Do Investors Ignore Dividend Taxation? A Reexamination of the Citizens Utilities Case

Jeff Hubbard; Roni Michaely


Stable URL:
http://links.jstor.org/sici?sici=0022-1090%28199703%2932%3A1%3C117%3ADIDTA%3E2.0.CO%3B2-E

_The Journal of Financial and Quantitative Analysis_ is currently published by University of Washington School of Business Administration.

____________________________________________

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at http://www.jstor.org/about/terms.html. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at http://www.jstor.org/journals/uwash.html.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

____________________________________________

JSTOR is an independent not-for-profit organization dedicated to creating and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact support@jstor.org.
Do Investors Ignore Dividend Taxation?  
A Reexamination of the Citizens Utilities Case

Jeff Hubbard and Roni Michaely*

Abstract
Citizens Utilities Company (CU), Stamford, CT, has two classes of common stock, one paying cash dividends and one paying stock dividends. Unless CU shareholders ignore dividend taxation, the price of the cash dividend shares should increase relative to the stock dividend shares after the 1986 tax change. Contrary to this hypothesis, we find that the relative valuation of these two classes of shares was not permanently affected by the tax change. We do observe a pricing change around the time of the tax reform, but the effect is only temporary—the relative valuation before the tax change (1982–1984) and after (1987–1989) is almost equal. Two possible explanations for the observed valuation of the two stocks are clientele effects and differences in liquidity. We find that neither of these explanations can account for the relative pricing of the shares.

I. Introduction

One of the central questions in corporate finance is whether investors prefer to receive their payouts from corporations in the form of cash dividends or as capital gains. The conventional wisdom is that investors dislike cash dividends because of the tax disadvantage associated with them. On the other hand, it has been argued that cash dividends have positive benefits that offset their tax disadvantage. For instance, dividends may be used to convey information (Bhattacharya (1979); Miller and Rock (1985)), to partially resolve the inherent conflict of interest between management and equity holders (Easterbrook (1984); Jensen (1986)), or to help investors maintain “self-control” (Shefrin and Statman (1984)).

Despite extensive empirical research in the area, we do not have a conclusive answer to the question of how investors value cash dividends relative to other forms of payout. One reason for the lack of a conclusive answer is that there are many confounding effects that make it difficult to isolate the effect of dividend policy. Since any two firms can differ not only in their dividend policies, but

---

*Hubbard, Johnson Graduate School of Management, Cornell University, Ithaca, NY 14853; Michaely, Johnson Graduate School of Management, Cornell University, and Recanati School of Business Administration, Tel Aviv University, Tel Aviv, Israel. We thank Hal Bienman, John Elliot, John Long, Maureen O’Hara, Jim Piotrka, and seminar participants at Cornell University and at the 1997 AFA meetings for helpful discussions and comments. We also thank Jon Karpoff (the editor) and Kenneth Eades (the referee) for helpful comments and suggestions that markedly improved the paper.

117
also in their capital structures and investment policies, it is difficult to attribute valuation differences solely to differences in dividend policy.

The common stock of the Citizens Utilities (CU) Company, Starnford, CT, provides a unique opportunity to examine the effect of dividend policy on stock prices. CU has two classes of common stock that differ only in the form of their dividend payments: one class (Series A) receives stock dividends, the other (Series B) receives cash dividends. Thus, the relative price of the shares should reflect the preference for (or aversion to) cash dividends. Long (1978) was the first to exploit this opportunity, providing evidence that investors prefer cash dividends over stock dividends of equal value. Long’s evidence contradicts the conventional wisdom that investors prefer capital gains to dividend income because of the differential tax treatment of the two types of income. The Poterba (1986) study revisits the CU case over a later time period with results suggesting that investors are indifferent between cash dividends and stock dividends of equal amounts.

Whether CU investors prefer cash over stock dividends (as Long’s findings indicate) or are indifferent to the method of payment (as Poterba suggests), we would expect that the relative valuation of these two stocks will be affected by tax changes: ceteris paribus, lower taxes on cash dividends should make the cash dividend paying stock more attractive. This should hold true regardless of why (or if) CU’s equity holders prefer cash payouts. For example, assume that CU investors prefer to receive cash dividends because of self-control reasons, as in Shefrin and Statman (1984) and Thaler and Shefrin (1981). Even under this scenario, at the margin, lower taxes on cash dividends should make them more attractive. This is the first issue we investigate in the study. Focusing on the substantial change in the relative taxation of dividends and capital gains brought on by the 1986 Tax Reform Act (TRA), we examine the relative valuation of the cash and stock dividends before and after the implementation of the act.

We find that the behavior of the share prices in 1985 and 1986 is consistent with a tax effect due to the change in the tax law. While the relative value of the dividends paid to the two series of shares remained the same, the shares that received cash dividends increased in value relative to the shares that received stock dividends. This is consistent with the tax hypothesis: in that time period, the law was either in its final stages through Congress (1985), or had already been passed (1986), so we would expect the price change to reflect the present value of future tax savings. Contrary to the tax hypothesis, however, we also observe that in the post-1986 period, the relative valuation of the cash and stock dividend shares changed again, such that the 1987–1989 relative valuation looks very much like that of 1982–1984.

This result is very puzzling. The change in the relative taxation of dividends and capital gains does not appear to have a lasting effect on the relative prices of these two classes of stock; i.e., the two series of shares do not seem to be consistently priced on an after-tax basis.

What can explain this anomalous behavior? The two stocks’ values depend on the same assets, and their holders have the same voting rights and the same claims to cash flows in the event of liquidation. Thus, risk factors cannot explain the pricing differences. It is conceivable that the differential valuation of the two series of shares is due to differential costs of trading. Investors may be willing to pay a
premium for one stock, relative to another, if that stock exhibits a higher degree of market liquidity. If CU's cash dividend shares were more liquid instruments than the stock dividend shares, this would explain why the market priced the cash dividend shares at a premium. Furthermore, if the cash dividend shares' liquidity increased in 1985-1986 (relative to the stock dividend shares' liquidity), it would explain the change in the price pattern that occurred around that time.

We employ two commonly used measures of liquidity—trading volume and quoted bid-ask spread—to test whether such liquidity patterns exist. We find that the cash dividend shares are not more liquid than the stock dividend shares. In fact, over most of the time period analyzed, they are unambiguously less liquid. Thus, differential liquidity cannot explain the existence of the price premium for the cash dividend shares. Furthermore, changes over time in the relative liquidity of the two stocks cannot explain the intertemporal variation in the relative prices.

Having ruled out risk, taxes, and liquidity effects, we explore the possibility that the observed price behavior is a manifestation of a clientele effect. It is possible that CU's shareholders are just not affected by the tax change. This would be true, for instance, if the majority of shareholders are either institutions (which are taxed differently than individuals) or very small investors (who hardly pay any taxes to begin with). The temporary change in the relative valuation, which occurred in 1985-1986, might also be explainable if we observe a corresponding shift in the composition of the shareholder body. We investigate these possibilities, but find no evidence to support any of them.

The remainder of this article is organized as follows. Section II explains CU's historical dividend payout policy and details the changes that took place in the 1980s and 1990s. It also reviews the results of Long (1978) and Poterba (1986). In Section III, we examine the relative prices of the two series of shares following changes in the tax law and a shift in the company's dividend policy. Section IV investigates the effect of liquidity on the relative prices of Series A and Series B shares and explores the possibility that clientele effects play a role in the observed price behavior. Section V concludes.

II. Citizens Utilities Dividend Policy and Previous Research

A. CU's Dividend Payout Policy

Since 1956, CU has had two classes of common stock. The two classes have the same voting rights and the same priority in the event of bankruptcy or liquidation. They differ fundamentally only in the dividends they receive. From 1956 to 1989, CU's dividend payout policy was to pay quarterly cash dividends to Series B shares and semiannual stock dividends to Series A shares. (Series A shares can be converted at any time (one-for-one) into Series B shares. The only exception is that conversion cannot occur between the declaration date and the record date of a Series B cash dividend. Series B shares cannot be converted into Series A shares.) Because of a special ruling that the company received from the IRS, the stock dividends paid to Series A shareholders could be treated for tax
purposes the same as stock dividends are treated for a company that has only one series of outstanding shares.\footnote{See Long (1978) for a more complete discussion of the IRS ruling as well as the IRS' subsequent position on such matters.}

What makes the CU stocks interesting for our purposes is that the value of the stock dividends paid to Series A shareholders is directly tied to the Series B cash dividend. According to the corporate charter, the two classes of shares are supposed to receive dividends of "equivalent" value. However, the charter also provides the CU board with some leeway in this regard. In fact, the value of the stock dividends paid to Series A shares has consistently exceeded the value of the cash dividends paid to Series B shares. Long (1978) documents that the median dividend ratio ($D_A / D_B$) for the 1956–1976 period was 1.101, while Poterba (1986) finds a dividend ratio of 1.122 over the 1976–1984 period. We find that this trend continued through 1989. From 1985–1989, the median dividend ratio was 1.144.\footnote{The dividend ratio ($D_A / D_B$) was calculated as follows. $D_B$ is simply the sum of the two quarterly cash dividends paid to Series B during the half-year. $D_A$ is the value of the semiannual stock dividend paid to Series A, computed as $dP/(1 + d)$, where $d$ is the number of dividend shares paid per existing share and $P$ is the price of Series A shares on the day before the ex-day.}

Beginning in 1990, CU's dividend payout policy changed. The special IRS ruling, which the company received in 1956, was due to expire at the end of 1990. This prompted the company to discontinue the cash dividend payments for Series B shares and to begin paying the same stock dividends to both series of shares. The following passage from the 1989 Annual Report explains the rationale behind this change:

To avoid uncertainties under tax laws that might otherwise affect the tax status of Series A stock dividends beyond 1990, [the Board concluded that stock dividends only should be paid on all outstanding shares in 1990, with the intention that upon favorable action by Congress, followed by obtaining such tax rulings as may be necessary, the company will resume paying cash dividends on Series B shares and will of course continue stock dividend payments on Series A shares.

In fact, the policy of paying stock dividends to both classes of shares has continued to the present time. Stock dividends are paid quarterly, and are paid to both series of shares at the same time.

One final change in CU's dividend payout policy is notable. In November 1991, the company instituted its Stock Dividend Sale Plan. This plan was designed to meet the needs of those shareholders who prefer to receive their distributions in cash. Under the plan, Series B shareholders can opt to have their quarterly stock dividends sold and have the net cash proceeds distributed to them at a brokerage commission of only five cents per share—considerably less than most individual investors would pay through a broker. According to CU's 1991 Annual Report, the proceeds of the dividend sale are taxed as capital gains.

B. The Long (1978) and Poterba (1986) Studies

Because the two classes of shares are identical in all aspects other than the form of their dividend payouts, the relative price of Series A shares to Series B...
shares \((P_a/P_b)\) should equal the dividend ratio \((D_a/D_b)\) if there is no tax effect due to differential tax treatment of dividends and capital gains.\(^\text{3}\) Prior to the 1986 Tax Reform Act, most individual investors faced higher effective tax rates on dividends than on capital gains. If CU's marginal shareholders had a tax-induced preference for capital gains, then we should observe the price ratio being consistently above the dividend ratio.\(^\text{4}\)

Contrary to this reasoning, Long (1978) finds that over the 1956–1976 period, the price ratio was consistently below the dividend ratio. The study reports that 80\% of the monthly price ratios are below 1.07, while 90\% of the dividend ratios are above 1.07. Long concludes that “... claims to cash dividends have, if anything, commanded a slight premium in the market over claims to equal amounts (before taxes) of capital gains.” This does not mean, of course, that investors are ignoring the effect of taxes in valuing the shares. One possibility is that the holders of CU's shares are investors who, for whatever reason, actually pay higher taxes on capital gains than on cash dividends. Long, however, presents evidence from CU annual reports that makes this seem unlikely. Another explanation is that investors value the cash dividends for some reason unrelated to taxes, and are thus willing to bear the cost of higher taxes.

Poterba (1986) examines the period from 1976–1984 and reports that the price ratio and dividend ratio are approximately equal during this time. This result does not support Long's conclusion that investors value cash dividends more than capital gains, but neither does it support the commonly held view that dividends are less valued than capital gains due to the tax disadvantage of dividends. Poterba goes on, however, to examine price changes on the ex-dividend day. The study finds that the stock dividend share price drop by the full amount of the dividend, while the cash dividend share price declines only about $0.75 for each dollar of dividend paid. This evidence suggests that, on the ex-day, stock dividends are more highly valued than cash dividends.

III. The Relative Prices of Series A and Series B Shares

A. Predicted Behavior of the Price Ratio

The 1986 Tax Reform Act (TRA) significantly reduced the tax advantage of capital gains relative to ordinary income.\(^\text{5}\) Given a constant dividend ratio, this dramatic change in tax law should correspond to a change in the price ratio. Regardless of why CU's shareholders preferred cash dividends in the first place, a change in the tax rules that makes dividends more favorable should increase the

---

\(^{3}\)Because the dividends are not paid to the two shares at the same time, the argument of equality between the price and dividend ratios is not exactly accurate. Long (1978) makes an adjustment to the price ratio so that the argument works. Specifically, the paper modifies \(P_a\) by assuming that investors reinvest their cash dividends into the stock and maintain this position until a stock dividend is paid on Series A. We make the same adjustment in our empirical work.

\(^{4}\)This argument also implicitly assumes that investors know, or have a good estimate of, what the dividend ratio will be in the future. We believe that this assumption is reasonable, since the company has had a long history of dividend payment and the dividend ratio has been relatively constant over time.

\(^{5}\)See Michaely (1991), which examines the effect of the 1986 TRA on ex-day prices of NYSE stocks.
relative price of the cash dividend shares. Thus, we expect the price ratio \( P_a/P_b \) to decrease following the December 1985 passage of the Act.

Another factor that leads to a similar prediction about the behavior of the price ratio is the uncertainty surrounding the future tax status of the stock dividends. Recall that the special IRS ruling, which allowed Series A stock dividends to effectively be treated as capital gains, was due to expire in 1990, and it was by no means certain that the ruling would be extended. If this uncertainty had any effect at all on investors' valuation, it should have lowered the value of Series A shares relative to Series B (since the ruling had no effect on the tax status of Series B cash dividends).

A final consideration is the departure, in 1990, from the company's long-standing dividend policy. When CU began paying stock dividends on both classes of shares, it eliminated what we have so far assumed to be the only difference between the two classes. Thus, we expect that any difference between the prices of the two classes of shares will disappear following the change in dividend policy.

B. Results

We obtained price, dividend, and volume data from the daily stock price files of the Center for Research in Security Prices (CRSP). Table 1, Panels A and B, documents the actual behavior of the price and dividend ratios through 1993. The average price and dividend ratios for various subperiods between 1973 and 1993 appear in Panel A, while Panel B provides the same information on a year-by-year basis. The tables also report the dividend-adjusted relative prices (the price ratio divided by the dividend ratio), providing a readily apparent measure of the relative valuation of CU's cash and stock dividend shares: a dividend-adjusted relative price of one indicates indifference between cash and stock dividends of equal amounts, while a value less than one reflects a preference for cash dividends. Figure 1 graphically depicts the movement of our adjusted price ratio over the 1973–1993 time period.

The first thing we note from Figure 1 (and the table) is that the price ratio has experienced a fair amount of year-to-year and intrayear variation, aside from the extreme shifts that we focus on here. This variation notwithstanding, we should still expect to see a change in the price ratio as a result of the tax law change.

As previously documented by Long (1978) and Poterba (1986), the tables show that the price ratio was below the dividend ratio prior to 1976, and that the price and dividend ratios are roughly equal over the 1976–1984 time period. Examining the price and dividend values for 1985–1986 shows that while the dividend ratio did not change much at all, the average price ratio declines to 1.04. In fact, \( P_b \) is actually greater than \( P_a \) on about 20% of the days during 1986, although \( P_b \) never exceeds \( P_a \) by more than $0.50. (Recall that the price ratio has a natural lower bound due to the fact that Series A shares can at any time be converted into Series B shares. Thus, the price of Series A shares should never be substantially below that of Series B shares.) This is a significant shift from the previous time period, when the average price ratio is roughly equal to the average dividend ratio.
<table>
<thead>
<tr>
<th>Time Period</th>
<th>Series A</th>
<th>Series B</th>
<th>Price Ratio</th>
<th>Dividend Ratio</th>
<th>Dividend-Adjusted Relative Price</th>
</tr>
</thead>
</table>
| **Panel A. Subperiod Analysis**
1973-1977    | 31.99    | 30.02    | 1.053       | 1.112          | 0.95                          |
1978-1981    | 35.89    | 31.16    | 1.117       | 1.127          | 0.93                          |
1982-1984    | 32.55    | 28.36    | 1.146       | 1.132          | 1.01                          |
1985-1986    | 37.28    | 35.65    | 1.037       | 1.142          | 0.91                          |
1987-1989    | 36.53    | 31.52    | 1.146       | 1.134          | 1.01                          |
1990-1993    | 33.44    | 29.92    | 1.016       | 1.001          | 1.01                          |
**Panel B. Year-by-Year Analysis**
1973         | 36.81    | 35.16    | 1.038       | 1.062          | 0.96                          |
1974         | 25.67    | 25.17    | 1.006       | 1.118          | 0.90                          |
1975         | 28.30    | 26.86    | 1.043       | 1.120          | 0.93                          |
1976         | 32.74    | 30.16    | 1.073       | 1.113          | 0.96                          |
1977         | 36.49    | 32.75    | 1.102       | 1.102          | 1.00                          |
1978         | 37.53    | 33.43    | 1.109       | 1.083          | 1.02                          |
1979         | 37.87    | 33.19    | 1.129       | 1.124          | 1.00                          |
1980         | 35.23    | 30.29    | 1.147       | 1.192          | 0.96                          |
1981         | 32.84    | 29.80    | 1.085       | 1.110          | 0.98                          |
1982         | 38.26    | 34.89    | 1.081       | 1.119          | 0.97                          |
1983         | 31.37    | 25.08    | 1.238       | 1.182          | 1.05                          |
1984         | 27.95    | 24.80    | 1.118       | 1.085          | 1.02                          |
1985         | 37.38    | 34.44    | 1.075       | 1.166          | 0.92                          |
1986         | 37.17    | 36.85    | 1.000       | 1.117          | 0.69                          |
1987         | 29.76    | 27.31    | 1.092       | 1.097          | 0.93                          |
1988         | 35.46    | 30.20    | 1.162       | 1.145          | 1.02                          |
1989         | 44.40    | 37.06    | 1.195       | 1.161          | 1.03                          |
1990         | 31.90    | 30.13    | 1.056       | 1.005          | 1.05                          |
1991         | 29.02    | 25.76    | 1.104       | 1.000          | 1.01                          |
1992         | 33.01    | 32.94    | 1.002       | 1.000          | 1.00                          |
1993         | 27.81    | 27.87    | 0.998       | 1.000          | 1.00                          |

*The table displays, for various subperiods or years, the average share price for the two classes of shares, the price ratio \( P_A/P_B \), the ratio of the dividends paid to each class \( D_A/D_B \), and the relative price adjusted for differences in dividends (price ratio divided by dividend ratio).

*Note that CU had seasonal stock splits over the time period analyzed. Thus, the seemingly constant stock price was actually steadily increasing over time.

*To compute the price ratio, we adjusted the price of the Series B shares by assuming that cash dividends are reinvested in the stock, and sold when a stock dividend is paid on Series A shares. We make this adjustment to control for the fact that the dividends are not paid at the same time.

The dividend-adjusted relative price drops from an average of 1.01 in the 1982-1984 period to 0.91 in the 1985-1986 period. The decline in the price ratio is both economically and statistically significant (t-statistic = 32.8). This considerable drop is consistent with the prediction in Section III.A: lower expected taxes on cash dividends result in higher relative valuation of the cash dividend paying stock.
FIGURE 1

The graph displays the changes over time in the dividend-adjusted relative price of Citizen’s Utilities’ Series A and Series B shares. The dividend-adjusted relative price is the price ratio of the two classes of shares \( \left( \frac{P_a}{P_b} \right) \) divided by the ratio of the dividends paid to the two classes over the previous year \( \left( \frac{D_a}{D_b} \right) \). The median price ratio is plotted at quarterly intervals from 1973 to 1993.

In isolation, this change is exactly what we expect from a tax perspective. From 1987 onward, however, the behavior of the price ratio is perplexing, considering its historical pattern and the discussion thus far. The price ratio rises to an average of 1.15 over the 1987–1989 time period, while the dividend ratio changes only slightly, to an average of 1.13. Indeed, the dividend-adjusted relative price returns to its pre-TRA level of 1.01. During 1988 and 1989, the price ratio exceeds the dividend ratio on approximately two-thirds of the trading days.

This evidence is at odds with the predictions that we formulated in Section III.A: both the tax law change and the uncertainty regarding the future tax status of the Series A dividends should cause the price ratio to permanently drop, given that the dividend ratio is relatively constant. Instead, we observe a temporary drop in the price ratio in 1985–1986, followed by an inexplicable increase from 1987 through 1989. The dividend-adjusted relative price is almost exactly the same after the tax change (1987–1989) as before (1982–1984). It does not appear that dividend taxation is being properly and consistently accounted for in the pricing of the two series of shares: regardless of any non-tax reasons for investors to prefer cash dividends, a change in the law that decreases the taxation of cash dividends (relative to stock dividends) should increase the relative value of cash dividends.

The last time period we examine is from 1990 through 1993. As discussed above, CU has paid stock dividends to both classes of shares during this time. When
this new policy was announced in 1990, it was not immediately clear whether it
was a temporary or a permanent shift in policy. It has become clear, however, that
the company now intends it to be permanent, especially given the implementation
of the stock dividend sale plan. Thus, the two classes of shares now seem to be
almost perfect substitutes for each other. In light of this, the behavior of the price
ratio from 1990–1993 is not very surprising: the average price ratio declined to
1.06 in 1990, then dropped further to 1.01 in 1991 and to 1.00 in 1992 and 1993.

To summarize, the relative valuation of CU shares presents three unresolved
issues: first, we have documented that the prices of Series A (stock dividend) and
Series B (cash dividend) shares, adjusted for their dividend payouts, have been
approximately equal in the past 15 years. Thus, the first issue is why investors
value the two stocks on an equal basis despite the negative tax consequences of
cash dividends. (This phenomenon has also been documented by Poterba and
Long using data from an earlier period).

Even if we take these preferences as given, it is still surprising that tax changes
do not affect them. Investors may value cash dividends for other reasons (despite
the tax consequences), but a change in dividend taxation should still cause a change
in the relative valuation. Yet, we show that, to the extent that such a change
occurred, it is only temporary, and that the relative valuation in the 1982–1984
period (before the tax change) is virtually identical to the relative valuation in
1987–1989 (after the tax change). So, the second question is: why did a dramatic
change in taxes not have any lasting impact on the relative pricing of the two stocks?
The third issue is why the relative valuation temporarily changed in 1985–1986
(cash dividend shares became more valuable relative to the stock dividend shares).
We explore some possible explanations in the next section.

IV. Potential Explanations for the Observed Price Behavior

Until now, we have implicitly assumed that the two series of shares are alike
in all ways except for the form of dividend payment. It may be, however, that there
are other differences that investors take into account when determining the relative
value of the shares. Since the two classes of stock represent shares of the same
assets, the pricing differences cannot be a reflection of risk differences. There are,
however, some other potential differences that we may have overlooked. In this
section, we will examine two possible ways in which the two classes of shares
may differ: first, they may have different transaction costs that account for their
relative pricing; second, they may have different investor clienteles.

A. Liquidity and the Price Ratio

The results of Section III suggest that, prior to 1987, Series B shares are
overpriced relative to Series A shares. On the other hand, if the transaction costs
associated with Series B shares were substantially less than those associated with
Series A, then the apparent mispricing could actually be a reasonable reflection
of these differential costs. The trading costs that we consider here are those
associated with liquidity. If Series B shares were more liquid than Series A shares,
that would provide at least a partial explanation for the anomalous price behavior.
In this section, we examine the liquidity of the CU stocks and investigate whether it has any effect on the relative prices of Series A and Series B shares. The first measure of liquidity that we consider is dollar volume. Investors who wish to buy or sell a stock prefer to minimize the price impact of their trades and are, therefore, willing to pay a liquidity premium for more actively traded stocks.

Table 2 summarizes the volume statistics for the two series of shares from 1983–1993. Neither class of CU's stock is what we would call a "high volume" stock, but both display moderately active trading. Dollar volume in Series A shares ranged from around $150,000 per day in the early 1980s to more than $1 million per day in 1993. Series B shares have also shown a large increase in volume over the time period: an average daily trading volume of about $1 million in 1993 compared to only $32,000 a day in 1984. For both classes of shares, the increase in volume has been fairly monotonic, except for a noticeable drop in 1992. It is not surprising that Series A shares have historically displayed higher volume than Series B shares, since there were many more Series A shares outstanding than Series B shares. What is surprising is how the gap in volume between the classes narrows, and in fact disappears, in the beginning of the 1990s. To compare the two classes of shares we look at the volume ratio, displayed in the last column of Table 2, defined as the dollar volume of A divided by the dollar volume of B. From 1983–1987, the volume ratio is relatively stable, hovering around four. The ratio surges to nearly six in 1988, but has steadily declined since then. During 1992 and 1993, the two classes of stock display approximately equal daily trading volume.

Another measure of liquidity that we consider is the bid-ask spread. All other things equal, investors will place a higher value on a stock that has a relatively tight spread than on a stock with a wide spread. Table 3 shows summary statistics for the closing bid-ask spread on CU’s Series A and Series B shares over the 1983–1992 time period. The spreads are given both in absolute (dollar) terms and as a percentage of price (closing ask price minus the closing bid price, divided by the average of the bid and ask prices). The final column of Table 3 reports the median daily ratio of the (percentage) spreads on the two classes of stock. These median ratios have ranged from about 0.75 to 1.0, indicating that, on average, the bid-ask spread on Series A shares was slightly lower than the spread on Series B shares. The median spreads decreased over time, from $0.75 in 1984 to $0.25 in 1993. Note that in 1992, when CU's shares began trading on the NYSE for the first time, spreads declined significantly for both series of shares: as a fraction of price, the spread dropped from 2% in 1991 to 1% in 1992.

Neither the volume data (in Table 2) nor the bid-ask spread data (Table 3) allow us to conclude that the Series B shares displayed greater market liquidity than the Series A shares. Thus, differences in liquidity cannot explain the existence of a premium for the cash dividend shares. Despite this fact, it is possible that changes in the relative liquidity of the two stocks can help to explain changes in the size of the premium. In particular, we want to know if the 1985–1986 change

---

6CU's daily volume was not available from CRSP prior to 1983.
7We do not have an explanation for the 1992 decline in volume. We note that during the year, neither class of shares had any zero-volume days. The volume decline from 1991 to 1992 is of approximately the same magnitude whether we measure using means or medians.
8See, for example, Amihud and Mendelson (1986) or Brennan and Subrahmanyan (1996).
### TABLE 2
Daily Trading Volume for Series A (Stock Dividend) and Series B (Cash Dividend) Shares

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Shares Outstanding (000)</th>
<th>Number of Shares Traded per Day</th>
<th>Dollar Value of Shares Traded per Day</th>
<th>Ratio of Dollar Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Series A</td>
<td>Series B</td>
<td>Series A</td>
<td>Series B</td>
</tr>
<tr>
<td>1983</td>
<td>15,423</td>
<td>3,143</td>
<td>5,078</td>
<td>1,600</td>
</tr>
<tr>
<td>1984</td>
<td>15,428</td>
<td>3,162</td>
<td>5,026</td>
<td>1,300</td>
</tr>
<tr>
<td>1985</td>
<td>17,200</td>
<td>3,211</td>
<td>6,972</td>
<td>1,852</td>
</tr>
<tr>
<td>1986a</td>
<td>36,864</td>
<td>6,612</td>
<td>14,064</td>
<td>4,200</td>
</tr>
<tr>
<td>1987</td>
<td>36,374</td>
<td>7,149</td>
<td>20,207</td>
<td>5,500</td>
</tr>
<tr>
<td>1988</td>
<td>37,009</td>
<td>7,233</td>
<td>22,189</td>
<td>4,609</td>
</tr>
<tr>
<td>1989</td>
<td>37,188</td>
<td>7,256</td>
<td>16,702</td>
<td>5,393</td>
</tr>
<tr>
<td>1990</td>
<td>38,418</td>
<td>7,825</td>
<td>25,400</td>
<td>11,299</td>
</tr>
<tr>
<td>1991</td>
<td>41,354</td>
<td>13,368c</td>
<td>29,018</td>
<td>20,633</td>
</tr>
<tr>
<td>1992c</td>
<td>64,489</td>
<td>22,201</td>
<td>16,800</td>
<td>18,000</td>
</tr>
<tr>
<td>1993c</td>
<td>131,631</td>
<td>48,508</td>
<td>41,100</td>
<td>41,000</td>
</tr>
</tbody>
</table>

The table shows median daily values of volume for the two series of shares. The ratio given in the last column is the median value of the daily ratio of dollar volume in Series A shares to dollar volume in Series B shares.

A two-for-one split occurred in August 1986.

The large increase in Series B shares is attributable to an acquisition that was paid for using four million Series B shares.


A two-for-one split occurred in September 1993.

### TABLE 3
Bid-Ask Spread for Series A (Stock Dividend) and Series B (Cash Dividend) Shares

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean Spread (in dollars)</th>
<th>Median Spread (in dollars)</th>
<th>Median Spread (as fraction of price)</th>
<th>Median Ratio of Spreads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Series A</td>
<td>Series B</td>
<td>Series A</td>
<td>Series B</td>
</tr>
<tr>
<td>1983</td>
<td>0.63</td>
<td>0.70</td>
<td>0.50</td>
<td>0.75</td>
</tr>
<tr>
<td>1994</td>
<td>0.61</td>
<td>0.70</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>1995</td>
<td>0.51</td>
<td>0.62</td>
<td>0.50</td>
<td>0.75</td>
</tr>
<tr>
<td>1996</td>
<td>0.52</td>
<td>0.54</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>1997</td>
<td>0.45</td>
<td>0.46</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>1998</td>
<td>0.42</td>
<td>0.54</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>1999</td>
<td>0.48</td>
<td>0.57</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>2000</td>
<td>0.52</td>
<td>0.57</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>2001</td>
<td>0.49</td>
<td>0.56</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>2002</td>
<td>0.29</td>
<td>0.29</td>
<td>0.25</td>
<td>0.25</td>
</tr>
</tbody>
</table>

The table contains summary statistics for measures of the bid-ask spread on CU's Series A and Series B shares. Spread data through Feb. 21, 1992 (when CU switched from NASDAQ to the NYSE), were obtained from CRSP, data for the rest of 1992 are from ISMM. The means and medians are calculated using daily closing bid and ask prices from August 1983 through December 1992. The ratio given in the last column is the median daily value of the ratio of the Series A (percentage) bid-ask spread to the Series B (percentage) bid-ask spread.
in the dividend-adjusted relative price can be attributed to a temporary shift in the
relative liquidity of the shares. One could argue that the decline in the volume ratio
in 1986 (last column of Table 2) and the increase in the bid-ask spread ratio in 1985
and 1986 (last column of Table 3) are the reasons for the increase in the relative
valuation of Series B shares. Both of these effects represent temporary increases in
the liquidity of Series B shares relative to Series A shares. It is possible that the
temporary change in the relative prices is a response to this temporary change in
liquidity.

To investigate whether changes in the relative liquidity of the shares are re-
sponsible for changes in the relative prices, we perform a regression analysis.
Using monthly observations, we regress the (dividend-adjusted) price ratio on two
liquidity variables: i) the ratio of the dollar volume of Series A shares to the dollar
volume of Series B shares in the month preceding the price observation, and ii) the
average bid-ask spread of Series A relative to the bid-ask spread of Series B in
the month preceding the price observation. If the price ratio is in fact changing in
response to changes in liquidity, then we expect the coefficient of the volume ratio
to be positive and the coefficient of the spread ratio to be negative. The period cov-
ered by the regression is August 1983 through December 1989 (77 observations),
the period of time for which bid-ask spread data was available and the company
was paying cash dividends to Series B shareholders. The variance matrix is esti-
ated using the method of Newey and West (1987) to correct for autocorrelation.
The result of the regression is as follows,

\[
\begin{align*}
\text{PRICE RATIO} & = 0.99 + 0.0028 \left( \text{VOLUME RATIO} \right) - 0.014 \left( \text{SPREAD RATIO} \right), \\
\bar{R}^2 & = 0.10 \quad (t = 0.77) \quad (t = 0.25)
\end{align*}
\]

Neither of our proxies for liquidity seems capable of explaining the variation in the
dividend-adjusted price ratios. The coefficients on both the volume ratio and the
spread ratio are statistically insignificant. Although the relative liquidity change
around 1986 did coincide with a change in the price ratio, the regression results
indicate that there is no systematic relationship between the relative valuation of
the shares and our measures of liquidity. Finally, we note that these regression
results do not change in any significant way if we use daily, rather than monthly,
observations or if we examine shorter time periods.

The regression results, combined with the data in Tables 2 and 3, do not seem
to indicate that differences in liquidity between the two series of CU shares are
the source of the pricing anomalies that we have documented. (Consistent with
our analysis, Bailey (1988) reports that liquidity differences cannot explain the
relative pricing of Canadian dual-class shares).

B. Clientelee Effects

Another possible explanation for the observed relative pricing of the CU
shares is that prices reflect the preferences of a specific shareholder group; specif-
ically, a group of shareholders who do not have a tax-induced aversion to cash
dividends. Shareholder groups who may fit this description include institutional
investors and very small investors. In this section, we investigate whether these
groups play a significant role as CU shareholders, and whether their presence can
account for the approximately equal long-run valuation of CU’s cash and stock
dividend shares. Furthermore, if such a clientele exists, can their presence also
explain the temporary shift in relative pricing that occurred in 1985–1986?

Ideally, we would like to observe the trading weights of the various groups
in the market for CU stocks as well as their marginal tax rates. It is only through
trading that prices can change to reflect the preferences of the market participants.
Using this information, we could have calculated the exact expected price ratio as
a function of investors’ trading activity and their marginal tax rates (see Michaela
and Vila (1995)). Unfortunately, we cannot observe the identity of the traders.
Following Poterba (1987), Michaela and Murgia (1995), and Michaela and Vila
(1995), we proxy for investors’ trading weights using their proportionate holdings
of CU shares.

The first group that we examine is institutional investors. If CU’s cash div-
idend paying (Series B) shares were predominantly held by institutions, then the
institutions’ tax preferences could be the reason for the relative price behavior that
we have documented. Institutional investors pay lower taxes on cash dividends
than do ordinary individual investors; thus, an institutional investor would value
the Series B shares more highly (relative to Series A) than would an individual
investor (this will be true both before and after the tax reform). Significant insti-
tutional holdings of Series B shares may therefore explain why the two classes of
shares seemed to be valued equally. Moreover, if this is indeed the case, then it
is less surprising that the 1986 TRA did not leave an impact on the relative val-
uation: under this scenario, the holders of Series B shares were not significantly
affected by the tax change. Finally, how can such an investor clientele explain
the (temporary) change in the relative valuation that we observed in 1985–1986?
A corresponding change in clientele in those years (say, for example, a dramatic
increase in institutional holdings of Series B shares) may be the reason for this
empirical observation.

We obtained data from Standard and Poor’s Stock Guide on the number of
institutional shareholders and the amount of stock that they held. These data are
summarized in Table 4. The first two columns of the table show the fraction of
shares held by institutions. These shareholders held only about 3% to 4% of CU’s
outstanding stock prior to 1985. The jump in Series B ownership in 1985 is almost
entirely due to a single institutional holder who purchased approximately 10% of
the Series B shares. The highest level of overall institutional ownership occurred
in 1989, when these shareholders collectively held 9.2% of the total shares (7.6% of
the Series A and 18.7% of the Series B shares). The number of institutions that
held CU’s Series B shares, shown in the next two columns of Table 4, steadily
increased from 12 in 1983 to 103 in 1993. Series A shares were somewhat more
widely held by institutions, with 24 holders in 1983 and 123 in 1993.

Are these levels of institutional holdings sufficiently high (or low) to justify
a claim that institutions’ preferences determine the pricing of Series B shares? To
provide at least a partial answer to this question, we can compare the institutional
holdings of CU stock to that of similar companies. For purposes of comparison, we
selected a sample of 20 other utility companies whose dividend yields were similar
TABLE 4
Indicators of Citizens Utilities' Shareholder Clientele

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Shares Held by Institutions</th>
<th>Number of Institutional Shareholders</th>
<th>Average Number of Shares Held by Non-Institutional Holders</th>
<th>Average Trade Size (# of shares)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Series A</td>
<td>Series B</td>
<td>Series A</td>
<td>Series B</td>
</tr>
<tr>
<td>1983</td>
<td>2.7</td>
<td>3.6</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>1984</td>
<td>2.9</td>
<td>3.6</td>
<td>29</td>
<td>13</td>
</tr>
<tr>
<td>1985</td>
<td>3.5</td>
<td>15.7</td>
<td>43</td>
<td>22</td>
</tr>
<tr>
<td>1986b</td>
<td>4.6</td>
<td>17.6</td>
<td>55</td>
<td>26</td>
</tr>
<tr>
<td>1987</td>
<td>6.7</td>
<td>17.8</td>
<td>76</td>
<td>37</td>
</tr>
<tr>
<td>1988</td>
<td>7.8</td>
<td>17.9</td>
<td>76</td>
<td>39</td>
</tr>
<tr>
<td>1989</td>
<td>7.6</td>
<td>18.7</td>
<td>86</td>
<td>50</td>
</tr>
<tr>
<td>1990</td>
<td>7.0</td>
<td>12.8</td>
<td>87</td>
<td>51</td>
</tr>
<tr>
<td>1991</td>
<td>7.4</td>
<td>15.4</td>
<td>98</td>
<td>63</td>
</tr>
<tr>
<td>1992b</td>
<td>7.8</td>
<td>12.5</td>
<td>114</td>
<td>76</td>
</tr>
<tr>
<td>1993b</td>
<td>6.2</td>
<td>6.8</td>
<td>123</td>
<td>103</td>
</tr>
</tbody>
</table>

a The table shows the fraction of CU's Series A and Series B shares that were held by institutions (at year end), the number of institutional holders, the average number of shares held by non-institutional shareholders, and the average number of shares traded per transaction. Data on institutional holders are from Standard and Poor's Stock Guide. To compute the number of shares held by non-institutional shareholders, the number of shareholders for each class of stock was obtained from CU's annual report to shareholders for most years, and from Value Line and S&P's Stock Guide for those years when it was not included in the annual report. Trade size is computed using data on number of trades from CRSP and ISSM.

b The increase in the average number of shares held and the average number of shares traded in these years is partially due to stock splits: two-for-one splits in 1986 and 1993, and a three-for-two split in 1992.

to CU's yield, and we obtained data on institutional holdings of these companies' shares. In 1983, the mean and median percentages of these companies' shares held by institutions were 20.2% and 18.5%, respectively. In 1992, the mean and median institutional holdings were 34.3% and 37.2%. Compared to other firms in the same industry, it does not appear that institutions controlled an unusually large fraction of CU's Series B shares.

Given the relatively low level of their holdings, it seems unlikely that institutional investors influence CU's share prices any more than they influence the prices of comparable firms. However, it may well be that the prices of both CU and the control sample firms are determined by the preferences of institutions. That is, perhaps even very low levels of institutional ownership are enough to drive prices to reflect a preference for cash dividends. An alternative way to discern the effect of investors who do not have a tax aversion to dividends is through their effect on the ex-dividend day price behavior. The price drop between the cum- and the ex-day, relative to the dividend paid, reflects the weighted average preferences of investors (see Michaud and Vila (1995)). A price drop that is greater than the dividend amount represents a preference for dividends over capital gains.

The average dividend yield for the comparable firm sample was 6.7%, while CU's average annual dividend yield was 6.6%.
We therefore calculate the ex-day premium for CU’s cash dividend shares in the 1973–1989 period. We also calculate the premium for the control sample of similar-yield utility companies whose institutional holdings we reported above. We find that the ex-day premium for CU is 0.91 (68 ex-day observations) while the control sample premium is 0.93 (1019 observations). Neither the CU premium nor the control sample premium is significantly different from one. The result is robust across subperiods. In every two-year period, both the CU premium and the control sample premium are less than one, but not statistically different from one.\(^{10}\) We acknowledge that there are relatively few observations of CU ex-days, and that ex-day prices are influenced by many factors other than the size of the dividend. Nevertheless, the CU Series B ex-day results do not provide evidence of the existence of a tax clientele who prefers dividends to capital gains.

In addition to the actual levels of institutional ownership, we are also interested in changes in these levels. In particular, can the (temporary) increase in the relative price of Series B shares in 1985–1986 be explained by a corresponding shift in institutional clientele? The purchase of 10% of the Series B shares by a single institutional holder in 1985 is one such event that may have had an effect on the relative pricing of the shares. Does this purchase have a price effect that can explain the deviation of the dividend-adjusted relative price away from unity? The timing of the events makes this explanation implausible. While we cannot pinpoint the exact dates on which the stock purchases occurred, we know from the required SEC filings (13G) that the purchases were completed by December 1985. Yet the price ratio did not return to its pre-1985 level until well into 1987. It is unlikely that the price effect of this purchase could continue to be felt for more than a year.

There were no other significant changes in institutional ownership over the 1985–1989 time period. According to SEC filings (compiled by Spectrum), no other institution has held as much as 5% of either class of CU’s shares at any time. The fraction of shares held by institutions increased moderately for both classes of stock over the period. The small changes in institutional holdings documented in Table 4 do not seem large enough to constitute evidence of a clientele shift. Thus, it does not seem plausible that the actions of institutional investors can account for the observed behavior of the price ratio.

Aside from institutions, there is another class of investors whose preferences may not have been affected by the 1986 TRA. If very small investors (sometimes referred to as “widows and orphans” investors), whose marginal tax rate was very low to begin with, are the predominant holders of CU shares, then it would not be surprising that the tax change had no effect on the relative pricing of the shares.

We can investigate whether small investors are in fact major holders of the stocks by examining two further stockholder characteristics that are reported in Table 4. First, we calculate the average number of shares held by non-institutional holders. The table shows that the typical Series B shareholder is “smaller” than the typical Series A holder, but both series of shares exhibit fairly large average holdings. For instance, at year-end 1986, the average holder of Series B shares held more than 1000 shares (representing an investment of approximately $25,000), while the typical Series A shareholder held roughly twice this amount. Moreover,

\(^{10}\)For purposes of comparison, we note that Michaelly (1991) reports that the average premium for NYSE- and AMEX-listed stocks in the 1985–1989 period was 1.022.
less than 5% of the total shares were held in accounts consisting of fewer than 500 shares.11 Thus, very small investors do not seem to be an important segment of CU’s shareholder body. This assertion is supported further by our second measure of small investor involvement, reported in the final two columns of Table 4. We report the average number of CU shares traded in stock market transactions (total volume divided by number of trades). The average trade size is not small for either class of stock: even the smallest average trade sizes in the early 1980s are around 400 shares (or over $10,000). It is unlikely that such trades are made by small investors with little or no taxable income.

In sum, the evidence does not indicate that tax clientele can explain why CU shareholders priced the two series of shares equally both before (1982–1984) and after (1987–1989) the TRA:

i) Relative to comparable firms, CU’s shares are not more dominated by institutional investors.

ii) The relative pricing of the two series of shares is virtually identical in the pre- and post-TRA periods, while the level of institutional holdings increases from about 4% to more than 17%.

iii) Extrapolating from the ex-dividend day price behavior, there is no evidence of a tax clientele who prefers cash dividend payments.

iv) Small investors do not play a significant role as CU shareholders.

Furthermore, it does not seem that a clientele story is capable of explaining the temporary increase in the relative valuation of Series B shares in 1985–1986. The first possibility, that institutions temporarily increased their holdings during the period, is not borne out by the data: the increase in their holdings did not reverse itself in the 1987–1989 period, but rather remained relatively constant. An alternative explanation is related to price pressure: the price of Series B shares was temporarily higher while the institutions were in the process of increasing their holdings. However, while the increase in holdings occurred in 1985, the price ratio did not return to its pre-1985 level until well into 1987. Thus, this explanation is also unsatisfactory.

C. Other Possible Explanations

While we have considered two of the most likely explanations (liquidity and clientele) for the behavior of the price ratio, there are certainly other possible explanations that we have not considered. The relative pricing of the CU shares, which seems to indicate that a change in dividend taxation does not permanently change the relative valuation, may ultimately be related to changes in investors’ expectations over time, or to information effects.

For example, consider the following possible explanation.12 We know that, ex post, the dividend ratio did not change much from the pre-TRA to the post-TRA period. It is possible, however, that CU shareholders expected the dividend ratio to change following the tax law change (to compensate Series A holders for the tax windfall to Series B holders), and that the price ratio behavior reflects investors’

---

11 This information comes from CU’s Annual Report.
12 We thank the referee for suggesting this possibility.
surprise that the dividend ratio did not change. Under this scenario, we expect to see positive announcement effects when stock dividends are announced and judged to be in line with previous announcements.

Unfortunately, it is not possible to rigorously test such a conjecture—since CU announces stock dividends so infrequently, and since CU is the only company with a unique dual share structure, we simply do not have enough announcement observations to make statistical inferences. We can note, however, that during the post-TRA period, CU’s stock dividend announcements are not associated with excess returns on either class of shares. We examine returns around stock dividend announcements during 1986, 1987, and 1988. The average abnormal return (i.e., net-of-market return) on Series A shares is -0.1%, while the Series B shares have an average abnormal return of +0.3%; neither of which is statistically significant. Thus, the increase in the relative price that occurred in 1987 does not seem to have been caused by the announcement of the size of the stock dividend (i.e., the realization of the new dividend ratio).

Another alternative explanation is that changes in the price ratio reflect changes in expected tax rates. For example, the increase in the ratio in 1987 may be due to investors’ anticipation of a cut in the capital gains tax rate, although such a tax cut never occurred. It may be that investors’ expectations about future tax rates change frequently, even though actual tax law changes are quite rare. This could conceivably explain the substantial variation of the price ratio during time periods when there are no observable tax law changes or changes in CU’s dividend policy. Again, we are faced with a conjecture that we cannot test: we cannot observe investors’ expectations about tax law changes, we can only proxy for them by focusing on actual changes.

V. Summary and Conclusions

Do investors ignore taxation in their valuation of cash dividends relative to stock dividends? Holders of the two classes of Citizens Utilities stock apparently do. Even when the relative taxation on dividends and capital gains changed, their relative valuation of the two series of shares did not change accordingly.

We began by taking the preference for cash dividends as a given. Whatever the reasons for this preference, both the Tax Reform Act of 1986 and the uncertainty about the status of CU’s special tax ruling should have made the preference even stronger. We find, surprisingly, that this is not the case. The relative price of the cash dividend paying shares did increase in the 1985–1986 time period, as predicted, but the change was only temporary. The relative valuation of cash and stock dividend paying shares is the same in 1987–1989 as it was in 1982–1984.

Can it be that CU investors simply ignore dividend taxation? Or are there other differences between the stocks that can explain the observed price behavior?

---

13In most studies regarding market response to dividend announcements, the focus is only on announcements of changes in dividends. Here, however, we hypothesize that the "surprise" to investors comes when the dividend ratio does not change. Thus, we consider all stock dividend announcements during the time period. Note also that, because of the timing of the announcements, information about the dividend ratio is revealed when the stock dividend is announced, and not when the cash dividends are announced.
Since the values of both classes of stock reflect the same underlying assets, subject to the same level of uncertainty and the same level of management quality, we can exclude risk, asymmetric information, and contracting problems as potential explanations. We examine two possible explanations that could justify the pricing pattern that we have documented.

The first possibility is that the relative pricing is a reflection of differential costs of trading between the two stocks. If the cash dividend shares are more liquid than the stock dividend shares, then investors should be willing to pay a higher price for them despite their tax disadvantage; however, this is not the case. Class A (stock dividend) shares exhibited a lower bid-ask spread and higher trading volume throughout the 1980s. Furthermore, changes in the relative liquidity of the two classes of stock cannot explain the intertemporal variation in the relative prices.

The second potential explanation that we explore is that the prices reflect the preferences of specific shareholder groups who do not have a tax-induced aversion to cash dividends. We consider two groups in particular: institutional investors and very small investors. We find that the level of these groups' holdings cannot account for the long-run relative valuation of the shares, nor can changes in these holdings explain the temporary change in valuation during 1985-1986. Additionally, we analyze price changes on cash dividend ex-days to discern the tax preferences of the marginal traders of CU shares. This analysis also fails to provide support for the tax clientele explanation.

There are a number of theories that attempt to explain why investors may or may not have a preference for cash dividends. These include arguments based on transactions costs, behavioral explanations, conflicts of interest between management and equity holders, and signaling theories. However, none can account for the fact that CU shareholders exhibited preferences that are invariant to the after-tax valuation of dividends relative to capital gains. What then can account for the relative pricing of Citizens Utilities shares? We are open to suggestions.

References


