third, if an individual has confidence that a party will perform a specific action then there is no risk involved, so confidence is a distinct construct from trust (Mayer et al. 1995). Additionally, cooperation is not trust. Although sometimes trust may lead to cooperation, trust is not always necessary for cooperation to occur because some cooperation may not put the party at risk (Mayer et al. 1995). Also, individuals may cooperate without trust if they perceive that their only choice in a given situation is to cooperate. In this case they might not have trust in the party, but may comply due to lack of alternative options. Finally, trust is not the same as predictability; someone might predictably engage in behaviors perceived as bad, but another party would not be willing to make themselves vulnerable to that person (Mayer et al. 1995).
In Mayer et al.’s (1995) model of trust there are three factors that influence the trustee’s trustworthiness: (1) ability, (2) benevolence, and (3) integrity. These three factors vary independently on separate continuum and build the foundation within which trust can form. Ability is domain specific and is the perceived skills and competencies of the trustee within the domain (Mayer et al. 1995). The competence and expertise of the trustee influence perceived ability. Benevolence is the extent to which the trustor believes that the trustee will act in the best interest of the trustor (Mayer et al. 1995). Perceived benevolence is influenced by the context and depends on perceptions of the trustee’s loyalty to the trustor. Finally, a trustor will perceive a trustee to possess a high level of integrity when the trustee adheres to a set of moral values with which the trustor agrees (Mayer et al. 1995).

Propensity to trust is defined as a “general willingness to trust others” (Mayer et al. 1995 p. 714). This individual difference influences the amount of trust an individual places in others before any information on characteristics of the trustee’s trustworthiness are known (Mayer et al. 1995). Propensity to trust is a stable individual disposition that varies by culture (Rotter 1967; Hofstede 1980; Mayer et al. 1995).

Perceived factors of the trustee’s trustworthiness influence the trustor’s trust, moderated by the trustor’s propensity to trust. The highest level of trust develops when the trustee is perceived to have high levels of benevolence, ability and integrity. However, a sufficient level of trust may exist without all three characteristics (Mayer et al. 1995).

If the level of trust is greater than the level of risk, the trustor will engage in trusting behaviors (Mayer et al. 1995). A trustor assesses the riskiness of a situation by weighing the probability of all possible outcomes, both positive and negative (Mayer et al. 1995; Bierman et al. 1969; Coleman 1990). Several factors influence the trustor’s risk evaluation including the
trustor’s familiarity with the domain of interest, administrative policies that control the behavior of the trustee, and social influences (Sitkin & Pablo 1992). Following a trusting behavior, the trustor will observe the consequences of such action. The consequences will be used in future evaluations of trustworthiness. Therefore, the level of trust between two parties will continually evolve (Mayer et al. 1995).

In an organization, an employee can have different levels of trust in a supervisor and the organization. However, increased levels of trust tend to lead to positive outcomes within an organization (DeConinck 2010). For instance, in an organization, increased trust can lead to improved morale, increased cooperation, organization citizenship behaviors, and improved performance (Dirks & Ferrin 2001; Brower et al. 2009). In addition to its importance within organizations, trust is important in a variety of settings. Blau (1964) and Homans (1958) argued that trust was required in order for social exchanges to occur. Baier (1986) noted that “trust is much easier to maintain than it is to get started and is never hard to destroy” (p. 242). Additionally, individuals often place more emphasis on trust-destroying events than trust-building events, and trust-destroying information is often seen as more credible than trust-building information (Braynov & Sandholm 2002; Slovic 1997).

2.4.2 Perceptions of Fairness and Trust

Of the three factors of trust suggested by Mayer et al. (1995), the concept of integrity may incorporate perceived fairness. It would be difficult for a trustee to be perceived with a high level of integrity without being fair. Since fairness is one aspect of integrity, perceptions of a trustee’s fairness will likely lead to increased levels of trust. In an earlier research study, Homans (1958) noted that fair treatment increases trust and enhances the social exchange between parties.
Research within organizations has found that perceptions of fairness influence trust. DeConinck (2010) found that employees’ perceptions of an organization’s future procedural justice were related to the amount of trust they were willing to place in the organization. Overall, fairness, specifically procedural justice, was shown to be the strongest predictor of an individual’s trust in an organization (Hubbell & Chory-Assad 2005; Cohen-Charash & Spector 2001).

These theories suggest that perceptions of the trustee’s fairness will have a significant influence on an individual’s ability to trust the trustee. It is expected that this relationship also exists in a tax compliance scenario. Therefore, the tenth hypothesis suggests that taxpayers’ perceptions of the fairness of a tax system will influence their trust in government.

H10: Perceptions of tax system fairness have a positive effect on trust in government.

2.4.3 Trust and Tax Compliance

Citizens’ trust in their government has been a concern for centuries. John Locke (1680-1690; reprinted 1988) cautioned that governments need to work to maintain the trust of the citizens. Research in countries around the world suggests that trust in government is continually decreasing (Van Blijswijk et al. 2004; Bok 1996; Dye & Zeigler 1993; Bekke & van der Meer 2000; Pollitt and Bouckaert 2000). Due to the continual decline of trust in government, it is important to understand consequences of declining trust on taxpayer compliance.

The trust-as-heuristic theory provides insight into the effects of declining trust and helps explain individuals’ support for government action. This theory proposes that individuals use a simple decision rule to decide whether to support a government activity (Hetherington 2005). It argues that when individuals perceive government as trustworthy they will support actions taken
by the government, but when there is a lack of trust they will not support government actions (Rudolph 2009).

Trust in government can have positive consequences for the state; one potential positive consequence is increased taxpayer compliance. Torgler (2007) argued that a taxpayer’s relationship with government, including their trust in government, was an important consideration when examining voluntary tax compliance. Jackson and Milliron (1986) and Levi (1998) also argued that trust in the government had a significant influence on tax compliance.

Governments continually look for ways to increase voluntary compliance, so an understanding of factors that influence individuals’ voluntary tax compliance may help governments reduce costs of ensuring compliance. The political disaffection thesis argues that when citizens lose trust in government, they begin to believe that tax liabilities are too high (Rudolph 2009). Consequently, distrust in government may provide the means whereby taxpayers rationalize evasion. In a series of studies using information from the World Values Survey, Torgler (2003a; 2003b; 2004) found that trust in government is positively related to individuals’ willingness to voluntarily comply with tax laws in various countries. This relationship remained positive and significant after controlling for other factors suggested to influence tax morale including age, income, education, gender, marital status, and employment status (Torgler 2003a)

Other researchers have also found a significant relationship between trust and tax compliance. For instance, Sheffrin and Triest (1992) examined the relationship between the perceived honesty of government and compliance and found a significant positive relationship. Taxpayers’ trust in the government is likely related to their perceptions of corruption in the government. Bilotkach (2006) found that corruption is positively related to evasion. Several
studies have confirmed a positive relationship between trust in government and compliance in various countries (i.e., across 47 countries: Richardson 2008; U.S.: Song & Yarbough 1978; Sweden: Vogel 1974). Thus, the final hypothesis suggests that trust in government has a significant influence on individuals’ compliance decisions.

H11: Trust in government has a positive effect on compliance intentions.

2.5 Comprehensive Model

The above discussion of three social factors that influence compliance decisions suggests that a model of taxpayer compliance that simultaneously considers all three factors may provide better explanatory power than models that consider these factors in isolation. The proposed model based on the previously discussed hypotheses is presented in Figure 1. The model suggests that norms and perceptions of tax system fairness have both a direct and indirect effect on compliance and that trust in government has a direct effect on compliance.

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14 It is important to note that the influence of trust on compliance can vary. For instance, Baier (1986) argued that in order for trust to influence decisions, trust must be salient in the decision-makers cognitions. Even when salient, the influence of trust will depend on the context. As such, trust may be particularly important for compliance decisions when other powerful determinants of compliance, such as economic factors, are less important (Dirks & Ferrin 2001).
Figure 1
Proposed Model of Tax Compliance
CHAPTER 3
METHODOLOGY

To address the hypothesized relationships, taxpayers were surveyed to determine their social perceptions and tax compliance intentions in hypothetical tax scenarios. This chapter first discusses the research design and participants, followed by a description of the experimental instrument, and discussion of hypotheses testing.

3.1 Research Design and Participants

A survey was used to measure taxpayers’ social perceptions and tax compliance attitudes. This study is specifically interested in determining the influence of social norms of tax compliance, perceived fairness of the tax system, and trust in government have on tax compliance decisions.\(^{15}\) Participants were U.S. taxpayers from a wide-range of backgrounds.

In order to try to determine the social perceptions of many different taxpayers, effort was taken to obtain participants from different sources. Colleagues and associates were asked to recruit individuals to participate from their own personal and professional networks, thereby creating distance between the researcher and the participants. This distance from the researcher helped create a participant pool with potentially diverse perceptions and norms. The number of participants directly recruited by the researcher was significantly less than the total number of participants. The goal of this study was to determine factors that influence tax compliance for the average U.S. taxpayer, so demographic information was collected to determine if this goal was met. The demographic information was general in nature and the surveys remained confidential to encourage honest responses. To encourage participation, participants were informed that they had the option to be entered in a drawing for prizes if they completed the survey.

\(^{15}\) Although an experiment attempting to manipulate these independent variables would provide more control over the variation in the dependent variable, the independent variables are not manipulated because these are strong personal attitudes that are not easily changed by an artificial setting.
3.2 Overview of Experimental Procedures

Data was collected using a questionnaire. All participants completed the questionnaire on-line through Qualtrics. The first phase of the study required participants to report norms relating to tax compliance. In accordance with theory and prior research on norms, four types of norms were measured: (1) personal norms, (2) subjective norms, (3) injunctive norms, and (4) descriptive norms. Next, participants reported their perceptions on fairness of the U.S. tax system. Third, the participants answered questions relating to their trust in the U.S. government. Fourth, participants were presented with two hypothetical tax scenarios and asked to report the amount by which they would evade or comply with tax law in such a situation. Finally, participants responded to demographic questions.

3.3 Compliance Decision and Determining Factors

The determining factors were measured first. The order in which these factors were measured corresponds with the proposed model of tax compliance. Scales validated in prior research were used, when available, to measure each of these independent factors and are described in the subsections that follow.

3.3.1 Independent Factors

3.3.1.1 Tax Compliance Norms

Norms relating to tax compliance may have a direct influence on tax compliance and may also have an indirect influence on tax compliance through perceived fairness of the tax system and trust in government. Therefore, norms were measured first. Descriptive norms of tax compliance provide information to individuals relating to what other people in society actually do whereas injunctive norms provide information relating to what society views as the correct actions. Measures of descriptive and injunctive norms were primarily adapted from Bobek et al.
Bobek et al. (2007) measured descriptive norms with two questions. Following factor analysis, they found that both questions loaded on the same construct with factor loadings of 0.674 and 0.845. To increase the construct validity of descriptive norms three additional questions relating to descriptive norms were created. Bobek et al. measured injunctive norms with three questions with factor loadings of 0.745, 0.757, and 0.800. Three additional questions were added to Bobek et al.’s scale to measure injunctive norms. These two norms were measured on a seven-point Likert scale with one being “strongly agree” and seven being “strongly disagree.”

Subjective norms are the norms of those close to an individual, such as family and friends. The scale to measure subjective norms was adapted from Blanthorne and Kaplan (2008). This scale uses five participant responses to measure subjective tax compliance norms. Blanthorne and Kaplan (2008) found that subjective norms relating to significant others, family, and tax preparers had factor loadings greater than .7. Subjective norms relating to friends and business associates had factor loadings of .618 and .510. Despite the low factor loadings, all five measures were included in the present study because theory suggests that friends and business associates can significantly influence perceived subjective norms. This norm was measured on a seven-point Likert scale with one being “discourages underreporting income” and seven being “encourages underreporting income.”

The final norm, personal norms, relates to an individual’s personal opinions regarding tax compliance and were measured with a four item scale adapted from Bobek et al. (2007) and two additional items created for the present study. In Bobek et al.’s study, all but one question had factor loadings greater than 0.70; the remaining question had a loading of 0.694. Personal norms
were measured on a seven-point Likert scale with one being “strongly disagree” and seven being “strongly agree.” The questions used to measure norms are included in the Appendix.

3.3.1.2 Perceived Fairness of the Tax System

Individuals’ perceptions of fairness have a significant influence on behavior in a variety of settings and are hypothesized to have both a direct effect on compliance and an indirect effect on compliance through trust in the government. The scale to measure perceptions of tax system fairness was adapted from multiple studies. Nekayachi and Cvetkovich (2010) measured perceptions of fairness with one question: “Does the government propose and implement policies fairly.” Since this question is concerned with both the proposal and implementation of fair policies, this issue was addressed with two questions in the present study (Questions 1 and 2 for fairness perceptions in the Appendix). In order to increase the validity of this measure, two additional questions used by Herda and Lavelle (2011) to measure perceptions of fairness were also used (Questions 3 and 4 for fairness perceptions in the Appendix). The four-item scale used to measure perceptions of fairness is shown in the Appendix. All items were measured on a seven-point Likert scale with one being “strongly agree” and seven being “strongly disagree.”

3.3.1.3 Trust in Government

Trust in government is the willingness of a citizen to be vulnerable to the actions of the government despite inability to monitor the government. The hypotheses suggest that trust in government has a direct effect on tax compliance such that taxpayers with more trust in the government are more likely to comply with tax laws. Miller (1974) measured trust in government using a five-item scale. His scale was adopted for the present study. In this scale participants were asked to read several statements and choose the extent to which they trust their government.
3.3.2 Dependent Measure

The dependent variable of interest was the likelihood of a taxpayer to comply with tax laws. Based on prior research, this variable was measured by asking participants to respond to hypothetical tax scenarios. Each of the scenarios related to a tax compliance issue where the taxpayer may have perceived an opportunity to evade taxes, but where the tax law and facts of the situation allowed for a single legal response. Participants were asked to respond to each scenario with a dollar amount and complete a 5-item scale reporting their intended compliance.

Scenarios were chosen that met several requirements. First, the scenarios needed to be simple so that participants could quickly understand the issues. Additionally, the scenarios could not require advanced tax knowledge. These requirements allowed average U.S. taxpayers to be surveyed. Finally, scenarios needed to avoid other confounding factors while minimizing potential demand effect. Prior studies examining taxpayer compliance intentions used scenarios with similar requirements, so the scenarios were adapted from prior research. The first scenario related to a deduction for business use of an automobile where there is an opportunity to overstate the deduction. Participants were asked how much of the additional, unsupported, deduction they would claim if they were in a similar situation. The second scenario related to cash income that was received with no paper trail and asked participants how much of the cash income they would report. The scenarios used can be seen in the Appendix.

3.3.3 Other Variables

In addition to measuring the constructs of interest in the proposed model of taxpayer compliance, other variables that may influence these relations were measured. Demographic information was collected. Additionally, each participant’s susceptibility to social desirability bias was measured using Reynolds’s (1982) thirteen-item scale. This scale was developed from
the longer Marlow-Crowne scale (Crowne & Marlowe 1960) and has been found to have sufficient validity and reliability.

3.4 Testing Hypotheses

The hypotheses suggest a proposed model of taxpayer compliance. Structural equation modeling (SEM) was used to test the hypotheses. SEM is the most appropriate analysis for this study for several reasons. First, SEM has the ability to simultaneously examine the relationship between several different variables. Since the hypotheses proposed that several factors simultaneously influence taxpayer compliance, it is important to measure all variables in a single model. Additionally, SEM is able to effectively capture the influence of latent variables on a dependent variable. A latent variable is a variable that cannot be directly observed. Each of the independent variables of interest is a latent variable, so SEM can help measure their influence on the dependent variable of interest. Confirmatory factor analysis in SEM was used to construct latent variables from the variables observed with the scales discussed above.

First, a measurement model was estimated using SEM. Measurement model estimation is completed using confirmatory factor analysis to ensure that each scale reliably measures the latent variable of interest. Factor loadings were used to test the validity and reliability of each scale. Scales were considered to have sufficient validity if factor loadings are significant and greater than 0.70 (Fornell & Larcker 1981).

Next, the structural model was estimated to test the relationships hypothesized in the proposed model of taxpayer compliance. SEM fit indices were used to assess the model fit. These fit indices measured the extent by which the hypothesized model differs from the data. One important fit index examined was the root mean square error of approximation (RMSEA). An acceptable RMSEA is less than or equal to 0.06. The standardized root-mean square residual
(SRMR) also helps evaluate the fit of the model and a good fit is indicated with an SRMR value less than 0.05. Other fit indices were also examined, such as the goodness of fit index (GFI) and the normed fit index (NFI); acceptable fit on these indices is indicated with a value greater than or equal to 0.90.
CHAPTER 4

RESULTS

4.1 Descriptive Statistics

Before testing the hypotheses, descriptive statistics for the data were computed. In this section participant demographics and mean responses are presented.

4.1.1 Participant Demographics

Data was collected from January 29, 2013 to March 17, 2013. Forty-two personal contacts were recruited via e-mail to participate in the study. Each personal contact was asked to forward the survey instructions and solicitation to their own diverse contacts. Of the individuals contacted, 30 responded that they would help with the recruiting process. The survey was started by 257 individuals, but 6 participants did not meet the requirements for participation\textsuperscript{16} and withdrew from the survey. An additional 28 responses were removed from data analysis because the participants failed to complete questions measuring the dependent variable. The final result was 217 useable responses.

Full demographic results are shown in Table 1. Participants lived across the U.S. in 31 different states. No state represented a majority of the participants. A slight majority, 56 percent, of participants were female. Almost all, 95 percent, of participants were raised in the U.S. The participants were highly educated with 83 percent reporting that they were college graduates. A majority of the participants, 64 percent, were married.

\textsuperscript{16} In order to participate in the survey participants needed to report that they were at least eighteen years old, filed a 2011 tax return, and agreed to participate in the study.
<table>
<thead>
<tr>
<th>Table 1</th>
<th>Participant Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td></td>
</tr>
</tbody>
</table>
| Male     | 93                      | 44.08%
| Female   | 118                     | 55.92%
| Age:     |                         |
| 18-25    | 21                      | 9.95%
| 25-30    | 34                      | 16.11%
| 30-35    | 34                      | 16.11%
| 35-40    | 24                      | 11.37%
| 40-50    | 24                      | 11.37%
| 50-60    | 46                      | 21.80%
| 60-65    | 14                      | 6.64%
| Over 65  | 14                      | 6.64%
| Country Raised In: |         |
| U.S.     | 200                     | 94.79%
| Some other country | 11        | 5.21%
| Highest Education Completed: |         |
| High School | 4                    | 1.84%
| Some college courses | 26       | 11.98%
| College graduate    | 78       | 35.94%
| Post-graduate work  | 103      | 47.47%
| Marital Status:     |           |
| Married    | 139                    | 64.06%
| Single     | 72                     | 33.18%
| Political Views:    |           |
| Liberal    | 33                     | 15.21%
| Moderate   | 88                     | 40.55%
| Conservative | 78       | 35.94%
| Something else | 12       | 5.53%
| Political Party:    |           |
| Democrat   | 60                     | 27.65%
| Republican  | 106                   | 48.85%
| Other      | 45                     | 20.74%
| Preparer of 2011 Tax Return: |       |
| Self       | 94                     | 43.32%
| Spouse     | 25                     | 11.52%
| Paid preparer | 73       | 33.64%
| Other      | 19                     | 8.76%
| Employer:  |                         |
| Do not work | 18                   | 8.29%
| Work for someone else | 162     | 74.65%
| Self-employed | 31       | 14.29%
| Social Security Benefits: |         |
| Receive Social Security Benefits | 24       | 11.06%
| Do Not Receive Social Security Benefits | 187 | 86.18%
Participants were asked to report their political views: 41 percent were moderate, 36 percent were conservative, and 15 percent were liberal. Forty-nine percent of participants said that they identified most with the Republican Party, 28 percent with the Democratic Party, and 21 percent\textsuperscript{17} said they identified with some other party. About one-third, 34 percent, of participants hired a tax preparer to prepare their 2011 tax return, and their incomes were widely distributed (see table 1). Most of the participants, 75 percent, worked and were not self-employed. 11 percent of participants received social security benefits.

4.1.2 Mean Responses

Each variable was measured on a seven-point Likert scale with higher values representing more compliance, perceived fairness, or trust. Average responses to each scale were analyzed to understand common taxpayer attitudes. These averages are shown in Table 2.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Average Responses</th>
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<tbody>
<tr>
<td>Construct</td>
<td>Mean (on a seven-point Likert scale)</td>
</tr>
<tr>
<td>Injunctive Norms</td>
<td>5.31</td>
</tr>
<tr>
<td>Descriptive Norms</td>
<td>3.85</td>
</tr>
<tr>
<td>Subjective Norms</td>
<td>4.81</td>
</tr>
<tr>
<td>Personal Norms</td>
<td>5.69</td>
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<tr>
<td>Perceived Fairness of Tax System</td>
<td>3.01</td>
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<tr>
<td>Trust in Government</td>
<td>2.53</td>
</tr>
<tr>
<td>Intention to Comply-Expense Scenario</td>
<td>5.36</td>
</tr>
<tr>
<td>Intention to Comply-Income Scenario</td>
<td>5.06</td>
</tr>
</tbody>
</table>

On average, participants believed that society as a whole thought it was important to comply with tax laws as evidenced by an average score for injunctive norms of 5.31. However, they believed that society as a whole did not actually comply as often which is shown by the average descriptive norm score of 3.85. Participants believed that their close friends, coworkers, and family complied more than

\textsuperscript{17} Most of the participants that said “other” political party commented that their political affiliation depended on the issue.
the general public, as seen in the subjective norm average of 4.81. In accordance with a self-serving bias, participants reported that they complied more than the general public or their close peers, as indicated by the personal norms average of 5.69.

Perceived fairness of the tax system and trust in government were both low. The average perceived fairness of the tax system was 3.01 on a seven-point scale where 7 indicated high perceived fairness. Average trust in government was only 2.53 on a seven-point scale. This supports recent reports that trust in government is at an all-time low and constantly decreasing (Newport 2012; Van Blijswijk et al. 2004; Bok 1996; Dye & Zeigler 1993; Bekke & van der Meer 2000; Pollitt and Bouckaert 2000).

Participants reported intention to comply varied depending on the scenario. In the first scenario, participants were asked to report the likelihood of accurately reporting business automobile expenses. They reported an average intention to comply of 5.36 on a seven-point Likert scale where 7 indicated an intention to fully comply. Participants were also asked to give a dollar value for the amount of false business expenses they would claim. The average amount of false automobile expenses that participants reported they would claim was $525 out of a possible $2,000.

The second scenario asked participants to indicate their intention to report all cash income received. The average compliance for the second scenario was 5.06 on the seven-point scale, and $1,307 when asked to report the actual dollar amount of cash income they would report out of $2,000 received.

It is not surprising that individuals felt less need to report all cash income than they felt the need to accurately report business expenses. Artificially inflating business expenses may be seen as a more blatant lie because expenses would be created where there are actually none. However, individuals may see the failure to report cash income as a simple omission and may find it easier to justify such evasion. Hypotheses are tested using both scenarios to determine if the type of evasion influences the results.
4.1.3 Correlation Analysis

Correlation analysis was performed to obtain initial insight into the directionality and significance of relations among the variables of interest. The results of this analysis are shown in Table 3. As expected, each of the three social norms (subjective, injunctive, and descriptive) was positively and significantly correlated with personal norms, such that as social norms of tax compliance increased personal norms of tax compliance also increased. This is consistent with theory that suggests that personal norms are partially formed through the internalization of social norms.

Personal norms of tax compliance were positively and significantly associated with perceived fairness of the tax system. This indicates that as personal norms encouraging compliance with tax laws increase, taxpayers’ perceptions of the fairness of the tax system also increase. This is consistent with the hypothesized model.

Each norm (personal, subjective, injunctive, and descriptive) was positively and significantly correlated with both compliance to business expense provisions and cash income provisions of the tax law. This suggests that as norms supporting tax compliance increase compliance with tax laws will increase. Perceived fairness of the tax system was also significantly and positively associated with compliance in both scenarios, such that as perceived fairness of the tax system improved compliance intentions increased. Trust in government was positively and significantly correlated with compliance with cash income provisions, and positively but only marginally correlated with compliance with business expense provisions. This is consistent with the hypothesis that as trust in government increases intended compliance will also increase.
## Table 3
Correlation Analysis

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<td>3</td>
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<td>0.127** 0.184** 0.634**</td>
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<td>4</td>
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<td>0.570** 0.562** 0.107* 0.193**</td>
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<td>0.245** 0.194** 0.018 0.045 0.372**</td>
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<td>0.269** 0.283** 0.318 0.288 0.275 0.128**</td>
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<td>0.215** 0.174** 0.266** 0.234** 0.304** 0.110* 0.289**</td>
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<td>0.053 0.011 -0.059 -0.039 -0.010 0.010 0.000 0.032</td>
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<td>0.045 0.007 0.064 0.024 0.121** 0.044 0.062 0.132** 0.027</td>
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<td>0.088 0.113* -0.062 -0.112* -0.041 -0.116** 0.006 0.051 0.152 -0.182**</td>
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<td>0.013 -0.018 0.047 0.039 -0.052 -0.046 0.073 0.089* 0.036 -0.070 -0.027</td>
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<td>-0.206** -0.115** 0.081 0.105* -0.105* -0.123** -0.107* -0.035 -0.064 0.015 -0.317** -0.033</td>
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<td>0.159** 0.092* -0.300** -0.251 0.247** 0.182** 0.050 -0.052 -0.027 -0.058 -0.087 -0.195** -0.125*</td>
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<td></td>
<td>0.098* 0.123** -0.167** -0.180** -0.017 -0.071 0.007 0.002 0.048 -0.193** 0.466** 0.152** -0.422 0.002</td>
</tr>
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</tbody>
</table>

**Correlation significant at the 0.05 level (1-tailed)
* Correlation significant at the 0.10 level (1-tailed)

Legend: 1 = factor score for compliance relating to the business expense scenario; 2 = factor score for compliance relating to the cash income scenario; 3 = factor score for trust in government; 4 = factor score for perceived fairness of the tax system; 5 = factor score for personal norms; 6 = factor score for subjective norms; 7 = factor score for descriptive norms; 8= factor score for injunctive norms; 9 = average of social desirability (1 = low social desirability bias, 2 = high social desirability bias); 10 = gender (1 = male, 2 = female); 11 = participant age; 12 = education completed; 13 = marital status (1 = married, 2 = single); 14 = Political views/party (1 = democrat, 2 = moderate, 3 = republican); 15 = 2011 annual income; 16 = employer (1 = do not work, 2 = work for someone, 3 = self-employed)
Although it was expected that participants would feel free to respond honestly, social desirability bias was measured using Reynolds’s (1982) scale to ensure that this bias did not skew the results. As expected, responses on the social desirability scale were not significantly correlated with any of the dependent or independent variables of interest.

Existing tax research suggests that many demographic characteristics may have a significant influence on tax compliance behavior. Several of these demographic factors were measured and included in the correlation analysis. Political views were significantly correlated with many of the variables of interest including compliance measured with both scenarios, trust in government, perceived fairness of the tax system, personal norms, and subjective norms. Analysis of these relations indicated that Republicans were more likely to comply with both of the compliance scenarios, but the relation with the cash income scenario was only marginally significant. Similarly, Republicans’ personal norms and those of their close contacts (subjective norms) encouraged more compliance with the tax law. Given the current prominence of Democrats in the federal government, it is not surprising that Republicans reported less trust in the federal government and reported a lower perceived fairness of the tax system than Democrats.

Income was also significantly correlated with the cash income compliance scenario and marginally significantly correlated with the business expense scenario, such that as income increased participants reported a greater intention to comply with tax laws. However, despite the greater intention to comply, individuals with higher incomes reported less trust in the federal government and lower perceived fairness of the tax system. Equity theory may explain this relation; individuals with more income pay a greater dollar value in taxes and may feel that this
increased input into the tax system is greater than the outputs they receive from the federal government.

In contrast to prior research, participants’ employment status (unemployed, working for someone, or self-employed) was not significantly correlated with compliance intentions. Additionally, individuals’ receipt of social security benefits was not significantly correlated with compliance intentions.

4.2 Confirmatory Factor Analysis

Each variable was measured with scales composed of several items. To test the construct validity of the scales, confirmatory factor analysis (CFA) was performed in Lisrel by testing the model fit for the applicable construct measurement models.

4.2.1 Dependent Variable CFA

The dependent variable was measured with two scenarios. The first scenario asked participants to answer five questions relating to their intended compliance in a situation in which there was an opportunity to overstate business expenses. The second scenario asked similar questions but related to the opportunity to underreport cash income. CFA was performed for each scenario separately. The initial measurement model indicated that the second question asked was not related to the overall construct of compliance. Additionally, modification indices generated by Lisrel indicated that the errors between Question 1 and 3 should covary. The model fit indices for the final model, which excluded the second question and allowed the errors of the first and third question to covary, was excellent and the factor loadings were sufficient. Results of factor analysis of the dependent variable are in Table 4. The final model was used for subsequent structural models.
4.2.2 Injunctive Norms CFA

The scale to measure the injunctive norms latent variable contained six items. The measurement model including all six items did not have acceptable fit indices and some of the items did not load well. Specifically, Questions 4 and 5 had low factor loadings and were removed from the final model. Additionally, the modification indices suggested that the errors
for Question 3 and 6 should covary; this change was made in the final model. The final model, excluding Questions 4 and 5 and allowing the errors of Questions 3 and 6 to covary, was used in subsequent structural models. The results of factor analysis for the injunctive norms construct are in Table 5.

<table>
<thead>
<tr>
<th>Question</th>
<th>Initial Model</th>
<th>Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loading</td>
<td>T-Value</td>
</tr>
<tr>
<td>1</td>
<td>0.790</td>
<td>11.810</td>
</tr>
<tr>
<td>2</td>
<td>0.680</td>
<td>9.960</td>
</tr>
<tr>
<td>3</td>
<td>0.690</td>
<td>10.160</td>
</tr>
<tr>
<td>4</td>
<td>0.280</td>
<td>3.750</td>
</tr>
<tr>
<td>5</td>
<td>0.320</td>
<td>4.340</td>
</tr>
<tr>
<td>6</td>
<td>0.380</td>
<td>5.150</td>
</tr>
</tbody>
</table>

Table 5
Confirmatory Factor Analysis of Scale Measuring Injunctive Norms

4.2.3 Descriptive Norms CFA

Descriptive norms were measured with a five-item scale. The initial measurement model had poor fit indices and the fourth question did not load well. Additionally, the modification indices suggested allowing the errors between Question 1 and 2 to covary. This change was made along with removing the fourth question and the final model had excellent model fit as indicated by the fit indices. The results of this CFA are included in Table 6.
4.2.4 Subjective Norms CFA

The subjective norms latent variable was measured with 5 questions. The measurement model tested in Lisrel including each of these 5 questions had poor model fit and Question 3 did not load well. The modification indices suggested that the errors between Question 1 and 2 should covary. After this change was made and Question 3 was excluded the model had excellent fit. The results of CFA for subjective norms are reported in table 7.

4.2.5 Personal Norms CFA

Personal norms were measured with 6 questions. The initial measurement model including all 6 items had poor model fit and Questions 5 and 6 did not load well. To further improve the model fit, the modification indices suggested adding an error covariance between Questions 1 and 2. With this change and exclusion of Questions 5 and 6, the model fit was excellent. The revised model was used in subsequent analyses. The results of CFA for personal norms are reported in Table 8.

<table>
<thead>
<tr>
<th>Question</th>
<th>Initial Model</th>
<th>Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loading</td>
<td>T-Value</td>
</tr>
<tr>
<td>1</td>
<td>0.850</td>
<td>14.590</td>
</tr>
<tr>
<td>2</td>
<td>0.880</td>
<td>15.130</td>
</tr>
<tr>
<td>3</td>
<td>0.600</td>
<td>9.160</td>
</tr>
<tr>
<td>4</td>
<td>0.540</td>
<td>8.110</td>
</tr>
<tr>
<td>5</td>
<td>0.550</td>
<td>8.310</td>
</tr>
</tbody>
</table>

RMSEA: 0.213, 0.000  
NFI: 0.900, 1.000  
CFI: 0.900, 1.000  
RFI: 0.900, 1.000  
SRMR: 0.084, 0.004  
GFI: 0.910, 1.000  

Table 6  
Confirmatory Factor Analysis of Scale Measuring Descriptive Norms
4.2.6 Perceptions of Tax System Fairness CFA

Respondents were asked to answer 4 questions designed to illicit their perceptions of the fairness of the U.S. tax system. The model fit for the initial model was poor, and the modification indices suggested adding an error covariance between Questions 1 and 2. This
change was made and the revised measurement model had excellent fit. These results are reported in Table 9.

<table>
<thead>
<tr>
<th>Question</th>
<th>Factor Loading</th>
<th>T-Value</th>
<th>Fit Indices</th>
<th>Factor Loading</th>
<th>T-Value</th>
<th>Fit Indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.920</td>
<td>16.840</td>
<td></td>
<td>0.680</td>
<td>10.700</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.890</td>
<td>15.980</td>
<td></td>
<td>0.640</td>
<td>9.920</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.690</td>
<td>11.150</td>
<td></td>
<td>0.890</td>
<td>14.950</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.670</td>
<td>10.830</td>
<td></td>
<td>0.860</td>
<td>14.450</td>
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</tr>
</tbody>
</table>

4.2.7 Trust in Government CFA

The final latent variable was taxpayers’ trust in the federal government and was measured with 5 questions. Model fit on the initial model including all 5 questions was excellent. No changes were made to this model, and this model was used in subsequent structural models. The results of this CFA are shown in Table 10.

4.3. Hypotheses Testing

The hypotheses suggest a model of social factors that influences taxpayers’ compliance intentions. Structural equation modeling (SEM) was used to test the hypotheses. SEM allows researchers to examine the simultaneous relations among several variables. Structural models were tested for each of the two compliance scenarios to determine if the nature of the possible evasion influences the compliance process.
Table 10
Confirmatory Factor Analysis of Scale Measuring Trust in Government

<table>
<thead>
<tr>
<th>Question</th>
<th>Factor Loading</th>
<th>T-Value</th>
<th>Fit Indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.700</td>
<td>10.680</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.800</td>
<td>12.820</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.660</td>
<td>10.010</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.650</td>
<td>9.820</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.620</td>
<td>9.190</td>
<td></td>
</tr>
</tbody>
</table>

RMSEA 0.048
NFI 0.980
CFI 0.990
RFI 0.970
SRMR 0.025
GFI 0.990

4.3.1 Model of Compliance Related to Business Expenses

Lisrel was used to construct a structural model of the hypothesized compliance relationships using the factors discussed above. First, a structural model was estimated for the intention to accurately report business expenses. Results for tests of the hypothesized models are shown in Figure 2 and Table 11.

Fit indices for this structural model were marginal. The root mean square error of approximation (RMSEA) was 0.047. RMSEA of 0.05 to 0.08 indicates close fit, so the RMSEA for this model is excellent. The normed fit index (NFI) was 0.90. NFI values close to .90 reflect a good model fit, so the NFI for this model is acceptable. The standardized room-mean square residual (SRMR) was 0.095. The SRMR should be less than 0.05 for a good fit. Thus, the SRMR for this model is not acceptable. Finally, the goodness-of-fit index (GFI) was 0.83. A good model fit is indicated by a GFI close to 0.90, and this model does not meet this criteria.
Table 11
Results for Hypothesized Structural Model Using Business Expense Scenario

<table>
<thead>
<tr>
<th>Link</th>
<th>Path (t-statistic)</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Personal norms to compliance intentions</td>
<td>0.57 (4.84)</td>
</tr>
<tr>
<td>H2</td>
<td>Descriptive norms to compliance intentions</td>
<td>0.08 (0.89)</td>
</tr>
<tr>
<td>H3</td>
<td>Descriptive norms to personal norms</td>
<td>0.16 (1.69)</td>
</tr>
<tr>
<td>H4</td>
<td>Injunctive norms to compliance intentions</td>
<td>0.04 (0.46)</td>
</tr>
<tr>
<td>H5</td>
<td>Injunctive norms to personal norms</td>
<td>0.23 (2.68)</td>
</tr>
<tr>
<td>H6</td>
<td>Subjective norms to compliance intentions</td>
<td>0.01 (0.07)</td>
</tr>
<tr>
<td>H7</td>
<td>Subjective norms to personal norms</td>
<td>0.37 (4.29)</td>
</tr>
<tr>
<td>H8</td>
<td>Personal norms to perceived fairness of the tax system</td>
<td>0.09 (1.07)</td>
</tr>
<tr>
<td>H9</td>
<td>Perceived fairness of the tax system to compliance intentions</td>
<td>(0.08) (0.61)</td>
</tr>
<tr>
<td>H10</td>
<td>Perceived fairness of the tax system to trust in government</td>
<td>0.74 (6.86)</td>
</tr>
<tr>
<td>H11</td>
<td>Trust in government to compliance intentions</td>
<td>0.14 (1.09)</td>
</tr>
</tbody>
</table>
The results shown in Figure 2 and Table 8 above provide partial support for the hypothesized model. Specifically, each of the social norms, descriptive, injunctive, and subjective, were strong predictors of personal norms. Additionally, personal norms were a strong predictor of compliance intentions. However, none of the social norms were predictors of compliance intentions. This suggests that social norms primarily influence compliance through internalization as personal norms.

Perceived fairness of the tax system was a significant predictor of trust in government, but neither were significant predictors of compliance intentions. Additionally, personal norms failed to predict perceived fairness of the tax system. The lack of support for these hypotheses could be due to the influence of other variables, such as political party affiliation.

4.3.2 Model of Compliance Related to Cash Income

Results to structural equation modeling using participants’ intention to report cash income as the dependent variable were substantially similar to those reported above for the expense scenario. These results are shown in Figure 3 and Table 12.

Fit indices for this structural model were similar to the model of compliance to business expense provisions. The RMSEA was 0.047 indicating an excellent fit. The NFI was 0.89, close to the 0.90 cut-off for a good model fit. The SRMR was 0.092, indicating a marginal model fit. Finally, the GFI was 0.83, less than the cut-off value for a good fit.

Hypotheses testing using the cash income scenario structural model were also similar to those for the business expense scenario. Again, social norms predicted personal norms, and personal norms were a strong predictor of compliance. However, descriptive norms were a predictor of intention to report cash income, whereas they were not a predictor of the intention to accurately report business expenses. This could be due to the perceived pervasiveness of
omitting cash income from tax returns and individuals’ perception that it is not necessary to comply when they perceive almost everyone else evades in this regard.

**Figure 3**
Results for Hypothesized Structural Model Using Cash Income Scenario

![Diagram](image)

**Table 12**
Results for Hypothesized Structural Model Using Cash Income Scenario

<table>
<thead>
<tr>
<th>Link</th>
<th>Path</th>
<th>Path t-statistic</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Personal norms to compliance intentions</td>
<td>0.57</td>
<td>5.00</td>
<td>Yes</td>
</tr>
<tr>
<td>H2 Descriptive norms to compliance intentions</td>
<td>0.15</td>
<td>1.64</td>
<td>Marginal</td>
</tr>
<tr>
<td>H3 Descriptive norms to personal norms</td>
<td>0.16</td>
<td>1.70</td>
<td>Yes</td>
</tr>
<tr>
<td>H4 Injunctive norms to compliance intentions</td>
<td>0.10</td>
<td>1.23</td>
<td>No</td>
</tr>
<tr>
<td>H5 Injunctive norms to personal norms</td>
<td>0.23</td>
<td>2.68</td>
<td>Yes</td>
</tr>
<tr>
<td>H6 Subjective norms to compliance intentions</td>
<td>0.05</td>
<td>0.53</td>
<td>No</td>
</tr>
<tr>
<td>H7 Subjective norms to personal norms</td>
<td>0.37</td>
<td>4.30</td>
<td>Yes</td>
</tr>
<tr>
<td>H8 Personal norms to perceived fairness of the tax system</td>
<td>0.10</td>
<td>1.10</td>
<td>No</td>
</tr>
<tr>
<td>H9 Perceived fairness of the tax system to compliance intentions</td>
<td>0.18</td>
<td>1.45</td>
<td>Marginal</td>
</tr>
<tr>
<td>H10 Perceived fairness of the tax system to trust in government</td>
<td>0.74</td>
<td>6.85</td>
<td>Yes</td>
</tr>
<tr>
<td>H11 Trust in government to compliance intentions</td>
<td>0.10</td>
<td>0.75</td>
<td>No</td>
</tr>
</tbody>
</table>
Personal norms still failed to predict perceived fairness of the tax system, but fairness perceptions were still a strong predictor of trust in government. In this case, the hypothesis that perceived fairness of the tax system will influence compliance intentions was marginally supported. However, this model failed to support the hypothesis that trust in government influences compliance intentions.

4.4 Supplemental Analyses

The results discussed above suggest several possible adjustments that are considered in this section. First, the prior results suggest that social norms largely influence compliance intentions through internalization as personal norms. Therefore, a structural model was estimated where personal norms fully mediated the social norms-compliance intentions relationship. Results of this test are shown in Figure 4 and Table 13\textsuperscript{18}.

Figure 4
Results for Personal Norms Structural Model

\begin{figure}
\centering
\includegraphics[width=\textwidth]{personal_norms_model.png}
\caption{Results for Personal Norms Structural Model}
\end{figure}

\textsuperscript{18} To simplify the explanation of results, only the structural model of compliance with cash income provisions is reported for this structural model. However, the structural models were also estimated with compliance with business expense provisions as the dependent variable and the results were substantially. The only notable difference was that the relation between perceived fairness and intended compliance with expense provisions was only marginally significant.
Fit indices for the structural model discussed above and shown in Figure 4 are generally good indicating an acceptable fit (RMSEA = 0.057, NFI = 0.91, SRMR = .083, GFI = 0.87). Results of this structural model suggest that social norms, regardless of the type of norm, have a significant influence on personal norms, and personal norms fully mediate the social norms-compliance intentions relation. This highlights the importance of simultaneously examining the influence of social norms and personal norms on compliance intentions. Although the correlation coefficients indicated that the social norms (subjective, descriptive, and injunctive) were significantly correlated with compliance intentions, SEM analysis that included all social norms and personal norms in the model of compliance intentions indicated that these social norms only indirectly influence compliance intentions through personal norms.

Second, personal norms failed to predict perceived fairness of the tax system. However, fairness perceptions were a significant predictor of trust in government. Therefore, a structural model was estimated in which perceived fairness of the tax system influenced both trust in government and compliance intentions. Results of this test are shown in Figure 5 and Table 14.\(^{19}\)

\(^{19}\) Results are only reported for the income compliance scenario, but conclusions remain the same when the structural model is estimated using compliance with business expense provisions.
Fit indices for this structural model were excellent indicating an acceptable model fit (RMSEA = 0.036, NFI = 0.96, SRMR = 0.04, GFI = 0.94). This suggests that perceived fairness of the tax system has a significant influence on compliance intentions. However, these results fail to support the hypothesis that trust in government has a significant influence on compliance intentions. The lack of support for this hypothesis may be less surprising when alternate explanations for the fairness-trust relationship are examined.

Despite a large body of psychology and organizational behavior literature suggesting that perceived fairness of another party will lead to trust in that party, some researchers have begun to question this theory. Colquitt and Rodel (2011) argued that researchers have theorized that perceived fairness leads to increased trust without any support for the causality of this relation.
They argued that a lack of longitudinal studies in this area casts doubt on the directionality of this relation.

Recently, some researchers have begun addressing this concern by conducting longitudinal studies that examine the timing of the formation of fairness perceptions and trust. Although additional research is needed to challenge the long standing theory that perceived fairness leads to trust, these studies provide initial support for an alternate explanation. For example, Bal et al. (2011) conducted a longitudinal study that examined the influence of workers’ prior trust in their employer on current perceptions of fairness. They found that established levels of trust can have a significant influence on perceived fairness of current circumstances. They argued that employees that have a high level of trust in their employer are more likely to attribute unfair actions to situational constraints facing their employer than to deliberate attempts to harm them.

Similarly, Lilly and Virick (2006) examined the influence of work attitudes on trust and perceived fairness. They found that trust in an organization fully mediated the relation between perceived interactional justice and work attitudes. They argued that individuals with a high level of trust in their employer are more likely to identify with their employer and accept the decisions made by their employer.

In a tax setting, individuals that have a high level of trust in the federal government may be more likely to identify with the politicians in the federal government and accept the decision made by them as fair. Similarly, individuals that trust the federal government may be more likely to reason that any unfavorable legislation enacted by the federal government is a result of situational constraints. For example, individuals with high levels of trust may assume that politicians fully consider all relevant economic and social factors when developing tax laws and
may view the legislation as fair regardless of any unfavorable consequences it may have for their personal finances. To test this idea, a structural model was estimated where perceived fairness fully mediated the relationship between trust in government and compliance intentions\textsuperscript{20}. The results of this analysis are shown in Table 15 and Figure 6 below.

Fit indices indicate that this structural model is an excellent depiction of the relations among these variables (RMSEA = 0.036, NFI = 0.960, SRMR = 0.044, GFI = 0.940). This suggests that taxpayers first develop their trust in the federal government and then use this trust to inform their perceptions of the fairness of the tax system. These fairness perceptions, which incorporate taxpayers’ trust, have a significant influence on compliance intentions. It appears that perceived fairness of the tax system fully mediates the relationship between trust and compliance.

\textsuperscript{20} To simplify the discussion, only results from the cash income scenario are reported. The only change in results is a change from significance to only marginal significance for the relationship between perceived fairness and compliance with business expense provisions.
intentions and that the trust only indirectly influences compliance intentions through fairness perceptions.

This conclusion is consistent with the trust-as-heuristic theory which argues that individuals use a simple decision rule to decide whether to support a government activity (Hetherington 2005). In a tax setting, trusting taxpayers may decide to agree with and support any government activity. This simple decision rule appears to lead to higher levels of perceived tax system fairness.
CHAPTER 5
DISCUSSION AND CONCLUSIONS

5.1 Introduction

This chapter concludes this dissertation with a discussion of the results, limitations of the study, and opportunities for future research. Finally, contributions and conclusions from this study are presented.

5.2 Discussion

Many governments around the world rely on individuals to voluntarily comply with income tax laws. However, revenues lost to individual taxpayer evasion are substantial. These governments are continually seeking for ways to improve taxpayer compliance. Although increased penalties and increased audit rates can increase tax compliance, these compliance programs are costly to implement. Thus an understanding of the many different factors that influence tax compliance may help governments develop alternative compliance programs.

Traditionally, individual tax compliance has been modeled using primarily economic factors. Although these studies found that economic factors help explain individual tax compliance behavior, they also suggested that tax compliance decisions are not influenced by economic factors alone. Psychology research argues that social and individual psychological issues can have a significant influence on decisions. This dissertation reports the results of a survey of 217 U.S. taxpayers designed to examine the influence of several social and psychological factors on individual taxpayer compliance. The results indicate that these factors have a significant influence on taxpayers’ decisions.

SEM was used to gain a more complete understanding of taxpayer compliance. Simple correlation analyses were consistent with each hypothesis and seemed to suggest that each factor
examined (three types of social norms, personal norms, fairness perceptions, and trust in government) had a positive and significant influence on tax compliance. However, SEM analysis indicated that some of these social factors only influenced tax compliance indirectly through some other factor. Hypothesis testing and supplemental analyses suggested two distinct groups of relationships: norms influencing compliance, and trust and perceived fairness influencing compliance.

5.2.1 Influence of Norms on Compliance Intentions

This study shows that personal norms are consistently a very strong predictor of compliance intentions. However, in addition to this insight, it is important to know how personal norms are formed. Psychology research suggests that individuals may consider societal norms when developing their personal norms. To test this theory, the three different types of social norms were measured.

The first type of social norm is injunctive norms. Injunctive norms are the perceptions of what society as a whole believes to be acceptable. Injunctive norms of tax compliance are the degree to which an individual perceives that society believes it is important to comply with tax laws. Descriptive norms of tax compliance also relate to the norms of society as a whole, but relate to how members of the society actually behave as opposed to what they believe is correct. Society may believe that it is immoral to evade taxes (injunctive norm), but they may actually evade taxes, at least partially, despite their belief (descriptive norm). Subjective norms are the norms of those closest to an individual and include the norms of friends, family, and close business associates.

Results of SEM analyses indicated that social norms of tax compliance have a significant influence on personal norms of tax compliance, such that as social norms suggest more tax
compliance individuals’ personal norms will encourage more tax compliance. To help gain an understanding of factors that actually lead to tax compliance, the influence of these social norms and personal norms on compliance intentions was modeled. The structural model indicated that social norms only influenced compliance indirectly through internalization as personal norms. This is an important finding because it suggests that social norms do not simply influence individuals’ compliance decisions, but they also change the way individuals feel about the importance of compliance. This suggests that tax compliance may be improved by changing social norms, but only if these changes are internalized as personal norms. Governments cannot simply change taxpayers’ perceptions of societal norms, but they must ensure that individuals allow these new perceptions to influence their own personal morals and values.

5.2.2 Influence of Trust and Fairness on Compliance Intentions

Although traditional theories of the relation between trust and fairness suggested that perceived fairness influenced the trust that individuals had in the other party, more recent research suggests that the direction of the theorized causal relationship may be wrong. Specifically, more recent research suggests that trusting a party may cause an individual to perceive that party’s actions to be fairer. This directionality was tested in the current study using SEM. Results indicated that trust in government influences perceived fairness of the tax system and that perceived fairness fully mediates the relationship between trust in government and compliance intentions.

This suggests that individuals who generally trust the federal government will trust legislation enacted by that government including tax legislation. Trusting taxpayers may believe that the government considered all relevant factors and arrived at a decision that is in the best interests of the general public. In this case, even if a taxpayer suffers adverse financial
consequences as a result of a tax law, they may still perceive the tax system as fair. Additionally, trusting individuals may attribute any situations that could be perceived as unfair to situational constraints facing the federal government rather than to an intention to deliberate cause taxpayers’ harm.

Practical implications can be obtained from this finding. It appears that trust has a significant influence on perceived fairness which subsequently influences compliance intentions. Therefore, governments wishing to improve compliance with tax laws may want to focus on improving the trust that individuals have in the ruling government. Surveys suggest that trust in government is at an all-time low (Newport 2012). Therefore, governments have much room for improving the trust that citizens have in them. Increased trust in government has the potential to improve much more than just tax compliance rates, so governments may be able to achieve many beneficial results by improving the trust that their citizens have in them. Efforts to improve trust may be less costly and yield greater benefits than other compliance programs, such as increased audits.

5.3 Limitations and Future Research

Despite the important insights gained from this study, there are some limitations to note. Since norms and perceptions of government are context specific and difficult to change, a survey was used to measure taxpayers’ norms and attitudes. The survey methodology did not allow for the manipulation of attitudes and norms. Additionally, survey results were obtained at one point in time rather than in a longitudinal manner. Therefore, conclusions relating to the causal relationships of variables are only valid to the extent that the underlying theory is valid. Although manipulation of the independent variables would be difficult, future research may wish
to examine each of the independent variables at different points in time in order to test the causal relationships suggested by existing theories.

Efforts were made to obtain a wide variety of U.S. taxpayers. Demographic statistics indicated that the participants were from many states and a wide variety of income levels. However, there was some geographic concentration of the participants which may have caused a concentration of participants in one political party and had a subsequent influence on trust in government and perceived fairness of the tax system. Additionally, participants were more highly educated than the general public. Theory does not suggest that these differences will change the direction of the relations examined. However, care should be taken in generalizing these results to the general public in the U.S. Although it is expected that the relationships between variables would exist in other countries as well, future research should examine these relations in countries outside the U.S.

This study highlights many opportunities for future research. For instance, tax compliance literature could benefit from future research examining factors that influence trust in government and subsequent increased compliance. Specifically, research could examine the influence of different types of government interventions on trust in government, perceived fairness of the tax system, and subsequent tax compliance intentions. Future research may also examine methods of changing social norms and if the changes in social norms are immediately internalized as personal norms or if the internalization as personal norms lags behind the change in social norms.

5.4 Contributions and Conclusions

This study has several important contributions. First, in contrast to prior economic based models of taxpayer compliance, this study provides insight into the influence of noneconomic
factors. Specifically, this study suggests that social norms, personal norms, trust in government and perceived fairness of the tax system influence tax compliance decisions either directly or indirectly. Due to governments’ efforts to continually increase compliance while decreasing administrative costs, such evidence of noneconomic factors may help governments develop new, lower cost, compliance programs.

Additionally, the current political climate in the U.S. indicates that many taxpayers perceive the tax system as extremely unfair and have little trust in government. This study indicates that perceived fairness of the tax system has a significant and direct affect on compliance decisions and that trust in government has an indirect affect on compliance. Due to the heightened sensitivity to fairness and trust in today’s political environment, it was important to consider the influence that these factors currently have on compliance decisions.

Finally, this dissertation contributes to taxation research by simultaneously modeling the influence of several social issues on taxpayer compliance decisions. Previously developed models of taxpayer compliance examine only economic issues or do not simultaneously examine several relevant social issues. Since theory suggests that these social issues are interrelated, research should consider the joint impact of all of these issues in a single model. The insight gained from the analysis in this dissertation may help governments pinpoint the social changes that would have the greatest influence on taxpayer compliance.
APPENDIX

SELECTED SCALE ITEMS
### Items used to measure norms:

All items measured on a seven-point Likert scale.

#### Personal norms: End points 1 = strongly agree and 7 = strongly disagree

- **R1**: I think cheating on taxes is morally wrong. (adapted from Bobek et al. 2007)
- **R2**: Cheating on taxes is morally wrong in any amount. (adapted from Bobek et al. 2007)
- **R3**: If I got caught by the IRS cheating on my taxes I would be ashamed. (adapted from Bobek et al. 2007)
- **R4**: If I got away with cheating on my taxes I would feel guilty. (adapted from Bobek et al. 2007)
- **R5**: I think it is okay to “pad” deductions by a small amount to avoid paying taxes. (created for this study)
- **R6**: I think it is okay to underreport the amount of cash income received to the IRS. (created for this study)

#### Injunctive Norms

1: It is socially acceptable to avoid paying taxes by whatever means possible. (Bobek et al. 2007)

2: It is ethical for me to do anything I think I can get away with to avoid paying taxes. (Bobek et al. 2007)

3: Most people will do anything to avoid paying taxes. (Bobek et al. 2007)

- **R4**: Most U.S. taxpayers believe it is important to abide by tax laws even if they disagree with the tax system in general. (created for this study)
- **R5**: Most U.S. taxpayers believe it is immoral for anyone to cheat on their taxes. (created for this study)
- **R6**: Most U.S. taxpayers approve of cheating on taxes. (created for this study)

#### Descriptive norms End points 1 = strongly agree and 7 = strongly disagree

1: Not very many U.S. taxpayers cheat on their taxes. (created for this study)

2: Cheating on taxes is widespread in the U.S. (Bobek et al. 2007)

3: Many U.S. taxpayers “pad” deduction by a small amount to reduce taxable income. (Bobek et al. 2007).

- **R4**: Most U.S. taxpayers pay all of their taxes due. (created for this study)
- **R5**: Most U.S. taxpayers report all of their income on their tax returns. (created for this study)

#### Subjective norms (Blanthorne & Kaplan 2008). End points 1 = discourages underreporting income and 7 = encourages underreporting income

- **R1**: Spouse/significant other
- **R2**: Family
- **R3**: Tax preparer
- **R4**: Friends
- **R5**: Business contacts/peers

*Indicates this item was reverse coded for analyses, so higher values relate to stronger norms of compliance*
Items used to measure perceptions of fairness:

All items measured on a seven-point Likert scale. End points 1 = strongly agree and 7 = strongly disagree

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<table>
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<tbody>
<tr>
<td>1</td>
<td>The government proposes fair tax policies.</td>
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<tr>
<td>2</td>
<td>The government implements tax policies in a fair manner.</td>
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<tr>
<td>3</td>
<td>Overall, I’m treated fairly by the government.</td>
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<tr>
<td>4</td>
<td>In general, I can count on the government to be fair.</td>
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*Indicates this item was reverse coded for analyses, so higher values relate to greater perceived fairness of the tax system.*
Scenarios used to elicit compliance intentions:

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<tbody>
<tr>
<td>1.</td>
<td>Tax laws allow individuals to deduct automobile expenses for business, but not personal use. The Andersons have an automobile that they use for business and personal reasons. The Andersons estimate that they used their automobile for business 60% of the time, but if the Andersons claim that the automobile was used for business 80% of the time their deduction would increase by $2,000. (adapted from Bobek et al. 2007 and Kaplan et al. 1997)</td>
</tr>
<tr>
<td>2.</td>
<td>Alex designs websites for small businesses to earn some extra money on the side. During the course of the year Alex received $2,000 of business income in the form of cash payments for which there exists no “paper” evidence of the transaction. Alex is aware that the $2,000 in cash receipts represents taxable income. (created for this study)</td>
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Questions used to measure compliance intentions:

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<tbody>
<tr>
<td>1.</td>
<td>How much of the $2,000 automobile expense ($2,000 cash income) would you deduct (include in taxable income) if you were in a similar situation? $</td>
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<td>2.</td>
<td>The following questions are measured on a seven-point Likert scale with 1 = strongly disagree and 7 = strongly agree</td>
</tr>
<tr>
<td>1.</td>
<td>If I were in a similar situation I would deduct the additional $2,000 automobile expenses. Or If I were in a similar situation I would not report the additional $2,000 of cash income.</td>
</tr>
<tr>
<td>2.</td>
<td>It is not important to follow the tax laws exactly with regard to automobile expenses. Or It is not important to report cash income on tax returns.</td>
</tr>
<tr>
<td>R</td>
<td>3. If I were in a similar situation I would report that I used the automobile for business 60% of the time, not 80%. Or If I were in a similar situation I would include the additional cash income on my tax return.</td>
</tr>
<tr>
<td>R</td>
<td>4. If I were a business owner I would accurately report business versus personal use of assets on my tax return. Or Individuals should report all of their income, including cash income, to the IRS.</td>
</tr>
<tr>
<td>R</td>
<td>5. I would never overstate the amount of time I used a car for business use. Or I would never exclude cash income from my tax return.</td>
</tr>
</tbody>
</table>

R Indicates this item was reverse coded for analyses, so higher values relate to greater intended compliance.
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