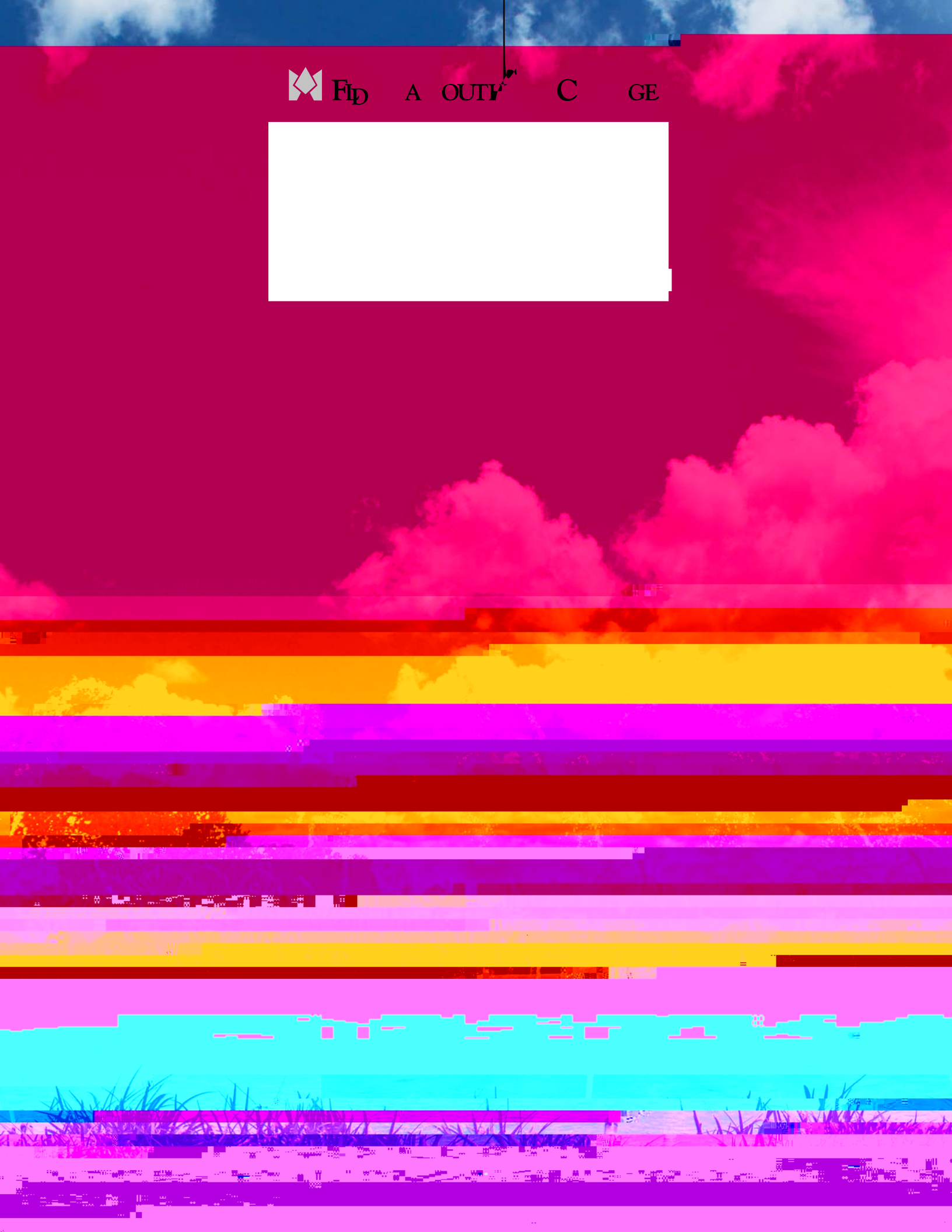
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The Impact of Tax Investment Incentives: A Review of the Academic Literature

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ABSTRACT

Federal tax policies o en have involved tax incentives intended to increase capital spending by businesses and promote economic growth. Bonus depreciation and/or accelerated depreciation, along with investment tax credits and increased Section 179 expense deduction allowances, have been very popular incentives used by Congress in the past few decades to stimulate business spending. Economic theory states that a decline in the total cost of productive assets would spur an increase in the quantity demanded, because, all else equal, lowering the cost of any item increases the quantity demanded of that item. Basically, lowering the cost of an asset is an incentive to invest more and to produce more. Empirical research on the impact of tax incentives on economic growth has proven to be inconclusive, even though Congress is still implementing tax incentives to stimulate economic growth. This article provides a literature review of the results of prior empirical studies that examine the impact of various tax policy incentives on capital investment decisions. This review illustrates why academic research does not inform tax policy discussions. *Key words: Tax incentives, economic growth, tax policy*

Introduction

Economists o en recommend increasing capital investment spending by reducing the cost of capital through tax incentives such as accelerated depreciation and the investment tax credit. Federal tax policies o en have involved tax incentives intended to increase capital spending by businesses and promote economic growth. Accelerated depreciation was introduced in 1954, followed by the investment tax credit in 1962. Those who framed the 1954 Internal Revenue Code characterized it as a comprehensive revision undertaken "to remove inequities, end taxpayer harassment, and lower tax barriers to economic growth" (Schindler, 1959, 616). Within this framework, accelerated depreciation was designed "to assist modernization and to promote industrial expansion which in turn would foster increased production and a higher standard of living" (Schindler 1959, 616).

In 1981, the Accelerated Cost Recovery System (ACRS) provided sharp increases in depreciation benefits; however, the Tax Reform Act of 1986 modified accelerated depreciation and repealed the investment tax credit. The Job Creation and Worker Assistance Act of 2002 and the Growth Tax Relief Reconciliation Act of 2003 both provided depreciation tax incentives of some kind in the year of acquisition of a long-lived asset. The American Jobs and Creation Act of 2004 extended many of these incentives through December 31, 2005. The Economic Stimulus Act of 2008 provided additional depreciation incentives and increased the Section 179 deduction, and the American Recovery and Reinvestment Act of 2009 extended them. The Small Business Jobs and Credit Act of 2010 substantially increased the incentives. The American Taxpayer Relief Act of 2012 extended bonus depreciation and Section 179 expensing through 2013. Congress extended the incentives retroactively for 2014 at the eleventh hour with the passage of the Tax Increase Prevention Act of 2014. For tax years beginning a er 2014, the increased section 179 expense deduction limit and threshold amount before reduction in limitation will no longer apply (unless Congress acts). Congress intended for these incentives to promote capital investment and to generate economic growth. However, the rules have been changed so frequently and o en retroactively as to potentially impact the e ectiveness of the incentives.

Such frequent use over the past 50 years suggests that Congress believes that tax incentives are an e ective tool for promoting capital investment and economic growth. The theory behind the use of tax incentives is that accelerated tax deductions and other investment tax credits reduce the cost of capital needed to purchase new investments through the time value of money. The Congressional House Committee relied on this theory when implementing the Job Creation and Worker Assistance Act of 2002 and the Growth Tax Relief Reconciliation Act of 2003. The committee felt that bonus depreciation incentives would stimulate equipment purchases and foster economic recovery by increasing employment and expanding business opportunities (U.S. Congress 2003). However, despite the continued use of tax investment incentives by policy-makers, academic research concerning the e ectiveness of tax incentives has provided inconclusive findings. The conclusions drawn by researchers examining the sensitivity of investment to changes in the cost of capital are a ected by the assumptions, the methods of analysis, and the statistical techniques used by the researchers. Therefore, there are sizable bodies of research on both sides concerning the e ectiveness of tax policy investment incentives. The remainder of this article provides a

literature review of the results of prior empirical studies that examine the impact of various tax policy incentives on capital investment decisions. This review illustrates why academic research does not inform tax policy discussions.

Literature Review

The enactment of accelerated depreciation for tax accounting in 1954 drew the attention of academic researchers. The first article that appeared in 1962 was a call for research into this area and a steady stream of studies has followed, albeit with conflicting results.

Early Studies

The first study expressed the hope that academic research on the impact of cost recovery tax incentives would expand and be useful to tax policymakers. In 1962, E.C. Brown wrote an article discussing the investment process and the impact that fiscal policy could potentially have on it. Brown (1962) discusses the modified depreciation adjustments of 1954, and the potential impact of the tax credit recommended by the Kennedy Administration, a tax credit intended to stimulate investment in plant and equipment. Brown discusses the differences between depreciation adjustments and tax credits and analyzes the potential impacts these tax incentives could have on investment behavior. Brown (1962) concludes that investment-stimulating devices, such as depreciation adjustments and investment tax credits, are a fascinating chapter in fiscal policy and deserve detailed study. Brown urges research in this area and he states, "If economists are to be useful to those designing policy, it behooves us to press on with our study of investment decisions to give them breadth and depth comparable to our knowledge of consumer behavior" (Brown 1962, 344).

Prior to the 1967 article, "Tax Policy and Investment Behavior" by Hall and Jorgenson, very little, if any, empirical research concerning the impact of tax policy incentives had been performed. The purpose of their research was to study the relationship between tax policy and investment expenditures using the neoclassical theory of optimal capital accumulation (Hall and Jorgenson 1967). Hall and Jorgenson examined the e ects of accelerated depreciation methods adopted in 1954 and the investment tax credit of 1962. They also investigated the depreciation guidelines of 1962 and considered the hypothetical e ects of adoption of first-year write-o in 1954 as an alternative to accelerated depreciation.

Hall and Jorgenson (1967) used data on investment expenditures for structures and equipment separately, for both manufacturing and non-farm, non-manufacturing sectors of the U.S. economy for the years 1929–63. Based on their research findings, Hall and Jorgenson (1967) concluded that the e ects of accelerated depreciation were very substantial, especially for investment in structures, and that the depreciation guidelines of 1954 were significant with respect to investments in equipment. Hall and Jorgenson (1967) also concluded that the e ects of the investment tax credit of 1962 were dramatic and le no doubt about the impact of tax policy on determining investment behavior. Their overall conclusions were "that tax policy is highly e ective in changing the level and timing of investment expenditures" and "that tax policy has had important e ects on the composition of investment" (Hall and Jorgenson 1967, 392).

Jorgenson and Siebert (1968) extended the prior research by studying the theory of corporate investment behavior based on the neoclassical theory of optimal capital accumulation in more detail. The neoclassical theory of corporate investment behavior assigns an important role to the cost of capital and also considers the rate of change of the price of investment goods. Changes in this price result in capital gains and losses that must be included in the calculation of economic profit or loss; holding all else constant, a high rate of change of prices of investment goods should provide an incentive to use more capital, while a low rate of change should serve as a disincentive (Jorgenson and Siebert 1968). The price of capital depends on the cost of capital, the price of investment goods, the rate of change in the price of investment goods, and the tax structure (Jorgenson and Siebert 1968). Under this theory, the firm chooses a production plan that will maximize its value. Jorgenson and Siebert (1968) evaluated the e ects of inflation on the level of investment, along with other determinants, including the cost of capital, the level of prices on investment goods, and the tax structure.

Jorgenson and Siebert (1968) attempted to avoid biases that could arise from inappropriate homogeneity assumptions by analyzing the data using both time series and cross-sectional models. Jorgenson and Siebert (1968) developed two alternative versions of the neoclassical model of investment. In the first model, the rate of change of the price of investment goods is assumed to influence investment decisions directly. The second model assumes that the rate of change of the price of investment goods is transitory and without direct e ect on investment behavior. These two models were used to evaluate investment behavior for 15 large manufacturing firms from a wide variety of industry groups. Jorgenson and Siebert (1968) concluded that inflation does have an impact on investment and should be taken into account when performing research, but they also supported previous research and concluded that the theory of corporate investment behavior based on the neoclassical theory of optimal capital accumulation does su ce to explain corporate investment behavior.

Coen (1968) performed research based on the accelerated depreciation incentives implemented in 1954, the investment tax credit of 1962, and the tax rate reductions provided by

the Revenue Act of 1964. This research utilized two models to investigate the influence of tax incentives on investments. These models provided results that contradicted the earlier findings of Hall and Jorgenson. According to the model developed by Coen, a reduction in the user cost of capital will produce a one-shot increase in the desired stock of capital (Coen 1968, 209). Policies that produced an estimated $5.1 billion in tax savings in manufacturing from 1954 through mid-1962 increased manufacturing capital expenditures by only $2.0 billion during the same period, and policies that produced an estimated $8.6 billion in tax savings from mid-1962 through the third quarter of 1966 increased expenditures by only $2.8 billion (Coen 1968, 210). Coen (1968) concluded that the performance of the tax incentives has been disappointing but does admit that a decisive judgment on the e ectiveness of tax incentives is impossible unless one is willing to accept the merits of his two investment models.

Taubman and Wales (1969) studied the impact of investment tax subsidies in a neoclassical growth model, in particular the 1962 tax credit and the switch from straight-line depreciation to

from 1954 resulted in a reduction of the cost of capital of 7.67 percent, causing a 22.4 percent increase in production plant expenditures from 1957 through 1969. Rennie (1977) also determined that the 1962 investment tax credit reduced the rental cost of capital by 2.57 percent and increased the capital stock by 12.72 percent from 1965 through 1969. This study found that the suspension of the investment tax credit in 1966 resulted in decreases of capital stock, the 1967 reinstatement resulted in subsequent increases, and the repeal of 1969 resulted in decreased amounts. Based on his research findings, Rennie (1977) concluded that tax-policy incentives did indeed a ect the amount and timing of fixed investments in the private class A and B electric utility industry. Studies in the 1970s saw the introduction of new methods and approaches.

segments of the economy. The results of these studies showed a generally positive impact from tax investment incentives; although depreciation incentives were found to be superior to the investment tax credit.

Studies A er 1981 and Prior to the Tax Reform Act of 1986

The Accelerated Cost Recovery System (ACRS), introduced in 1981, was the most liberal allowance of cost recovery in the history of income taxation in the U.S. For the first time the recovery period allowed for tax purposes was shorter than the economic useful life. In addition, accelerated depreciation was prescribed and investment credits were allowed. These capital recovery allowances amounted to virtual expensing of eligible equipment. With these developments, research continued into the early 1980s.

Coen and Hickman (1984) studied the long-run e ects of tax-policy incentives based on simulations using the Hickman-Coen Annual Growth Model. This model was designed to study U.S. economic growth for intermediate and long-run time periods, and analyze business investment, among other items. This study considered four separate scenarios involving changes in tax policies. Coen and Hickman (1984) concluded that changes in personal income taxation do not have permanent e ects on economic activity, but that the outcome is strikingly di erent for a tax-policy incentive directly a ecting business investment. Their results indicated that depreciation liberalization under the 1981 tax act raised the level of long-term growth by over one percent and that these tax-policy incentives also foster a permanently higher level of productivity.

Bosworth (1985) investigated the impact of the tax policy changes that occurred in 1981 and 1982 on investment expansion in the early 1980s. Overall, investment spending increased during the sample period. The increases, however, were not correlated with the asset categories receiving the largest tax incentives. Results showed no correlation between the investment growth in certain asset categories and the relative tax incentives for each category. Bosworth (1985) noted that o ce equipment and automobiles accounted for almost 93 percent of the growth in this study, but the legislation of 1981 and 1982 provided no changes or incentives for automobiles, and they actually decreased the rates on computers. Results indicated that depreciation allowances can greatly increase cash flow in the short run, but have a smaller e ect on the price of an asset over its lifetime. Bosworth (1985, 34) stated that his results "need not imply that the neoclassical model of investment behavior is wrong in its focus on changes in the price of capital". Overall, Bosworth (1985) beli0.1 (ds,)6oly th

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cluded that tax policy incentives over the sample period did increase agricultural spending on equipment and structures, giving support to the impact of tax incentives.

In summary, the period between 1981 and 1986 was the time of the most generous capital recovery allowances in the history of U.S. income taxation and researchers delved into the e ectiveness of these liberal incentives. One conclusion that can be drawn from academic research during this time period is that the e ectiveness of the incentives was di erent across asset classes. Another lesson learned from academic research during this period was that the complexity of the tax system may result in di erent outcomes in practice. Studies later in this period began to question assumptions on which this line of research relies and thus cast doubt on the e ectiveness of the investment incentives.

Post-Tax Reform Act of 1986 Studies

The Tax Reform Act of 1986 made significant modifications in the allowance of capital recovery costs. The investment tax credit was repealed. ACRS was replaced by Modified Accelerated Cost Recovery System (MACRS). MACRS lengthened the recovery period over which depreciation is calculated.

Auerbach and Hassett (1992) derived and estimated models of investment behavior and studied how tax policy investment incentives impacted this behavior. Their estimates suggested that tax policy incentives that lower the user cost of capital have played an important role in investment behavior, particularly for investment in machinery and equipment. Auerbach and Hassett (1992) concluded that tax policy changes a ect the level and pattern of investment significantly, although their impact has not always been a stabilizing factor. They believed that further work was needed to explore the various impacts that tax policies could have on investment behavior before any definitive conclusions could be drawn.

Cummins and Hassett (1992) analyzed disaggregated firm-level investments impacted by the Tax Reform Act of 1986. The Tax Reform Act of 1986 repealed the investment tax credit and generally extended depreciation lifetimes, both of which could potentially impact capital investments. Cummins and Hassett (1992) found strong evidence of the impact of tax policy on investment and concluded that there is a significant relationship between the cost of capital and equipment investment. They also concluded that there was a strong relationship between the cost of capital and structures investment.

Davis and Swenson (1993) studied the impact of tax incentives on the demand for capital investments by developing controlled laboratory markets. Prior research, such as Chirinko (1986), had noted the di culties in this area of econometric research caused by the numerous estimations needed, including (1) purchase cost of a unit of capital, (2) financial cost of capital, net of inflation, (3) rate of depreciation, (4) rate of income taxation, (5) rate of investment credit, (6) net cost of debt finance, and numerous other estimations. According to Davis and Swenson (1993), the di culties in calculating proper estimates for these variables highlight the general limitations of econometrics in certain settings. They chose, therefore, to create a laboratory model to eliminate these restrictions. The results of their experiments did not support the neocfor c
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3.5–7.0 percent, so a large part of the subsidy's reduction in the e ective purchase price of equipment for investing firms is simply lost to the capital suppliers. Goolsbee stated, "Only about 60 percent of investment subsidies go to the buyers, with the remaining 40 percent going to capital suppliers" (1998, 138). Overall, results indicated that investment spending was responsive to investment tax policy, but in the short run, the increased demand for investment mainly increased capital goods prices rather than quantities. Goolsbee (1998) claimed these results indicated that investment tax subsidies might provide largely unintended benefits for capital suppliers.

A study by Hassett and Hubbard (1998) examined whether investment tax incentives were blunted by changes in prices of capital goods. This study explored this topic by estimating the extent to which industrialized countries are price takers in the world market for capital goods. Results from the study indicated that most countries, including the United States, face a highly elastic supply of capital goods, suggesting that the e ect of investment incentives on the price of investment goods is small. Therefore, tax policy investment incentives were likely to result in real investment rather than simply being dissipated in changes in capital-goods prices.

A later study by Goolsbee (2000) examined the potential bias arising from measurement error in the cost of capital and the impact this bias could create when studying the impact of investment incentives. Using panel data on di erent types of capital equipment, Goolsbee (2000) tested for the presence of measurement error in the tax term and calculated the implied size of such an error, and he examined how important the measurement error is for conventional estimates of investment. Findings provided direct evidence of measurement error in the tax component of the cost of capital accounting for about 20 percent of the tax term's variance. A er correcting for the error, Goolsbee (2000) concluded that taxes significantly a ect both prices and investment and that conventional results may be o by as much as a factor of four.

Studies in the era a er the Tax Reform Act of 1986 showed mixed results. Some studies showed evidence that the incentives had been e ective; while others did not. New methods and approaches such as laboratory experiments were tried in order to overcome perceived shortcomings in previous research e orts. The idea that suppliers raised prices, thus negating the benefits of the tax incentives, was explored. As earlier studies had concluded, the e ectiveness of the investment tax credit was found to be lacking. Additional concern was expressed about the uncertainty and instability of the policy towards investment incentives. Another study faulted previous research and stated that policymakers enact tax incentives to influence economic behavior despite the fact that the benefits have not been proven. The research of this period is generally more critical of prior studies and also provokes more skepticism about the e ects of investment incentives. ementrices 4.53ti

utilizing various techniques. The majority of prior empirical

Study	Conclusion
Hall and Jorgenson 1967	Tax policy is highly e ective in changing the level and timing of investment expenditures and tax policy has had important e ects on the composition of investment expenditures.
Jorgenson and Siebert 1968	Inflation does have an impact on investment and should be taken into account when performing research, but also concluded that the theory of corporate investment behavior based on the neoclassical theory of optimal capital accumulation does su ce to explain corporate investment behavior.
Coen 1968	Tax policy incentives had been disappointing and resulted in only minimal increases in investment of capital expenditures.
Taubman and Wales 1969	Tax policy incentive output is higher in the new state than would have occurred with no tax incentives; however the overall impact of these tax incentives falls short of their intended results.
Chisholm 1974	Tax policy incentives did substantially change the optimal replacement age for farm machinery, providing evidence that tax policy does influence investment behavior.
Coen 1975	Accelerated depreciation methods increased the present values of tax depreciation relative to economic depreciation by about ten percentage points, indicating that tax depreciation incentives do have an impact on investment behavior.
Brimmer and Sinai 1976	Tax reform would bring a significant improvement in capital formation and business liquidity; however tax incentives are not necessarily the most e ective strategy to use to accomplish these tasks.
Parker and Zieha 1976	Increasing the rate of investment credit from seven percent to ten percent was not su cient to o set the penalty resulting from tax accounting on the historical cost basis, given recent inflation experience in the United States.
Rennie 1977	Tax policy incentives did indeed a ect the amount and timing of fixed investments in the private class A and B electric utility industry.
Coen and Hickman 1984	Depreciation liberalization under the 1981 tax act raised the level of long-term growth by over one percent and these tax policy incentives foster a higher growth rate and a permanently higher level of productivity.
Bosworth 1985	The tax system has become so complex that tax policy incentives intended to promote certain activities may result in far di erent outcomes in practice.
Chirinko 1986	Investment behavior may respond to tax policy incentives, but significant supporting empirical evidence has yet to be generated.
Shapiro 1986	

Auerbach, A.J. and K.A. Hassett. 1992. Tax policy and business fixed investment in the United States. *Journal of Public Economics*, 47, 141–170.

Bosworth, B.P. 1985. Taxes and the investment recovery. *Brookings Papers on Economic Activity*, 1, 317–348.

Brimmer, A.F. and A. Sinai. 1976. The e ects of tax policy on capital formation, corporate liquidity, and the availability of investible funds: a simulation study. *The Journal of Finance*, 31(2) (May), 287–309.

Brown, E.C. 1962. Tax incentives for investment. *The American Economic Review*, 52(2) (May), 335–345.

Bunker, R.B. and W.F. Shughart. 2014. The economic impact of tax investment incentives: An analysis of the Gulf Opportunity Zone Act of 2005. *Advances in Taxation*, 21, 173–200.

Chirinko, R.S. 1986. Business investment and tax policy: A perspective on existing models and empirical results. *National Tax Journal*, 39(2) (June), 137–155.

Chisholm, A.H. 1974. E ects of tax depreciation policy and investment incentives on optimal equipment replacement decisions.

Taubman, P. and T.J. Wales. 1969. Impact of investment subsidies in a neoclassical growth model. *The Review of Economics and Statistics*, 51(3) (August), 287–297.

United States Congress, Conference Committee. 2003. Conference Committee Report.

H.R. Conference Report No. 108–126. P.L. No. 108–27.

Wasylenko, Michael. 1997. Taxation and economic development: the state of the economic literature. *The New England Economic Review*, Mar/Apr, 37–52.

Can Ethical Training of College Students A ect Their Ethical Values?

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Abstract

The ethical climate in the business world continues to decline. Some educators believe that integrating ethics education across the curriculum may be e ective in improving that ethical climate. This exploratory study assesses changes in student attitudes about ethical situations at the beginning and end of an accounting program at a small AACSB institution. Assessments are made using the Defining Issues Test (DIT-2) and the Multi-dimensional ethics scale (MES). The Defining Issues Test (DIT-2) is used to evaluate a change in the level of moral reasoning of accounting students a er completion of their accounting program. The Multi-dimensional Ethics Scale (MES) is used to measure changes in ethical sensitivity related to justice, relativism, deontology, utilitarianism, and egoism a er completion of an accounting program. This study confirms significant changes in levels of moral reasoning and changes in ethical sensitivity even when controlling for age, gender, and what students already knew when entering the accounting program. It is the hope that more colleges and universities will require ethics education which could result in more ethical future accounting professionals and a more ethical business climate.

Introduction

The lack of ethics in business undermines the free enterprise system…profit or greed o en over-powers ethics (Iancu et al. 2010). What is ethics? Generally, ethics refers to standards of right and wrong that describe what an individual ought to do. However, an individual's interpretation of what is right and wrong may vary based on many factors, including the concepts of justice, fairness, personal beliefs, family beliefs, societal obligations, the cost of one decision over another, and specific virtues.

Williams and Dewett (2005) identified several common goals of business ethics education including enhancing student's awareness and sensitivity towards consequences of their actions, promoting student's moral development, and promoting the ability to handle complex ethical decision making. Is a general business ethics course su cient for exposing our accounting students to the dilemmas they may face as accounting professionals? Can ethics education increase levels of moral development? Few studies have attempted to measure the impact of ethics education at the program level. This exploratory study attempts to empirically assess changes in attitudes about ethical situations a er completing an accounting program at a small AACSB accredited institution.

Russell and Smith (2003) identified that a primary contributing cause of corporate malfeasance (such as Enron and Worldcom) is because accounting programs have not significantly adapted their methods of instruction or approach to accounting and management education over the last 60 years. A er these scandals, the AACSB Ethics Education Task Force encouraged business schools to commit to teaching ethical responsibility at both the individual and corporate levels (AACSB 2004). In addition, many accounting students will need to fulfill an ethics requirement before sitting for the CPA Exam. Texas was the first state to require that a CPA candidate complete a board approved 3-semester-hour ethics course before sitting for the CPA exam. Further, many states require that a CPA candidate pass an ethics exam covering ethical and professional conduct before receiving their CPA license.

Researchers suggest that formal ethics education can promote higher development of ethical reasoning (Ponemon 1993; Armstrong 1993) while others question whether ethics can be taught (Geary and Sims 1994). Although few educational institutions are willing to devote entire courses to teaching ethics (Gutz and McCutcheon 1998), most schools agree that some ethics should be incorporated within the accounting curriculum (Gunz and McCutcheon 1998, Cohen and Pant 1989). A survey of accounting faculty suggests that integration across the curriculum is preferred rather than a stand-alone course (Blanthorne et al. 2007). Therefore, many educational institutions attempt to integrate ethics across the curriculum (rather than o ering an accounting ethics capstone course). However, a primary concern that complicates this issue is that there is a significant amount of content to teach and time is already a scarce resource in most courses (Stape 2002, Loeb 1988).

This study explores changes in ethical sensitivity over a three year time period where ethics is integrated throughout the curriculum. Through the use of a pre-test/post-test methodology, changes in ethical sensitivity and levels of moral reasoning for this sample of accounting students are measured. This study extends ethics research by formally assessing the

outcomes of ethics interventions using (1) the DIT-2 to assess the level of moral reasoning of accounting students and (2) the MES with vignettes developed by Cohen et al. (1998, 1996, 1993) for evaluation of ethical situations in business and accounting contexts.

Literature Review

There are many ethical theories and models to explore; however, this paper will briefly discuss three major ethical theories relevant to this study: The Defining Issues Test (DIT) and its later version (DIT-2), and the Multi-dimensional Ethics Scale (MES).

Defining Issues Test (DIT and DIT-2)

The Defining Issues Test (DIT) developed by Rest (1979) and a later version, the DIT-2, refined by Rest et al. (1999) evolved based on Kohlberg's (1969) six-stages of moral development. Rest (1983, 1994) posits that resolution of an ethical dilemma involves a complex process involving (1) making an ethical judgment of an ideal solution to a particular dilemma, (2)

justice, it is expected that accounting students will demonstrate more ethical judgment related to justice. A student should have the ability to demonstrate more ethical judgment related to justice by identifying unethical actions as more unjust a er completion of the program and identifying ethical actions as more just a er completion of the accounting program. Therefore; H2 is presented below.

> **H2:** A er completing an accounting program which has integrated ethics education into the curriculum, accounting students are more likely to identify justice when evaluating ethical dilemmas.

Relativism

The theory behind relativism suggests that morality and ethical actions are relative to the rules and norms within one's culture. This implies that certain rules may not be acceptable in one culture but may be acceptable in another; suggesting that the same rules do not apply to everyone equally. Ethical relativism suggests that moral rightness and wrongness of actions varies from society to society and that there are no absolute universal moral standards binding on all men at all times; what is right in one society may be wrong or neither right nor wrong in another society (Ladd 1973). Further, ''cultural relativism maintains that there is an irreducible diversity among cultures because each culture is a unique whole with parts so intertwined that none of them can be understood or evaluated without reference to the other parts and to the cultural whole'' (Ladd 1973, 2). Many ethical evaluations are grounded by important relationships that have shaped ones' attitudes about right and wrong.

Nguyen et al. (2008) found no support for changes in relativism a er a one semester business ethics course; however, Shawver (2009) found some support for changes in ethical judgments related to relativism a er a one semester accounting professional responsibility course. Many students will come to college with a strong sense of their own family values. Although these values may not change as a result of the accounting program, students may experience changes to how they interpret their existing family values and increase learning in the areas of what is culturally and traditionally acceptable. Therefore; H3 is presented below.

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Deontology

Kant (1980) described moral law in relation to the Categorical Imperative suggesting that one should act only in accordance with maxims (rules) that could be universally accepted. Further, this imperative states that one should never act in such a way that treats others as a means only but always as an end in itself. Interpretations of these ideas introduce concepts of respect for persons and treating people as subjects who perform an act rather than an object which is acted upon. Deontological actions have been described as those with a focus on unwritten or implied contracts when evaluating principles of right and wrong. Reidenbach and Robin (1990) suggested that deontology may be the preferred ethical philosophy, although critics argue that no matter which rule applies to any situation there are always exceptions to every rule.

Accountants have a professional obligation to society to act ethically and maintain integrity which extends to accurate financial reporting. Accounting ethics education should expose students to their professional responsibilities to the public and professional codes of conduct; increasing the likelihood that a student would consider deontological obligations in their ethical evaluations. Prior research has shown some changes related to deontology a er ethics interventions (Nguyen et al. 2008, Shawver 2009). Therefore; H6 is presented below.

> **H6:** A er completing an accounting program which has integrated ethics education into the curriculum, accounting students are more likely to identify deontology when evaluating ethical dilemmas.

Evaluating Ethical Dilemmas Using Vignettes

Flory et al. (1993) suggested that specific subtleties, external pressures, internal pressures and changes in an ethical situation can change both ethical judgments and behaviors. Bebeau (1994) suggest that ethical sensitivity can be enhanced through instruction. Therefore, this study will explore the changes in ethical sensitivity for five contemporary moral philosophies of justice, deontology, relativism, egoism, and utilitarianism using the MES. The four vignettes developed by Cohen et al. (1998, 1996, 1993) are used for their application to accounting and business situations to explore these changes.

There are few studies that have attempted to assess changes to attitudes as a result of ethics education. Nguyen et al. (2008) assessed changes in ethical judgment as a result of a one semester business ethics course and Shawver (2009) assessed changes in ethical judgment as a result of a one semester accounting professional responsibility course. Nguyen et al. (2008) explored three situations involving sales and marketing issues and found that ethics learning was only significant in contractualism (deontology) ethics for a situation involving selling a new automobile with repeated transmission problems. Shawver (2009) explored changes in ethical evaluations using eight situations involving laying o workers (V1), promoting products with insu cient product testing (V2), o ering foreign bribes (V3), sharing so ware (V4), shipping products early to meet a quarterly bonus (V5), extending credit (V6), expensing personal gi s as a business expense (V7) and reducing the estimate for bad debts to increase reported income (V8). Shawver hypothesized that changes in these moral philosophies would occur as a result of ethics education. Statistical di erences were found in many of the scenarios for at least one philosophy as a result of the ethics intervention. Statistical changes in reasons of justice occurred in six of the eight scenarios (all scenarios but V2 and V8), changes in reasons of deontology occurred in three situations (statistically significant in V4, V6, V7), changes in utilitarianism occurred in V4, and relativism in V5, but no significant changes were found for egoism as a result of a one semester ethics intervention (Shawver 2009). The contribution to the literature of this study is that it attempts to measu0C (Th.023 Tc3i666 Tw -21.c -0.05pt

Does Learning in the Area of Ethical Judgment Lead to Better Ethical Intentions?

Shawver and Sennetti (2009) suggested that a composite MES score is a way to measure a student's improvement in ethical sensitivity. The composite MES is defined as "a relative comparison to measure (explain) a student's improvement in sensitivity in the respondents' perceived concept of justice, rightful obligation, and so forth" (Shawver and Sennetti, 2009,

on a 7-point Likert scale ranging from "ethical" to "unethical". Each participant rates the action in the vignette identifying an agreement with a philosophical value with a response closer to 7 and disagreement closer to 1 (note that some responses are reverse coded prior to beginning the data analysis). The questions for justice consist of responding to each action ranging from "just/unjust", "fair/unfair", and "morally right/not morally right". The questions for relativism consist of responding to each action ranging from "acceptable to my family/not acceptable to my family", "culturally acceptable/culturally unacceptable", and "traditionally acceptable/traditionally unacceptable". The questions for egoism consist of responses to "self-promoting for the actor/not self-promoting for the actor" and "personally satisfying for the actor/not personally satisfying for the actor". The questions for utilitarianism consist of responses to "produces maximum utility/produces

Justice

H2 expects that as a result of completing the accounting program, accounting students are more likely to use justice in evaluating ethical dilemmas. At the beginning of the accounting program, most students have identified that these vignettes are unethical for reasons of justice (unjust, unfair, not morally right). At the end of the accounting program, the attitudes about justice changes significantly in two out of four of the vignettes (V3 and V4). In V3, the only action that is ethical, the students have indicated that they believe the decision not to expense personal items as a business expense is more just a er completion of the accounting program. In V4, the students have indicated that adjusting bad debts to increase reported income is more unjust a er completion of the accounting program. An understanding of issues related to justice provides an important foundation for ethical decision-making. H2 is supported.

Relativism

H3 expects that as a result of completing the accounting program, accounting students will demonstrate more ethical judgment related to relativism. In this study, there are two significant changes to attitudes regarding relativism (V3 and V4). In V3, the only action that is ethical, the students have indicated that they believe the decision not to expense personal items as a business expense is more relativistic (scores closer to 7). This may indicate a belief that students have identified that this ethical action is more acceptable to their family, traditions, and culture a er completion of the accounting program. In V4, students perceive the action of adjusting bad debts to increase reported income as less relativistic (scores closer to 1). This may indicate a belief that students have identified that this unethical action is less acceptable to their family, traditions, and culture a er completion of the accounting program. These results have important implications for the accounting profession. It is essential that students have an understanding that earnings manipulation is not an acceptable accounting practice prior to entering the profession. H3 is supported.

Egoism

H4 expects that as a result of completing the accounting program, accounting students will demonstrate more ethical judgment related to egoism. Egoism became more significant for V1, where sales manager continues to promote a product that has had insu cient testing. These participants identified the action of promoting a product with insu cient product testing as more self-serving to the sales manager in the scenario. Since egoism had only 1 statistically significant change out of the four vignettes, H4 is partially supported.

Utilitarianism

H5 expects that as a result of completing the accounting program, accounting students will demonstrate more ethical judgment related to utilitarianism. V1, V2, and V4 all have significant changes to perceptions that the three unethical actions have less utility a er completing the accounting program. In V3, the only ethical choice, students have identified that this action has more utility a er completing the accounting program. These results may be significant for the accounting profession. As accountants we are trained to analyze the costs and benefits of each decision we are about to make; utilitarianism principles are applied in many of our decisions. H5 is supported.

Deontology

H6 expects that accounting students are more likely to use deontology in evaluating ethical dilemmas a er completing the accounting program. H6 is supported for one vignette (V4 Bad Debt). The deontological view can be significant for accountants; o en accountants are expected to provide assurance services that benefit society. A significant change in deontology for V4 may indicate that a er completing their accounting program accounting students recognize that earnings manipulations not only a ect one's immediate surroundings but society at large.

Learning in Ethical Judgment

Because evaluation of ethical dilemmas may involve applying

Conclusions And Areas For Future Research

Accounting professors have a unique opportunity to educate

Cruz, C. A., W. E.Shafer, and J. R. Strawser. 2000. A multidimensional analysis of tax practitioner's ethical judgments. *Journal of Business Ethics*, 24(3), 223–245.

Duncan, J. R., & J. A. Knoblett. 2000. Investigating behavioral antecedents of earnings management: Moral reasoning, earnings pressure, and likelihood of detection. *Research on Accounting Ethics*, 6, 27–66.

Earley, C.E., and A.P. Kelly. 2004. Note on ethics educational interventions in an undergraduate auditing course: Is there an "Enron E ect"? *Issues in Accounting Education*, 19 (1), 53–72.

Flory, S. M., T. J. Phillips, R. E. Reidenbach, and D. P. Robin. 1993. A reply to a comment on 'A multi-dimensional analysis of selected ethical issues in accounting.' *Accounting Review*, 68 (2), 417–421.

Geary, W.T., and R. R. Sims. 1994. Can ethics be learned? *Accounting Education: An International Journal*, 3 (1), 3–18.

Gunz, S., and J. McCutcheon. 1998. Are academics committed to accounting ethics education? *Journal of Business Ethics*, 17 (11), 1145–1154.

Iancu, A., L. Popescu, and V. Popescu. (2010). The Moral Aspect of Business Decisions. Economics, Management, and Financial Markets, 5 (2), 250–256.

Kant, I. 1980. *Lectures on Ethics: Immanuel Kant*; translated by Louis Infield; foreword by Lewis White Beck. Indianapolis, IN: Hackett Publishing Company.

Kohlberg, L. 1969. Stage and sequence: The cognitive-development approach to socialization. In *Handbook of Socialization Theory and Research*, ed. D. Goslin. Chicago: Rand McNally College Publishing Company.

Ladd, J. 1973. *Ethical Relativism*. Belmont, CA: Wadsworth Publishing Company.

Loeb, S.E. 1988. Teaching students accounting ethics: some crucial issues. *Issues in Accounting Education*, 3, 216-239.

Logsdon, J., J. Thompson, and R. Reid. 1994. So ware piracy: Is it related to level of moral judgment? *Journal of Business Ethics*, 13, 849–857.

Mills, J. S. 1961. *The philosophy of John Stuart Mill: Ethical, political, and religious*. Edited and with an introduction by Marshall Cohen, Modern Library, New York.

Appendices

Appendix A: Accounting and Business Vignettes

1. A company has just introduced a highly successful new kitchen electrical appliance. The sales manager, who is paid partly on a commission basis, discovers that there has been insu cient product testing to meet government guidelines. The tests so far indicate no likelihood of any safety problem. Action: Because of this information, the sales manager continues to promote the product.

graduates so they may consider o ering additional internships or making intentional choices about intern responsibilities that could a ect skill development. The following sections of the paper review the relevant literature and the research methods used, analyze and discuss the results, as well as summarize the conclusions and areas of future research.

Literature Review

between a Scottish university with work placement and one without. At the university with work placement, students developed analytical skills, time management skills, computer skills, oral communication skills, and the ability to interpret financial information (Paisey and Paisey 2010).

Using the instrument developed by Paisey and Paisey (2010), Maelah et al. (2011) discovered accounting interns in Malaysia also increased their so skills, specifically in time management, oral communication, and working with others. Cook et al. (2004) surveyed business interns over a ten-year period and also found that interns felt the experience was positive. Specifically, the majority of respondents matured through their internship experience and learned to work with other people (Cook et al. 2004).

Clearly there are varied results, but consistently so skills are a significant part of what accounting interns develop from their internship experience. All of the above studies determined the level of development from the student perspective. Since they are the ones developing the skills, it would seem they would know best which ones they developed. However, it is of interest to see the viewpoint of the employer for comparative purposes. A er all, they have more experience and have worked with many accounting interns during their careers. What is their perception of the extent of the development of these skills in the interns they hire?

This study explores various ways in which the accounting internship is valuable to the employer and the accounting student from the employer perspective. This includes what employers value about o ering internships, what employers feel about hiring candidates with internship experiences, what employers think the value of the internship is for the accounting student, and the extent to which students develop hard and so skills from the internship experience. In terms of skill development, it continues the work of Pernsteiner (2015) by using the same 11 statements about hard and so skills, but asks employers to rate them rather than the students. Also, where the students were asked to rate the overall development of their skills from their internship, this survey asked employers to rate the level of skills of accounting students when they are hired for an internship (pre), and to rate the level of the skills a er the internship (post). In addition, employers were asked some general questions about their hiring practices, their level of satisfaction with the interns they hire, and accounting interns' strengths and weaknesses.

Methodology

Employers who hire accounting interns from a public midwestern university were surveyed about the general value of internships including the value in o ering them, the value for the student, and their hiring practices. In addition, employers rated the level of skill development in interns at the time they were hired and the level of development a er the internship was complete. Employers were also asked to respond to questions about their satisfaction with the interns they hired and accounting interns' overall strengths and weaknesses. The majority of the questions were rated by the employer using a 7-point Likert scale. The questions relating to the overall strengths and weaknesses and the value of an internship to the student were open-ended. The open-ended questions were summarized based on the themes that arose from the employer comments.

The survey was sent to all employers who had recruited at this university to ensure as many participants as possible. This university does not track internships that students complete unless they are for course credit, so by sending the survey to all contacts, it ensured that no employers were le out. According to the Accounting Internship Coordinator, there were 27 (17 CPA firms and 10 non-CPA firms) di erent employers

who hired interns over the course of the 2013-14 academic

to seven (almost always). The mean response was 4.66. Pernsteiner (2015) found 52 percent of the accounting interns surveyed accepted a job o er with the organization where they interned and 70 percent overall had accepted a job o er. Therefore, this relatively low rating by employers may be due to the fact that they either do not have full-time openings to o er, or interns choose to work for a di erent organization.

Since the majority of CPA firms o en have full-time openings, and it is less likely that private organizations would, additional analysis was performed to see if there were significant di erences in hiring an intern based on the type of organization. A one-way analysis of variance was conducted to determine that there was no significant di erence in hiring an intern based on the type of firm. The independent variable, type of organization, included four groups: CPA firm (M=5.33, SD=1.44, n=12), public company (M=4.17, SD=2.64, n=6), private company (M=4.27, SD=2.05, n=11), and government agency (M=4.33, SD=2.08, n=3). Although the mean was the

A paired sample t-test was conducted to evaluate whether a statistically significant di erence existed in each of the hard and so skills before and a er an internship. All of the means increased and were significant except for ethical behavior. The skill that employers felt increased the most was independence and the second highest was confidence. Students said they made the most progress in confidence, and Microso Excel was the second highest (Pernsteiner, 2015). Employers indicated there was a significant improvement in interns' Microso

Table VII: ANOVA Results for Ability to Use Excel or Other So ware

Table VIII: ANOVA Results for Ability to Speak in Front of Others

Table IX: ANOVA Results for Ability to Write E ectively

there is a considerable gap (they have superior skill) in their skills as compared to those of students' right out of college.

To help validate these findings and the skill statements used, employers were asked an open-ended question to identify the strengths and weaknesses in the interns they hire. Virtually all of the comments were related to skills identified and asked in the survey. Some stated them as strengths while others stated them as weaknesses. In terms of professionalism, one employer noted inappropriate cell phone use and punctuality as issues they see. The weakness that was mentioned the most o en by employers was lack of skills using Microso Excel.

Lastly, employers rated their overall satisfaction with the skill level of interns they hire. The mean response was 5.45. This may indicate that we can continue to improve the skills of accounting students through the accounting curriculum. Although students reportedly made progress on their skills during the internship, employers would like them to have greater skills when they start.

Conclusions And Areas For Future Research

Overall, this study supports prior research conducted in the area of accounting internships, finding significant benefits for both the student and the employer. Overwhelmingly, employers described the greatest them as Tc -0.puncnships,owan4bo

prepare for the profession. The more employers consider the impact they have on the accounting student, the more they are able to make intentional choices about what responsibilities the accounting intern has during their internship. For example, providing interns with an opportunity to write a memo or prepare a presentation could help an accounting student understand the importance of communication to the accounting profession as well as identify their strengths and weaknesses in that particular area. Future research could explore specific responsibilities to be included in an internship that promote the greatest growth in skill development.

For accounting educators and administrators, the results identify some areas to review in terms of the accounting curriculum. First, since students experience extensive development in both hard and so skills through an internship, making an internship experience required should be considered. Having a su cient number of internship sites may be an impediment to including an internship experience as a requirement, but sharing the benefits discussed in this paper with employers could help grow the number of internship locations. Second, the results indicate that accounting students need to develop some skills through other areas of the curriculum. For example, ethical behavior is not substantially developed during the internship, indicating ethics needs to be taught in other areas. However, although the skill was not significantly developed during the internship, it had the highest mean response in terms of the development before and a er the internship. It could be that this was a behavior that was di cult to observe, making it something that was assumed to be true in the absence of any inappropriate behaviors. Ethical development is a complicated area and was not the focus of this study. It is an interesting topic for future research to explore. A reliable instrument testing for ethical development could be given to accounting interns before and a er their internship to determine their level of ethical development.

Although the ability to speak in front of people and writing e ectively significantly changed from the beginning of the internship to the end, both of these skills had the lowest mean responses from employers. It is positive that employers felt accounting students improvedhis

References

Amato, N. 2013. CFOs say skills are needed, but many aren't o ering training in them. *CGMA Magazine*. Retrieved from http://www.cgma.org/magazine/news/pages/20138259.aspx.

Andrews, J. and H. Higson. 2008. Graduate employability, "so skills" versus "hard" business knowledge: A European study. *Higher Education in Europe*, 33(4), 411–422. doi: 10.1080/03797720802522627

Beck, J. E. and H. Halim. 2008. Undergraduate internships in accounting: What and how do Singapore interns learn from experience? *Accounting Education: An International Journal*, 17(2), 151–172.

Callanan, G. and C. Benzing. 2004. Assessing the role of internships in the career-oriented employment of graduating college students. *Education + Training*, 46(2), 82–89.

Cook, S. J., R. S.Parker, , and C. E. Pettijohn. 2004. The perceptions of interns: A longitudinal case study. *Journal of Education for Business*, 179–185.

English, D.M. and D. R. Koeppen. 1993. The relationship of accounting internships and subsequent academic performance. *Issues in Accounting Education*, 8(2), 292–299.

Gault, J., E. Leach, and M. Duey. 2010. E ects of business internships on job marketability: The employers' perspective. *Education + Training*, 52(1), 76–88.

Gault, J., J. Redington, and T. Schlager. 2000. Undergraduate business internships and career success: Are they related? *Journal of Marketing Education*, 22(1), 45–53.

The E ects of Accountability on Individual Brainstorming Performance

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ABSTRACT

This study is concerned with the e ects of accountability on individual performance when preparing for fraud risk brainstorming sessions. We investigate how accountability influences the number and quality of fraud risk ideas generated. Brainstorming has been found to improve an auditor's detection

(as stated above), the next step is to consider factors that may improve individual brainstorming preparation.

This study addresses the issue by examining the influence of one specific factor, accountability, on individual brainstorming performance. Prior research suggests that accountability generally improves judgment and decision-making (herea er JDM) performance in an auditing context (Kennedy 1993; Ho man and Patton 1997; DeZoort et al. 2006; DeZoort and Harrison 2008). In this study, we experimentally investigate the e ects of individual accountability during an audit brainstorming session of fraud risks.

This study should be of interest to accounting researchers, as it extends the academic literature on fraud risk brainstorming and provides exploratory evidence on how accountability a ects performance during the required brainstorming session. These findings might also be extended to the auditors' continued awareness of fraud risk areas throughout the audit. The results of this research are also important to audit firms responsible for structuring and conducting required brainstorming sessions. Knowledge about the factors that improve or impede brainstorming sessions may enhance the audit process.

The remainder of this paper is organized as follows: Section II provides the background and hypotheses development. Section III presents the methodology and experimental design and Section IV discusses the results. A discussion and concluding comments are presented in section V, and limitations and suggestions for future research are presented in Section VI.

Literature Review

SAS No. 99 / AU-C 240

Fraud consideration requirements of AS 12 are founded in SAS 99 (later superseded by AU-C 240). However, AU-C 240 is considered the most authoritative audit guidance for fraud detection and outlines auditors' responsibility to consider fraud in financial statement audits. AU-C 240 increases auditors' responsibility to detect fraud and to consider the potential for fraud continuously throughout the audit engagement (AICPA 2012). The standard requires a discussion of fraud among all key members of the audit team, referred to as a brainstorming session. Therefore, an understanding of the key features of AU-C 240 provides the context for understanding auditors' current fraud detection responsibilities.

AU-C 240 defines fraud as "an intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception that results in a misstatement in financial statements that are the subject of an audit" (AICPA, 2012, para. 11). AU-C 240 (as well as the original SAS 99) considers fraud within a framework of several fraud risk factors related to management's incentive, pressure and opportunity to commit fraud (i.e., fraud triangle) (AICPA, 2012, para. 11) . However, unlike earlier standards, SAS 99 deemed the inclusion of a fraud triangle checklist in audit work papers insu cient to address fraud risks (Carpenter 2007).

Under AU-C 240, audit team members must conduct a brainstorming session during the planning phase of every engagement to discuss where and how management might perpetuate and conceal fraudulent financial reporting with regard to the fraud triangle (AICPA 2012). Although the standard does not specify how the session should be conducted, it describes the session as "an exchange of ideas" and suggests that communication about fraud should continue throughout the audit and occur with an attitude of professional skepticism (AICPA 2012, para. 15). Further, the standard provides a list of factors that should be addressed during the brainstorming session (AICPA 2012, para. 15, A12-A13).

Brainstorming Preparation

In conjunction with AU-C 240 not clearly specifying how brainstorming sessions be conducted, it does not require individual brainstorming preparation prior to the group session. Much of the research in accounting and psychology describes a two-phase approach to brainstorming (Beasley and Jenkins 2003; Bellovary and Johnstone 2007). Stage one consists of individuals brainstorming alone prior to any group meeting or session. This phase of brainstorming is closely related to the concept of nominal groups where aggregating individuals' brainstorming is referred to as a nominal group (Carpenter 2007). Stage two consists of the group brainstorming session and allows for discussion and sharing of ideas. One key measure of performance during stage two is the number of ideas generated by the group. While most research acknowledges both stages of brainstorming, most literature focuses on stage two, while virtually ignoring stage one. This paper focuses on stage one, which is also referred to as the "preparation" phase of brainstorming or nominal (individual) brainstorming.

Prior research emphasizes the importance of having individuals brainstorm alone or prepare prior to group brainstorming sessions (Beasley and Jenkins 2003; Bellovary and Johnstone 2007). Though Osborn's (1957) seminal work supports the superiority of group brainstorming over individual e orts, he maintains that participants attending the brainstorming session should have some preparation and training in advance of the group session. Specifically, Osborn recommends that a preparation memo be distributed prior to the brainstorming session to o er background information and examples of the type of ideas desired to address the problem. Additionally, the preparation memo should request participants to generate ideas on their own prior to the group brainstorming session (Isaksen 1998).

is that individuals who are accountable tend to exhibit a high-

Table I: Sample Size and Descriptive Statistics

Variables	N	Mean	SD	Min	Max
Age	118	25.03	6.56	20	57
Years of professional experience	118	3.27	6.35	0	37
Brainstorming experience	118	3.60	2.41	1	9
Nonprofit accounting knowledge	118	2.40	1.57	1	8
Nonprofit work experience	118	2.37	2.09	1	9
Understanding of accountability	118	8.75	0.54	7	9
Cumulative GPA	118	3.31	0.48	2.0	4.0

sionals or using professional subjects is necessary to achieve the research goals, researchers should consider the use of students as participants in experimental research (Peecher and Solomon 2001; Libby et al. 2002; Curtis et al. 2012). Further, several studies in prior accounting research have utilized students as surrogates for accountants (Houghton and Hronsky 1993) and auditors (Ashton and Kramer 1980; Borthick et al. 2006).

More specifically, research suggests that auditing students have acquired the values, attitudes, and cognitive and professional capabilities necessary for entry into the accounting profession through anticipatory socialization provided by upper-level accounting courses (Weight 1977; Elias 2006; Elias 2007; Elias 2008; Ahmad et al. 2011). In this study, we are primarily testing the e ect of accountability on performance and use brainstorming as a tool in order to provide insight helpful to audit firms about improving brainstorming sessions. Thus, the technical knowledge or experience surrounding brainstorming should be less influential in the experiment as these senior-level students have reached a level of knowledge about fraud and fraud-related concepts as new auditors. In addition, as much of the fieldwork in auditing is conducted by entry-level professionals, the ability of these young professionals to consider, independent of other engagement team members, fraud risk factors of a client is an important topic of concern for the entire engagement team. This study's participants are senior-level students who are, on average, two semesters away from qualifying to enter the profession as entry-level auditors and as such, should serve as an appropriate proxy for new auditors. For these reasons, we feel that our use of students as participants, serving as a proxy for entry-level or newly hired auditors in a relatively structured task, is consistent with our research objectives.

Experimental Procedures

This experiment took part in two phases, an individual brainstorming phase and a group brainstorming session. Both phases were administered and monitored by one of the authors in a controlled setting during the regular class period and lasted approximately 30 to 40 minutes. Prior to beginning phase one, each participant read the general instructions concerning the experiment and received a packet containing all case materials. Participants enrolled in one of two sections of an upper-level accounting course were randomly assigned to one of two conditions, the accountable or not accountable condition, as evidenced by page one of the instruction packet.

In phase one, participants were given roughly five minutes to familiarize themselves with the instructions and summaries of the fraud triangle and AU-C 240 prior to beginning the experiment. Their task was to brainstorm individually and list fraud risks they believed were present in the case. During this phase, participants were able to access all of their case materials for use as a reference. Subsequently, demographic information such as age, gender, professional experience, prior brainstorming, and not-for-profit experience was collected. In addition, a manipulation check was performed to ensure that participants correctly perceived the accountability manipulation.

Phase two of the experiment consisted of a matching session and a group brainstorming session. In the matching session, participants were asked to match their list of fraud risks generated during phase one to one of 20 common fraud risks provided to them. A erwards, the brainstorming session began where participants were asked to share their fraud risks ideas generated during the individual session as a group. The purpose of this phase was solely to replicate an actual brainstorming session and no data was collected during this phase.

Results

Manipulation Checks

Accountability was manipulated between participants (accountable or not accountable) through the verbiage used in the instructions. In the accountable condition, the following statement was presented: "I understand that I **will be** required to share my responses during the group brainstorming exercise and that these responses will be evaluated." Similarly, the not accountable condition ensured participants that their responses

would be kept confidential and that they were not required to discuss answers during the group brainstorming session. The statement provided is as follows: "I understand that I **will not be** required to share my responses during the group brainstorming exercise and that my responses may remain anonymous." Participants provided survey responses indicating their level of perceived accountability. Specifically, we asked them to indicate, using a nine-point Likert scale, their level of understanding with one of the following statements: "I understand that I will be required to share my responses during the group brainstorming exercise and that my responses will be evaluated" or "I understand that I will not be required to share my responses during the group brainstorming exercise and that my responses may remain anonymous." Participants' mean responses to the question in the accountable condition and non-accountable condition were 8.75 and indicated they correctly perceived being accountable or not accountable ($p < .000$).

Validity Checks

We performed several tests to examine the existence of threats to internal and external validity. We examined data collected in each section and found no significant di erence in the dependent variables between sections. Thus, the data from both sections was combined and analyzed. Possible systematic di erences between the control and treatment group were examined. Results do not find any significant di erences between the age, gender, overall GPA, professional experience, and accounting knowledge, indicating that both groups are otherwise identical.

Analysis of Variance

Table II presents the means and standard deviations for all three experimental conditions. We used analysis of variance (ANOVA) to test the significance of the di erences between experimental conditions.

Table II: Sample Size and Descriptive Statistics

	Fraud Risk Ideas	Correct Fraud Risks
Accountable	9.22 (3.360) {60}	6.34 (1.297) {60}
Not Accountable	9.24 (2.710) {58}	7.22 (1.287) {58}

Hypothesis one suggests that the accountable group will be more conservative in their judgments and generate fewer fraud risk ideas than the not accountable group. The average number of fraud risks generated from both groups was nine. Results do not find a significant di erence between groups $F(1,116) = .002$, $p = .965$. Findings in prior literature show that accountability leads to an increase in e ort and motivation to be correct, while at the same time, tending to generate a greater degree of self-critical e ort and skepticism. Thus, hypothesis two suggests that accountable participants will generate lower quality (i.e., fewer correct) fraud risk ideas than not accountable participants. Results show statistically significant di erences between both groups in the number of correctly identified fraud risks between groups $F(1,116) = 13.895$, $p < .000$. Thus, the results support hypothesis two as the accountable group ($n = 6.34$) exhibited lower quality performance (i.e. fewer correct fraud risks) than the not accountable group ($n = 7.22$). These results suggest that accountability may actually hinder the brainstorming process, despite the e cacy of accountability in other auditing contexts. ANOVA results are summarized in Table III (page 42).

Sensitivity Analysis

Additional analyses were conducted to test the robustness of the results. Demographic variables (age, gender, and experience) were added as control variables in an extended multivariate analysis (MANOVA). Results indicate a strong positive relationship between accountability (*Accountability*) ($p = .000$) and nonprofit experience (*NP Work Experience*) ($p = .007$) on individual brainstorming procedures. No other variables were significant and there was no change in the pattern of significance on the dependent variables. Results of the multivariate analysis of covariance (MANCOVA) summarized in Table IV.(page 42).

Conclusions And Areas For Future Research

This research contributes to the extant accounting literature by explicitly focusing on the preparation stage of brainstorming for fraud. Much of the research to date has considered the superiority of various types of brainstorming techniques in their ability to generate fraud risk ideas, fraud risk assessments, and other changes to the overall audit plan (Chen et al. 2015). This study solely considers how individuals with di erent levels of accountability di er in their individual brainstorming preparation e orts. While accountability has proven benefits in various auditing tasks, our study reveals a potentially negative impact that accountability may have on the auditing tasks of individual brainstorming. While participants that feel accountable to another party may work harder to generate correct responses, they also tend to be more skeptical, and self-critical of their responses, which in this case, led to poorer performance. The results suggest that when conducting brainstorming sessions, it may not be advisable to hold individuals accountable for their responses, as it may stifle their ideas and have deleterious e ects on their ability to correctly identify relevant fraud risk factors.

This research is among the first to explore relationships between accountability and brainstorming performance and has important implications for standard setters as they con-

Table III: E ect of Accountability on Individual Brainstorming Procedures

Source	Sum of Squares	df	Mean Square	F	Sig.	Result
Number of Fraud Risk Ideas (H1)	1084.822	116	9.352	0.002	0.965	Not supported
Correct Fraud Risk Ideas	216.866	116	6.488	1.670	0.000	Supported

Table IV: MANCOVA Results
E ect of Accountability, Gender, Knowledge, and Experience on Individual Brainstorming Procedures

Source	N	F(Wilks' λ)	p-value	Partial η^{2b}	Observed Powe[c]
Intercept	116	330.593	0.000	0.086	1.00
Gender	116	2.063	0.132	0.037	0.417
Professional Experience	116	2.982	0.055	0.052	0.569
Brainstorming Experience	116	1.241	0.293	0.022	0.265
NP Accounting Knowledge	116	2.932	0.058	0.052	0.561
NP Work Experience	116	5.169	0.007	0.087	0.818
Accountability[a]	116	9.721	0.000	0.153	0.980

The dependent variables are Number of Fraud Risks Ideas and Correct Fraud Risk Ideas

[a]coded as a fixed factor. The other variables are coded as covariates.

[b]Partial η^2, measured on a scale from 0 to 1, indicates the proportion of the variance in the dependent variables explained by the independent variable.

[c]Observed power, measured on a scale from 0 to 1, indicates the likelihood that an existing e ect will be detected.

tinue to make improvements to the auditor's requirements for considering fraud in the financial statement audit. Recent reports of the PCAOB have criticized firms for their inability to demonstrate e ective brainstorming sessions, citing substantial variation in the quality of brainstorming sessions and have indicated the need for improved curriculum for auditors focusing on, among other things, brainstorming (PCAOB 2007; PCAOB 2014; Burns and Zelic 2014). Further, the Board's Standing Advisory Group has added fraud risk assessment, including brainstorming, to its most recent agenda, indicating continued concern in this area. This research will add to the extant research aimed at improving the overall quality of the audit; in this case, improving the e cacy of the brainstorming sessions. This new area of research, however, is primarily aimed at improving the individual auditor's brainstorming participation and fraud risk assessment, rather than looking at the e cacy of the entire group.

As firms are comprised of individual auditors, the individual performance of auditors is an important determinant in the overall quality of the group brainstorming session. Improving individual auditor performance related to brainstorming is a feasible solution for firms in structuring the brainstorming session to conform to the requirements set forth in AU-C 240. Moreover, firms that integrate an individual accountability component for brainstorming (e.g., suggestions that the more experienced auditors will be using the brainstorming session as a training ground for new auditors) or create an atmosphere that would lead to the appearance of accountability (e.g., warnings to new auditors that the partner will be in attendance and will be listening to what they have to say with a critical ear) might reconsider the potentially adverse e ects of such a process. This reconsideration may lead to related improvements in the group brainstorming sessions, especially if it is reiterated to the new auditors that they will not be held accountable or judged for their comments and suggestions during the session (e.g., tell them there are no 'stupid' suggestions and to individually try to come up with and share any possible fraud risk scenarios). These improvements are ultimately associated with increased attention to the possibility of fraud in the financial statements, which is the underlying premise of AU-C 240.

This study is subject to several limitations. First, the amount of information participants received and the preparation time was limited in order to simplify the experiment and to reduce completion time. Second, senior-level students from a single institution were included in the experiment; however, using undergraduate students in experiments examining brainstorming is common in behavioral research (Gallupe, et al. 1992; Litchfield 2009; Litchfield et al. 2011). While limitations exists when using student participants, prior research suggests that

students may serve as surrogates for practitioners, unless a specific theory or research goal precludes using students as subjects (Peecher and Solomon 2001; Libby et al. 2002) and that students may share similar characteristics of entry-level accountants (Weight 1977; Elias 2006; Elias 2007; Elias 2008; Ahmad et al. 2011). Our study focuses on this group of individuals (new-hires) and the results may not be generalizable to more experienced or senior level auditors. Last, accountable participants faced no penalty, other than minimal grading assessment, for identifying incorrect or a lower number of possible fraud risks.

Future research should consider using professional auditors as participants to replicate this study. In an audit environment, penalties could include loss of reputation and the possibility of additional hours being worked, leading to budget overages. Future studies might also consider adding a quantity component as research finds quantity goals improve performance (Litchfield 2009). Managers may consider requiring audit team members to provide a minimum number of fraud risk ideas. While our study focused on how accountability influenced a brainstorming tasks, the auditing environment contains a variety of tasks that are likely included by the accountability of the auditor. Tasks such as work paper review, computations of estimates, identification and assessment of internal control deficiencies, and other fraud and error-based risk analyses are interesting areas for future researches to study the e ects of accountability.

References

Ahmad, Z., R.N. Anantharaman, and I. Hishamuddin. 2011. Students' motivation, perceived environment and professional commitment: An application of Astin's college impact monment TTc 0 Tw -05 Tw Tsks m-20.2uT5 scn /Gscn /GS1 gs -0.0195 Tc 18 0

Gallupe, R. B., A. R. Dennis, W. H. Cooper, J. S. Valacich, L. M. Bastianutti, and J. F. Nunamaker. 1992. Electronic brainstorming and group size. *Academy of Management Journal*, 35, no. 2, 350–369.

Ho man, V. B, and J. M. Patton. 1997. Accountability, the dilution e ect, and conservatism in auditors' fraud judgments. *Journal of Accounting Research*, 35, 227–237.

Houghton, K A., and J. F. Hronsky. 1993. The sharing of meaning between accounting students and members of the accounting profession. *Accounting and Finance*, 33, 131–147.

Isaksen, S. G. 1998. *A Review of Brainstorming research: Six Critical Issues for Inquiry*. Bu alo: Creative Research Unit, Creative Problem Solving Group.

Kennedy, J. 1993. Debiasing audit judgment with accountability: A framework and experimental results. *Journal of Accounting Research*, 31, 231–245.

Koonce, L., U. Anderson, and G. Marchant. 1995. Justification of decisions in auditing. *Journal of Accounting Research*

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Appendix A: Independent Variable

Accountability was the sole manipulation in the study. Accountability was manipulated by informing participants throughout the instrument that their responses generated during the brainstorming session would or would not be shared and evaluated. Appendix A includes Table V with the statements acknowledging accountability in the task.

Appendix B: Dependent Variables

Appendix B provides Table VI with the questions measuring the dependent variables.

Appendix C: Control Variables

Appendix C provides Tables VII with the questions measuring the control variables.

Table VII: Control Variables: Age, Gender, and Experience

Variable	Measurement
Age Participants were asked to provide their age. *My age is:_____.*	Age
Gender: Participants were asked to indicate their gender. *I am:_____.*	Dichotomous Female/Male
Experience: Participants were asked to provide information about professional, brainstorming, and non-profit experience. *I have_____years of professional work experience.* *Please provide your opinion on the importance of brainstorming sessions during the planning phase of an audit bks 0 0 experience.*	

Down but Not Out: Investigating Returns for Negative Retained Earnings Firms

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then excess returns will be present and can be utilized in a trading strategy.

This research is interesting for several reasons. First, the paper helps provide a greater understanding of the information

Methodology

We begin with all firms in the merged CRSP/Compustat dataset with fiscal years from 1988 to 2011. Similar to other market e ciency papers (Sloan 1996), our returns portfolio opens three months a er the end of each firm's fiscal year-end and closes 12 months later. We calculate buy-and-hold returns for each firm and subtract buy-and-hold returns for that firm's size decile portfolio to estimate abnormal returns for year +1. We calculate cumulative returns using the same method-

Panel C: Positive Retained Earnings Firm/Years						
Variable	**N**	**Mean**	**Std Dev**	**P25**	**Median**	**P75**
Market Value of Equity	43,263	3,509	14,323	104.4	450.1	1,830
Total Assets	43,263	2,990	9,836	124.5	454.5	1,821
Book to Market	43,263	0.654	0.517	0.338	0.534	0.804
Return on Assets	43,263	0.066	0.077	0.027	0.057	0.100
Operating Cash Flows	43,263	0.113	0.097	0.060	0.105	0.161
Liquidity	43,263	2.532	2.059	1.341	1.990	2.980
Leverage	43,263	0.224	0.178	0.063	0.213	0.345
Retained Earnings	43,263	908.3	4,787	25.013	106.8	468.7
Altman's Z score	43,263	3.690	4.872	1.307	2.244	4.089
Cumulative Abnormal Returns (size adjusted)	43,263	0.044	0.428	-0.186	0.022	0.247
Buy and Hold Abnormal Returns (size adjusted)	43,263	0.047	0.600	-0.244	-0.022	0.217

Table II: Returns by Consecutive Year

Year of Consecutive Negative Retained Earnings Balance		Panel A: CAR			Panel B: BHAR		
	N	Mean	Prob.	Sharpe Ratio	Mean	Prob.	Sharpe Ratio
0	43,263	0.044	<0.001	0.103	0.047	<0.001	0.078
1	4,148	0.147	<0.001	0.185	0.219	<0.001	0.161
2	3,243	0.128	<0.001	0.178	0.153	<0.001	0.143
3	2,633	0.074	<0.001	0.103	0.075	<0.001	0.075
4	2,086	0.074	<0.001	0.104	0.097	0.002	0.084
5	1,654	0.091	0.002	0.140	0.126	<0.001	0.076
6	1.338	0.094	<0.001	0.138	0.125	<0.001	0.120
7	1,091	0.101	<0.001	0.149	0.155	<0.001	0.117
8	902	0.099	<0.001	0.157	0.117	<0.001	0.124
9	752	0.054	0.014	0.090	0.046	0.082	0.063
10	613	0.134	<0.001	0.195	0.132	0.002	0.124
11	469	0.101	<0.001	0.171	0.0178	0.017	0.111
12	362	0.067	0.049	0.104	0.061	0.120	0.082
13	284	-0.040	0.204	-0.076	-0.036	0.374	-0.053
14	226	0.097	0.036	0.140	0.203	0.206	0.084
15	175	0.080	0.071	0.137	0.091	0.128	0.116
16	137	0.069	0.220	0.105	0.002	0.962	0.004
17	100	0.037	0.534	0.062	0.030	0.647	0.046
18	76	0.103	0.136	0.173	0.080	0.399	0.097
19	50	0.100	0.175	0.194	0.123	0.160	0.202
20	34	-0.016	0.898	-0.022	-0.092	0.394	-0.148
21	21	0.123	0.233	0.269	0.110	0.283	0.241
22	12	0.085	0.484	0.209	0.046	0.702	0.113
23	6	0.297	0.311	0.460	0.271	0.321	0.450
24	1	-0.072	n/a	n/a	-0.305	n/a	n/a

firms drop to 4.6 percent for year 9, vs. returns to PRE firms of 4.7 percent. Average returns to NRE firms become more erratic as the years of consecutive negative retained earnings increase (and the number of firms in the portfolio decrease).

We also include the Sharpe Ratio for each year's returns, calculated as the mean return divided by the cross-sectional standard deviation of returns for that year to adjust for risk as captured by the variance of returns. Table I, Panels B and C, show that the standard deviation of returns is higher for NRE firms than for PRE returns (0.701 for NRE CARs, vs. 0.428 for PRE CARs).

The Sharpe Ratio can be intuitively understood as a measure of returns to each unit of extra volatility you endure for holding a riskier asset. The Sharpe Ratio for PRE firms is 0.103 (for CARs), vs. 0.185 for NRE firms in their first year of reporting negative retained earnings. Results using the Sharpe Ratio are similar to those with abnormal returns alone, in that NRE firms show superior performance for a number of consecutive years of reporting negative retained earnings.

We next consider whether NRE firms are less likely to continue trading over the long- run, and are more likely to be delisted for negative reasons such as bankruptcy. Making this determination requires peeking ahead to the "ultimate fate" reported by CRSP as the firm's delisting code. Delisting codes are three digits long, but can be broken into five major categories: "1xx" signifies firms continuing to trade as of the final date of reporting for CRSP data, which for our dataset is December 31, 2011. "2xx" signifies firms that are delisted because they are acquired by another firm. "3xx" signifies firms that exchange their current stock issue for a new stock issue (e.g., a di erent class of shares on the same exchange, or a class of shares that

are traded on a di erent exchange). "4xx" signifies firms that are liquidated, and "5xx" signifies firms that are dropped from the exchange without being exchanged for another security or being liquidated (for example, firms delisted with the code 574 went bankrupt). As expected, firms delisted for a "5xx" reason represent the greatest loss to shareholders.

We break our NRE and PRE firms into these five delisting categories and show (1) the number of days between each firm's fiscal year end and the delisting date, (2) CARs for year +1, and (3) BHARs for year +1. Results are shown in Table III.

Panel A shows future trading days and returns to firms that continue trading. 11,014 firm-years of NRE firms have average CARs of 9.8 percent, vs. 25,558 PRE firms with CARs of 4.7 percent. As this analysis "peeks ahead" it is not surprising that returns are higher for NRE firms because the market expects these firms to be more likely to delist for negative reasons. The days to delisting are lower for NRE firms as well, mainly because the number of NRE firms has increased over time. Returns are also higher for NRE firms that are ultimately acquired (Panel B), consistent with the market viewing NRE firms as less suitable takeover targets, leading to a positive surprise when these firms receive takeover o ers. Panels C and D have relatively few observations making it di cult to draw strong conclusions. However, results from Panel E suggest that NRE firms are more likely to be delisted for negative reasons than PRE firms (the ratio of the number of observations in Panel E for NRE firms to total NRE firms is 3.2 percent, while the number of observations in Panel E for PRE firms to total PRE firms is 1.5 percent). NRE firms that are ultimately dropped trade for only 1,650 days, vs. PRE firms that trade for 2,332 days (a di erence of about 2.7 years). One year ahead returns to NRE firms that are ultimately dropped are -29 percent, vs. PRE firms that are ultimately dropped at -12 percent. Results from Table III, coupled with the overall higher average returns to NRE firms, suggests that the market may overestimate the likelihood that a NRE firm will be dropped (i.e., be delisted for a negative reason), and underestimates the likelihood that a NRE firm will continue trading or be acquired by another firm. However, for those NRE firms that do not ultimately survive, shareholders face greater losses than those for PRE firms.

We next consider additional steps to control for risk. Table IV shows results when we regress CARs on a dub6i4ab678 -1.2 TdT 1,0250(er)19.9(;).

Table IV: Regression Analysis

Table IV shows our regressions results of our hold out sample. Panel A shows OLS regressions results for our primary control va

Fama and French (1992) exclude firms with negative book value of equity in their factor construction, their definition for firms having a negative book value of equity means that the sum of all equity accounts – mainly, equity from stock issued and retained earnings, is negative. These situations are relatively rare, and we find that only 10 percent of NRE firms have negative book value as well. Our conclusions are unchanged if we exclude these firms from our analysis.

Mitchell and Sta ord (2000) argue that abnormal returns found by prior studies may be overstated because of a failure to control for cross-sectional correlation between returns. They advocate the use of the "calendar-time" methodology to control for cross-sectional correlation, although simulations

Appendix: Description and Calculation of Independent Variables

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