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COLLOQUIUM ON TAX POLICY
AND PUBLIC FINANCE

**“Managerial Characteristics and
Corporate Taxes”**

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Time: 4:00-5:50 p.m.
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SCHEDULE FOR 2015 NYU TAX POLICY COLLOQUIUM

(All sessions meet on Tuesdays from 4-5:50 pm in Vanderbilt 208, NYU Law School)

1. January 20 – Brigitte C. Madrian, Harvard Kennedy School. “Does Front-Loading Taxation Increase Savings? Evidence from Roth 401(k) Introductions.”
2. January 27 – David Kamin, NYU Law School. “In Good Times and Bad: Designing Legislation That Responds to Fiscal Uncertainty.”
3. February 3 – Kimberly Blanchard, Weil, Gotshal & Manges. “The Tax Significance of Legal Personality: A U.S. View.”
4. February 10 – Eric Toder, Urban Institute. “What the United States Can Learn From Other Countries’ Territorial Tax Systems.”
5. February 24 - Linda Sugin, Fordham University, School of Law. “Invisible Taxpayers.”
6. March 3 – Ruth Mason, University of Virginia Law School. “Citizenship Taxation.”
7. March 10 – George Yin, University of Virginia Law School. “Protecting Taxpayers from Congressional Lawbreaking.”
8. March 24 – Leigh Osofsky, University of Miami School of Law, “The Case for Categorical Nonenforcement.”
9. March 31 – Shu-Yi Oei, Tulane University Law School. “Can Sharing Be Taxed?”
10. **April 7** – Lillian Mills, University of Texas Business School. **“Managerial Characteristics and Corporate Taxes.”**
11. April 14 – Lawrence Zelenak, Duke University School of Law. “Up in the Air over the Taxation of Frequent Flyer Benefits: the American, Canadian, and Australian Experiences.”
12. April 21 – David Albouy, University of Illinois Economics Department. “Should we be taxed out of our homes? Leisure and housing as complements and optimal taxation.”
13. April 28 – David Schizer, Columbia Law School. “Tax and Energy Policy.”
14. May 5 – Gregg Polsky, University of North Carolina School of Law, "Private Equity Tax Games and Their Implications for Tax Practitioners, Enforcers, and Reformers."

Managerial Characteristics and Corporate Taxes

December 15, 2014

Abstract

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Keywords: Corporate Finance, Taxes, Military Experience.

JEL Classifications: H25, H26, M41, G30.

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1. Introduction

Corporate frauds such as Enron and WorldCom bring the illegal behavior of top executives to light. Unlike corporate misreporting, corporate tax avoidance is not illegal. Aggressive tax planning is often hard to detect, and the associated penalties are often small (Weisbach 2002; Slemrod 2004; Desai and Dharmapala 2006). Further, top executives face virtually no reputation or financial risk due to tax aggressive behavior (Crocker and Slemrod 2005; Gallemore, Maydew, and Thornock forthcoming). Thus, why do some managers avoid corporate taxes while some do not? Presumably the boards hire managers knowing *ex ante* that the managers would implement certain corporate strategies, so what characteristics should the boards look for if they want to implement conservative tax planning? Would these characteristics associate with other corporate reporting outcomes that justify the tradeoff for leaving tax money on the table?

Recent findings suggest that certain culture is associated with higher tax compliance. Using confidential tax return data, the Internal Revenue Service (IRS) finds that small businesses located in military communities are highly compliant in their income tax reporting. They attribute the higher compliance to “mechanisms of authority and cohesion in those communities” (IRS 2013). This is consistent with recent studies showing that managers with military experience are less likely to engage in corporate frauds (Benmelech and Frydman forthcoming), and adopt more conservative financial policies (Bamber, Jiang, and Wang 2010). Looking into the voting patterns of accounting standard setters, Jiang, Wang, and Wangerin (2014) also find that board members with military experience are more likely to cast dissenting votes. Motivated by the above anecdotal evidence, we conjecture that managers with prior military experience are associated with more conservative corporate tax planning. To examine this conjecture, we focus on the heterogeneity in corporate effective tax rates (ETRs), the broadest measures for capturing the full continuum of firms’ aggressive tax planning, between managers with military experience and those without.

Our evidence suggests that prior military experience is significantly associated with avoiding less corporate taxes, whereas other traits are not. We find that firms headed by managers with prior military experience have 1%-2% higher ETRs than firms lead by other managers. This difference equates to \$1-\$2 million more tax paid per firm-year and is economically significant. We also exploit a recently introduced accounting standard to gauge managers' reserves for aggressive tax planning. Effective in 2007, firms are mandatorily required under the Financial Accounting Standards Board's Interpretation No. 48 (FIN 48) to disclose their uncertain tax benefits, which are more likely than not disallowable if challenged by the IRS. We find that firms headed by military managers have 50%-60% lower tax reserves for unrecognized tax benefits than other managers, which suggests that military managers engage in less aggressive or risky tax strategies. We also show that these managers use fewer tax havens, a common tax-saving tactic for multinational income shifting. To further quantify the economic magnitude of military experience on corporate tax policies, we follow the econometric technique proposed by Abowd, Kramarz, and Margolis (1999) to simultaneously disentangle firm and manager fixed effects. We show that military experience is the only managerial characteristic that explains the heterogeneity in corporate tax policies after controlling for firm fixed effects. Further, we provide evidence quantifying that about 50% of the variation in firms' ETRs is driven by heterogeneous manager fixed effects.

We examine whether boards that hire managers with military experience gain the benefit of less aggressive financial reporting in other reporting dimensions. We use several gray areas in corporate reporting that are between legitimacy and outright fraud. We find that firms headed by military managers are less likely to (1) be targets in class action lawsuits, (2) announce financial restatements, and (3) backdate the exercise dates of their granted options. We also show that firms led by these managers have smaller total current accruals and discretionary current accruals, which are traditional proxies for probable earnings management. While these managers leave tax money on the table, we find that they perform better in other corporate reporting dimensions that are short of fraud. We conclude that when

boards hire managers whose culture makes them more conservative in tax planning, they gain the benefit of less aggressive financial reporting that would require more governance to constrain.

Our paper makes several contributions. We are the first to identify a demographic trait of managers that is robustly associated with corporate tax avoidance behavior. Second, our findings complement prior research (Bamber, Jiang, and Wang 2010; Lin, Ma, Officer, and Zou 2011; Malmendier, Tate, and Yan 2011; Benmelech and Frydman forthcoming) showing that military experience affects specific corporate finance and reporting policies such as investment, R&D, leverage, earnings forecasts, mergers and acquisitions, and corporate fraud. Taken together with prior research and our own additional evidence that military managers are less likely to be involved in aggressive corporate reporting, our evidence helps validate military experience as a managerial characteristic associated with ethical corporate reporting. Thus, boards hiring managers who prefer not to pursue aggressive tax planning might leave tax dollars on the table, but gain benefits from less aggressive financial reporting in other areas. Finally, we are the first to empirically document that about half of the variation in firms' ETRs is attributable to manager-specific heterogeneity, even after controlling for time-invariant firm characteristics.

An obvious limitation of our study is that our research design does not allow us to differentiate between matching and causation. Although our evidence is consistent with the boards selecting managers non-randomly to implement desired corporate policies (Kaplan, Klebanov, and Sorensen 2012), the decision process of the boards is ultimately unobservable. We conduct several analyses to shed light on whether our strong results are entirely driven by assortative matching. First, we find that firms headed by managers with military experience report economically and statistically higher ETRs than their propensity-matched peers who were similarly likely to have military experience. Second, our results are robust to using Instrumental Variable (IV) estimation for a firm's likelihood to hire a manager with military experience. Moreover, we find that managers who attended a military academy, served longer, or

served during major military conflict do not avoid less tax than other military managers. Collectively, these results suggest that our primary evidence cannot be entirely explained by board selection.

We consider several alternative explanations for our results and additional specifications. First, we examine whether military managers are more patriotic about paying taxes as a result of their national identity.¹ Our results remain similar after controlling for whether managers were born in the U.S. Further, the higher ETR does not arise solely from U.S. operations. Thus, we conclude patriotism does not explain our results. Our results are also robust to controlling for a wide set of nine other managerial characteristics as well as measures of corporate governance, percentage institutional ownership, CEO pay-for-performance sensitivities, local religiosity of firm headquarters, political ideology of managers, and to excluding firms in military or defense industries.

Identifying which managerial characteristics affect corporate taxes is important to better understand the heterogeneity in firms' corporate tax planning. Agency-based economic theories argue that managerial characteristics (or their intrinsic motivation) will not matter in the standard economic framework unless they affect managers' incentives. Further, recent efforts to use firm-level characteristics such as Corporate Social Responsibility (CSR) measures to explain tax avoidance yield mixed evidence.² Nonetheless, a few recent studies investigate whether managers' moral values influence corporate tax reporting behavior. DeBacker, Heim, and Tran (forthcoming) find that U.S. foreign-controlled corporations with owners from countries with high corruption norms have higher IRS proposed audit adjustments. Mironov (forthcoming) shows that managers in Moscow who use bribes to eliminate traffic tickets are more likely to evade business taxes. Joulfaian (2000) uses confidential IRS return data showing that managers who understate their personal taxes are more likely to understate corporate taxes. Our

¹ In 2008, Vice Presidential nominee Joe Biden exhorted: “[i]t’s time to be patriotic... time to help get America out of the rut.” “Biden calls paying higher taxes a patriotic act” (Associated Press 2008). In 1942 Donald Duck promoted paying taxes to “fight the Axis,” and taxpayers filed tax returns more promptly than ever before. <http://www.disneyfilmproject.com/2010/09/new-spirit.html>.

² Hoi, Wu, and Zhang (2013) find that firms with irresponsible CSR activities are more tax aggressive. However, Davis, Guenther, Krull, and Williams (2013) find no evidence that CSR is positively related to tax payments; instead, it is negatively related to taxes and to tax lobbying. See also Landry, Deslandes, and Fortin (2013).

evidence furthers the argument that managerial traits matter in tax reporting within principal-agency framework, even after controlling for incentives, but boards should recognize that such traits affect other non-tax reporting decisions.

The remainder of the paper is organized as follows: Section 2 summarizes the theories and anecdotal evidence. Section 3 describes our data and methodology. Section 4 presents our results, additional analysis and interpretation. Section 5 reviews the conclusions and implications of our study.

2. Theories and Anecdotal Evidence

Several unique features make corporate tax an ideal place to examine managerial characteristics and the tone at the top on corporate policies. Unlike corporate fraud or misreporting, corporate tax planning is not illegal. Although most managers dislike bad publicity for being named as top corporate tax avoiders (Graham et al. forthcoming), managers do differ in their attitudes (Financial Times 2013).

Google, Starbucks, GE, and Apple are among the high-profile defenders. After the media reported that Google paid less than one percent in U.K. profits tax on \$5 billion of British advertisement sales, Google's CEO responded, "I am very proud of the structure that we set up" and called its tax avoidance "just capitalism" (Telegraph 2012; Independent 2013). Starbucks' CEO defended the company's low U.K. payments, saying "we don't pay income tax because we are not making money there," even while telling its shareholders that the U.K. business is profitable. GE is also regularly in the news for its low ETR, and its CEO is "happy to defend" the company's low global tax rate (Bloomberg 2011; General Electric 2011).³ Apple's CEO told U.S. senators that "honestly speaking I don't see it [the tax avoidance scheme] as being unfair" and that "we not only comply with the laws, we comply with the spirit of the laws" (Bloomberg 2013). These high-profile stories show that some managers are more willing to pursue aggressive tax planning than others.⁴

³ Using Twitter, GE also publishes a series of statistics and information to clarify its effective tax rates.

⁴ None of the CEOs of the high-profile multinational firms mentioned above have served in the military.

Motivated by IRS (2013) evidence that businesses in military communities are more tax compliant and recent studies on the influence of managers with military experience on corporate policies,⁵ we predict that this managerial trait is associated with avoiding less corporate taxes. We conjecture that military experience influences corporate tax compliance through the emphasis in military training on ethical values and doing the right thing.

Military culture is grounded in concepts of responsibility and honor to do the right thing, both legally and morally,⁶ for the greater good (Daboub, Rasheed, Priem, and Gray 1995; Damon 2004; Duffy 2006; Sinder 2012).⁷ This is consistent with numerous accounts of active personnel or veterans who suggest military experience guides moral values and influences daily behavior (Elder 1986; Elder and Clipp 1989; Elder, Gimbel, and Ivie 1991). For example, veteran CEO Steven Loranger says the military teaches doing the right thing, adding “one of the things I appreciate about the military is that these value systems do guide your daily actions and decisions” (Duffy 2006). Medal of Honor recipient, veteran Vice Admiral James Stockdale also stated “...even in the most detached duty, we warriors must keep foremost in our minds that there are boundaries to the prerogatives of leadership, moral boundaries.”⁸

⁵ Bamber, Jiang, and Wang (2010); Jiang, Wang, and Wangerin (2014); Benmelech and Frydman (forthcoming).

⁶ Morals define personal character whereas ethics stress social systems in which those morals are applied. The classic Courvoisier case in 1840 illustrates the distinction. While the criminal defense attorney knows the client is guilty and finds it immoral to defend the client, the defense attorney still represents the client before court due to professional ethics. In our contexts, these terms are largely interchangeable.

⁷ A common example for doing the right thing is “getting in line.” Although queue jumping is not illegal, it is commonly perceived in Western culture as unethical. The construct of doing the right thing is described by Traditional Values in the *1994 Jackson Personality Inventory (Revised)*. As a component of its dependability cluster, the JPI-R assesses a Traditional Values scale to represent the degree to which an individual adheres to conservative, “old-fashioned” values, such as honesty, frugality, modesty, respect for authority, and patriotism. Consistent with those ideas, the U.S. Armed Forces’ Requirements of Exemplary Conduct (10 USC § 3583) states the following: All commanding officers and others in authority in the Army are required—

- (1) to show in themselves a good example of virtue, honor, patriotism, and subordination;
- (2) to be vigilant in inspecting the conduct of all persons who are placed under their command;
- (3) to guard against and suppress all dissolute and immoral practices, and to correct, according to the laws and regulations of the Army, all persons who are guilty of them; and
- (4) to take all necessary and proper measures, under the laws, regulations, and customs of the Army, to promote and safeguard the morale, the physical well-being, and the general welfare of the officers and enlisted persons under their command or charge.

Military honor codes also explicitly embody moral values:

- “Integrity first” in the U.S. Air Force mission statement’s list of core values.
- “A cadet will not lie, cheat, steal, or tolerate those who do” in West Point’s Cadet Honor Code.
- “Midshipmen are persons of integrity: they stand for that which is right” in the U.S. Naval Academy Honor Concept.

⁸ This is cited by General Peter Pace in the Foreword of *The Armed Forces Officer* (Department of Defense 2006).

This anecdotal evidence suggests that doing the right thing is more than just “stated preferences” among active military personnel but also a “revealed preference” across a wide spectrum of veterans.

Obedience is also a “cardinal virtue” of soldiers (Gorlitz 1965, p.243), and “absolute and unqualified obedience” to orders is necessary to preserve discipline and to promote operational efficiency (Denton 1980, p.5).⁹ When asked by the *Wall Street Journal* about claims that military experience is a proxy for “respect for rules, authority, and societal values,” the chairman of the Joint Chiefs of Staff, General Martin Dempsey, said, “I like to think we follow the rules... when we don’t, we hold people accountable” (Wall Street Journal 2013). Even in small matters like crossing roads, military personnel are less likely to commit traffic violations than civilians (Rosenbloom 2011). Although we focus on veterans rather than active duty personnel, we expect that managers with military experience avoid less tax, as they not only view federal laws and regulations as rules that should be followed, but also see it as a right thing to do in their distinct military culture.

3. Data and Methodology

3.1 Sample Data

Our sample starts with all S&P 1,500 managers (including S&P500, S&P Mid Cap 400, and S&P Small Cap 600 indices) listed in the ExecuComp database from 1992 to 2011.¹⁰ We use *Marquis Who’s Who* to identify the managers’ background characteristics, as it explicitly requires participants to state their past military records. We first extract the full names of CEOs and manually search their

⁹ For example, members of the U.S. military are trained that orders from superior officers carry the full weight of military justice under the Uniform Code of Military Justice: “I, _____, do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to regulations and the Uniform Code of Military Justice. So help me God.” (*The U.S. Army’s Oath*). Insubordination can lead to a courts-martial proceeding, the military equivalent of a civilian criminal trial (10 U.S.C., Subchapter X, Section 892, Article 92, Failure to Obey Order or Regulation).

¹⁰ The 1992 sample start provides more comparable tax avoidance measures across time, and we triangulate our evidence across numerous cross-sectional, IV, propensity-score-matched, and CEO fixed effect tests. However, we acknowledge that our sample period of 1992 – 2011 weakens the IV test relative to a longer (older) time period that includes a larger WWII cohort effect, as used by Malmendier, Tate, and Yan (2011) and Benmelech and Frydman (forthcoming), who combine pre-ExecuComp data with Forbes 800 firms. Although our shorter number of years gives us lower power due to the declining number of military CEOs in the U.S., our larger number of firms mitigates the concern of oversampling firms with large market capitalization. This greater cross-sectional variation may explain why our IV tests using birth-year are significant whereas Benmelech and Frydman’s (forthcoming) IV tests of fraud are not, even with their longer sample period.

biographical information. If an exact match is not found, we search using the manager’s surname and first initial. If multiple matches are returned, we use middle names and/or career histories to identify the correct manager. In total, we manually identify 4,886 managers, which account for 76.1% of the S&P 1,500 managers we searched. Thus, we begin with a larger cross-sectional manager sample than other recent papers that study military experience (e.g., 285 managers in Malmendier, Tate, and Yan 2011 or 4,190 managers in Benmelech and Frydman forthcoming).

We obtain corresponding firm-level variables from Compustat, requiring complete financial information and at least \$10 million in total assets (AT). Consistent with most tax research (e.g., Mills and Newberry 2005; Hanlon 2005), we exclude firms incorporated outside the U.S., firms in the utilities industry (SIC codes 4900-4999), and financial institutions (SIC codes 6000-6999). Our final sample consists of 9,738 firm-year observations of 1,787 firms from 1992 to 2011. For tests on k -year long-run tax avoidance, the sample period spans k years after 1992 to 2011. For tests of tax haven use, we use the data in Exhibit 21 of firms’ 10-K filings generously provided by Scott Dyreng.

3.2 Methodology

We use effective tax rates, the broadest measures of tax avoidance, to examine our prediction. We estimate the following OLS baseline regressions:

$$Cash\ ETR_{j,t} = \alpha + \beta_1 Military\ Experience_m + \beta_2 Firm\ \&\ CEO\ Characteristics_{j,t} + \beta_3 Fixed\ Effects + \varepsilon_{j,t} \quad (1)$$

$$GAAP\ ETR_{j,t} = \alpha + \beta_1 Military\ Experience_m + \beta_2 Firm\ \&\ CEO\ Characteristics_{j,t} + \beta_3 Fixed\ Effects + \varepsilon_{j,t} \quad (2)$$

We regress firm j ’s effective tax rate in year t on *Military Experience*, a k -vector of firm-level control variables and managerial characteristics X , and a set of fixed effects. The main coefficient of interest is β_1 , which captures the influence of the manager’s prior military experience on tax avoidance. We classify a manager as a military manager if *Marquis Who’s Who* indicates he or she has military service

in the U.S. Air Force, Army, Marines, or Navy (or their foreign equivalents), or other related military experience.¹¹

The dependent variable, tax avoidance, is either *Cash ETR* or *GAAP ETR*. *Cash ETR* is the cash effective tax rate, defined as income taxes paid, divided by pre-tax income minus special items (Compustat mnemonic: $TXPDP/(PI-SPI)$), following Dyreng, Hanlon, and Maydew (2010). *GAAP ETR* equals income tax expense, divided by pre-tax income minus special items ($TXT/(PI-SPI)$). Consistent with Gupta and Newberry (1997), we truncate both ETRs at [0,1] to avoid the influence of outliers. We retain loss firms, which represent only 4.5% (untabulated) of our sample. Our results are robust to dropping loss firms or including firms with an ETR greater than one or less than zero.

Cash ETR and *GAAP ETR* represent different sources of explicit tax avoidance behaviors. The *Cash ETR* captures all sources of non-conforming tax avoidance, including temporary differences between book and taxable income, permanent differences, credits, and applicable national and sub-national (e.g., provincial, state, city) tax rates. However, the *GAAP ETR* ignores temporary differences. Moreover, the former depends on the actual timing of cash flow, whereas the latter captures tax avoidance measures that impact earnings through income tax expense. To the extent that financial accruals management increases the pre-tax income denominator, *Cash ETR* could falsely indicate tax avoidance (Guenther, Krull, and Williamson 2014), but the *GAAP ETR* would not be affected. We argue that once we hold all other factors constant, a lower ETR represents a more aggressive point on the tax planning continuum. We choose a limited set of tax avoidance measures that are available in all years to maintain parsimony on that dimension while we conduct a rich set of analyses and robustness tests.

¹¹ Other related military experience includes Coast Guard and military Reserve forces. Our results are robust whether defining military experience narrowly or broadly. Unfortunately, the *Marquis Who's Who* does not necessarily disclose combat experience. However, see Table V for tests of academy training or major conflict experience.

3.4 Firm Characteristics

The variables X control for firm-level determinants identified in prior literature that affect corporate tax avoidance (Mills 1998; Manzon and Plesko 2002; Frank, Lynch, and Rego 2009; Chen, Chen, Cheng, and Shevlin 2010; Dyreng, Hanlon, and Maydew 2010). They include return on assets in year t (operating income $PI-XI$, scaled by lagged total assets AT); corporate leverage in year t (long term debt $DLTT$, scaled by lagged AT); a net operating loss indicator variable (that equals one when the loss carry-forward balance $TLCF$ in year $t-1$ is positive, and zero otherwise); change in loss carry-forward in year t (change in $TLCF$, scaled by lagged AT); foreign income in year t (foreign pretax income $PIFO$, scaled by lagged AT); property, plant, and equipment in year t ($PPENT$, scaled by lagged AT); intangible assets in year t (intangible assets $INTAN$, scaled by lagged AT); equity income in year t (equity income $ESUB$, scaled by lagged AT); firm size at the beginning of year t (natural logarithm of AT); market-to-book ratio at the beginning of year t (market capitalization $PRCC_F \times CSHPRI$, scaled by AT); and R&D expenditure in year t (XRD scaled by lagged AT).

These control variables can be broadly classified into three categories. The first group includes firm size and growth opportunities (firm size and market-to-book ratio). The second group controls for differences between the book and tax reporting environments that can influence ETRs (i.e., property, plant, and equipment, equity income, intangible assets, and R&D). R&D also controls for the possibility that military managers are poor innovators, consistent with prior evidence that military managers spend less on R&D.¹² The last group controls for firms' operations and profitability (return on assets, leverage, foreign income, loss position, and change in tax loss). Size and market-to-book ratio are lagged measures in year $t-1$. All other firm-level variables are measured in year t , because Chen, Chen, Cheng, and Shevlin (2010) demonstrate that these variables correlate with firm level's tax avoidance contemporaneously. Appendix 1 summarizes the construction of our variables.

¹² Tax strategies such as "the Double Irish, a cross-border tax structure for tax avoidance used by Google and Apple, require innovation (Bloomberg 2010; New York Times 2012).

We also control for year and industry fixed effects (FEs). Year FEs control for macroeconomic changes in firms' operating environment. Industry FEs ensure that the results are not driven by differences in industry characteristics. This is important if managers with military experience are more likely to work in industries where such experience is more valuable (e.g., industries tied to government procurements). We use the 12 Fama and French (1997) industry classifications, and our results are robust to using 3-digit SIC instead. Because firms' tax avoidance is likely to be correlated within firms, we cluster all robust standard errors at the firm level. Our results are robust to clustering by both firm and year (untabulated).

3.5 Managerial Characteristics

The control variables X for managerial characteristics include *Age*, *Tenure*, *Male*, *MBA Education*, *Great Depression*, *Graduation in Recession*, *Overseas*, *Republican Affiliation* and *% Stock Options*. We define these below and predict their effect on tax reporting.

Older managers often face different incentives, or have different beliefs, risk preferences, or cognitive abilities than younger managers (Chevalier and Ellison 1999; Hong, Kubik, and Solomon 2000; Yim 2013). On balance, we expect that older managers will avoid less tax because they will be more risk averse. We obtain *Age* from ExecuComp, using biographical databases if *Age* is missing.

We include manager tenure because managers with long tenure exhibit different styles of corporate policies than those with short tenure (Allgood and Farrell 2003). On balance, we expect that managers with longer *Tenure*, controlling for their age, will avoid more tax because of reduced career concerns (Holmstrom and Ricart i Costa 1986; Holmstrom 1999). We obtain *Tenure* from Compustat and ExecuComp.

A number of recent studies show that gender affects performance in various settings (Barber and Odean 2001; Atkinson, Baird, and Frye 2003; Kumar 2009; Huang and Kisgen 2013), even though female managers only represent a small fraction (less than 2%) of leaders of S&P 1,500 firms. We expect that male managers might be more aggressive in their corporate tax avoidance, although we acknowledge

that prior research documents no gender difference (Dyreng, Hanlon, and Maydew 2010) in tax avoidance. The data are obtained from ExecuComp.

We examine whether managers who are financially sophisticated (Bartov, Radhakrishnan, and Krinsky 2000; Bonner, Walther, and Young 2003) avoid more tax. *Who's Who* shows that about quarter of managers in our sample have MBA degrees, our proxy for financial sophistication, and we expect that managers with an MBA will avoid more tax. Our results are robust to using a top-10 MBA program indicator.

Malmendier, Tate, and Yan (2011) predict and find that managers choose more conservative corporate policies if they are raised during the Great Depression. We predict that the cohort of managers born between 1920 and 1929 who experienced the Great Depression is more financially conservative and avoids less tax.

Schoar and Zuo (2014) show that managers who graduate in a tough economic environment face different career trajectories and choose more conservative corporate policies. Clement and Law (2014) also find that analysts who begin their career in an NBER recession make more conservative forecasts. We construct a *Graduation in Recession* indicator variable that equals one if a manager turns 24 during an NBER recession year (Schoar and Zuo 2014). We predict that managers who graduate in recession years avoid less tax.

Recent studies show that firms with foreign independent directors make better cross-border mergers and acquisitions (Masulis, Wang, and Xie 2012), and managers who were born overseas display home culture influences in their corporate tax reporting (DeBacker, Heim, and Tran forthcoming). We construct an *Overseas* indicator variable that equals one if a manager was born outside the U.S. Motivated by these studies, we predict that non-U.S. managers avoid more tax.

We also consider whether the corporate tax avoidance behaviors are due to the managers' political affiliation. Hutton, Jiang, and Kumar (forthcoming) find that Republican managers are more

conservative in their corporate policies. If Republican managers are similarly conservative in tax reporting, they should avoid less tax (Christensen, Dhaliwal, Boivie, and Graffin forthcoming). But Republican platforms typically advocate smaller government spending, suggesting more tax avoidance.¹³ We construct a *Republican* indicator variable that equals one if the manager discloses that political affiliation in *Who's Who* and construct other measures in robustness tests.¹⁴

Recent studies show that managers' compensation is an important determinant of corporate tax avoidance (Desai and Dharmapala 2006; Rego and Wilson 2012; Gaertner 2014). We use ExecuComp data to define *% Stock Options* as the value of stock options granted divided by total compensation, following Desai and Dharmapala (2006).¹⁵ We expect that managers avoid more tax if options comprise a significant portion of their compensation packages.

4. Results

We report our empirical analyses in three stages. First, we show that firms headed by managers with military experience avoid less tax (Sections 4.1-4.2). Second, we conduct tests to disentangle the treatment effect of military experience and self-selection, providing empirical support for the former (Sections 4.3-4.5). Third, we implement additional analyses to show that our measure is capturing managers' lower tendency to pursue aggressive tax planning strategies (Sections 4.6-4.8). Results on robustness tests and manager fixed effects are in Sections 4.9 and 4.10, respectively.

4.1 Univariate Evidence

The raw data are consistent with our expectations. Figure 1 plots the cash and GAAP ETRs for managers with and without military experience. The average ETR for military managers (the solid, red

¹³ "Taxes, by their very nature, reduce a citizen's freedom ... We reject the use of taxation to redistribute income, fund unnecessary or ineffective programs, or foster the crony capitalism that corrupts both politicians and corporations." (*Restoring the American Dream: Economy and Jobs*, GOP, 2012 www.gop.com/2012-republican-platform-restoring)

¹⁴ Only 5% of the CEOs choose to disclose their political preference in *Marquis Who's Who*. Thus, we infer CEOs' political preference by examining their personal donation records during election cycles. A CEO is considered Republican if he or she only donates to Republican parties during the election cycles from 1991 to 2008. Using this additional information from the Federal Election Commission database, the fraction of Republican CEOs identified in our sample increases to 22.9%. We thank Irena Hutton, Danling Jiang, and Alok Kumar for sharing data for this robustness check.

¹⁵ Although *% stock options* will capture CEO incentives, it is not a personal fixed trait.

bar) is 1.8% higher than the average ETR for non-military managers (the checked, blue bar). Table I indicates these differences are statistically significant (at least) at the 5% level. Approximately 9.4% (581 managers) of managers in our main sample have military experience, consistent with Duffy (2006), Bamber, Jiang, and Wang (2010) and Benmelech and Frydman (forthcoming).

4.2 Main Results

Table II reports baseline OLS regression results for *Cash ETRs* (columns 1-2) and *GAAP ETRs* (columns 3-4). Columns 1 & 3 report the regression results of cash/GAAP ETRs on ten managerial characteristics, whereas columns 2 & 4 report the estimated coefficients on ten managerial characteristics, eleven firm characteristics, and industry and year FEs.

As we predict, Table II shows that *Military Experience* is associated with higher ETRs. Across all four regression specifications, managers with prior military experience report higher ETRs than their non-military counterparts. The estimated coefficients on *Military Experience* for cash (GAAP) ETRs at approximately 7.9%-8.3% (9.1%-16.0%) are all significantly positive. These coefficients are also economically meaningful, compared to the interquartile range of 18.6% (10.2%). Based on median firm profitability of \$105 million, firms with military managers pay \$1-\$2 million more tax per firm-year. Further, firms headed by military manager have 2.5%-4.4% higher standardized cash and GAAP ETRs. This strongly positive pattern persists even after controlling for a wide range of managerial characteristics, firm-level variables, year FEs, and industry FEs. Our evidence is also consistent with Dyreng, Hanlon, and Maydew (2010), who find that none of the characteristics they study, including financial education (such as having an MBA or an accounting degree) or personal characteristics (such as age, gender, or tenure), explain variation in corporate tax avoidance. We find some evidence that *MBA Education* and *% Stock Options* are associated with lower *Cash Effective Tax Rate*, but not *GAAP Effective Tax Rate*. One interpretation of this result is that managers with an MBA education claim more uncertain tax benefits, reducing *Cash ETRs* but record tax reserves, hence reporting no lower *GAAP ETRs*. Alternatively, the *MBA Education* could be associated with the low *Cash ETR* due to upward accruals management

(Guenther, Krull, and Williamson 2014) rather than tax planning. If we use top-10 (per *Business Week*) MBA program (*Top 10 MBA*) to define *MBA Education*, *Top 10 MBA* is insignificant (untabulated) in either regression, but *Military Experience* remains significantly positive.¹⁶

We next examine whether military managers have higher long-run ETRs, because long-run tax avoidance measures capture stable aspects of firms' tax avoidance (Dyreng, Hanlon, and Maydew 2008). We substitute prior- k -year cash or GAAP ETRs for the dependent variables. Panel A (B) of Appendix 2 reports the results using the full specification for cash (GAAP) ETR. Across both panels, firms headed by military managers have higher ETRs for as long as 5 prior years, but not beyond (untabulated).¹⁷

We also consider whether patriotism to the U.S. explains our results.¹⁸ In untabulated univariate and multivariate tests, we find that U.S. GAAP ETRs are no different between foreign-born and U.S. managers. Further, our results are robust to eliminating foreign-born CEOs. We conclude patriotism does not explain our results.

4.3 Propensity Score Matching

Although the above evidence indicates that the boards select managers to implement desired corporate policies, the decision process of the boards is unobservable. To examine whether the evidence that military managers avoid less tax is entirely driven by assortative matching, we apply propensity score matching. Propensity score matching is a non-parametric technique that avoids potential model

¹⁶ In untabulated results, we directly compare the estimated coefficients between *Military Experience* and *MBA Education*. All F -tests testing the equality of these estimated coefficients indicate that the estimated coefficients on *Military Experience* are consistently larger and statistically significant than the ones on *MBA Education*.

¹⁷ The estimated coefficients on *Military Experience* range from 0.941% (t -statistic: 2.39) to 1.407% (t -statistic: 2.09). The average differences in long-run cash (GAAP) ETRs are economically significant at 7.9%-10.0% (10.4%-11.3%) of the untabulated interquartile range of 14.09% (9.04%). In untabulated results, we also consider leading k -year long-run ETRs and find that *Military Experience* is associated with higher ETRs up to seven years in the future.

¹⁸ Veterans have a unique awareness of the costs of national defense and the commitments to active duty and veteran personnel (Department of Veteran Affairs 2012; 2013). Lower tax payments threaten programs and services that affect active-duty personnel, veterans, and their families (Testimony of the Commander-in-Chief of the Veterans of Foreign Wars, John Hamilton, before a joint session of the House and Senate Veterans Affairs Committees on March 5, 2013). Thus, military managers are more likely to consider the government as a corporate stakeholder than other managers. Finally, military CEOs should want to conserve U.S. resources because military personnel face strong injunctions not to exceed budgets (United States Constitution, Article 1, Section 9, Clause 7; 16 Statute 251, 107 Act of July 14, 1870; 31 USC Section 134, January 3, 2012; and Federal Acquisition Regulation, Subpart 32.7, Section 32.702).

misspecification in OLS, and it only matches comparable observations through common support conditions (Wooldridge 2010, Chapter 21; Greene 2012, Chapter 19.6.2). Table III reports our results.

We first examine the determinants of hiring military managers in Panel A of Table III. We regress *Military Experience* on firm-level determinants, year FEs, and industry FEs. Firms with the following characteristics are more likely to appoint military managers: 1) high return on assets (*ROA*), 2) low market-to-book ratio (*MB*), 3) low foreign income (*FI*), and 4) large market capitalization (*Size*). *Foreign Income* has the strongest influence: the probability of hiring a military manager decreases by 3.81% for every 10% increase in *Foreign Income*. For each sample firm-year headed by a military manager, we select a matched peer with the closest predicted probability, using these four significant variables, over the prior three years in the same industry (*Industry*). All matched peers are drawn without replacement.

Panel B of Table III shows the average difference in ETRs between sample firms and matched peers. Firms headed by military managers have higher average ETRs than matched peers. The mean differences in cash ETRs range from 1.701% (*t*-statistic: 2.59; matched on industry, size, return on assets, foreign income, and MB ratio) to 2.324% (*t*-statistic: 3.33; matched on industry/size/ROA), whereas the differences in GAAP ETRs range from 1.895% (*t*-statistic: 4.36) to 2.165% (*t*-statistic: 4.74), respectively. The median differences are also economically and statistically significant. These results indicate that the regression results above are unlikely to be driven by the observable heterogeneity in firm characteristics.

4.4 Instrumental Variable Estimation

To further provide evidence that our evidence is not entirely driven by board selection, we identify three instruments for IV estimation: birth year (*Birth Year*), born in a southern state (*Born in South*), and gender (*Male*).

Prior studies use birth year as an instrument for military experience.¹⁹ As an example of why birth year is an effective instrument, individuals who were born on or before 1927 were more likely to

¹⁹ For example, (Angrist 1990; Angrist and Krueger 1994; Bedard and Deschênes 2006; Lin, Ma, Officer, and Zou 2011; Benmelech and Frydman forthcoming).

serve in World War II than individuals born after 1927 (Bound and Turner 2002; Stanley 2003). Figure 2A shows that the birth years of non-military managers exhibit a bell-shaped distribution, but the births of military managers cluster in waves corresponding to major U.S. military conflicts. Figure 2B shows military managers have average (median) service experience of five (four) years, suggesting that most managers serve briefly, during major military conflicts. Because our sample period is shorter than Benmelech and Frydman (forthcoming), we seek another instrument with substantial cross-sectional variation.

Geography provides our second instrument. Southern states account for more than 40% of new U.S. enlistees (The Heritage Foundation 2006; Wall Street Journal 2010; GeoCurrents 2013). Motivated by this descriptive evidence, we construct a *Born in South* indicator.²⁰ Because most of the managers do not report the state of birth in *Who's Who*, our sample decreases from 9,370 to 3,060. Using a univariate logistic to regress *Born in South* on *Military Experience*, we find military managers are 7.9% more likely to come from a southern state than non-military manager, consistent with Benmelech and Frydman (forthcoming), although they do not use *Born in South* as an instrument.

Last, we use gender, a widely used instrument for IV estimation in the economics literature (e.g., Angrist and Evans 1998), as our third instrument for military service because military service is primarily a male-dominated profession. However, gender is likely to be a weak instrument for military experience because female managers are still substantially under-represented in top corporate jobs (Bertrand and Hallock 2000), and almost all (except one) military managers are males.

Table IV reports the IV estimation results. The dependent variables are *Cash ETR* (*GAAP ETR*) in odd (even) columns, whereas the instruments are (a) *Birth Year* for columns 1-2, (b) *Birth Year* and *Born in South* in columns 3-4, and (c) *Birth Year* and *Male* in columns 5-6. The 2SLS IV regressions control for all managerial characteristics, including *Age*, *Tenure*, *Male* (except in specifications 5-6 where gender is an

²⁰ Including Texas, Arkansas, Louisiana, Kentucky, Oklahoma Virginia, Alabama, Tennessee, Mississippi, Georgia, Florida, Maryland, Delaware, District of Columbia, North Carolina, or South Carolina, based on *Who's Who* available data.

instrument), *MBA Education*, *Great Depression*, *Graduation in Recession*, *Overseas* (except in specifications 3-4 when *Born in South* is an instrument), *Republican Affiliation*, and *% Stock Options*.

Columns 1-2 report the results using only *Birth Year* as our instrument. The bottom panel shows that the first stage *F*-statistic is 20.35, far exceeding the critical value of 10 that Staiger and Stock (1997) suggest. In the top panel, both second-stage coefficients on instrumented *Military Experience* are positive and significant, ranging from 0.238 to 0.239 (χ -statistics: 3.11-3.57).²¹

Columns 3-4 report the IV results based on *Birth Year* and *Born in South*. As expected, the estimated coefficient of *Military Experience* on *Born in South* in the first-stage regression is positive and statistically significant (*t*-statistic: 2.02). The first-stage *F*-statistic of 11.73 also suggests that together both instruments are not weak instruments. However, our instrumented *Military Experience* coefficients in the second-stage are statistically insignificant, likely due to the smaller sample. In untabulated tests, we add a *Birth Year* \times *Born in South* indicator to increase the precision of the instruments. In that case, the instrumented *Military Experience* in the second-stage regressions becomes significant (χ -statistics are 1.93 for *Cash ETR* and 3.60 for *GAAP ETR*).

Columns 5-6 instrument *Military Experience* with *Birth Year* and *Male*. Similar to the first-stage results in previous results, the *F*-statistic is statistically significant at 11.84. However, most of the power comes from *Birth Year* rather than *Male* as the limited number of female managers in the sample weakens this instrument. The estimated coefficients on *Military Experience* in the second-stage regressions are positive and statistically significant at the 1% level, ranging from 0.220 (χ -statistic: 3.06) for *Cash ETR* to 0.236 (χ -statistic: 3.66) for *GAAP ETR*. Overall, none of estimated IV coefficients switch signs from our OLS regressions in Table II, which mitigates the concern of endogeneity. Moreover, although the IV estimates in 2SLS are less precise than the OLS estimates when *Military Experience* is instrumented (Angrist and Pischke 2009, Chapter 4), four out of six specifications remain statistically significant at the

²¹ The second-stage 2SLS results are stronger than the second-stage results for Benmelech and Frydman's (forthcoming) IV tests of whether military CEOs are less likely to conduct alleged corporate fraud even though our sample is shorter and spans fewer years.

1% level. Overall, our IV results suggest the effect we observe is not entirely explained by boards selecting managers to implement desired corporate tax policies.²²

4.5 Types of Military Experience

We next explore whether the type of military experience affects aggressive tax planning. First, we examine the length of military experience by interacting *Military Experience* with *Length of Military Service*, defined as the natural logarithm of the years of military service. Columns 1-2 of Table V show the estimated coefficients on the interactions are insignificant, providing no evidence that military managers who serve longer avoid less tax.

Second, we examine whether attending a military academy or serving during a major military conflict matters. We interact *Military Experience* with two additional indicators: 1) *Attended Military Academy* equals one when a manager graduates from the U.S. Military Academy at West Point, the U.S. Naval Academy, the U.S. Coast Guard Academy, the U.S. Merchant Marine Academy, or the U.S. Air Force Academy, and 2) *Served During No Major Military Conflicts* equals one when a manager started military service in a year when there were no major military conflicts (i.e., World War II, Korean War, and Vietnam War). Untabulated results show that 12.7% (35.3%) of military managers graduated from a military academy (served when there was no military conflict). The estimated coefficients on (*Military Experience* × *Attended Military Academy*) in columns 3-4 and (*Military Experience* × *Served During No Major Military Conflicts*) in columns 5-6 of Table V are all insignificant, although the estimated coefficients on the main variable of interest *Military Experience* remain significantly positive.²³

We also examine the influence of specific veteran cohorts. We construct indicators for three major military conflicts: World War II, Korean War, and Vietnam War, respectively. If our results simply capture the heterogeneity of different veteran cohorts, we should expect significant results on the

²² We considered the well-known Vietnam Draft Lottery by Angrist (1990) for possible instruments of selecting CEOs with military experience. However, it is impossible in our setting, as the identification of draftees depends on knowing the exact individual birthdates. Although CEOs' years of birth are commonly available, the exact day is often unavailable.

²³ We would like to examine the difference between officer- or enlisted-experience, but this information is not regularly disclosed in *Who's Who*. However, if officers are more likely to stay in the military longer then our additional analyses using *Length of Military Services* or *Attended Military Academy* also provide indirect evidence that rank does not determine tax avoidance.

interaction of *Military Experience* and any of these war indicators. About 70% (untabulated) of military managers served during one of these major conflicts. Columns 7-8 show that the estimated coefficients of all indicator variables are insignificant, so we conclude our results are not driven by specific veteran cohorts.

Finally, we consider whether the particular branch of military service affects whether a military manager avoids less corporate tax. Groysberg, Hill, and Johnson (2010) argue that the Navy and Air Force shape more process-oriented leaders due to the complex logistics and expensive weapons systems. In contrast, the Army and Marine Corps emphasize flexibility to meet changing battlefield conditions, where “an order issued by a commander outlines a general objective, known as “commander’s intent” (p.84). Columns 9-10 of Table V show the results from re-estimating our baseline regressions substituting Navy/Air Force and Army/Marine for *Military Experience*. We find that Navy/Air Force managers are no different than other managers, but that Army/Marine managers report higher ETRs. We interpret this result as consistent with such managers expressing a “commander’s intent” or tone at the top about tax planning, whereas Navy/Air Force managers appear more likely to confirm the recommendations of highly integrated tax department processes. We do not want to stretch this interpretation too far, however, because we observe no difference between the branches when we re-estimate a weighted-least-squares regression, which corrects the sampling weight by the inverse of the probability of observing a particular type of military professional.²⁴

4.6 Other Corporate Reporting Outcomes

Having identified military experience as the managerial characteristic that robustly explains both of our measures of tax avoidance, we delve deeper to understand the influence of hiring managers with military experience on other corporate reporting outcomes. Presumably boards hire managers knowing ex ante that the managers would implement certain corporate strategies. If so, do the boards gain the

²⁴ Of the 16.1 million members of the U.S. Armed Forces during the World War II, 70% served in the Army (including the Army Air Corps). As of 2009, the Army still has the most active military personnel—537,407 persons, compared to 264,375 in the Navy/Marines and 286,683 in the Air Force (*Statistical Abstract of the United States*, Census 2011).

benefit in other corporate reporting dimensions that justify the tradeoff for leaving tax money on the table?

Instead of re-examining illegal corporate fraud (Benmelech and Frydman forthcoming), we consider a few gray areas in corporate reporting that are between legitimacy and outright fraud because they are more qualitatively similar to aggressive tax planning. We first map *Military Experience* with three measures of corporate reporting outcomes: *Class Action Lawsuit*, *Financial Restatements*, and *Options Backdating*. *Class Action Lawsuit* is an indicator variable that equals one when a firm has a class action lawsuit initiated in the Stanford Securities Class Action Clearinghouse in year t , and zero otherwise.²⁵ *Financial Restatements* is an indicator variable that equals one if a firm has restated its financial statements in year t in the U.S. Government Accountability Office's (GAO) Financial Statement Restatement Database in year t , and zero otherwise. *Options Backdating* is an indicator variable that equals one if the option is granted on the day when the share price hits the lowest price in a particular month, and zero otherwise (Bebchuk, Grinstein, and Peyer 2010). We also construct two variables to examine the relationship between *Military Experience* and possible earnings management: total current accruals and discretionary current accruals, following the modified Jones' (1991) model in Dechow, Sloan, and Sweeney (1995). To facilitate interpretation and be consistent with our other measures, we construct two indicator variables. *Total Current Accruals (Discretionary Current Accruals)* equals one when the signed total (discretionary) current accruals of firm j in year t are in the top quintile, and zero otherwise. These measures are only suggestive of aggressive corporate reporting. For instance, class action lawsuits are related to *alleged* corporate fraud. Options backdating could be legal if certain conditions are met.²⁶ Accounting restatements could also relate to accounting or technical errors.²⁷ High discretionary accruals need not indicate illegal activities.

²⁵ Class action lawsuits typically arise from precipitous stock price declines and are only arguably related to corporate misconduct when also associated with restatements or fraud (Donelson, McInnis, and Mergenthaler 2012).

²⁶ Details of these conditions can be found here: <http://www.biz.uiowa.edu/faculty/elic/backdating.htm>

²⁷ *Update of Public Company Trends, Market Impacts, and Regulatory Enforcement Activities* (GAO 2006).

Panel A of Table VI reports the average occurrence of each corporate reporting outcome that is associated with aggressive corporate reporting. Firms headed by military managers are less likely to engage in aggressive corporate reporting: they are 1.13% (*t*-statistic: 2.47) less likely to be targets in class action lawsuits, 0.65% (*t*-statistic: 1.70) less likely to announce financial restatements, and 1.91% (*t*-statistic: 2.01) less likely to backdate their options. Further *Military Experience* is negatively correlated with firms' total (discretionary) current accruals. Firms headed by managers with military backgrounds are 3.74% (*t*-statistic: 3.44) and 3.79% (*t*-statistic: 2.64) less likely than other firms to be in the top quintile of firms that arguably engage in earnings management. Although the decision process of boards is unobservable, the evidence in Table VI, Panel A suggests that boards could be considering the interaction of managerial characteristics with various corporate reporting dimensions. While military managers leave more tax money on the table, they perform better in other corporate reporting dimensions where shareholders would ultimately bear the costs of various aggressive corporate reporting. The above results suggest that when boards hire managers whose culture makes them more conservative in tax planning, they gain the benefit of less aggressive financial reporting that would require more governance to constrain.

4.7 Unrecognized Tax Benefits (UTB) Balances

A recent accounting interpretation by the FASB, FIN 48, requires all firms to report their UTB balances in their filings starting in 2007. FIN 48 requires firms to record and disclose liabilities for uncertain income tax benefits that fail a “more likely than not” threshold based on the technical merits of *each* tax position, even if the positions were unlikely to be detected by tax authorities. The business press, on seeing the newly disclosed liabilities, concluded firms appear to be “betting billions on tax breaks that may not work out” and are “on the hook... for tens of billions of dollars in back taxes due to transactions they believe could be challenged” (New York Times 2007; Wall Street Journal 2007). Recent studies find these UTB balances are significantly associated with firms' tax planning and avoidance behavior (e.g., Blouin, Gleason, Mills, and Sikes 2010; Gupta, Mills, and Towery forthcoming; Lisowsky,

Robinson, and Schmidt 2013). Motivated by the above, we examine whether firms headed by military managers report lower levels of UTB than non-military managers, which may indicate that military managers engage in less aggressive tax planning. We regress *Unrecognized Tax Benefits*, defined as the level of UTB scaled by lagged total assets on our control variables.²⁸ To sharpen our tests below and maximize sample size, we only include firm fundamentals and various FEs in various specifications. However, our tests remain statistically significant at the 10% level after including all other managerial characteristics.

Panel B of Table VI shows firms headed by military managers have lower UTB balances than non-military managers, where the estimated coefficients on *Military Experience* range from 1.122% (*t*-statistic: 1.81) to 1.417% (*t*-statistic: 2.04). Given that the average UTB balances is 2.2%, these differences translate into a 50%-60% reduction in reported liabilities for uncertain tax benefits by military managers. One interpretation is that military managers are just as tax aggressive, but they record a smaller reserve for such uncertainty—an interpretation that would be consistent with financial aggressiveness. However, the preponderance of our ETR evidence and corporate reporting tests above suggests that firms with military managers engage in fewer uncertain tax positions. The UTB evidence thus further shows our claim that military managers exhibit lower willingness to pursue aggressive tax planning.

4.8 Use of Tax Havens

We examine firms' material operations in tax havens to complement our corporate reporting tests. Firms that have material operations in at least one tax haven country have lower worldwide effective tax rates than firms without tax haven operations (Dyreng and Lindsey 2009), linking the use of tax havens to aggressive tax planning.

²⁸ We use public UTB data collected by the IRS and made available to one of the authors. These data are more comprehensive than those existing to date in Compustat (Lisowsky, Robinson, and Schmidt 2013).

We construct a dependent variable, *Number of Tax Havens*, to capture the use of tax havens, using the required disclosure of locations of subsidiaries with material operations in Exhibit 21 of form 10-K filings. We conduct our main tests using the number of havens because the majority of our sample does business in some tax haven and the number of havens provides more variation. Our results are qualitatively robust to using only the presence of a tax haven, although not as strong. Following Dyreng and Bradley (2009), we consider a country a tax haven if it is listed by at least three of the following four sources as of March 4, 2008: 1) Organization for Economic Cooperation and Development (OECD), 2) the U.S. Stop Tax Havens Abuse Act, 3) The International Monetary Fund, and 4) the Tax Research Organization.²⁹

Columns 1 & 5 in Panel C of Table VI report OLS regression results using the number of tax havens as the dependent variable. Firms headed by military managers have substantially fewer material operations in tax havens by 12%-17% (*t*-statistics: 1.71-2.28). We also consider whether the use of tax havens is nonlinear. To do so, we construct an indicator dependent variable, *Tax Havens Top User*, that takes a value of one when the number of tax haven subsidiaries is in the top quintile for the year, and zero otherwise. Columns 3 & 7 report the pooled logistic regression results. To facilitate interpretation, the estimated coefficients reported in those columns are marginal probabilities in percentages, where the marginal probabilities on indicator variables are for a discrete change from zero to one. We see a strong negative pattern between the use of tax havens and military status. Military managers on average are 9.9%-13.3% (*z*-statistics: -2.24 to -2.84) less likely to be frequent users of tax havens, which is economically and statistically significant.³⁰ This systematic pattern persists even after controlling for a wide set of firm-level variables (notably including *Foreign Income* in column 7). We further examine the

²⁹ These data are available at <http://www.globalpolicy.org>. We consistently apply their 2008 definition throughout our sample period but acknowledge that as more countries cooperate with OECD information sharing requirements, countries that would have been considered tax havens initially are arguably not later in the sample.

³⁰ This result is not robust to using only the presence of a tax haven as the dependent variable, although this is not a powerful test because 71% of firms have a subsidiary in a tax haven. We also introduce $\ln(\text{Num of Countries})$ as an additional control for the extent of multi-nationality. The coefficients on *Military Experience* remain significant, though smaller in magnitude, in the *Tax Havens Top User* regression (columns 3 & 7).

portion of Big 7 tax havens (including Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore, and Switzerland) used to the total number of tax havens used. *Number of Big 7 Tax Havens* equals the natural logarithm of one plus the number of Big 7 tax havens in Exhibit 21, and *Big 7 Havens Top User* is an indicator variable that equals one when a firm's number of Big 7 tax haven subsidiaries is in the top quintile for the year. In untabulated tests, military managers have fewer operations in Big 7 havens or are less likely to be top users of these Big 7 havens, with almost all specifications (with or without foreign income, or with baseline or all controls) significant at 10 percent. The above evidence indicates that, overall, military managers are significantly less likely to locate their material business operations in tax havens, especially in Big 7 tax havens. We also interpret this evidence as consistent with their lower willingness to pursue aggressive tax planning.

4.9 Robustness Checks

In Table VII, we consider a number of alternative explanations that we position as supplemental tests because the tests further limit our sample size. We include two measures of corporate governance in our primary regression as prior research shows that corporate governance is an important determinant of firms' tax avoidance behavior (Desai and Dharmapala 2006; Cheng, Huang, Li, and Stanfield 2012). *Corporate Governance Index* refers to the Gompers-Ishii-Metrick Index ("G-Index"), which is constructed to capture shareholder rights and corporate governance across firms. The sample period is from 1992 to 2006. *Institutional Ownership* refers to the latest quarterly level of institutional ownership from the Thomson-Reuters 13f database prior to fiscal year end. Table VII shows that our results are robust to controlling for these measures of corporate governance. Our results could still reflect heterogeneous sensitivity by managers to their incentives (Jensen and Murphy 1990; Yermack 1995; Hall and Liebman 1998). We examine this possibility by replacing *% Stock Options* with manager's *Total Pay-for-Performance Sensitivity (Total PPS)*, defined as the dollar change in pay for a one-dollar increase in firm value, divided by annual pay (Core and Guay 2002; Edmans, Gabaix, and Landier 2009). The sample period is from 1992 to 2011. Our results are robust to controlling for managers' *Total PPS*.

We also examine whether the results capture firms' geographic variation in religion-induced norms (Hilary and Hui 2009; Kumar, Page, and Spalt 2011; Boone, Khurana, and Raman 2013). We control for *Local Religiosity*, defined as the number of religious adherents (American Religion Data Archive) to the total population (Census Bureau) in the county in which the firm is headquartered. The sample period is from 1992 to 2008. The results reported in Table VII remain similar.³¹ Our baseline regressions also include an indicator for disclosing *Republican*, but our results (untabulated) are robust to alternately controlling for *Democrat*, or for both *Republican* and *Democrat* indicators. Our results are robust to the alternative definition of *Republican*.

We further examine the distribution of military managers by Fama-French 38 (Fama and French 1997) industries in Figure 3. The industries with the highest number of military managers are petroleum and coal products (28.8%), paper and allied products (21.7%), and transportation equipment (19.1%). While a relatively high proportion of military managers occurs in the transportation equipment industry as expected,³² managers with military backgrounds are distributed across many different industries. In fact, 24.3% of military managers fall under the umbrella industry category *Others*. Nevertheless, we examine whether the results are driven by industry classifications or by pairings of defense firms and military managers. Rather than Fama-French industry classifications, we substitute a finer 3-digit SIC. We also exclude any defense and military firms with SIC 3721, 3724, 3728, 3764, and 3769. We also run Fama-MacBeth regressions to adjust for the unobserved time-series dependency in firm-year observations with Newey-West standard errors adjusted with 4-year lag. Our conclusions are unchanged.

4.10 Isolating Firm Fixed Effects

Studies of manager FEs traditionally rely on a small number of top executives who move to different firms (i.e., mover sample) in order to disentangle firm and manager FEs. Using a mover sample presents several challenges. First, because top executives do not frequently move to other firms, a mover

³¹ Untabulated results using the county Catholic-to-Protestant ratio are similar, with estimated coefficients on *Military Experience* of 1.608% (*t*-statistic: 2.06) for *Cash ETR* and 1.219 (*t*-statistic: 2.98) for *GAAP ETR*.

³² It includes defense or military industries under SIC codes 3721, 3724, 3728, 3764, and 3769.

sample is generally small and exhibits a lack of statistical power.³³ This is salient in our study, as fewer than 10% of managers have military service experience. Second, to increase the sample size, prior studies typically include not only CEO/CFO but also other C-suite executives (such as sales directors, general counsels, or chief operating officers) in their sample. It is unclear to what extent these top executives influence major corporate policies such as tax avoidance strategies. Third, executives moving to different firms often experience changes in executive function (e.g., promotion from CFO to CEO, or demotion from CEO to another position). Little attention has been paid by researchers to separating manager FEs from these confounding effects. One solution would be to use a full sample, but a least-squares dummy variable (LSDV) estimation with two-way FEs is computationally infeasible due to restrictions in computer memory. Further, LSDV does not allow researchers to recover manager FEs.

To address the above concerns, we use the econometric technique developed by Abowd, Kramarz, and Margolis (1999) (AKM) and recently applied by Graham, Li and Qiu (2012). They show that, with simple looping procedures, a small degree of personal mobility can offer a rich amount of data to estimate manager and firm FEs simultaneously, even for managers who do not work in more than one firm. Appendix 3 explains the method in detail.

We first use the AKM method to decompose the variation of ETRs into the following four separate components: 1) firm FEs, 2) manager FEs, 3) firm-level characteristics (including year FEs), and 4) residuals. In Panel A of Table VIII, we divide the covariance of ETRs and individual components by the total variance of ETRs. The findings are intriguing—approximately 50% of the variation in firms' ETRs is driven by manager FEs, followed by residuals (~40%). However, time-varying firm characteristics, year FEs, and even time-invariant firm FEs together explain less than 12% of the total variance in ETRs. The results are consistent with Graham, Li, and Qiu (2012), who show that manager FEs explain 44% of the total variation in executives' compensation, whereas firm FEs explain as little as

³³ For instance, the number of top executives in mover samples is 519 in Bertrand and Schoar (2003), 303 in Bamber, Jiang, and Wang (2010), and 908 in Dyreng, Hanlon, and Maydew (2010).

4%. The joint test of whether all manager FEs equal zero is rejected at the 1% level (F -statistic: 2.43, $p=0.00$ for cash ETR, and F -statistic: 2.59, $p=0.00$ for GAAP ETR).³⁴ Manager FEs are also economically significant. Given that the standard deviation of manager FEs is 0.131 for cash ETR (0.098 for GAAP ETR), a one standard deviation change in manager FE leads to an increase of 13.1% (9.8%) in cash (GAAP) ETR.³⁵ We conclude that corporate tax strategies are significantly influenced by manager styles, even after controlling for firm FEs.

We next analyze to what extent military experience explains manager FEs on corporate tax avoidance. We regress manager FEs estimated under the AKM method on *Military Experience* and various managerial characteristics. Reported in Panel B of Table VIII, the results are similar to the results under OLS estimation: with the exception of *Military Experience*, none of the other managerial characteristics consistently explain either cash or GAAP ETRs. *Military Experience* is the only managerial characteristic that is significantly positive across both specifications. To facilitate interpretations and comparisons, the estimated coefficients are standardized coefficients. *Military Experience* explains about 3.5%-3.9% (t -statistics: 1.95-1.98) variation in manager FEs on corporate tax avoidance. The positive coefficient reconfirms through the AKM estimation method that military managers avoid less tax. *Military Experience* is also the only managerial characteristic that explains manager FEs in tax avoidance using the AKM econometric technique to identify manager FEs.

Finally, Fee, Hadlock, and Pierce (2013) caution that manager turnover and replacement selection by boards is frequently an endogenous event, so we acknowledge that some of the manager FEs above could reflect the style selected by the boards rather than the idiosyncratic style brought by the manager. However, our previous propensity-matched tests to control for which firms select managers with military experience show that our effects are not entirely driven by the board selection.

³⁴ Fee, Hadlock, and Pierce (2013) caution against using a standard F -test for joint significance of manager FEs, as standard asymptotic theory does not apply and the properties of these tests are unknown. However, using Monte Carlo simulations, Orme and Yamagata (2006) show that standard F -test procedures perform well even under non-normality or in a small sample.

³⁵ The economic magnitudes are comparable to Dyreng, Hanlon, and Maydew (2010), who use their executive mover sample to show that moving between the top and bottom quartiles of manager FEs results in about 11% change in GAAP ETRs.

5. Conclusion

In this paper, we investigate which managerial characteristics explain managers' heterogeneity in pursuing aggressive tax planning. Our primary conjecture is that certain culture and values are associated with higher tax compliance. Motivated by anecdotal evidence, we identify a salient managerial characteristic that explains heterogeneity in pursuing aggressive tax planning.

We find that firms headed by managers with military experience have higher effective tax rates, the broadest measures for capturing the full continuum of firms' aggressive tax planning. These managers also maintain lower reserves for unrecognized tax benefits, indicating that they engage in less aggressive tax strategies, and are less likely to be frequent users of tax havens in their material business operations. We show that when boards hire managers whose culture makes them more conservative in tax planning, they gain the benefit of less aggressive financial reporting (e.g., class action lawsuits, financial restatements, options backdating, and earnings management) that would require more governance to constrain.

Although the decision process of the boards is unobservable, we conduct a series of analyses to shed light whether our strong results are entirely driven by the board selection. First, we find that firms headed by managers with military experience report economically and statistically higher ETRs than their propensity-matched peers. Second, our results are robust to using IV estimation. We also find that managers who attended military academy, served longer, or served during major military conflict do not avoid less tax than other military managers.

Our evidence extends prior studies that examine the tone at the top on corporate policies (e.g., Bertrand and Schoar 2003). First, we find that military experience has a substantial influence on firms' corporate tax policies. Second, we contribute to a growing literature in economics and financial accounting seeking to understand the influence of culture on corporate policies. Collectively, this paper improves our understanding of the influence of tone at the top on corporate tax planning.

We opened the paper with anecdotes about the innovative tax avoidance of Google, Starbucks, Apple, and GE—all of whom face criticism from the media watchdogs and governments for pursuing aggressive tax planning. However, after responding to public outcry by agreeing to “voluntarily” pay a corporation tax of \$33m regardless of profitability,³⁶ Starbucks also recently pledged to hire 10,000 veterans in a high-profile public relations campaign.³⁷ In a March 2014 CBS Evening News segment, Starbucks’ CEO also announces that he is donating charitable gift of \$30 million specifically earmarked for research into post-traumatic stress disorder (PTSD) or brain trauma of returning war veterans.³⁸ The CEO of Starbucks appears to view associating Starbucks with the military as enhancing a socially conscious image to the general public, arguably consistent with the anecdotal evidence that military experience is associated with ethical behavior. Although we do not argue that paying more tax is better for shareholders, the managerial characteristic that results in lower tax avoidance appears to provide other benefits that could offset that tax cost or even deter managers from acting opportunistically. As Lockheed Martin’s CEO, Norman Augustine, once said:

...I think so many ethical cases are cases where in the short term, if you do the right thing, it hurts the bottom line. But I truly believe that if you can build a reputation as somebody [who] can be trusted, business opportunities will come to you for the long term that will more than make up for the penalties that you pay in the short term, by and large. (Damon 2004, p.118)

Boards and shareholders seeking that portfolio of outcomes will need to find other ways to identify such CEOs over time, given that military experience is a shrinking characteristic of our workforce.

³⁶ “Starbucks agrees to pay more corporation tax” (*BBC*, December 6, 2012). In the same news article, the U.K. tax authorities responded by saying that corporation tax “is not a voluntary tax.”

³⁷ “Not only are we going to hire 10,000 people as you just mentioned, we’re also going to build or relocate five stores in or around bases so that the profits of those stores can go back to the veterans. I mean, this is a time in America where we have an obligation and a responsibility to do the right thing.” From *Quest means business* by *CNN* aired on November 6, 2013.

³⁸ <http://www.cbsnews.com/news/starbucks-ceo-howard-schultz-announces-30-million-gift-for-us-troops/>

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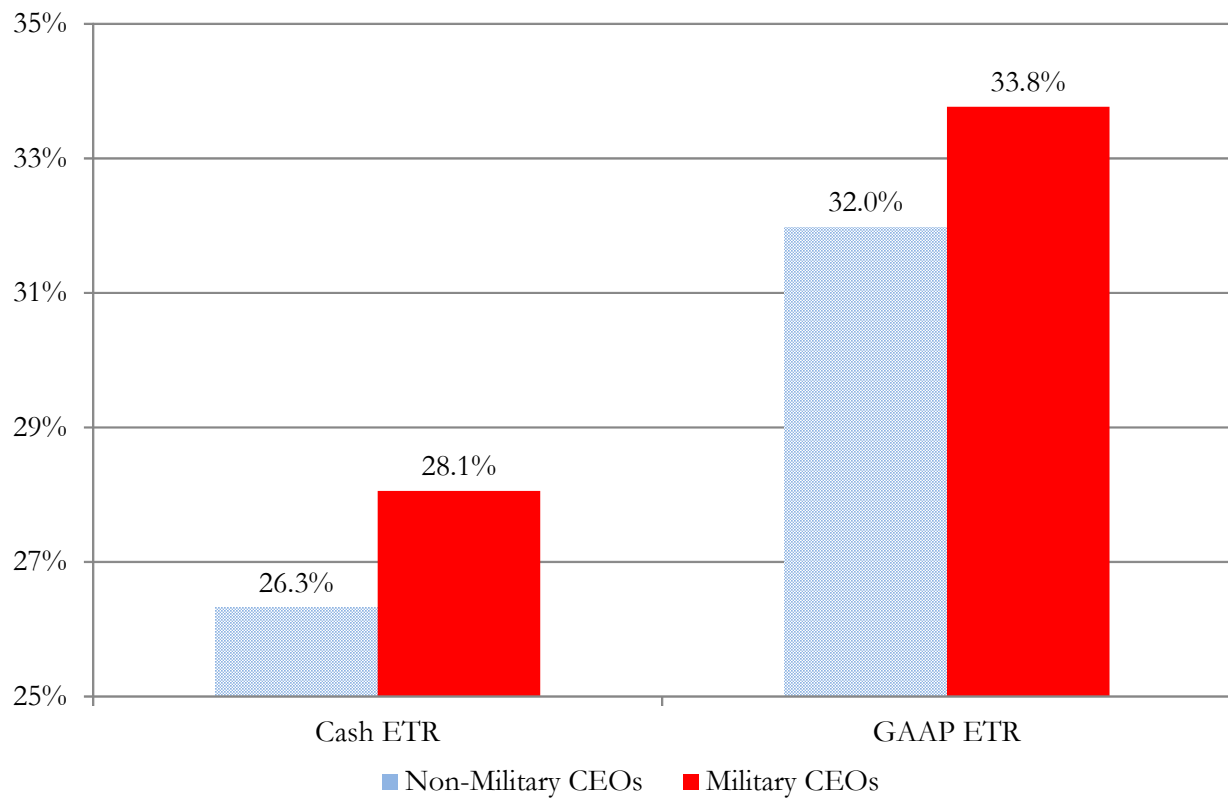
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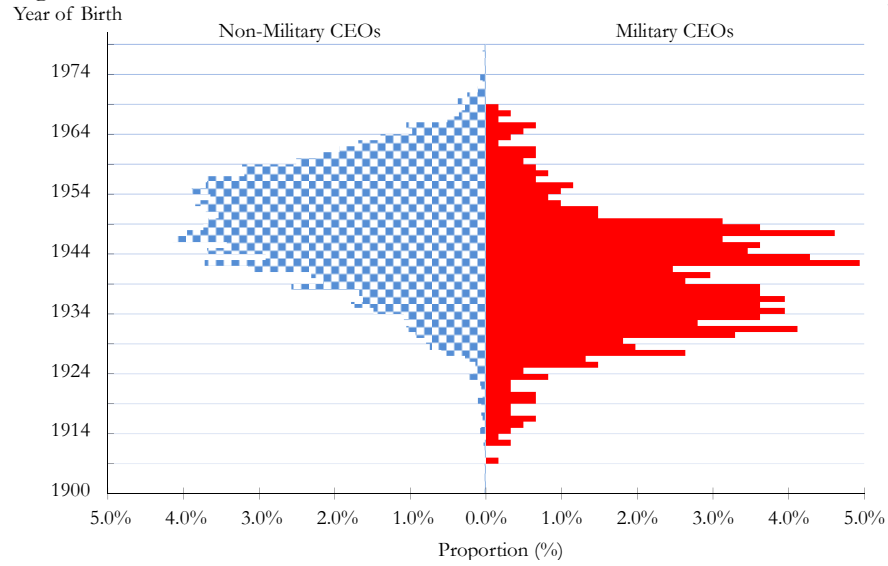
Figure 1
Cash/GAAP Effective Tax Rates between Military and Non-Military CEOs



The figure above compares Cash/GAAP effective tax rates between managers with and without military experience. The checked blue bar (left) represents non-military managers, where the solid red bar (right) represents military managers.

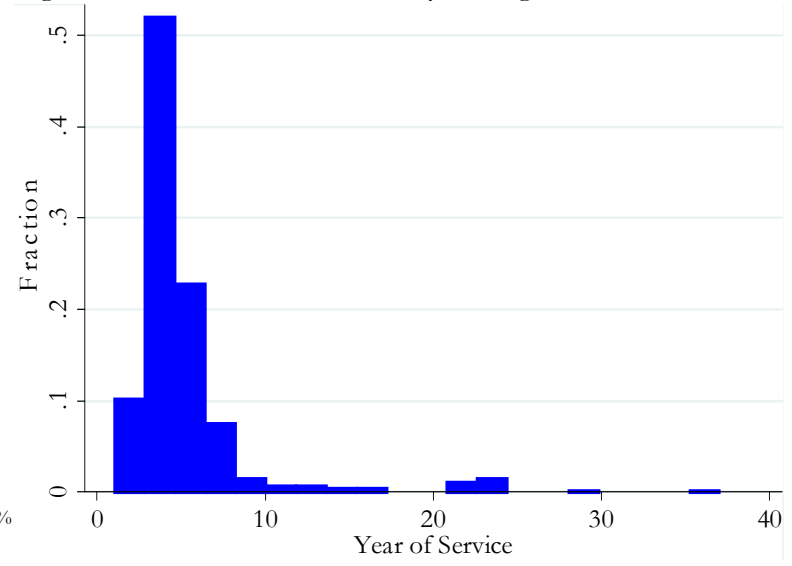
Figure 2

Figure 2A. Distribution of Birth Years



This figure plots the distribution of managers' birth years.

Figure 2B. Distribution of Military Managers' Years of Service



This figure plots the years of service of military managers.

Figure 3
 Distribution of Military Managers by Fama-French 38 Industry Classifications

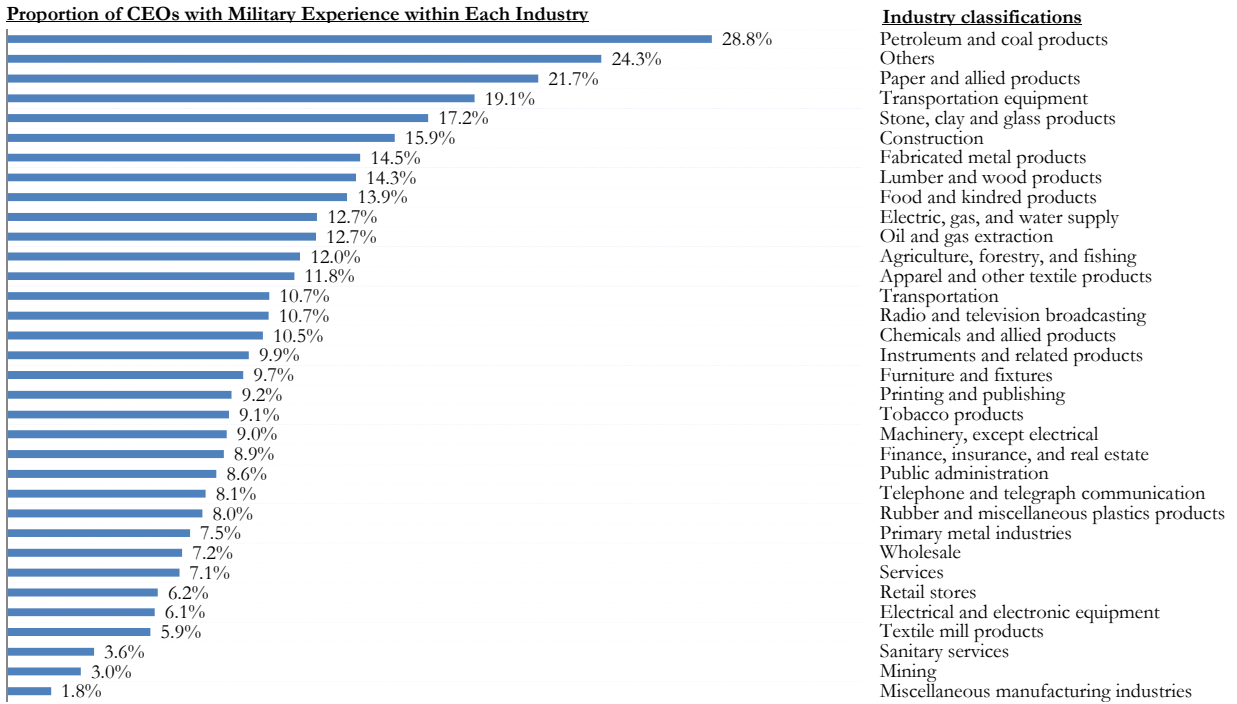


Table I
Summary Statistics

The following table reports the descriptive statistics of the variables used in this paper. *Military Experience* is an indicator variable that equals one if a manager had previous military experience, and zero otherwise. *Cash Effective Tax Rate* is income taxes paid divided by pre-tax income minus special items. *GAAP Effective Tax Rate* is income taxes divided by pre-tax income minus special items. Both tax avoidance measures are truncated at [0,1]. *FIN 48 UTB* is the balance of firms' unrecognized tax benefits reported in their financial statements, scaled by lagged total assets. The data are provided by the Internal Revenue Service's Large Business and International Research Division. *Number of Tax Havens* is the natural logarithm of one plus the number of tax havens reported in Exhibit 21 of a firm's 10-K filings. *Correlation (Corr.)* reports the Spearman correlation with *Military Experience*. The standard errors for *Difference* are clustered at the executive level. *Mil. (NonM)* refers to managers with (without) previous military experience. Superscripts A, B, and C represent significance at the 1%, 5%, and 10% levels, respectively. Firms with book values of at least \$10 million from 1992 to 2011 are obtained from Compustat. Firms in the utilities industry and financial institutions are excluded. All variables (except indicator and logarithm variables) are winsorized at 1st and 99th percentiles to avoid extreme outliers. Additional details on all variables are summarized in Appendix 1.

<i>Main variables</i>	Mean	Std.	P25	P50	P75	Num.	Corr.	Mil.	NonM	Diff.
Military experience	0.094	0.293	0	0	0	9,738				
Cash ETR	0.265	0.148	0.165	0.269	0.351	9,738	0.03 ^A	0.28	0.26	0.02 ^B
GAAP ETR	0.322	0.110	0.279	0.347	0.381	9,738	0.05 ^A	0.34	0.32	0.02 ^A
FIN 48 UTB	0.022	0.062	0.004	0.009	0.020	2,019	-0.03 ^B	0.01	0.02	-0.01 ^C
Number of tax havens	0.948	0.776	0	0.693	1.609	4,202	-0.05 ^A	0.82	0.96	-0.14 ^C
<i>Firm characteristics</i>										
Return on assets	0.132	0.114	0.067	0.116	0.182	9,738	-0.01	0.13	0.13	0.00
Leverage	0.193	0.187	0.012	0.163	0.300	9,738	0.05 ^A	0.22	0.19	0.03 ^A
NOL indicator	0.459	0.498	0	0	1	9,738	-0.03 ^A	0.41	0.46	-0.06 ^C
Change in NOL	0.082	0.407	0.000	0.000	0.043	9,738	-0.03 ^A	0.04	0.09	-0.05 ^A
Foreign income	0.017	0.030	0.000	0.000	0.024	9,738	-0.03 ^A	0.01	0.02	0.00
PPE	0.327	0.257	0.134	0.256	0.458	9,738	0.07 ^A	0.38	0.32	0.06 ^A
Intangible assets	0.189	0.214	0.017	0.110	0.295	9,738	-0.02 ^B	0.17	0.19	-0.02
Equity income	0.001	0.005	0.000	0.000	0.000	9,738	0.03 ^A	0.00	0.00	0.00 ^C
Firm size	7.044	1.476	5.978	6.892	7.952	9,738	0.09 ^A	7.47	7.00	0.47 ^A
Market-to-book	1.701	1.538	0.774	1.266	2.097	9,738	-0.06 ^A	1.44	1.73	-0.29 ^A
R&D expenditure	0.025	0.048	0.000	0.000	0.030	9,738	-0.05 ^A	0.02	0.03	-0.01 ^A
<i>Managerial characteristics</i>										
Age	55.708	7.896	50	56	61	9,549	0.12 ^A	58.64	55.40	3.25 ^A
Tenure	4.436	3.309	2	4	6	9,738	0.00	4.47	4.43	0.03
Male	0.981	0.135	1	1	1	9,738	0.04 ^A	1.00	0.98	0.02 ^A
MBA Education	0.244	0.429	0	0	0	9,738	0.12 ^A	0.40	0.23	0.17 ^A
Great Depression	0.026	0.158	0	0	0	9,738	0.11 ^A	0.08	0.02	0.06 ^A
Grad. in recession	0.181	0.385	0	0	0	9,738	0.12 ^A	0.32	0.17	0.15 ^A
Overseas	0.040	0.196	0	0	0	9,738	-0.03 ^A	0.02	0.04	-0.02 ^A
Republican affiliation	0.053	0.224	0	0	0	9,738	0.15 ^A	0.16	0.04	0.12 ^A
% Stock options	0.208	0.276	0	0	0.418	9,541	0.01	0.22	0.21	0.01
Born in south	0.210	0.407	0	0	0	3,060	0.08 ^A	0.27	0.19	0.08 ^A

Table II

Military Experience and Tax Avoidance

This table reports the pooled OLS regression results. The dependent variables are *Cash Effective Tax Rate* (columns 1-2) and *GAAP Effective Tax Rate* (columns 3-4). *Cash Effective Tax Rate* is income taxes paid divided by pre-tax income minus special items. *GAAP Effective Tax Rate* is income taxes paid divided by pre-tax income minus special items. Both tax avoidance measures are truncated at [0,1]. *Military Experience* is an indicator variable that equals one if a manager has previous military experience, and zero otherwise. *Age* is the age of the manager. *Tenure* is the number of years a manager has worked in a firm. *Male* is an indicator variable that equals one if a manager is male, and zero if a manager is female. *MBA Education* is an indicator variable that equals one if a manager holds an MBA degree, and zero otherwise. *Great Depression* is an indicator variable that equals one if a manager was born between 1920 and 1929, and zero otherwise. *Graduation in Recession* is an indicator variable that equals one if a manager graduates during an NBER recession year, and zero otherwise. *Overseas* is an indicator variable that equals one if a manager was born outside the U.S., and zero if a manager was born within the U.S. *Republican Affiliation* is an indicator variable that equals one if a manager is a Republican, and zero otherwise. *% Stock Options* is the value of stock options granted divided by total compensation. *Return on Assets* is return on assets scaled by lagged total assets. *Leverage* is long-term debt scaled by lagged total assets. *NOL Indicator* equals one if there is a positive tax loss carry-forward, and zero otherwise. *Change in NOL* is the change in loss carry-forward. *Foreign Income* is foreign income scaled by lagged total assets. *Property, Plant, and Equipment* is property, plant, and equipment scaled by lagged total assets. *Intangible Assets* is intangible assets scaled by lagged total assets. *Equity Income* is equity income in earnings scaled by lagged assets. *Firm Size* is the natural logarithm of the market value of equity at the beginning of year. *Market-to-Book* is the market-to-book ratio at the beginning of the year. *Research and Development* is research and development expenditures scaled by lagged total assets. Additional details on all variables are summarized in Appendix 1. The sample period runs from 1992 to 2011. Robust standard errors are clustered at the firm level, and two-tailed *t*-statistics are reported in parentheses. To improve readability, we multiply the estimated coefficients on *Military Experience* by 100.

Table II – *Continued*
 Military Experience and Tax Avoidance

<i>Independent variables</i>	Dependent Variables:			
	<i>Cash Effective Tax Rate</i>		<i>GAAP Effective Tax Rate</i>	
	(1)	(2)	(3)	(4)
Military experience	1.548 (2.01)	1.471 (2.32)	1.630 (3.26)	0.928 (2.48)
Age	0.001 (3.50)	0.000 (1.28)	0.000 (1.99)	-0.000 (-0.18)
Tenure	-0.003 (-5.10)	-0.000 (-0.27)	-0.002 (-4.67)	0.001 (1.28)
Male	-0.034 (-2.23)	-0.024 (-1.83)	0.001 (0.06)	0.000 (0.05)
MBA Education	-0.014 (-2.77)	-0.010 (-2.09)	-0.010 (-2.40)	-0.003 (-1.11)
Great Depression	0.024 (1.75)	0.002 (0.22)	0.016 (1.95)	0.000 (0.04)
Graduation in recession	0.003 (0.63)	-0.007 (-1.48)	0.001 (0.19)	-0.005 (-1.60)
Overseas	-0.003 (-0.33)	0.008 (0.79)	-0.019 (-2.22)	0.004 (0.55)
Republican affiliation	0.004 (0.40)	-0.003 (-0.34)	0.009 (1.19)	0.006 (1.03)
% Stock options	-0.029 (-4.41)	-0.027 (-3.64)	0.010 (1.91)	-0.007 (-1.38)
Return on assets		0.103 (4.70)		0.263 (12.99)
Leverage		-0.053 (-4.29)		-0.002 (-0.22)
NOL indicator		-0.045 (-9.73)		-0.013 (-4.22)
Change in NOL		-0.033 (-5.77)		-0.028 (-6.07)
Foreign income		0.104 (1.36)		-0.538 (-9.79)
Property, plant, & equipment		-0.077 (-7.71)		-0.018 (-2.70)
Intangible assets		0.010 (0.89)		0.030 (3.75)
Equity income		-0.588 (-1.64)		-0.874 (-3.35)
Firm size		-0.001 (-0.61)		-0.001 (-0.59)
Market-to-book		-0.006 (-4.25)		-0.006 (-4.94)
Research & development		-0.278 (-4.60)		-0.191 (-3.51)
Constant	Yes	Yes	Yes	Yes
Year fixed effects	No	Yes	No	Yes
Industry fixed effects	No	Yes	No	Yes
Number of observations	9,370	9,370	9,370	9,370
Adjusted-R ²	0.014	0.142	0.011	0.212

Table III
Propensity Score Matching

Panel A reports the logistic regression regressing *Military Experience* on firm characteristics, year fixed effects, industry fixed effects, and a constant. Each observation is at the year-firm level. The variables from left to right are *Return on Assets*, *Leverage*, *NOL Indicator*, *Change in NOL*, *Foreign Income*, *Property, Plant, and Equipment*, *Intangible Assets*, *Equity Income*, *Firm Size*, *Market to Book*, and *Research and Development*. Bolded variables are statistically significant at least at the 10% level. Robust standard errors are clustered at the firm level, and χ -statistics are reported in parentheses. The marginal probability on *NOL* is for a discrete change from zero to one, whereas the marginal probabilities for the other variables equal marginal effects at the mean. Panel B reports the difference in cash/GAAP ETR between firms headed by military managers and matched peers. Each firm headed by a military manager is matched with a firm not headed by a military manager based on the closest propensity score calculated using the following criteria: 1) size, 2) returns on assets (*ROA*), 3) foreign income (*FI*), and 4) market-to-book (*MB*) ratio for the past three years in the same industry. Differences are in percentages for ease of reference. Each matched peer is drawn without replacement. Two-tailed χ -statistics for mean (median) difference are estimated using paired *t*-tests (Wilcoxon signed rank tests).

Panel A: Determinants of Hiring Military Managers											
Independent Variables											
	ROA	LEV	NOL	Δ NOL	FI	PPE	INTA	EQU	SIZE	MB	R&D
<i>Dep. Indicators</i>	Estimated Coefficients										
Military Exp. (obs=9,738)	1.180 (1.85)	-0.021 (-0.05)	0.101 (0.65)	-0.363 (-0.80)	-5.157 (-1.75)	0.339 (0.76)	-0.056 (-0.14)	-0.037 (0.00)	0.212 (3.83)	-0.118 (-1.69)	-1.851 (-0.75)
	Marginal Probabilities										
	0.087	-0.002	0.007	-0.027	-0.381	0.025	-0.004	-0.003	0.016	-0.009	-0.137
Panel B: Propensity Score Matching Tests											
<i>Matching criteria</i>	<i>Cash Effective Tax Rate</i>				<i>GAAP Effective Tax Rate</i>						
	Mean Diff.		Median Diff.		Mean Diff.		Median Diff.				
Industry/size/ROA	2.324 (3.33)		2.818 (3.63)		2.165 (4.74)		1.062 (4.29)				
Industry/size/ROA/FI	1.796 (2.69)		2.970 (3.13)		2.003 (4.46)		1.415 (4.56)				
Industry/size/ROA/FI/MB	1.701 (2.59)		1.429 (2.35)		1.895 (4.36)		0.716 (3.83)				

Table IV
IV Estimation: Birth Year, Born in South, and Gender

This table reports the results of two-stage least squares (2SLS) regression. The dependent variable is *Cash Effective Tax Rate (GAAP Effective Tax Rate)* in odd-numbered (even-numbered) columns. The instruments are (a) year of birth, (b) born in south indicator, and (c) male indicator. *Year of Birth* refers to a manager's birth year. *Born in South* is an indicator if a manager was born in a southern state (including Texas, Arkansas, Louisiana, Kentucky, Oklahoma, Virginia, Alabama, Tennessee, Mississippi, Georgia, Florida, Maryland, Delaware, District of Columbia, North Carolina, or South Carolina). All regressions control for managerial characteristics including *Age*, *Tenure*, *Male* (except in specifications 3-4), *MBA Education*, *Great Depression*, *Graduation in Recession*, *Overseas*, *Republican Affiliation*, and *% Stock Options*. Robust standard errors are clustered at the firm level, and two-tailed *t*-statistics are reported in parentheses.

<u>Second-stage regressions</u>	Dependent Variables:					
	<i>Cash ETR</i>	<i>GAAP ETR</i>	<i>Cash ETR</i>	<i>GAAP ETR</i>	<i>Cash ETR</i>	<i>GAAP ETR</i>
<i>Independent variables</i>	(1)	(2)	(3)	(4)	(5)	(6)
Military experience	0.239 (3.11)	0.238 (3.57)	0.035 (0.83)	0.039 (1.36)	0.220 (3.06)	0.236 (3.66)
Return on assets	0.088 (3.64)	0.245 (10.83)	0.062 (1.54)	0.309 (7.56)	0.089 (3.75)	0.245 (10.87)
Leverage	-0.047 (-3.18)	0.004 (0.34)	-0.052 (-2.70)	0.005 (0.39)	-0.047 (-3.29)	0.004 (0.34)
NOL Indicator	-0.051 (-10.12)	-0.020 (-5.00)	-0.048 (-6.17)	-0.016 (-3.01)	-0.051 (-10.33)	-0.020 (-5.03)
Change in NOL	-0.034 (-5.56)	-0.029 (-5.98)	-0.110 (-5.00)	-0.052 (-1.69)	-0.035 (-5.59)	-0.029 (-5.99)
Foreign income	0.212 (2.15)	-0.446 (-5.39)	0.141 (1.20)	-0.488 (-5.81)	0.206 (2.15)	-0.446 (-5.44)
Property, plant, and and equipment	-0.082 (-6.20)	-0.024 (-2.20)	-0.085 (-5.62)	-0.024 (-2.39)	-0.081 (-6.39)	-0.024 (-2.21)
Intangible assets	0.003 (0.28)	0.024 (2.37)	-0.001 (-0.07)	0.020 (1.45)	0.003 (0.24)	0.024 (2.37)
Equity income	-0.613 (-1.41)	-0.902 (-2.47)	-0.690 (-1.24)	-1.136 (-2.70)	-0.611 (-1.44)	-0.902 (-2.48)
Firm size	-0.004 (-1.88)	-0.004 (-2.23)	-0.003 (-1.38)	-0.003 (-1.77)	-0.004 (-1.89)	-0.004 (-2.24)
Market-to-book	-0.004 (-2.67)	-0.005 (-3.23)	-0.005 (-1.99)	-0.008 (-3.53)	-0.005 (-2.83)	-0.005 (-3.27)
Research & development	-0.260 (-3.86)	-0.192 (-3.12)	-0.456 (-3.07)	-0.242 (-1.82)	-0.258 (-3.91)	-0.192 (-3.13)
Number of observations	9,370	9,370	3,060	3,060	9,370	9,370
Managerial Characteristics /FES/Constant	Included	Included	Included	Included	Included	Included
Instrumenting <i>Military Exp.</i> :	Birth year		Birth year and born in south		Birth year and male	
<u>First-stage regressions</u>	Dependent Variable: <i>Military Experience</i>					
<i>Estimated coefficients on:</i>						
Year of birth	-0.006 (-4.51)		-0.012 (-4.48)		-0.006 (-4.51)	
Born in south			0.092 (2.02)			
Male					0.029 (1.33)	
First-stage <i>F</i> -statistics	20.35		11.73		11.84	

Table V
Types of Military Experience

This table reports the pooled OLS regression results. The dependent variables are *Cash Effective Tax Rate* and *GAAP Effective Tax Rate*. *Cash Effective Tax Rate* is income taxes paid divided by pre-tax income minus special items. *GAAP Effective Tax Rate* is income taxes divided by pre-tax income minus special items. The specifications are identical to column 2 (4) of Table II for *Cash (GAAP) ETR*. *Length of Military Services* is the natural logarithm of the years of military service. *Attended Military Academy* equals one if a manager graduates from the U.S. Military Academy (West Point, New York), the U.S. Naval Academy (Annapolis, Maryland), the U.S. Coast Guard Academy (New London, Connecticut), the U.S. Merchant Marine Academy (Kings Point, New York), or the U.S. Air Force Academy (Colorado Springs, Colorado). *Served during No Major Military Conflicts* equals one if a manager started military service in a year when there was no major military conflict (including World War II, Korean War, and Vietnam War). Robust standard errors are clustered at the firm level, and two-tailed *t*-statistics are reported in parentheses. To improve readability, we multiply the estimated coefficients on *Military Experience* by 100.

Table V
Types of Military Experience – *Continued*

<i>Independent variables</i>	Dependent Variables:									
	Cash	GAAP	Cash	GAAP	Cash	GAAP	Cash	GAAP	Cash	GAAP
	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Military experience	2.325 (2.51)	1.159 (2.15)	1.450 (1.96)	0.794 (1.82)	1.450 (1.96)	0.794 (1.82)	2.063 (2.58)	0.906 (1.92)		
× Length of military services	-0.883 (-1.36)	-0.240 (-0.64)								
× Attended military academy			-0.832 (-0.46)	-0.407 (-0.43)						
× Served during no major military conflicts					0.054 (0.04)	0.337 (0.47)				
× World War II							-1.376 (-0.68)	0.297 (0.26)		
× Korean War							-1.605 (-1.11)	0.233 (0.30)		
× Vietnam War							-2.019 (-0.89)	-0.802 (-0.68)		
Army/Marine									3.113 (3.75)	1.142 (2.39)
Navy/Air Force									-0.578 (-0.66)	0.655 (1.20)
Controls/Fixed effects			Identical to Column 2 (4) of Table II for Cash (GAAP) ETR							
Number of observations	9,370	9,370	9,370	9,370	9,370	9,370	9,370	9,370	9,370	9,370
Adjusted-R ²	0.142	0.211	0.142	0.211	0.142	0.211	0.142	0.211	0.143	0.212

Table VI

Corporate Reporting, Unrecognized Tax Benefits (UTB), and Use of Tax Havens

Panel A reports the t -test results between firms headed by military managers and non-military managers on several types of corporate reporting. *Class Action Lawsuit* equals one if a firm has a class action lawsuit initiated in the Stanford Securities Class Action Clearinghouse in year t , and zero otherwise. *Financial Restatement* equals one if a firm has restated its financial statements in the GAO's Financial Statement Restatement Database in year t , and zero otherwise; these data are generously made available by Judson Caskey. *Options Backdating* equals one if the option is granted on the day when the share price hits the lowest price in month t , and zero otherwise (Bebchuk, Grinstein, and Peyer 2010). *Total Current Accruals (Discretionary Current Accruals)* equals one if the signed total (discretionary) current accruals of firm j in year t estimated under a modified Jones' model are in the top quintile, and zero otherwise (Dechow, Sloan, and Sweeney 1995). At least ten firms are required for estimation at the year-industry level. All observations in Panel A are at the firm-year level. Each column reports the average of each gray area in corporate reporting. Panel B reports Uncertain Tax Benefits (UTB) balances, where the data are provided by the Internal Revenue Service's Large Business and International Research Division. The dependent variable is UTB, defined as the UTB divided by lagged total assets. The sample period is from 2007 to 2011. All corresponding financial variables are obtained from Compustat. Panel C reports the results of pooled OLS and logistic regressions. The dependent variables are *Number of Tax Havens*, *Number of Big 7 Havens*, *Tax Havens Top User*, and *Big 7 Havens Top User*. *Number of (Big 7) Tax Havens* is the natural logarithm of one plus the number of (Big 7) tax havens reported in Exhibit 21 of a firm's 10-K filings; these data are generously made available by Scott Dyreng. A country is considered a tax haven if it is listed as a tax haven by at least three of four sources reported at <http://www.globalpolicy.org> on March 4, 2008 (Dyreng and Lindsey 2009). The Big 7 tax havens are Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore, and Switzerland. *(Big 7) Tax Havens Top User* is an indicator variable that equals one if the number of (Big 7) tax havens reported in Exhibit 21 is in the top quintile, and zero otherwise. Robust standard errors are clustered at the firm level, and two-tailed t -statistics or z -statistics are reported in parentheses. The marginal probabilities on indicator variables are for a discrete change from zero to one, whereas the marginal probabilities for the other variables equal marginal effects at the mean.

Table VI – *Continued*
Corporate Reporting, Unrecognized Tax Benefits (UTB), and Use of Tax Havens

Panel A: Gray Areas in Corporate Reporting				
	Military Managers (%)	Non-Military Managers (%)	(a) - (b) (<i>t</i> -statistic)	Sample Period (Num. of Obs.)
<i>Gray Areas in Corp. Reporting</i>	(a)	(b)	(c)	(d)
Class action lawsuit	0.761	1.894	-1.13 (-2.47)	1996-2010 (7,923)
Financial restatement	0.652	1.304	-0.65 (-1.70)	1997-2005 (4,470)
Options backdating	2.454	4.367	-1.91 (-2.01)	1996-2005 (4,954)
Total current accruals	6.714	10.449	-3.74 (-3.44)	1992-2011 (9,357)
Discretionary current accruals	16.251	20.042	-3.79 (-2.64)	1992-2011 (9,320)
Panel B: Higher Unrecognized Tax Benefits (UTB) Balance				
	All Firms		Firms with Positive UTB	
<i>Independent Variables</i>	Dependent Variable: <i>Unrecognized Tax Benefits (UTB)</i>			
	(1)	(2)	(3)	(4)
Military experience	-1.122 (-1.81)	-1.311 (-2.02)	-1.194 (-1.84)	-1.417 (-2.04)
Return on assets		-0.017 (-0.40)		-0.012 (-0.24)
Leverage		-0.021 (-1.06)		-0.021 (-1.04)
NOL indicator		-0.015 (-1.61)		-0.017 (-1.70)
Change in NOL		0.000 (-0.03)		0.003 (0.45)
Foreign income		0.166 (1.59)		0.173 (1.59)
Property, plant, and and equipment		0.007 (0.37)		0.006 (0.30)
Intangible assets		0.029 (0.92)		0.031 (0.96)
Equity income		-0.732 (-1.40)		-0.747 (-1.37)
Firm size		0.005 (3.20)		0.005 (2.96)
Market-to-book		0.009 (1.82)		0.009 (1.74)
Research & development		0.050 (0.81)		0.067 (0.85)
Constant	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	Yes
Num. of obs.	2,019	2,019	1,917	1,917
Adjusted R ²	0.140	0.208	0.139	0.208

Table VI – *Continued*
 Corporate Reporting, Unrecognized Tax Benefits (UTB), and Use of Tax Havens

Panel C: Fewer Material Operations in Tax Havens								
	Baselines				Controlling for Foreign Income			
<i>Indep. Variables</i>	Dependent Variables:							
	# <i>Tax Havens</i>	# <i>Big 7 Havens</i>	<i>Tax Havens Top User</i>	<i>Big 7 Havens Top User</i>	# <i>Tax Havens</i>	# <i>Big 7 Havens</i>	<i>Tax Havens Top User</i>	<i>Big 7 Havens Top User</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Military exp.	-0.171 (-2.28)	-0.154 (-2.74)	-0.133 (-2.84)	-0.082 (-2.10)	-0.122 (-1.71)	-0.111 (-2.12)	-0.099 (-2.24)	-0.052 (-1.44)
Return on assets	0.046 (0.28)	-0.098 (-0.68)	-0.037 (-0.37)	0.091 (1.13)	-0.240 (-1.55)	-0.349 (-2.67)	-0.229 (-2.23)	-0.063 (-0.77)
Leverage	-0.193 (-1.79)	-0.169 (-1.95)	-0.140 (-1.93)	-0.112 (-1.84)	-0.125 (-1.24)	-0.110 (-1.38)	-0.109 (-1.57)	-0.083 (-1.48)
NOL indicator	0.168 (3.81)	0.132 (3.74)	0.103 (3.82)	0.068 (2.91)	0.107 (2.61)	0.078 (2.46)	0.071 (2.74)	0.038 (1.73)
Change in NOL	-0.001 (-0.02)	-0.013 (-0.40)	-0.005 (-0.13)	-0.041 (-0.89)	0.035 (0.82)	0.018 (0.52)	0.024 (0.83)	-0.002 (-0.06)
PPE	-0.396 (-3.35)	-0.339 (-3.62)	-0.193 (-2.48)	-0.207 (-3.14)	-0.357 (-3.30)	-0.304 (-3.63)	-0.178 (-2.37)	-0.192 (-3.20)
Intangible assets	0.143 (1.43)	0.125 (1.49)	0.138 (2.43)	0.079 (1.52)	0.196 (2.10)	0.172 (2.22)	0.172 (3.13)	0.107 (2.14)
Equity income	-1.101 (-0.31)	-1.242 (-0.40)	0.512 (0.28)	-1.429 (-0.93)	-0.405 (-0.12)	-0.630 (-0.22)	1.372 (0.73)	-0.803 (-0.49)
Firm size	0.265 (14.61)	0.180 (12.58)	0.132 (10.21)	0.093 (9.61)	0.229 (13.02)	0.149 (10.86)	0.119 (9.30)	0.079 (8.37)
Market-to-book	0.025 (2.12)	0.030 (2.55)	0.013 (1.83)	0.014 (2.41)	0.007 (0.65)	0.014 (1.40)	0.004 (0.49)	0.006 (0.97)
R&D	1.515 (3.73)	1.343 (3.79)	0.451 (1.73)	0.504 (2.30)	1.164 (3.07)	1.035 (3.17)	0.215 (0.80)	0.286 (1.32)
Foreign income					6.833 (10.75)	6.006 (11.69)	2.997 (7.67)	2.456 (7.65)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Num. of obs.	4,202	4,202	4,202	4,202	4,202	4,202	4,202	4,202
Adj./Pseudo-R ²	0.279	0.258	0.210	0.209	0.349	0.345	0.257	0.271

Table VII
Robustness Checks

The following table reports the estimated coefficients from pooled OLS regressions of ETRs on *Military Experience*. *Control for Corporate Governance Index* controls for the corporate governance index (i.e., G-index), where the G-index is from Gompers, Ishii, and Metrick (2003). *Control for Institutional Ownership* controls for institutional ownership, defined as the latest quarterly level of institutional ownership. *Control for Total Pay-for-Performance* controls for CEOs' total pay-for-performance sensitivity, defined as the dollar change in pay for a one-dollar increase in firm value, divided by annual pay (Core and Guay 2002; Edmans, Gabaix, and Landier 2009). *Control for Local Religiosity* control for local religiosity of firm headquarters, defined as the number of religious adherents in the country (as reported by the American Religion Data Archive) to the total population in the country (as reported by the Census Bureau), at a firm's county level. *Using Personal Donation Records to Identify Political Affiliation* identifies managers' political affiliation based on their personal donation records. A manager is considered Republican if he or she only donates to Republican parties during the election cycles from 1991 to 2008 (Hutton, Jiang, and Kumar forthcoming). *Excluding Long-Career Military Managers* excludes those managers with more than six years of military service. *Alternative Industry Classification* uses 3-digit SIC industry classifications. *Excluding Defense/Military Industries* excludes firms in military industries. *Fama-MacBeth Regressions* report results estimated using Fama-MacBeth regressions at the yearly level with Newey-West standard errors adjusted with a 4-year lag. Robust standard errors are clustered at the firm level, and two-tailed *t*-statistics are reported in parentheses. Newey-West *t*-statistics (two-tailed) are summarized in brackets. We multiply the estimated coefficients on *Military Experience* have been multiplied by 100 for ease of reference. Only the estimated coefficients are reported below to conserve space.

<i>Descriptions</i>	Estimated Coefficients on <i>Military Experience</i>	
	Dependent Variables:	
	<i>Cash Effective Tax Rate</i>	<i>GAAP Effective Tax Rate</i>
	(1)	(2)
Control for corporate governance index	3.616 (3.20)	1.292 (1.96)
Control for institutional ownership	1.448 (2.27)	0.933 (2.49)
Control for total pay-for-performance sensitivities	1.428 (2.26)	1.008 (2.69)
Control for local religiosity	1.614 (2.07)	1.227 (3.02)
Using personal donation records to identify political affiliation	1.414 (2.25)	0.971 (2.62)
Excluding long-career military managers	1.927 (2.85)	1.125 (2.82)
Alternative industry classification	1.383 (2.07)	0.831 (2.01)
Excluding defense/military industries	1.606 (2.53)	0.928 (2.45)
Fama-MacBeth regressions	1.035 [1.94]	0.840 [2.24]
Controls/Fixed effects identical to:	Column (2) of Table II	Column (4) of Table II

Table VIII
Decomposing ETRs into Manager and Firm Fixed Effects

Panel A decomposes the variation in cash/GAAP ETRs into four components using the estimation method by Abowd, Kramarz, and Margolis (1999) (AKM): 1) manager fixed effects, 2) firm fixed effects, 3) firm-level characteristics (including year fixed effects), and 4) residuals. Panel B uses the manager fixed effects estimated under the AKM method as a dependent variable, where one fixed effect observation is estimated for each manager. To facilitate interpretation, the estimated coefficients in Panel B refer to beta coefficients, which are comparable within and across specifications. Robust standard errors are reported in parentheses.

Panel A: Decomposition of ETRs		
<i>Descriptions</i>	covariance(Cash ETR, component) variance(Cash ETR)	covariance(GAAP ETR, component) variance(GAAP ETR)
Manager fixed effects	0.538	0.498
Residuals	0.437	0.387
Firm-level characteristics	0.020	0.110
Firm fixed effects	0.005	0.005
<i>Total variation</i>	1.000	1.000
F-test that manager fixed effects = 0	2.43	2.59
Panel B: Explaining ETR Fixed Effects		
<i>Independent variables</i>	Dependent Variables:	
	<i>Cash ETR Fixed Effects</i>	<i>GAAP ETR Fixed Effects</i>
	(1)	(2)
Military experience	0.039 (1.98)	0.035 (1.95)
Age (average)	0.007 (0.39)	0.009 (0.47)
Tenure (average)	-0.010 (-0.70)	-0.004 (-0.23)
Male	-0.011 (-0.67)	0.013 (0.85)
MBA education	-0.032 (-1.80)	-0.016 (-0.86)
Great Depression	0.073 (3.46)	0.008 (0.47)
Graduation in recession	0.031 (1.74)	0.017 (0.93)
Overseas	-0.014 (-0.72)	-0.048 (-2.75)
Republican affiliation	-0.007 (-0.42)	0.048 (2.24)
% Stock options (average)	-0.001 (-0.07)	-0.002 (-0.15)
Constant	Yes	Yes
Number of observations	2,855	2,855
Adjusted-R ²	0.007	0.004

Appendix 1

Variable Definitions and Construction Details

Variable	Description/Construction Details
Main Variables	
Military experience	Indicator that equals one if a manager has previous military experience in the U.S. Air Force, Army, Marines, or Navy (or their foreign equivalents), or other related military experience, and zero otherwise.
Cash ETR	Cash effective tax rate: income taxes paid divided by pre-tax income minus special items ($TXPD/(PI-SPI)$). Truncated at $[0,1]$.
GAAP ETR	Effective tax rate: income taxes divided by pre-tax income minus special items ($TXT/(PI-SPI)$). Truncated at $[0,1]$.
Number of tax havens	Natural logarithm of one plus the number of tax havens reported in Exhibit 21 of a firm's 10K filings in year t ; these data are obtained from Scott Dyreng's website (Dyreng and Lindsey 2009).
Tax havens top user	Indicator that equals one when the number of tax havens reported in Exhibit 21 of a firm's 10-K filings is in the top quintile, and zero otherwise.
Firm Characteristics	
Return on assets	Return on assets in year t , scaled by lagged total assets ($(PI-XI)/Lag(AT)$).
Leverage	Long-term debt in year t , scaled by lagged total assets ($DLTT/Lag(AT)$).
NOL indicator	Indicator that equals one if loss carry-forward is positive as of the beginning of the year t (1 if $TLCF > 0$, and 0 otherwise).
Change in NOL	Change in loss carry-forward from year $t-1$ to year t , scaled by lagged total assets ($(TLCF-Lag(TLCF))/Lag(AT)$).
Foreign income	Foreign income in year t , scaled by lagged total assets ($PIFO/Lag(AT)$).
PPE	Property, plant, and equipment in year t , scaled by lagged total assets ($PPENT/Lag(AT)$).
Intangible assets	Intangible assets in year t , scaled by lagged total assets ($INTAN/Lag(AT)$).
Equity income	Equity income in earnings in year t , scaled by lagged assets ($ESUB/Lag(AT)$).
Firm size	Natural logarithm of the market value of equity at the beginning of year t ($\text{Log}(Lag(AT))$).
Market-to-book	Market-to-book ratio at the beginning of year t ($PRCC_{F^*}CSHPRI/AT$).
Research and development	Research and development expenditure in year t , scaled by lagged total assets ($XRD/Lag(AT)$). Missing values are replaced with zeros.
Managerial Characteristics	
Age	Age of manager.
Tenure	Number of years a manager has worked in a firm.
Male	Indicator that equals one if a manager is male, and zero otherwise.
MBA education	Indicator that equals one if a manager holds an MBA degree, and zero otherwise.
Great Depression	Indicator that equals one if a manager was born between 1920 and 1929, and zero otherwise (Malmendier, Tate, and Yan 2011).
Graduation in recession	Indicator that equals one if a manager graduates during an NBER recession year, and zero otherwise. A manager is assumed to graduate 24 years after birth (Schoar and Zuo 2014).
Overseas	Indicator that equals one if a manager was born outside the United States, and zero otherwise.
Republican affiliation	Indicator that equals one if a manager is a Republican.
% Stock options	Value of stock options granted divided by total compensation following Desai and Dharmapala (2006).
Born in south	Indicator that equals one if a manager was born in either Texas, Arkansas, Louisiana, Kentucky, Oklahoma Virginia, Alabama, Tennessee, Mississippi, Georgia, Florida, Maryland, Delaware, District of Columbia, North Carolina, or South Carolina.

Appendix 1 – *Continued*
Variable Definitions and Construction Details

Variable	Description/Construction Details
Other Variables	
Corporate governance index	The Gompers-Ishii-Metrick Index (“G-Index”) constructed to capture shareholder rights and corporate governance across firms. The index is obtained from Andrew Metrick’s website.
Institutional ownership	The latest quarterly level of institutional ownership in % from Thomson-Reuters 13f database prior to fiscal year end.
Class action lawsuit	Indicator that equals one if there is a class action lawsuit initiated in year t , and zero otherwise. These data from 1996 to 2010 are collected from the Stanford Securities Class Action Clearinghouse.
Options backdating	Indicator that equals one if a firm backdates its options granted to corporate insiders in year t , and zero otherwise. An option is considered backdated if the option is granted on the day when the share price hits the lowest price in a particular month (Bebchuk, Grinstein, and Peyer 2010). The sample data are from 1996-2005.
Financial restatement	Indicator that equals one if a firm has restated its financial statements in the GAO’s Financial Statement Restatement Database in year t , and zero otherwise; these data from 1997 to 2005 are obtained from Judson Caskey’s website.
Total current accruals	Indicator that equals one when the total current accruals of firm j in year t calculated using a modified Jones’ (1991) model are in the top quintile, and zero otherwise (Dechow, Sloan, and Sweeney 1995). The sample period runs from 1992 to 2011.
Discretionary current accruals	Indicator that equals one when the discretionary current accruals of firm j in year t calculated using a modified Jones’ (1991) model are in the top quintile, and zero otherwise (Dechow, Sloan, and Sweeney 1995). The sample period runs from 1992 to 2011.

Appendix 2

Lower Long-Run Tax Avoidance

This table reports the pooled OLS regression results. The dependent variables are *Long-Run Cash Effective Tax Rate* (upper panel) and *Long-Run GAAP Effective Tax Rate* (lower panel), respectively. *k*-year *Long-Run Cash ETR* is the sum of income taxes paid during the past *k*-year period divided by the sum of pre-tax income minus special items during the past *k*-year period. *k*-year *Long-Run GAAP ETR* is the sum of income taxes during the past *k*-year period divided by the sum of pre-tax income minus special items during the past *k*-year period. All long-run measures are truncated at [0,1]. Robust standard errors are clustered at the firm level, and two-tailed *t*-statistics are reported in parentheses. To improve readability, we multiply the estimated coefficients on *Military Experience* by 100.

<i>Independent variable:</i>	Dependent Variable: <i>k</i> -Year <i>Long-Run Cash ETR</i>			
	2-Year	3-Year	4-Year	5-Year
	(1)	(2)	(3)	(4)
Military experience	1.114 (1.75)	1.335 (2.04)	1.381 (2.01)	1.407 (2.09)
Number of observations	8,881	8,481	8,027	7,547
Adjusted-R ² (%)	0.180	0.187	0.198	0.188
Constant/Controls/Fixed effects	Identical to (2) in Table II			
	Dependent Variable: <i>k</i> -Year <i>Long-Run GAAP ETR</i>			
Military experience	1.014 (2.68)	0.941 (2.39)	1.016 (2.42)	1.025 (2.48)
Number of observations	8,890	8,526	8,107	7,679
Adjusted-R ² (%)	0.211	0.186	0.192	0.194
Constant/Controls/Fixed effects	Identical to (4) in Table II			

Appendix 3

Abowd, Kramarz, and Margolis (AKM) Estimation

Assume firm j 's effective tax rate (ETR) is driven by the following process:

$$ETR_{jt} = X_{jt}\beta + \theta_t + \gamma_j + \mu_m + \varepsilon_{it} \quad (\text{A2.1})$$

Where X_{jt} , θ_t , γ_j , μ_m , ε_{it} refer to time-varying firm characteristics, year fixed effects, firm j fixed effects, manager m fixed effects, and residuals, respectively. There are two limitations of this estimation method. First, in an OLS estimation framework with a reasonably large panel, firm and manager fixed effects cannot be separately estimated due to computational memory issues in most statistical packages. While either fixed effect can be “washed out” using within firm transformation (i.e., fixed effects transformation), the washed-out fixed effect cannot be subsequently recovered under traditional LSDV estimation. Second, even in a smaller panel sample, the recovery of firm and manager fixed effects is possible only when a firm j has at least one mover. If a manager never works in firms (other than firm j) and only one manager has ever worked in firm j , it is impossible to separately identify manager and firm fixed effects. This explains why previous studies rely on mover samples to estimate the influence of manager fixed effects (Bertrand and Schoar 2003).

To overcome this computational issue, AKM propose to estimate high-dimensional fixed effects using a connectedness sample. The idea is to estimate manager and firm fixed effects using mover and non-mover samples together. First, form an arbitrary group 1 for manager m and identify each of the firms for which manager m has ever worked. Second, add into the group all other managers who have ever worked in any of those firms. Third, repeat the above two procedures until no more managers are connected to the arbitrary group 1. Last, form another arbitrary group 2 for another manager. Continue to add connected managers into group 2 until all possible connections are exhausted. Repeat all three steps for all remaining managers until exhausted. AKM (1999) show that, with these looping procedures, a small mobility can offer a rich amount of data for estimation. Even if a manager has never worked in another firm, the manager fixed effect can be recovered as long as other managers previously worked in the same firm. The baseline regression in A2.1 in this connected sample is then modified as below:

$$ETR_{jt} = X_{jt}\beta + \theta_t + \sum_{j=1}^J C_{jmt}\gamma_j + \mu_m + \varepsilon_{it} \quad (\text{A2.2})$$

C is an indicator variable that equals one when manager m works in firm j in year t . Then, average equation A2.2 across time and arrive at the following equation:

Appendix 3 – *Continued*
 Abowd, Kramarz, and Margolis (AKM) Estimation

$$\overline{ETR}_j = \bar{X}_j\beta + \bar{\theta} + \sum_{j=1}^J \overline{C_{jm}}\gamma_j + \mu_m + \bar{\varepsilon}_l \quad (\text{A2.3})$$

where the bar refers to the average. Subtract A2.3 from A2.2 to get a time demeaned regression, where firm fixed effects can be estimated using LSDV method when manager fixed effects μ_m are washed out:

$$(ETR_{jt} - \overline{ETR}_j) = \beta(X_{jt} - \bar{X}_j) + (\theta_t - \bar{\theta}) + \sum_{j=1}^J (C_{jmt} - \overline{C_{jm}})\gamma_j + (\varepsilon_{it} - \bar{\varepsilon}_l) \quad (\text{A2.4})$$

After estimating A2.4, the manager fixed effect can be recovered using the following equation:

$$\widehat{\mu}_m = \overline{ETR}_j - \bar{X}_j\hat{\beta} - \sum_{j=1}^J \overline{C_{jm}}\hat{\gamma}_j \quad (\text{A2.5})$$

where the hat refers to the estimated coefficient. The demeaned time effects are assumed to be zero as a benchmark. For details of estimation and the properties of AKM estimates (including unbiasedness and consistency), please refer to AKM (1999) or Graham, Li, and Qiu (2012). For code to implement the test, contact the authors.