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Capital gains tax rates and the cost of capital for small business: evidence from the IPO market ☆

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Abstract

We examine the issue prices of small initial public offerings around the 1993 tax law change that reduced the capital gains tax on qualified small business stock. We compare the actual issue price of new stock with a benchmark price that is not affected by the change in capital gains tax. We find that, after controlling for IPO underpricing, the issue prices of qualifying small business stock after the tax rate change are significantly higher than the issue prices before the change. A control sample of nonqualifying firms shows no significant difference in issue prices.

Introduction

An important public policy question is whether the capital gains tax rate affects common stock pre-tax returns and thus the corporate cost of capital. In 1993 Congress attempted to lower the cost of capital for small businesses in the U.S. by enacting a provision that eliminates the tax on one-half of the gain realized from selling `qualified small business stock’ provided the stock is held for at least five years. This tax benefit, contained in Section 1202 of the Internal Revenue Code, is available only to individual shareholders who purchase the stock directly from the issuing corporation and applies only to stock of issuing corporations with total assets of less than $50 million (after issuance).

The capital gains tax reduction affects the tax paid by investors on future gains from selling qualified small business stock. With perfect and complete markets, expected after-tax returns on investments should remain unchanged, and the expected future tax reduction should be passed on to the issuing corporation in the form of a higher stock price (and hence a lower cost of capital), consistent with the intent of Congress in enacting the 1993 legislation. This increase in price (and decrease in before-tax return) of tax-favored assets is referred to by Scholes and Wolfson (1992) as an `implicit tax'.

In this study we examine the issue prices of small initial public offerings (IPOs) both before and after the effective date of the tax rate change (August 10, 1993). We identify a sample of 177 IPOs in 1993 and 1994 that meet all of the requirements contained in the Internal Revenue Code for issuing qualified small business stock. We also select a control sample of 51 larger IPOs during the same time period that are too big to qualify under the rules of Section 1202. We measure the tax effect on the issue price by comparing the actual issue price of the new stock with a benchmark price (the `tax-neutral price') that is not affected by the change in the capital gains tax. The tax-neutral price is the closing market price of the stock on the first trading day. This tax-neutral price is not affected by the capital gains tax change because only shares of stock acquired directly from the issuing corporation are treated as qualified small business stock. Therefore, anyone purchasing the stock in the market on the first trading day would not be purchasing qualified small business stock and would not be eligible for the lower capital gains tax on a future sale. Because our measure of the tax effect also contains a component that is commonly referred to as `underpricing' in IPOs, we also include control variables that have been shown in prior studies in accounting and finance to explain underpricing.

Certain features of our sample firms make it difficult to predict ex ante the magnitude of the change in price in response to the tax rate reduction. Firms that meet the tax requirements for issuing qualified small business stock are much smaller than those typically studied in prior research, and the small size makes it likely that investors in these firms are individuals (rather than institutions) who may be unsophisticated with respect to investment decisions (Brav and Gompers, 1997). In addition, the characteristics of these firms and their investment bankers are different from those in most previous studies of IPOs. For example, the majority of our sample firms issue `units' (i.e., bundles of stock and warrants) rather than stock, and over 80% of our sample firms have investment bankers ranked `low quality' using the Carter and Manaster (1990) rankings. Our sample firms are also likely to be in the category of small nonventure-backed firms that Brav and Gompers (1997) find account for the IPO underperformance documented by Ritter (1991) and Loughran and Ritter (1995). Some researchers have even suggested that individual investors in small IPOs act irrationally (see, e.g., Loughran and Ritter, 1995; Brav and Gompers, 1997; Shiller, 1990). All of these factors may work to reduce the efficiency of the market for the stock of small IPOs. The magnitude of the change in price of qualified small business stock in response to the tax rate reduction is ultimately an empirical question.

Our results demonstrate that, after controlling for IPO underpricing, the issue prices of qualified small business stock issued after August 10, 1993 are significantly higher (compared with the first-day trading price) than the issue prices of shares issued prior to that date. These results appear robust to a number of possible alternative explanations such as overall IPO market trends, outliers, changes in interest rates, and changes in the number of small IPOs going to market. We interpret our results as providing evidence that the 1993 tax change is associated with a significant increase in the prices received for small IPOs, a result consistent with the stated intent of Congress when the legislation was introduced. Interestingly, although Congress appears to believe that lowering the cost of capital for U.S. small businesses is an important public policy goal, this view is not necessarily consistent with empirical evidence (see, e.g., Ritter, 1991; Holtz-Eakin, 1995).

Our results imply that nearly all of the future tax benefits from the rate reduction were passed on to the issuing corporations in the form of higher stock prices rather than retained by investors. This finding can be compared with other implicit tax studies of tax sharing, such as Shackelford (1991), Guenther (1994), Engel et al. (1998), and Erickson and Maydew (1998). While Shackelford finds that most of the tax benefits are passed on to borrowers (implying a large implicit tax), Engel et al. find surprisingly small estimates of implicit tax effects in debt-equity hybrid securities. Guenther finds the change in yields of Treasury bills in response to tax rate changes to be much smaller than that implied by the size of the rate change, and Erickson and Maydew find small implicit tax effects for preferred stock. However, the relatively high degree of risk associated with our very small IPOs and the possibility of seemingly irrational investor behavior in the small IPO market make it a much different setting from those studied by previous researchers.

The results of this study enhance our understanding of IPO pricing, particularly the pricing of the very small IPOs that are rarely studied by researchers, Schultz (1993) being an exception. In addition, our results provide evidence that capital gains tax rates affect the prices of equity securities, a topic studied in a more general context by Collins and Kemsley (1998) and Lang and Shackelford (1998). Finally, our results make an important contribution to public policy research in taxation by providing evidence that a tax law change targeted at achieving a specific public policy objective – in this case reducing the cost of capital for small businesses – can achieve its stated purpose. This issue is still an important one to Congress, as evidenced by the fact that the recent Taxpayer Relief Act of 1997 contains a provision that allows taxpayers to `roll over' tax-free a gain from the sale of qualified small business stock when the proceeds are used to purchase other qualified small business stock within 60 days of the sale. Although the results of this study are only applicable to relatively small firms, Petersen and Rajan (1994, p. 5) point out that small firms are an important component of the national economy, and that `an important measure of the efficiency of a financial system is the extent to which such firms are nurtured and have access to the capital necessary for growth'. This study provides evidence that helps us to better understand that process.

The balance of the paper is organized as follows. Section 2 discusses the tax rules relating to gains on the sale of qualified small business stock, and Section 3 discusses our research design and control variables relating to IPO underpricing issues. Section 4 discusses the sample selection process and measurement of variables, and Section 5 presents results of our empirical tests. Section 6 concludes. Appendix A provides an excerpt from the IPO prospectus of a qualified small business issuer, and Appendix B provides an example of the effect of the Section 1202 capital gains tax rate change on IPO underpricing.

Section snippets

Taxation of gains of qualifying small business stock

Section 1202 of the Internal Revenue Code, added by the Revenue Reconciliation Act of 1993, excludes from taxable income of noncorporate taxpayers 50% of the gain from the sale of qualified small business stock held for more than five years. In this section of the paper we briefly discuss the history of this tax provision and provide an overview of the rules that have to be met to achieve favorable tax treatment. An understanding of these tax rules is important, since many of the restrictions…

Research design – controlling for IPO underpricing

Since we investigate differences in initial offering prices before and after the 1993 reduction in the capital gains tax, it is important in our research design to control for factors other than taxes that affect the pricing of IPOs. Empirical studies have consistently identified the puzzling regularity that, on average, new issues experience dramatic increases in price on the day of going public, a phenomenon characterized as `underpricing'. The degree of underpricing (also referred to as the…

Sample selection

The empirical analysis focuses on IPOs that likely qualify for Section 1202 status, in the sense that these issues represent the sale of qualified small business stock to individual (i.e., noncorporate) investors. However, to ensure that our findings regarding these smaller, tax-favored IPOs are robust to the possibility of general temporal shifts in the IPO market, we also use a control sample of larger issues that are not qualified small business stock. For the qualified small business issuer …

Descriptive statistics

Table 2 presents descriptive statistics for the samples of 177 new issues by qualified small businesses and the 51 new issues in the control group, partitioned by whether the IPO is before or after the effective date of Section 1202.

Overall, and consistent with the finance literature (e.g., Ibbotson et al., 1994), the smaller new issues sustain a substantial degree of IPO underpricing, with mean and median initial returns for the entire sample of 29.0% and 15.9%, respectively. Underscoring the…

Conclusion and contribution

We investigate how capital gains taxes affect stock prices by examining the issue prices of small IPOs around the 1993 capital gains tax rate reduction for qualified small business stock. Our results demonstrate that, after controlling for underpricing, the issue prices of shares issued after August 10, 1993 (the effective date of the tax rate change) are significantly higher (compared with the first-day trading price) than the issue prices of shares issued prior to that date. These results…

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Asymmetric tax-induced trading: The effect of capital gains tax changes
2021, Quarterly Review of Economics and Finance

> *Citation Excerpt :*
> …Brennan (1970) models this prediction that equity prices reflect expected investors taxes through the demand for equity. A number of studies on capitalization effect show that the presence of the capital gains tax reduces stock prices and current stock returns (see Guenther & Willenborg, 1999; and Ayers, Lefanowicz, & Robinson, 2003; among others). The second strand of literature on tax-induced trading examines changes in investors' trading behavior due to tax law modifications.…

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2020, Journal of Empirical Finance

> *Citation Excerpt :*
> …Therefore, we examine whether changes in the tax rate on investment income (e.g., capital gains) affect PE firms' corporate acquisitions, which is the largest use of PE capital globally and represents over 15% of the total acquisition market (Bain & Company, Inc., 2019). Following from the capitalization theory of taxation (Brennan, 1970; Guenther and Willenborg, 1999; Lang and Shackelford, 2000; Ayers et al., 2002; Guenther and Sansing, 2006; Dai et al., 2008; Sialm, 2009), reducing the tax on investment income (e.g., capital gains) increases the current demand for assets as investors have a lower future expected tax liability upon disposition.4 Existing literature suggests that the increase in demand for investments can be attributed to investors building an expectation of investor-level taxes into their cost of capital (Poterba and Summers, 1985; Dhaliwal et al., 2005, 2007)….

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2020, Journal of Financial Economics

> *Citation Excerpt :*
> …One potential reason for the lack of empirical evidence is the limited availability of data on start-up firm financing. Prior literature examining the impact of taxation on venture capital funding relies on aggregate venture capital investment data (e.g., Poterba, 1989) or firm-level financing data following an IPO (Guenther and Willenborg, 1999).1 However, financing data on most start-up firms are unavailable because they operate as private firms.…

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