

**The Trade-Off Between Tax Savings and Financial Reporting Costs:
An Analysis of the Effective Tax Rates of Glamour Companies**

Craig Paprocki*
Ph.D. Student
The University of Alabama
Culverhouse School of Accountancy

Edward J. Schnee
Hugh Culverhouse Professor of Accounting
The University of Alabama
Culverhouse School of Accountancy

October 2004

Acknowledgements: We would like to thank Todd DeZoort, Rob Ingram, Jonathan Stanley, Gary Taylor, and workshop participants at The University of Alabama for their helpful comments.

*Please send correspondence to Craig Paprocki, The University of Alabama, Box 870220, Tuscaloosa, AL 35487-0220. E-mail: cpaprock@cba.ua.edu; Phone: 205-348-6131; Fax: 205-348-8453.

The Trade-Off Between Tax Savings and Financial Reporting Costs: An Analysis of the Effective Tax Rates of Glamour Companies

SUMMARY

This study investigates whether glamour companies have higher effective tax rates than value companies. Glamour companies are defined using a Lakonishok et al. (1994) definition as companies that have a high price-to-earnings ratio and high sales growth. Conversely, value companies have a low price-to-earnings ratio and low sales growth. This study hypothesizes that glamour companies will have higher effective tax rates than value companies due to unique financial reporting pressures faced by glamour companies. To test the hypothesized relationship, companies are separated into glamour and value company portfolios and tested using an ordinary least squares regression model. A sample of 914 glamour and value companies indicates that, as hypothesized, glamour companies have higher effective tax rates than value companies after controlling for size, leverage, capital intensity, multinational operations, and industry. The results are robust to different glamour company and ETR constructs. This finding is consistent with glamour companies having greater financial reporting pressures that reduce the willingness of glamour company management to undertake aggressive tax reduction strategies that could have a negative impact on financial income. The study concludes with a discussion of the study's implications and limitations.

Keywords: Effective tax rate; Glamour company; Value company; Financial reporting cost; Tax planning.

Data Availability: Data are publicly available from the sources identified in the paper.

The Trade-Off Between Tax Savings and Financial Reporting Costs: An Analysis of the Effective Tax Rates of Glamour Companies

I. INTRODUCTION

The objective of this study is to evaluate whether glamour companies have higher effective tax rates (ETR) than value companies. Glamour companies, characterized by high price ratios (e.g., price-to-earnings, price-to-book) and high sales growth (Lakonishok et al. 1994), face unique non-tax costs when considering tax minimization strategies. The finance literature provides substantial evidence that investors overestimate future growth rates of earnings for glamour companies (e.g., Basu 1977; Lakonishok et al. 1994; La Porta et al. 1997),¹ such that when earnings expectations are not met, the market penalizes glamour companies more severely than value companies (Skinner and Sloan 2002). From a cash flow perspective, all firms should be interested in reducing taxable income and tax liability. However, strategies that reduce taxable income often reduce financial income (Scholes et al. 2002). Therefore, from a strategic viewpoint, glamour companies face a higher financial cost to implementing tax minimization strategies.

This study adopts the Lakonishok et al. (1994) definition of glamour companies as companies that have high sales growth and high PE ratios in order to examine companies that (1) have performed well in the past according to the accounting system, and (2) are expected by the market to perform well in the future as evidenced by the

¹ Glamour companies are often referred to as “growth” companies in the finance literature (e.g., Basu 1977; Fama and French 1992; Lakonishok et al. 1994; La Porta 1996; La Porta et al. 1997).

spread between current price and earnings.² Conversely, value companies are firms that have underperformed in the past (low or negative sales growth) and are expected by the market to continue underperforming in the future (as evidenced by low PE). As with prior studies (e.g., Gupta and Newberry 1997; Phillips 2003; Rego 2003), ETR is used to evaluate the relative tax planning effectiveness of a company. ETR is defined as taxes paid currently divided by accounting net income before tax (Scholes et al. 2002). Firms with relatively low ETRs pay less tax currently per dollar of earnings and are regarded as more effective tax planners, *ceteris paribus*. In this study, glamour companies' ETRs are compared with value companies' ETRs to evaluate whether glamour companies are more likely to forego tax-planning opportunities to meet financial reporting pressures, leading to higher ETRs.

The primary motivation for this study is to investigate whether glamour firms are willing to sacrifice cash through higher taxes to mitigate short-term financial market pressures. The extant literature suggests that glamour companies have higher financial reporting pressure (e.g., Skinner and Sloan 2002; Dechow and Skinner 2000). Bankman (1994) provides anecdotal evidence that managers are more concerned about improving financial accounting numbers than saving taxes. Ideally, investors would look through accounting conventions when determining stock prices. However, based on evidence in Bankman (1994), managers appear unwilling to rely on investors to discover the long-term benefits associated with tax planning.³ Based on the anecdotal evidence in

² Glamour companies could be defined by choosing from a number of market measures, such as price-to-earnings (PE), price-to-book (PB), or price-to-operating cash flow (PCF) or among various accounting measures, such as growth in assets, earnings, cash flow, or sales.

³ The long-term benefits of tax planning are documented in Mills et al. (1998), who show that a \$4 reduction in tax liabilities can be achieved for each additional \$1 spent on tax planning. The savings that result from tax planning is a source of potential value to the company and ultimately to the company's shareholders.

Bankman (1994), Phillips (2003) included a control variable for growth, using market value of assets (MVA), but did not find it significantly related to ETR. The current study predicts that the relationship between higher ETRs and market pressure is most prevalent in a subset of firms with the highest expectations (glamour firms). If the predicted differences emerge between glamour and value companies, this study also will estimate a dollar amount of foregone tax savings. Glamour companies provide a unique sample to test the financial reporting and tax savings trade-off made by firms faced with high capital market pressure. The present study is the first to test empirically whether glamour companies have higher effective tax rates than value companies.

This study first separates companies into glamour and value portfolios to investigate the extent that financial reporting pressures affect glamour companies' willingness to undertake tax minimization strategies. Next, ordinary least squares regression is used to test for any difference between the effective tax rates of glamour and value companies after controlling for size, leverage, capital intensity, multinational operations, return on assets (ROA), and industry. Finally, the difference between the ETR of glamour and value companies is multiplied by pre-tax income to estimate the range of foregone tax savings. This study contributes to our overall understanding of the financial and tax reporting trade-offs discussed in Scholes et al. (2002).

The remainder of this paper is organized as follows. Section 2 provides the hypothesis development. Section 3 presents the research design and method. Section 4 discusses the results of the study. Section 5 concludes with a discussion of the study's implications and limitations.

II. HYPOTHESIS DEVELOPMENT

Scholes et al. (2002) adopt a global planning approach to taxes and business strategy by considering all costs of the firm, not just tax costs. A significant non-tax cost that firms must consider is financial reporting costs. The best investment choice for a firm is not necessarily the one that results in the most favorable tax treatment. A strategy that lowers taxes but increases the firm's average cost of capital or decreases the stock price may not be in the best interests of the firm (Klassen 1997). However, maximizing financial reporting benefits does not come without cost: namely, increased taxes and reduced cash flow from paying additional taxes. Accelerated tax payments sacrifice limited funds available to managers to invest in long-term strategies.

This study posits that glamour companies have higher financial reporting pressure than value companies, which is supported by the existing literature. Numerous studies have found that value companies have higher market returns than glamour companies (e.g., Basu 1977; Lakonishok et al. 1994; La Porta et al. 1997; Fama and French 1992). Basu (1977) and Lakonishok et al. (1994), among other studies, find that the superior returns of value companies persist even after adjusting for risk. Lakonishok et al. (1994) conclude, "Market participants appear to have consistently overestimated future growth rates of glamour stocks relative to value stocks" (p. 1574). In addition, expectations of future growth have been tied excessively to past growth despite the fact that growth rates tend to be mean reverting (Lakonishok et al. 1994).

Skinner and Sloan (2002) find evidence to support the assertion that glamour stocks are overpriced due to unrealistic expectations. They find that the market responds similarly to positive earnings surprises for glamour companies as it does for value

companies, but glamour stocks experience significantly larger declines than value companies in response to earnings disappointments (Skinner and Sloan 2002). Similarly, Barth et al. (1999) find that firms engaged in a pattern of increasing earnings have higher PE multiples, after controlling for risk and expected growth rates. Furthermore, they find that PE multiples decrease significantly when the earnings pattern is broken (Barth et al. 1999). This finding provides additional evidence that the market overestimates future growth rates based on past performance.

The market overestimation of glamour company growth rates puts additional pressure on glamour companies to meet expectations and reduces management's willingness to undertake tax-reduction strategies that could affect financial earnings negatively. Magrath and Weld (2002) listed warning signs that abusive earnings management is present, including a warning about companies that consistently meet analyst expectations, especially growth expectations. They comment that glamour companies have additional incentive to engage in abusive earnings management tactics to cover failures from overly optimistic predictions (Magrath and Weld 2002). Based on the evidence presented in Barth et al. (1994) and Skinner and Sloan (2002), Dechow and Skinner (2000) expect managers of glamour firms to take steps to avoid reporting adverse earnings news. This expectation is consistent with the model proposed by Stein (1989), who shows that managers will adapt to financial reporting pressure by accelerating income from future periods to maintain high current earnings and market price. This emphasis on short-term financial reporting comes at the expense of long-term firm value (Stein 1989).

Glamour companies are under pressure to meet short-term forecasts. Failure to meet short-term market expectations has been shown to result in a serious market correction for glamour firms (Skinner and Sloan 2002). Value companies, on the other hand, do not experience the same negative market reaction as glamour companies when an earnings target is missed because the market tends to underestimate their expected growth rates (Lakonishok et al. 1994). Earnings management undertaken by value companies to achieve an earnings surprise results in a market response that is similar to that of glamour companies (Skinner and Sloan 2002), whose expected growth rates have been shown to be overestimated. Certainly, value company management is under pressure to improve operations after years of underperforming. However, the market does not expect, and does not reward, short-term results from value companies. Value companies are expected to improve operations through long-term strategies, such as tax planning.

This study assumes that the market fails to see through a strategy of accelerating taxable income to mitigate financial market pressure. As discussed earlier, there is substantial evidence to suggest that glamour stocks are mispriced, leading Lakonishok et al. (1994) to conclude that the market continues to overestimate growth rates of glamour companies. Additional evidence that glamour stocks are mispriced is provided by Rozeff and Zaman (1998), who find that insider buying increases (decreases) as stocks change from glamour (value) to value (glamour). Of course, burning cash through higher current taxes in order to maintain market status does little towards managing overly optimistic long-term growth expectations.

The complexity of the tax laws and the tax disclosures in the 10-K create information asymmetry between firms and analysts, as well as investors, leading to further mispricing. Plumlee (2002) investigates analyst forecasts around tax law changes and finds that analysts fail to incorporate (or ignore) more complex tax law changes in their earnings forecasts. Comprix et al. (2004) find that analysts continue to incorporate upwardly biased quarterly ETRs into their forecasts. Also, the tax disclosures found in the 10-K are difficult to interpret and are subject to last minute manipulations (Dhaliwal et al. 2002). Not surprisingly, analysts do not value earnings changes due to ETR differences as highly as changes in earnings due to improvements in operations as they are often seen as a way to meet earnings expectations and not as a result of changing business conditions (Guenther and Jones 2003). Overall, the complex nature of tax disclosures creates a high information cost relative to more straightforward measures, such as EPS, which enables firms to engage in potentially value eroding behaviors predicted in this study without market penalty.

In addition to market pressures to maintain income levels, there are also firm-specific financial costs to consider. For example, firms with debt must maintain debt covenants that are often based on audited financial statements (Watts and Zimmerman 1986). Firms with higher debt to equity ratios tend to select accounting procedures that increase current earnings from future periods (Watts and Zimmerman 1986).

Income increasing strategies designed to appease financial stakeholders, such as debt holders and shareholders, do not come without cost. Strategies that accelerate financial income also typically accelerate tax income and cause firms to pay taxes earlier.

Payment of taxes reduces limited funds available to managers that could be used to invest in long-term investments.

Firms that increase earnings through fraud is an extreme example of the extent that managers are willing to mitigate financial pressures without regard to the tax consequences. Erickson et al. (2004) examined firms that are accused by the SEC of fraudulently increasing earnings to estimate how much income tax was paid on overstated earnings. In aggregate, they estimated that the 27 firms in the sample paid \$320 million of additional tax on overstated earnings. Erickson et al.'s (2004) results provide direct evidence that companies are willing to sacrifice cash that could be used for long-term investment to manipulate non-cash accounting earnings.

Glamour companies face unique financial costs that reduce managers' willingness to implement tax minimization strategies. Glamour companies have higher price ratios, in part as a reward for past performance (Lakonishok et al. 1994), but they also experience significantly larger negative price responses to earnings disappointments than value companies (Skinner and Sloan 2002). The potential financial costs to glamour companies put pressure on managers to accelerate income (Stein 1989), with less incentive to consider the tax consequences of accelerating income (Erickson et al. 2004). Companies with high financial reporting pressure deal with that pressure throughout the entire year and will implement a proactive earnings strategy to avoid a negative earnings dilemma at the end of the year. Conversely, value companies are expected to improve operations through long-term strategies, such as tax planning. The financial cost to maintain glamour company status reduces the likelihood that managers of glamour companies will

implement tax minimization strategies throughout the year, if it means reducing financial income, relative to value companies. Therefore, this study hypothesizes:

H: Glamour companies will have higher effective tax rates than value companies.

III. RESEARCH DESIGN AND METHOD

To test the hypothesis, the following ordinary least squares regression model is estimated:

$$ETR = \beta_0 + \beta_1 GLAMOUR + \beta_2 SIZE + \beta_3 LEV + \beta_4 CAPINT + \beta_5 MULTI + \beta_6 ROA + \sum_{k=1}^5 \beta_k INDUSTRY + \sum_{i=1}^9 \beta_i YEAR + \varepsilon \quad (1)$$

where:

- ETR* = two-year average of current tax expense divided by EBITDA ((#63 + #64) / (#170 + #15 + #14))⁴;
- GLAMOUR* = 1 if glamour company, else 0 if value company;
- SIZE* = natural log of book value of total assets (BVA) (#6);
- LEV* = leverage, measured as the ratio of long-term debt to total assets (#9/#6);
- CAPINT* = capital intensity, measured as the ratio of book value of net property, plant, and equipment to BVA (#8 / #6);
- MULTI* = multinational operations, measured as the ratio of foreign assets to total BVA (G.S. TA / #6);
- ROA* = return on assets (#170 / #6);
- INDUSTRY* = industry indicator variable (DNUM);
- YEAR* = year indicator variable;

In this study, effective tax rate (*ETR*) is defined as current tax expense divided by accounting earnings before interest, taxes, depreciation and amortization (EBITDA).⁵ An average *ETR* is computed over a two-year period because the variable of interest in this study, *GLAMOUR*, is tested over a two-year period.⁶ Using an average *ETR* also helps to control for unexplained yearly variations in the *ETR*. This study compares the effective

⁴ Compustat data items listed in parentheses.

⁵ Tests using different earnings definitions in the denominator of *ETR* (EBIT, PTI) did not change the conclusions reached in this study.

⁶ We also tested using a single year *ETR* measure, both unadjusted and winsorized at the 99th and 95th percentiles, and find that the results are unaffected.

tax rates of glamour companies to value companies to capture any difference that exists during the time a company is labeled as a glamour company. The earnings number is taken before interest, depreciation and amortization to remove their effects on accounting earnings since the tax effect of leverage and capital intensity is being controlled for in the study.

This study uses current taxes in the numerator because FAS 109 intends this amount to be the best estimate of the amount of tax that will be payable to taxing authorities on the firm's current year tax return (Hanlon 2003). Current taxes payable captures the impact of temporary and permanent book-tax differences (Rego 2003), which relates to the objective of the study to investigate whether glamour company managers accelerate financial earnings with less consideration of whether such an increase also increases taxable income. State taxes are included in the numerator to facilitate comparability of this study with other effective tax rate studies (e.g., Gupta and Newberry 1997; Mills et al. 1998; Phillips 2003; Rego 2003), although their exclusion does not change the conclusions reached in this study.

Independent Variable

Consistent with the Lakonishok et al. (1994) definition, a firm is considered a glamour company (*GLAMOUR* = 1) if it is ranked in the top 30% for both PE and weighted sales growth. This study requires that companies be ranked in the top (bottom) 30% for two consecutive years to be considered a glamour (value) company in order to test how a company that faces capital market pressure throughout the entire year organizes its business strategy with respect to taxable income. In other words, this study

tests whether glamour (value) companies pay less (more) attention to taxable income minimization versus financial income maximization, leading to a higher (lower) ETR.

Weighted sales growth proxies for past growth that leads to overly optimistic future growth expectations. Sales growth is used as a proxy for past earnings growth because earnings are much more volatile than sales, especially in the extreme portfolios that are being tested in this study (Lakonishok et al. 1994).⁷ Current sales growth is weighted most heavily (5/15) and the least current sales growth is given the least weight (1/15).⁸ PE is a commonly used proxy for expected growth rates (e.g., Basu 1977; Lakonishok et al. 1994) and is used in this study to measure the market's growth expectations. Price-to-earnings and sales growth are measured using price, earnings, and sales data obtained from the COMPUSTAT database. Consistent with prior ETR studies (e.g., Gupta and Newberry 1997; Rego 2003) and the finance literature (e.g., Basu 1977; Fama and French 1992; Lakonishok et al. 1994; La Porta 1996; La Porta et al. 1997), glamour and value portfolios were created after eliminating loss companies since loss companies have different tax incentives and expected growth rates cannot be determined from negative price multiples. According to the hypothesis, *GLAMOUR* is predicted to have a positive coefficient.

Control Variables

Companies have different tax planning opportunities depending on the industry, size, leverage, capital intensity, and multinational operations of the company. *SIZE* is included to control for tax planning opportunities available to larger companies. Previous

⁷ The results using weighted growth in pre-tax income are consistent with those reported using weighted sales growth.

⁸ Weighted sales growth is calculated as follows: $WGS = (5/15) * \text{Sales Growth}_t + (4/15) * \text{Sales Growth}_{t-1} + \dots + (1/15) * \text{Sales Growth}_{t-4}$ (Lakonishok et al. 1994).

studies have found both positive and negative relationships between ETR and size (e.g., Porcano 1986; Rego 2003; Zimmerman 1983; Gupta and Newberry 1997). Larger companies have more resources available than smaller firms to invest in tax planning opportunities. On the other hand, larger companies also face more regulatory pressure, which may cause larger companies to be less aggressive tax planners and therefore have higher ETRs. No prediction is made as to the sign of the coefficient for *SIZE*, which is calculated by taking the natural log of total assets. The log is taken to normalize the total asset distribution, which is right-skewed.

LEV is measured as the ratio of long-term debt to assets and is included to control for ETR differences related to debt financing. Highly levered companies have more tax planning opportunities available related to financing decisions (Phillips 2003). *LEV* is predicted to have a negative coefficient. *CAPINT* is included to control for the tax planning opportunities that are available to firms that have more fixed assets (Gupta and Newberry 1997). *CAPINT* is calculated as the ratio of net property, plant and equipment to BVA, and is predicted to have a negative coefficient due to the depreciation tax shield available on fixed assets. *MULTI* is calculated as the ratio of foreign assets to BVA and is included to control for tax planning opportunities available to multinational companies (Rego 2003). *MULTI* is predicted to have a negative coefficient due to additional tax planning opportunities available to multinational firms to move income to lower tax jurisdictions.

Prior studies have found a link between return on assets and ETR (e.g., Gupta and Newberry 1997). *ROA* is calculated as the ratio of pre-tax income to total assets and is included to control for the profitability of the firm. *ROA* is predicted to have a positive

coefficient. *INDUSTRY* is included to control for unique tax planning opportunities available to certain industries due to differences in intangibles rules, capitalization and expensing rules, and patents among others. Companies included in this study are grouped by industry using SIC codes. Finally, *YEAR* is included in the model as an indicator variable to control for ETR differences related to different time periods.

Sample Selection

Data to calculate the variables used in this study were drawn from the COMPUSTAT database for the years 1988 to 2003. This study runs tests only on observations from 1993 to 2002, but five prior years of sales data are needed to calculate sales growth, and an additional year is needed to calculate the following year's stock return. A summary of the sample development is provided in Panel A of Table 1. Initially, 27,890 observations were identified that did not have missing data for any of the variables under consideration. From this initial sample, 7,167 observations were eliminated because they had a net loss. Next, observations with fewer than five consecutive years of sales data were eliminated, which further reduced the sample by 9,534. Finally, remaining observations not in the top or bottom 30% for PE and sales growth for two consecutive years were removed, resulting in a final sample of 914 observations (369 value company observations and 545 glamour company observations). Panel B of Table 1 provides an industry breakdown for the sample.

[INSERT TABLE 1 HERE]

Table 2 presents the simple correlations among the dependent, independent, and control variables. All of the independent variables are significantly correlated and according to the predicted sign with ETR with the exception of *SIZE*, which is marginally

significant and negatively related to ETR. The correlation coefficient for *LEV* and *ROA* indicates potential collinearity ($\rho_{ij} = -0.468$). As an additional check, the variance inflation factors (VIF) were calculated during hypothesis testing. VIFs calculate how much the variances of predictor variables are inflated due to the presence of a linear relationship with other predictors in the model (Neter et al. 1996). A VIF greater than ten indicates that multicollinearity may be unduly influencing the least squares estimates (Neter et al. 1996, page 387). All of the VIFs in this study are well below the threshold that would indicate potential multicollinearity.

[INSERT TABLE 2 HERE]

IV. RESULTS

Descriptive Statistics

Table 3 presents the descriptive statistics separated by glamour and value companies. A two-sample t-test on the means indicates that glamour companies have higher effective tax rates (20% versus 17%; $p < 0.01$, two-tailed). The current federal statutory rate is 35%. The biggest reason for the difference between the statutory rate and the ETRs calculated in this study is that depreciation and amortization are added to the denominator of the ETR calculation. If the denominator is calculated as EBIT (versus EBITDA), the mean ETR for glamour companies and value companies is 38% and 22% ($p < 0.01$, two-tailed), respectively.⁹ As expected, glamour companies have larger PE multiples ($p < 0.01$, two-tailed) and prior sales growth ($p < 0.01$, two-tailed), as well as significantly higher stock market returns ($p < 0.01$, two-tailed) leading up to the testing period. In addition, glamour companies are larger in terms of total assets (SIZE $p < 0.01$,

⁹ ETRs are expected to be approximately 35% to 40%, absent tax planning, since the top federal statutory rate is 35% and state taxes could be expected to increase ETR by another 5%.

two-tailed), which is consistent with the observation in LaPorta et al. (1997) that growth companies tend to be larger. Value companies are more capital intensive ($p = 0.01$, two-tailed). Glamour companies have a higher ROA (13% versus 9%; $p < 0.01$). Consistent with the finance literature (e.g., Basu 1977; Lakonishok et al. 1994; La Porta 1996; La Porta et al. 1997; Fama and French 1992), value companies have higher returns than glamour companies after the testing period (median one-year return equals 15% versus negative 8% for glamour companies; $p = 0.03$, two tailed).

[INSERT TABLE 3 HERE]

Regression Results

Table 4 presents the results from regressing *ETR* on *GLAMOUR* and control variables. Overall, the model is significant ($F = 26.58$; $p < 0.01$). As predicted, *GLAMOUR* is significant and positive ($p < 0.01$, two-tailed) indicating that glamour companies have higher ETRs than value companies after controlling for size, leverage, capital intensity, multinational operations, ROA, industry and year.¹⁰ Consistent with the political cost theory, *SIZE* is positive and significant ($p = 0.01$, two-tailed). Consistent with Gupta and Newberry (1997), *LEV* ($p < 0.01$, two-tailed) is significant and negative, and *ROA* ($p < 0.01$, two-tailed) is significant and positive. Consistent with prior studies (e.g., Gupta & Newberry 1997; Mills et al. 1998), *CAPINT* ($p < 0.01$, two-tailed), and *MULTI* ($p = 0.02$, two-tailed) are both statistically significant and negative. Overall, the Adjusted R^2 for the model is 36%, similar to previous ETR studies, which typically have Adjusted R^2 ranging from approximately 10% to 50% (e.g., Gupta & Newberry 1997;

¹⁰ We also calculated statistics using the Fama-MacBeth (1973) procedure (results not tabulated), in which the coefficients for the 10 cross-sectional regressions are averaged and t-statistics computed for the calculated coefficients. The results using this procedure are very similar to the results reported in Table 4 (β_1 *GLAMOUR* = .029; $t = 3.22$; $p < 0.01$).

Mills et al. 1998; Rego 2003; Phillips 2003). The variance inflation factors presented in Table 4 do not indicate that multicollinearity is present in the model.

The results in Table 4 support the hypothesis that glamour companies have higher ETRs than value companies. The least squares estimate of the difference indicates that glamour companies' ETRs are higher than value companies by 2.7 points.¹¹ Multiplying the pre-tax income of glamour companies by the ETR difference yields a mean (median) of \$13.8 (\$2.6) million dollars of additional taxes, with values ranging from approximately zero to \$349 million. The results support the theory that glamour companies are willing to sacrifice cash to maintain market status.

[INSERT TABLE 4 HERE]

Sensitivity Analysis

Two types of supplemental tests were performed. First, sensitivity tests were performed using different sets of market and accounting measures to create the glamour and value portfolios. The analysis was performed to test whether the results are being driven by the choice of sales growth and PE to construct the glamour and value portfolios. Second, tests were performed using different testing periods to examine whether the results are sensitive to time or continued inclusion in the glamour (value) portfolio.

¹¹ This study defines a value company as one that has underperformed in the past (low sales growth), but companies that have current net losses are eliminated. As such, two alternative explanations for the ETR difference exist: (1) NOLs could be influencing the results, and (2) value companies may be in a lower tax bracket. To test the former, we ran a model with an indicator variable (0,1) to denote whether a firm had an NOL. The results did not change the conclusions reached in this study ($\beta_1 GLAMOUR = .028$; $p < 0.01$). To test the latter is more difficult since actual tax return data cannot be observed. However, the lowest pre-tax income reported for value companies in the sample is \$568,000, which would result in an ETR, for federal purposes, of 34%.

Different Proxies for Constructing Glamour and Value Portfolios

This study uses a combined weighted sales growth and PE measure to proxy for *GLAMOUR*.¹² This study, like Lakonishok et al. (1994), combines sales growth with PE to counteract the drawbacks to using a single PE measure. The main drawback to using PE only (the measure preferred by Basu 1977) is that firms with temporarily depressed earnings could be included as a glamour company. By combining PE with sales growth, this study places an additional requirement that firms must have high past growth and high expected future growth to help weed out firms with temporarily depressed earnings. However, many studies use single measures or prefer different price ratios. Fama and French (1992) prefer PB as a proxy for growth. PB is more difficult to interpret than PE as it can be interpreted differently for different firms. A high PB could describe market growth expectations, or it could describe a company with extensive intangible assets, among other interpretations. Price-to-operating cash flow (PCF) is another commonly tested proxy for expected growth (Lakonishok et al. 1994; La Porta et al. 1997).

To test whether the results are driven by the choice of growth construct, sensitivity tests were run using different glamour proxies. In the first model, a glamour (value) stock is defined as one ranking in the top (bottom) decile for PE. The second and third models do the same for PB and for PCF separately. In untabulated results, this study finds that each of the three models is significant and positively related to ETR. The single measure PE, as expected and discussed in LSV, was the least significant single measure ($p = 0.12$, two-tailed) whereas the other single measures, PB and PCF, are both

¹² Results from a test using equally weighted sales growth (results not tabulated) are virtually identical to those reported in Table 4 ($\beta_1 \text{GLAMOUR} = .027$; $t = 4.13$; $p < 0.01$).

highly significant ($p < 0.01$, two-tailed). The marginal significance of the single measure PE can likely be explained by the inclusion of firms with temporarily depressed earnings.

Next, we test whether the results are driven by the choice of combined past and future growth proxies. In addition to constructing glamour and value portfolios using PE and sales growth (results reported in Table 4), we also tested whether the results are robust using PB with weighted asset growth and PCF with weighted cash flow growth. The alternative dual measure definitions (PB/asset growth and PCF/cash flow growth) are both highly significant ($p < 0.01$, two-tailed). All of the *GLAMOUR* coefficients are positively related to *ETR* as predicted. The results are robust to different *GLAMOUR* proxies.

Analysis Using Different Testing Periods

The results in Table 4 report ETR differences between glamour and value companies, given that they were a glamour (value) company at the end of the previous and current years. This testing period was chosen in order to investigate the ETRs of companies during the time they are labeled as a glamour (value) company. Typically, finance studies investigating glamour and value companies (e.g., Lakonishok et al. 1994) construct glamour and value portfolios at year-end and then compare market returns for the two groups in the following period.

To test whether the results are driven by the testing period, three alternative timing choices are tested. First, the restriction that companies remain a glamour (value) company at the end of the second year is relaxed so that all glamour and value companies at the end of year 1 are tested in year 2 regardless of whether they are still a glamour (value) company at the end of year 2. Second, companies that are glamour (value)

companies for two consecutive years are tested in year 3, regardless of whether the company remained a glamour (value) company at the end of year 3. Finally, a third model was run based on a requirement that a firm be in the glamour (value) portfolio for a single year, versus a two-year requirement in the original model. The results for all three alternative timing models are virtually identical with each other and with the results reported earlier in Table 4. The coefficients for the *GLAMOUR* variable (results not tabulated) in the three alternative models are .023, .023, and .025, respectively. When compared with the results from the primary model ($\beta_1 = .027$), it is clear that the results are robust to different testing periods. These results are consistent with the theory that glamour firms have higher ETRs than value companies due to financial reporting pressures, whether a firm manages to remain a glamour firm or not.¹³ Overall, the conclusions remain consistent using different glamour proxies and testing periods.

V. DISCUSSION

This study finds empirical evidence that glamour companies have higher effective tax rates than value companies using the definition of glamour company in Lakonishok et al. (1994). According to the results, the ETR of glamour companies is estimated to be 2.7 points higher than value companies after controlling for size, leverage, capital intensity, multinational operations, industry and year. In terms of a dollar estimate, that translates into a mean (median) of \$13.8 (\$2.6) million of foregone tax savings per glamour company. The results are consistent with the hypothesis that glamour companies experience higher financial reporting pressure and respond by foregoing tax minimization

¹³ A model also was run that looked just at the companies that were glamour (value) companies at the end of the previous year, but are not in either portfolio at the end of the current year (i.e., the companies that fell out of the portfolios in the second year). Companies that were in the glamour portfolio at the end of the previous year continued to have higher ETRs than value companies in the second year ($\beta = .025$), but the p-value was not significant.

strategies that could result in lower financial income and lead to a negative market reaction discussed in the finance literature (e.g. Lakonishok et al. 1994; Barth et al. 1999; Skinner and Sloan 2002). The findings are robust to alternative proxies for past growth and future growth expectations.

By focusing on companies that have higher financial costs, this study finds additional evidence supporting Stein (1989) that managers sacrifice long-term value for short-term financial reporting when they face higher capital market pressure. In addition, this study calculates an estimate of foregone tax savings for managers to consider as they weigh the corresponding financial costs within the all costs framework proposed by Scholes et al. (2002).

This study should be analyzed within the context of its unique limitations. First, implicit taxes were not included as a part of tax expense. Implicit taxes arise when the pre-tax return of tax-favored investments are bid below less tax-favored investments (Scholes et al. 2002). If glamour or value companies systematically invest in tax-favored assets differently, the results of this study could be affected.

Second, firms may be included in the analysis as glamour companies due to transitory earnings. A company with very low current earnings that are expected to return to previous levels in the near future could have an extremely high PE without being a glamour company. Identifying which observations have transitory earnings would be very subjective and therefore no explicit attempt was made to identify such companies. However, a couple steps were undertaken to reduce the likelihood that such observations are included in the analysis. First, this study uses sales growth to proxy for past growth. Therefore, a company would need to have both high sales growth and

transitory earnings to be included in the analysis. Second, this study requires that glamour (value) companies be in the top (bottom) portfolio for two consecutive years. Transitory earnings lasting longer than two years are probably not temporary. However, to the extent that such observations were not completely eliminated could influence the results.

Third, this study is limited because actual tax return data cannot be observed. Taxes paid are estimated based on data disclosed in the 10-K, which is often released approximately six months before the tax return is actually filed.

Despite the limitations, the results provide evidence that glamour companies forego tax-saving strategies that could be used to invest in long-term growth. This provides evidence of an opportunity for glamour companies to improve earnings and long-term growth through tax planning provided the financial cost to implementing a more aggressive tax strategy is not prohibitive.

REFERENCES

- Bankman, J. 1994. The Structure of Silicon Valley Start-ups. *UCLA Law Review* 44 (September): 1737-1768.
- Barth, M., J. Elliot, and M. Finn. 1999. Market Rewards Associated with Patterns of Increasing Earnings. *Journal of Accounting Research* 57 (Autumn): 387-413.
- Basu, S. 1977. Investment Performance of Common Stocks in Relation to their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis. *The Journal of Finance* 32 (June): 663-682.
- Comprix, J., L. Mills, and A. Schmidt. 2004. Bias in Quarterly Effective Tax Rate Estimates: Implications for Earnings Management and Analysts' Forecasts. Working Paper, Arizona State University.
- Dechow, P., and D. Skinner. 2000. Earnings Management: Reconciling the Views of Accounting, Academics, Practitioners, and Regulators. *Accounting Horizons* 14 (2): 235-250.
- Dhaliwal, D., C. Gleason, and L. Mills. 2002. Last Chance Earnings Management: Using the Tax Expense to Achieve Earnings Targets. Working paper, University of Arizona.
- Erickson, M., M. Hanlon, and E. Maydew. 2004. How Much Will Firms Pay for Earnings that Do Not Exist? Evidence of Taxes Paid on Allegedly Fraudulent Earnings. *The Accounting Review* 79 (2): 387-408.
- Fama, E., and K. French. 1992. The Cross-section of Expected Stock Returns. *The Journal of Finance*. 46: 427-466.
- Fama, E., and J. MacBeth. 1973. Risk, Return and Equilibrium: Empirical Tests. *Journal of Political Economy* 81: 607-636.
- Guenther, D., and D. Jones. 2003. Valuation Implications of Changes in Firms' Effective Tax Rates. Working Paper, University of Colorado.
- Gupta, S., and K. Newberry. 1997. Determinants of the Variability in Corporate Effective Tax Rates: Evidence From Longitudinal Data. *Journal of Accounting and Public Policy* 16: 1-34.
- Hanlon, M. 2003. What Can We Infer About a Firm's Taxable Income from its Financial Statements? *National Tax Journal* 56 (4): 831-863.
- Klassen, K. 1997. The Impact of Inside Ownership Concentration on the Trade-Off Between Financial and Tax Reporting. *The Accounting Review* 72 (3): 455-474.

- Lakonishok, J., A. Shleifer, and R. Vishny. 1994. Contrarian Investment, Extrapolation, and Risk. *The Journal of Finance*. 49 (December): 1541-1578.
- La Porta, R. 1996. Expectations and the Cross-Section of Stock Returns. *The Journal of Finance*. 51 (December): 1715-1742.
- La Porta, R., J. Lakonishok, A. Shleifer, and R. Vishny. 1997. Good News for Value Stocks: Further Evidence on Market Efficiency. *The Journal of Finance* 52: 859-874.
- Magrath, L., and L. Weld. 2002. Where Does Good Management End and Fraud Begin? Abusive Earnings Management and Early Warning Signs. *The CPA Journal* August: 50-54.
- Mills, L., M. Erickson, and E. Maydew. 1998. Investments in Tax Planning. *The Journal of the American Taxation Association* 20 (Spring): 1-20.
- Neter, J., M. Kutner, C. Nachtsheim, and W. Wasserman. 1996. *Applied Linear Statistical Models: Fourth Edition*. McGraw-Hill.
- Phillips, J. 2003. Corporate Tax-Planning Effectiveness: The Role of Compensation-Based Incentives. *The Accounting Review* 78 (July): 847-874.
- Plumlee, M. 2003. The Effect of Information Complexity on Analysts' Use of that Information. *Journal of Accounting Research* 78 (1):275-296.
- Porcano, T. 1986. Corporate Tax Rates: Progressive, Proportional, or Regressive. *The Journal of the American Taxation Association* 7 (2): 17-31.
- Rego, S. 2003. Tax-Avoidance Activities of U.S. Multinational Corporations. *Contemporary Accounting Research* 20 (Winter): 805-833.
- Rozeff, M., and M. Zaman. 1998. Overreaction and Insider Trading: Evidence from Growth and Value Portfolios. *The Journal of Finance* 53 (April): 701-716.
- Scholes, M., M. Wolfson, M. Erickson, E. Maydew, and T. Shevlin. 2002. *Taxes and Business Strategy: A Planning Approach*. 2nd Edition. Upper Saddle River, NJ: Prentice-Hall, Inc.
- Skinner, D., and R. Sloan. 2002. Earnings Surprises, Growth Expectations, and Stock Returns or Don't Let an Earnings Torpedo Sink Your Portfolio. *Review of Accounting Studies* 7: 289-312.
- Stein, J. 1989. Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior. *The Quarterly Journal of Economics* 104: 655-669.

Watts, R., and J. Zimmerman. 1986. *Positive Accounting Theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Zimmerman, J. 1983. Taxes and Firm Size. *Journal of Accounting and Economics* 5 (2): 119-149.

TABLE 1
Sample Description

Panel A: Sample Development

Observations meeting minimum data requirements	27,890
Less:	
Observations with negative income	(7,167)
Observations with less than 5 consecutive years of sales data	(9,534)
Observations not ranked in the top or bottom 30% for WGS and PE for two consecutive years	<u>(10,275)</u>
Final Sample	<u><u>914</u></u>

Panel B: Observations by Industry

	Industry		Total	Percent
Extractive	IND ₁ SIC 0 to 1999		22	2%
Manufacturing	IND ₂ SIC 2000 to 3999		442	48%
Transportation	IND ₃ SIC 4000 to 4999		64	7%
Retail	IND ₄ SIC 5000 to 5999		176	19%
Financial	IND ₅ SIC 6000 to 6999		58	6%
Services	IND ₆ SIC 7000 to 9099		152	17%
Total			<u>914</u>	

TABLE 2
Pearson Correlation Matrix

	ETR	GLAMOUR	SIZE	LEV	CAPINT	MULTI	ROA
GLAMOUR	0.168 (.146)						
SIZE	-0.047 (.000)	0.353 (.000)					
LEV	-0.477 (.000)	-0.006 (.000)	0.225 (.000)				
CAPINT	-0.266 (.157)	-0.082 (.000)	0.064 (.000)	0.328 (.000)			
MULTI	-0.097 (.000)	-0.051 (.861)	0.083 (.000)	0.091 (.000)	-0.014 (.000)		
ROA	0.465 (.000)	0.082 (.013)	-0.159 (.052)	-0.468 (.000)	-0.134 (.000)	-0.076 (.668)	

(p-values in parentheses)

Description of variables:

- ETR = Two-year average of current tax expense divided by EBITDA
- GLAMOUR = Companies ranked in the top 30% for P/E and sales growth for 2 years
- SIZE = Natural log of book value of total assets (BVA)
- LEV = Leverage, measured as the ratio of long-term debt to total assets
- CAPINT = Capital intensity, measured as the ratio of book value of net property, plant & equipment to BVA
- MULTI = Multinational operations, measured as the ratio of foreign assets to total BVA
- ROA = Return on Assets, measured as pre-tax income divided by BVA

TABLE 3
Descriptive Statistics

	VALUE (n = 369)			GLAMOUR (n = 545)			Difference
	Mean	S.D.	Median	Mean	S.D.	Median	t-statistic
ETR	0.17	0.11	0.18	0.20	0.10	0.21	5.16 **
PE	9.49	2.77	9.68	57.20	123.94	34.11	7.39 **
PB	1.49	1.25	1.26	5.53	5.28	4.38	14.45 **
PCF	35.11	355.90	7.41	59.02	125.71	27.98	1.44
WGS	0.002	0.05	0.02	0.37	0.21	0.31	32.39 **
TA	4905.13	29103.47	184.36	5957.64	18475.92	927.63	0.67
SIZE	5.47	2.02	5.22	6.93	1.83	6.83	11.38 **
LEV	0.16	0.14	0.16	0.16	0.16	0.11	-0.17
CAPINT	0.28	0.19	0.25	0.25	0.20	0.20	-2.48 *
MULTI	0.06	0.14	0.00	0.05	0.12	0.00	-1.53
ROA	0.11	0.08	0.09	0.13	0.09	0.10	2.48 **
PTI	228.10	992.42	17.39	503.70	1393.98	93.37	3.28 **
RETURN	16.59	40.18	13.46	31.45	74.21	20.07	3.51 **
AVGRET	48.19	110.38	19.14	166.29	400.54	54.08	5.52 **
FRETURN	56.36	315.22	15.25	13.97	274.71	-7.74	-2.16 *

* Significant at the $\alpha = .05$ level (two-tailed p-value)

** Significant at the $\alpha = .01$ level (two-tailed p-value)

Description of variables:

GLAMOUR = Companies ranked in the top 30% for P/E and sales growth for 2 years

VALUE = Companies ranked in the bottom 30% for P/E and sales growth for 2 years

PE = Price/Earnings ratio

PB = Price/Book ratio

PCF = Price/Cash Flow ratio

WGS = Five-year weighted average sales growth

TA = Book value of total assets

PTI = Pre-tax income

RETURN = Current year market return

AVGRET = Two-year average market return for current and preceding year

FRETURN = Market return for the year following the testing period

See Table 2 for a description of all other variables used in this table.

TABLE 4
*Regression of Effective Tax Rate on Glamour Indicator Variable
and Control Variables*

$$\text{ETR} = \beta_0 + \beta_1 \text{GLAMOUR} + \beta_2 \text{SIZE} + \beta_3 \text{LEV} + \beta_4 \text{CAPINT} + \beta_5 \text{MULTI} \\
+ \beta_6 \text{ROA} + \sum_{k=1}^5 \beta_k \text{INDUSTRY}_k + \sum_{i=1}^9 \beta_i \text{YEAR}_i + \varepsilon$$

Variable	Predicted	Coefficient	t-statistic	VIF
Intercept	+	0.098	4.06 **	-
GLAMOUR	+ (H)	0.027	4.15 **	1.33
SIZE	?	0.004	2.45 *	1.38
LEV	-	-0.203	-9.04 **	1.49
CAPINT	-	-0.051	-2.86 **	1.49
MULTI	-	-0.054	-2.28 *	1.11
ROA	+	0.339	9.20 **	1.35
Tax Savings	2.563			
F-statistic	26.579 **			
Adj. R ²	0.359			

* Significant at the $\alpha = .05$ level (two-tailed p-value)

** Significant at the $\alpha = .01$ level (two-tailed p-value)

Description of variables:

YEAR_i = Year indicator variable

INDUSTRY_k = Industry indicator variable

Tax Savings = Median of estimated potential tax savings foregone

See Table 2 for a description of all other variables used in this table.

Coefficients for Year and Industry variables available upon request.