

Convertible Debt: A Dynamic Test of Call Policy
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Convertible Debt: A Dynamic Test of Call Policy

This paper examines the call policy of convertible bonds dynamically through time. That is, it examines daily whether a firm should call its convertible debt and measures any delay. Starting with Ingersoll (1977b), the academic literature on convertible calls has sought to explain why convertible bonds are called late. The findings here demonstrate that there is no call delay phenomenon to explain. Most bonds, given their call protection, are called as soon possible. For the few firms that do not, there are significant cash flow advantages to delaying. The median call delay period for all convertible bonds is quite short: slightly less than four months after the conversion value first exceeds the call price. If, in addition, firms want the conversion value to exceed the call price by a safety premium to assure it will still exceed the call price at the end of the normal 30 day call notice period, the median call period is less than a month.

1. Introduction

The question of what is the optimal call policy for convertible bonds has attracted considerable attention since Brennan and Schwartz (1977) and Ingersoll's (1977a) seminal work. That work suggests that the optimal call policy for convertible bonds is to call the bond when the conversion value first exceeds the call price, since forcing conversion eliminates the bondholders' premium or option value. However, empirical studies (e.g. Ingersoll (1977b) and Constantinides and Grundy (1987)) have claimed that firms consistently deviate from this call policy and delay calls. This claim was first based on Ingersoll's finding that firms wait, on average, until the conversion value exceeds the call price by 43.9%, a result confirmed in Mikkelson (1985).

Trying to explain this call delay phenomenon has generated an impressive literature. Harris and Raviv (1985) develop a signalling model which argues that a call decision conveys negative information about management's expectations of the firm's future prospects. Asquith and Mullins (1991) hypothesize that the cash flow advantages of not calling may, in some circumstances, outweigh the valuation effects of extinguishing the convertible bondholder's option. Jaffee and Shleifer (1990) argue that call delays may reflect significant costs for failed calls. Constantinides and Grundy (1987) conclude that managers view voluntary and forced conversion as substitutes and won't call if voluntary conversion is likely. Complicating this search for optimal call policy is Mikkelson's (1981) result that firms suffer significant wealth losses when they call convertibles.

This issue of when firms call is clearly important. If firms choose to delay calls, that decision is relevant to the pricing of convertible securities. Ingersoll (1977b) points out that deviations from the optimal call policy will result in discrepancies between the model's prices and the market's prices because "a convertible's value will be affected not only by the conversion strategies and call policies adopted by investors and the firm, but also by each party's expectation of the other's actions." Also, as Asquith and Mullins (1991) point out, the optimal call policy derived for convertible bonds is "one of the few straightforward, easily

testable predictions of finance theory." Inconsistency between observed call policy and the optimal policy developed by Ingersoll (1977a) raises immediate concerns over the appropriateness of applying theoretical financial models to real managerial policies and financial instruments.

All of the empirical work on convertible call policy has assumed that firms delay their calls. To date, however, no one has actually documented that there is a delay or measured how long the delay is. In addition, the existing empirical work has focused either on a subsample of called bonds or on a subsample of bonds remaining uncalled at a given point in time. These partial samples are not adequate to determine empirically average call delays for convertible bonds or to distinguish between the various hypotheses proposed for call delays.

This paper takes a more complete approach by examining the sample of all convertible bonds issued in 1980 through 1982. Each bond's conversion value and call price is calculated daily from its issue date until December 1990. This dynamic analysis allows call delays to be measured and alternative theories tested. Also calculated is the firm's stock price volatility. Finally, the firms' pre- and post-call dividends and the stock market's reaction to convertible calls is measured.

The findings demonstrate that there is no call delay phenomenon to explain. Most bonds, given their call protection, are called as soon as possible. For the few firms that do not, there are significant cash flow advantages to delaying. The median call delay for all convertible bonds is quite short; slightly less than four months after the conversion value first exceeds the call price. Even then a good portion of this delay can be explained by a "safety premium". That is, firms want the conversion value to exceed the call price by enough to safely assure it will still exceed the call price at the end of the normal 30 day call notice period. Assuming a 20% safety premium, the unexplained median delay period is reduced to less than one month.

In addition, while the average call premium is 42.3%, part of that can be explained by bonds whose conversion values rose to large premiums while they were call protected and unable to be called. For example, the average call premium for bonds which are called as soon

as their call protection expires is 80.8%. Part of the premium can also be explained by cash flow motivated delays or sudden increases in a firm's stock price. When these three factors are considered, the average call premium is only 27.1%. Stock price volatility is also found to be statistically important in explaining call premiums. This is consistent with Jaffee and Shleifer's theory that firms seek to avoid failed calls.

Finally, while the data provide support for the idea that convertible calls convey information, it is not in the context of the signalling model proposed by Harris and Raviv (1985). The results presented here duplicate earlier findings that there is a small and significant negative market reaction to call announcements, but there is no evidence of negative post-call performance of stock returns or dividends.

This paper is divided into five main sections. Section 2 reviews the current theory on convertible calls and presents some hypotheses. Section 3 describes the data sample and methodology. Section 4 presents the empirical results on call delays and call premiums. It also documents the market's reaction to calls and the firm's post-call performance. Finally, Section 5 summarizes the evidence and presents conclusions.

2. Theory and Hypotheses

2.1 Current Theory and Evidence

Ingersoll's two papers (1977a and 1977b) created an anomaly in corporate finance. In one paper (1977a) Ingersoll showed that finance theory predicts that firms should call their convertible bonds as soon as the conversion value exceeds the call price, while in the second (1977b) evidence is presented that firms waited until the conversion price exceeded the call price by 43.9% on average. This result was interpreted almost universally as showing that firms did not call when theory predicted they should. Indeed, Brealey and Myers (1991) state that "The reason for firms' reluctance to call convertibles is not known".

Ingersoll suggested several explanations for this apparent delay including possible stock price volatility during the call notice period. Firms are generally required to announce a call 30 days before the redemption date (the last date bondholders can exercise the conversion

option). During this call notice period, the price of the stock could conceivably fall so that the conversion value is less than the call price, thereby forcing the firm to redeem the bond with cash. Ingersoll concludes, however, that a safety premium cannot explain his (1977b) result that firms wait until there is a 43.9% premium before calling. While some safety premium is reasonable, a 40% plus premium requires a higher implicit volatility in the stock price than normally expected.

This call notice delay is modelled in Jaffee and Shleifer (1990), who assume it is costly to raise the cash necessary to redeem non-converted bonds. In their model firms seek to minimize the probability that the bond will fall out-of-the-money between the call announcement and the redemption date. This results in firms requiring a safety premium of conversion value over call price, although Jaffee and Shleifer do not assign any size to this premium. Asquith and Mullins (1991) in their study use a 20% safety premium, maintaining that in practice managers use 20-25%. Twenty percent is also the minimum percentage usually recommended by investment bankers, and it is the percentage cited by Brigham(1966) in his survey of managers. Finally, 20% is slightly less than twice the average monthly standard deviation of stock prices for the firms in this sample. This premium will be examined more closely below.

Asquith and Mullins (1991) provide an additional explanation for Ingersoll's anomaly. Using a sample of 221 firms with conversion value greater than call price, they show that call delays for all but one of these firms may be explained by either the firm gaining a cash flow advantage by not converting or by a safety premium. The cash-flow advantage explanation that Asquith and Mullins (1991) develop focuses on the relation between dividends and after-tax interest payments. Consistent with Brennan and Schwartz (1977) and Ingersoll (1977a), Asquith and Mullins acknowledge that the firm can increase shareholders' wealth by eliminating the option value of the bond through forced conversion. However, the liability of the bond's option value may be offset by a cash-flow advantage that occurs when the firm is paying less in after-tax coupon payments than would be paid in dividends on the converted bond. If the present

value of the cash-flow advantage is greater than the option value that can be extinguished, managers may maximize present shareholders' wealth by delaying the call. When the cost of dividend payments on the converted bond are less than the cost of after-tax coupon payments, the firm has a cash-flow advantage by calling the bond. In this case, the firm has a clear incentive to call the bond; the call maximizes shareholders' wealth by realizing the cash-flow advantage and by eliminating the option value.¹

Asquith and Mullins' (1991) empirical results show that the cash flow advantage theory in combination with the lack of a safety premium explains well why bonds remain uncalled. It does not, however, demonstrate that firms without a cash flow advantage and with a safety premium concern call quickly as Ingersoll and Brennan and Schwartz predict. Asquith and Mullins fail to test this second question because their sample contains only uncalled bonds².

An alternative explanation to Asquith and Mullins' hypothesis for why firms delay calling their convertible bonds is proposed by Harris and Raviv (1985). They assume that the market interprets a convertible call as a signal that management believes future firm performance will be unfavorable. Although they do not explain in specific terms why a call results in a negative signal and also provide no empirical tests, this theory is consistent with Mikkelsen's (1981) study which shows that there is a negative stock price reaction to the call announcement and with Ingersoll's assertion that firms delay their calls. As a consequence, management should call a bond only when it believes that the opportunity to force conversion will disappear in the future. If managers were to call when they held favorable information about the future, they would be unable to convince the market they were not calling because of negative information. In contrast, a call delay implies that future expectations are positive (or at least not negative).

Constantinides and Grundy (1987) provide more of a rationale for Harris and Raviv's call delay. The key to their argument is an assumption that voluntary conversion is less costly to management and is preferred to a call. They maintain that the investor's yield advantage is the primary factor in explaining why firms choose to delay calling in-the-money convertibles.

A positive (negative) yield advantage occurs when the coupon is greater (less) than dividend payments. Their study contends that when the yield advantage is positive, the probability of a call increases with the size of the advantage; when the yield advantage is negative, the bond will not be called. Furthermore, if dividends are expected to increase in the future, management should not call since bondholders will voluntarily convert. Thus their hypothesis incorporates Harris and Raviv's key conclusion; calling a convertible bond implies negative information about the firm since management is signalling they believe dividends will not increase in the future.

The cash flow advantage theory also allows for the possibility of signalling in certain circumstances. If dividends on the converted bond are less than the after-tax coupon payment, a call delay may indicate that management believes dividends will increase enough in the future to eliminate any cash-flow advantage. Correspondingly, when converted bond dividend payments are greater than after-tax coupon payments, a call may convey a signal that management expects dividends and the stock price to decrease in the near future. In both cases, calling allows the firm to minimize the present value of cash payments to bondholders and it simultaneously releases information to the market.

Several papers investigate whether firms that call have negative post-call performance. Ofer and Natarajan (1987) show that firms calling convertible bonds experience a significant decline in earnings growth after the call as well as significant negative cumulative abnormal returns (CARs) on common stock. Campbell, Ederington, and Vankudre (1991), however, demonstrate that Ofer and Natarajan's post-call CAR results are due to a sample selection bias. Since convertible bonds are generally issued with the conversion price at a premium to the current market price, only firms that perform well experience the rise in stock price necessary to allow them to call. Therefore, post-call earnings growth rates and CARs based on pre-call performance tend to be biased downward. Correcting for this bias, Campbell, Ederington, and Vankudre find that the large post-call declines in earnings growth and stock returns found by Ofer and Natarajan do not exist.³

As stated above, all previous empirical work has examined either the subset of bonds which have been called or the subset of bonds for which calls are delayed. More important, no previous study has calculated the call delay between when the conversion value first exceeds the call price and when the bond is called. Likewise, a thorough test of the cash-flow advantage and signalling theories requires more than a static view of the relation between dividends and after-tax coupon payments. Dividend trends before and after the call must also be examined. This is especially important in considering firms where there is only a marginal difference between dividend payments and after-tax coupon payments when the bond enters the money. In such instances, expected future dividend performance should have great bearing on the cash-flow decision.

This paper tests whether firms call convertible bonds in a manner which maximizes value for the current shareholders. That is, firms will call convertible bonds as soon as conversion value is greater than call price unless: (1) there is a significant risk that the conversion value will fall before the call notice period expires or (2) the present value of the after-tax coupon payments is less than the present value of the dividend payments on the converted bond by an amount greater than the option value extinguished in a call. This is Ingersoll's (1977) and Brennan and Schwartz's (1977) original prediction modified by Asquith and Mullins' cash flow advantage. The following predictions are explicit in this model where t =income tax rate, I =coupon payment, and D =dividend payment:

Call Delay Period:

Depends on cash flow. If $PV[D] < PV[I(1-t)]$ there should be a short call delay. If $PV[D] > PV[I(1-t)]$ then call delays should be longer.

Call Premium:

Depends on stock price volatility. The higher the monthly stock price standard deviation, the higher the call premium.

In a Harris-Raviv type signalling model the following predictions follow:

Call Delay Period: Firms do not call unless management expects negative future performance. The average call delay period is lengthy for "good" firms.

After-Call Performance: Post call dividends, earnings, and stock prices decrease.

Market Reaction: There is a negative market reaction to convertible bond calls.

This is in contrast to an Asquith-Mullins cash-flow signalling model with the following predictions:

After-Call Performance: Firm calls when $D > I(1-t)$: Post-call dividends decrease and/or the bond will fall out-of-the-money after the call.⁴

Firm calls when $D < I(1-t)$: Post-call dividends may increase, but not so much as to surpass coupon payments.⁵

Market Reaction: Neutral market reaction when $PV[D] < PV[I(1-t)]$ and a negative market reaction when $PV[D] > PV[I(1-t)]$.

In this last model the market's reaction to calls is complicated by the fact that some calls may be more informative than others. For example, if the cash flow advantage favors calling the bond, then a firm which calls not only extinguishes the option value, it also benefits the current stockholders by the present value of the difference between lower dividends and the higher after tax coupon payments. In this case the only information released is that the firm does not expect future dividends to increase enough to cause $PV[D] > PV[I(1-t)]$. If the current dividend is low, this may be minimal information. If the current cash flow advantage does not favor calling the bond, yet the firm does, this should be negative information. Firms should only call in this instance if they expect the future cash flow advantage not to favor calling the bond or if they expect the stock price to fall enough so the CV goes below the CP. This should cause a negative stock price reaction.

2.2 Other Motivations for Calling

Other motivations for calling a convertible bond include refunding at a lower rate, extinguishing the equity if the issuing firm is acquired in a merger, or exchanging the debt in a bankruptcy or restructuring. For example, firms may call and issue new debt if effective interest rates have fallen⁶ or if the firm is now able to issue debt with less restrictive covenants than the old debt.

3. Sample and Data Sources

The sample consists of all convertible bonds issued between January 1, 1980 and December 31, 1983. The initial sample of 220 convertible bonds was obtained using a data base of convertible issues provided by Securities Data Corporation. Twenty-one bonds were excluded from the final sample for the following reasons: nine were exchangeable bonds, four were convertible into ADR's or foreign stock, one was an ARCN, one was a delayed convertible, one was not convertible into equity, two bonds did not have call announcement dates which could be verified, and three did not have sufficient price data on the NASDAQ, NYSE or ASE CRSP files over the relevant period.⁷

Information on each bond's interest rate, conversion rate, call protection period, and call price schedule is taken from Moody's Manuals and Moody's Bond Record Guide. This information is verified from the prospectuses. Information on stock splits, stock dividends, cash dividends, and stock prices is taken from CRSP. After-tax coupon payments are calculated using the firms' income tax rate for the year of the call. The dividend amount on the converted bond is calculated as the conversion ratio multiplied by the per share dividend payment for the relevant year. Information on which bonds have been called, the call and redemption dates, and whether the issuing firm had been involved in a merger or acquisition is taken from the CUSIP Guide, the Wall Street Journal Index, NEXIS, and the S&P Called Bond Guide⁸.

The call delay period is calculated by evaluating, after call protection expires, the number of days the conversion value exceeds the call price until a call is announced. This calculation uses daily stock prices, the bond's call price schedule (which typically declines over time), and all stock splits and stock dividends that affect the conversion price. The after call

performance of firms is evaluated using pre- and post-call dividends and abnormal stock returns. Market reaction to issuances and calls is taken from the CRSP excess returns tapes or by calculating market-adjusted returns.

As noted above, a call may occur for reasons unrelated to conversion values, cash flows, or signalling. Some bonds are called when the issuing firm is merged into another firm since the equity of acquired firms is usually extinguished. In addition, if the issuing firm restructures its liabilities, perhaps because of financial distress, the convertible bond is sometimes exchanged. In both of these instances-mergers and financial restructurings-the decision to call is unlikely to be consistent with the rationales discussed above. For this reason, bonds called in mergers, exchanges, and bankruptcies are analyzed separately. However, these bonds are also examined prior to the merger or restructuring to see if they behave according to the hypotheses discussed above.

For the final sample of 199 bonds the average and median issue sizes are \$53.5 and \$35 million. The average and median coupons are 9.99% and 9.75%. The average and median conversion premium at time of issue, i.e the amount the conversion price exceeds the issuing day stock price, are 22.1% and 19.5%. The average maturity is 22.3 years and the median maturity is 25 years. The call protection period averages 295 days and has a median of 252 days. (Days throughout this paper refer to trading days, i.e days when the stock exchange the stock is listed on is open for trading. There are approximately 21 trading days in a month and 252 trading days in a calendar year.) However, over 21% of all bonds have no call protection period at all.

4. Empirical Results

4.1 Bond Outcomes

Table 1 Panel A gives the distribution of outcomes for the sample of 199 convertible bonds. As of December 31, 1990, 112 of the bonds had been called, 40 remained outstanding, 25 were issued by firms that were acquired, and 22 were issued by firms that either went bankrupt or restructured their debt. The ratio of 112 bonds called and 40 outstanding is

misleading, however, since not all bonds in the sample have conversion value greater than call price. For example, 21 of the 40 outstanding bonds never had the conversion value greater than the call price for any day after the call protection expired. This leaves only 19 outstanding bonds which had $CV > CP$ at a point in time when they were also callable.

Table 1 Panel B divides the sample by whether the conversion value (CV) exceeds the call price (CP) in the period after the bond's call protection expires and before the bond is called or involved in a merger, bankruptcy, or exchange. For the subsample of 151 bonds where $CV > CP$, there are 108 calls and 19 outstanding bonds. Of the 48 bonds where the stock price does not rise enough for the conversion value to exceed the call price there are 21 outstanding bonds and surprisingly four called bonds. For these four bonds the issuing firms called the bonds before the conversion value was greater than the call price and thus conversion was unlikely.^{9 10}

Table 1 demonstrates that most convertible bonds are called if the conversion value exceeds the call price. Of the 127 bonds not involved in a merger or restructuring with $CV > CP$ for at least one day, 108 are called. If the $CV > CP$ requirement is made more realistic by requiring that the CV exceed 120% of the call price, the number of bonds is 109 and the number of bonds called is 99. The next section addresses these issues in detail and the important issue of how long an issuing firm delays in calling its convertible bond.

4.2 Call Delays

As stated above, there are 151 bonds where the CV exceeds the CP after call protection expires and before the bond is called. This section examines the amount of time the convertible bond is in the money, i.e. the number of days the CV exceeds the CP. As shown in Table 2 for the 108 called bonds the average number of days the CV exceeds the CP before a call is announced is 110.8 and the median is 74 days. If a 20% premium is desired to account for possible volatility in stock prices (and thus the possibility of a failed call), the average number of days is 44.0 and the median is 19.5.

The number of days for call delays given in Table 2 and the text are cumulative and are not necessarily consecutive days. That is, the CV may exceed the CP for one or several days and then fall below the CP only to exceed it again later. This makes the above conclusion, that firms do not usually delay calls, stronger since the median call delay of 19.5 days may include several periods where the CV fluctuates over and under the CP. In fact the average number of times the CV crosses the CP for the sample of 108 calls is 7.06. This means that on average the CV exceeds the CP four times and falls back below it three times. The average number of times CV crosses 120%CP is 5.12. These fluctuations again emphasize the volatility of stock prices and support the rationale for some safety premium. They also imply that firms may seek additional ways to increase the probability of a successful call. For example firms may require that the $CV > 120\%CP$ for a certain number of consecutive days. If the additional restriction is imposed that $CV > 120\%CP$ for 20 consecutive days, the mean and median call delays are 31.7 and 0 days¹¹. This issue of stock price volatility and safety premiums is addressed in more detail below.

For bonds still outstanding as of December 31, 1990, the call delays are much longer.¹² The 19 outstanding bonds have $CV > CP$ for 660.1 days on average by December 31, 1990 with a median time period of 146 days. Applying the 20% premium the average and median number of days are 498.7 and one. This dramatic drop in the median suggests that the lack of a sufficient safety premium may be a reason why these bonds are not called as soon as their CV exceeds their CP. The large difference between the mean and median also suggests that a few bonds are responsible for the high average. Requiring further that $CV > CP$ for 20 consecutive days reduces the mean and median number of days to 477.7 and 0. Thus when $CV > 120\% CP$, bonds are usually called quickly. For those which are not called, the median number of days that $CV > 120\%CP$ is quite low.

4.2.1 Call Delays and Cash Flow Advantage

There is, of course, another possible reason for call delays other than not exceeding a 20% safety premium or not exceeding the CP for enough consecutive days. This is the cash flow

rationale developed by Asquith and Mullins. As shown in Table 2, when the samples are divided by whether the maximum dividend (max D) on the converted stock exceeds the after-tax coupon, the call delay is dramatically affected. Max D is calculated as the largest cash dividend from the first day $CV > CP$ until December 31, 1990. For 83 called bonds with $\max D < I(1-t)$, the mean and median number of days where $CV > 120\%CP$ is 38.5 and 18 days, while for 25 called bonds with $\max D > I(1-t)$ the mean and median days where $CV > 120\%CP$ are 62.0 and 35.

For outstanding bonds the results from dividing the sample by cash flow advantage are even more telling. For the 12 outstanding bonds with $\max D < I(1-t)$ the mean and median number of days where $CV > 120\%CP$ is 4.5 and 0. For the seven outstanding bonds where $\max D > I(1-t)$ the mean and median number of days where $CV > 120\%CP$ is 1345.9 and 1825. These results dramatically support the hypothesis that the cash flow advantage is an important factor in determining how soon after CV exceeds CP firms call their convertible bonds. The only convertible bonds which are call-delayed for long periods are those with $\max D > I(1-t)$.¹³

Regressing the length of call delay against cash flow advantage (measured as $D/I(1-t)$) yields the following significant results:

Number of days $CV > CP = a + b(\text{dividends on converted stock/after-tax coupon})$

Sample: ¹⁴	a	b	R ²	F
All 108 called bonds	90.78	67.81	.0313	4.46
t-stat	(6.14)	(2.11)		

While Table 2 and the regression results demonstrate that firms usually call quickly after the CV exceeds 120% of CP and that firms which delay calls usually have a cash flow advantage, these results raise additional questions. Table 2 shows that there are 12 bonds with $D < I(1-t)$ that are not called, and 25 bonds with $D > I(1-t)$ that are called. These two subsamples seemingly contradict the combined option value extinguishment and cash flow hypotheses. Of course the dividends on converted stock in Table 2 and in the regression are taken at one point in time and are not a direct measure of $PV(D)$ versus $PV(I(1-t))$. The dividends used are the maximum cash dividend paid from call protection expiration until December 31, 1990. Thus to

examine whether these two subsamples really do violate the cash flow hypothesis, it is necessary to look at the time series of dividends before and after the call.

Examining first the 12 firms with $D < I(1-t)$ that don't call, Table 2 reports that the average and median number of days $CV > 120\%CP$ is 4.5 and 0. In fact, for nine of the twelve the number of days that $CV > 120\%CP$ is zero. The number of days for the other three are 1, 19, and 34. Thus for these twelve bonds, the fact that CV has not exceeded CP by much or for very long combined with the risk of an unsuccessful call is enough to explain their failure to call.

For the 25 bonds that are called yet have $\max D > I(1-t)$, Table 2 reports that the mean and median number of days that $CV > 120\%CP$ is 62.0 and 35. Examining the dividend history of these bonds more closely reveals that for 16 of the 25 bonds, $D < I(1-t)$ at the time the bond was called. For all 16 bonds the dividends rose enough after the call to make $D > I(1-t)$. This raises a separate issue of why the firms did not wait if they knew that dividends would rise enough to exceed after-tax coupons.¹⁵ It may be that managers did not expect dividends to rise as much or it may be that the present value advantage of paying lower dividends now outweighs the disadvantage of higher dividends later. After the call the average number of quarters until the dividends exceeded the after-tax coupon is 11.8 with a median of 12.0.

For nine of these 25 bonds, however, $D > I(1-t)$ at the time of the call. This raises the question of whether the dividends subsequently declined. That is, did the dividends decline enough in the future to justify a call. (Presumably the CV would also fall so that future forced conversion would be impossible) In none of the nine cases did the dividends decline; in fact in seven of the nine cases the dividends rose. Also only one of the nine bonds had CV fall enough to be $< CP$ during the subsequent twelve months. No existing cash flow or signalling explanation is consistent with these nine. However it should be noted that the average call delay of $CV > 120\%CP$ for these nine are 97.8 days with a median call delay of 89 days. For the other 16 bonds where $D < I(1-t)$ at the time of call, the average and median call delays are 41.8 and 32 days.

The two other subsamples in Table 2 should be mentioned even though they behave as the cash flow advantage hypothesis predicts. For 83 bonds with $D < I(1-t)$, the firms call them as expected. The $PV(D)$ for each bond should be below the $PV(I(1-t))$ since, as noted above, the dividend used in Table 2 is the maximum dividend paid on the converted stock for the entire time period. For the seven firms that don't call and have $D > I(1-t)$ this is also expected. The mean and median number of days that $CV > 120\%CP$ is 1345.9 and 1825. Five of these bonds have call delays over 1000 days, two over 2000 days. Furthermore, the converted dividends for these bonds have exceeded $I(1-t)$ for most of the period that $CV > 120\%CP$. The mean and median number of days that both $CV > 120\%CP$ and $D > I(1-t)$ simultaneously are 1276.4 and 1647.¹⁶ This is strong evidence that for the small portion of the sample with $D > I(1-t)$ call policy is affected and calls are delayed as Asquith and Mullins predict.

4.2.2 Call Delays in Mergers, Restructurings, and Bankruptcies

For bonds which are issued by firms involved in mergers and restructurings the results are similar to those above. That is, these bonds do not have $CV > 120\%CP$ for long periods unless there is a cash flow advantage for delaying the call. In fact of the 13 merged bonds that had $CV > CP$, six had $CV > CP$ only after the announcement of the merger bid. Of the seven bonds that crossed prior to a merger offer, four of these had $D > I(1-t)$ for the entire period that $CV > CP$. The remaining three bonds only had $CV > CP$ in the twelve months immediately prior to the merger bid. Examining the period before the merger bid is announced, the average number of days, for all 13 bonds, that $CV > 120\%CP$ is 102.3 days. The average number of days for the six bonds that did not have $CV > 120\%CP$ prior to the bid is, of course, 0. The average number of days that $CV > 120\%CP$ before the merger bid announcement for the three bonds with dividends less than after-tax coupons is 73 days. For the four bonds with $D > I(1-t)$, the average number of days that the conversion value exceeded 120% of call price before the merger bid is 277.8 days.

Of the 22 bonds involved in bankruptcies and restructurings, 11 had CV exceed CP before the restructuring. None of these 11 had $CV > CP$ at the time of the restructuring, however.

For each of the 11 the $CV > CP$ at some point in the past and then the CV fell below the CP and never exceeded it again¹⁷. Furthermore, the CV did not exceed the CP for very long in the past. As seen in Table 2 the average number of days $CV > 120\%CP$ is only 10.2 and the median is 0. Thus merged and restructured bonds follow the pattern displayed by the other convertible bonds. Convertible bonds are usually called soon after the $CV > 120\%CP$ unless the dividends on the converted stock exceed the bond's after tax coupon payments.

One final piece of evidence underscores the fact that calls are rarely delayed. The call protection period for convertible bonds is usually fixed at the time of issue and averages 295 days for the sample. For 17 bonds, however, there is a provision allowing an early call if the stock price rises enough. Sixteen of the bonds permit an immediate call if the CV exceeds 150% of the conversion price. One bond permits it if the CV exceeds 200% of the conversion price. Two of the 17 bonds have their stock price rise enough so that call protection expires early. Both are called before their original call protection period would have allowed.^{18,19}

4.3 Call Premiums

Even after finding that call delays are usually short (except for those bonds with a cash flow disadvantage to calling), there remains an important empirical result in the literature to explain. As noted above, Ingersoll implied that firms call their bonds late. He did not, however, measure the time period until the call. He measured the premium at the call date. He found the average premium to be 43.9% and thus concluded that bonds were not called as soon as $CV > CP$ or even as soon as $CV > 120\%CP$. Investigating this issue, the premiums of conversion value over call price for the sample here are consistent with those found by Ingersoll. Table 3 reports that after excluding the called bonds whose CV never exceeds CP, the average premium for the remaining 108 called bonds is 43.2%.

This does not necessarily mean, however, that bonds are called late. There are several reasons why Ingersoll's average call premium is not useful in determining whether firms delay calls or not. Most importantly, it fails to consider call protection on the bonds. Many of the convertibles have $CV > CP$ during the period they are call protected. For these bonds, the CV is at

a premium to CP from the first possible day they are callable. Furthermore, the cash flow advantage may cause some firms to delay calls which also increases their premium when called. In addition, some stock prices may rise so suddenly that even though management calls the bond quickly, the CV is still at a large premium to CP. Finally, firms with high stock price volatility may require a large call premium to protect against failed call.

4.3.1 Call Premiums and Call Protection

As reported in the data section, 79% of the bonds in this sample are issued with call protection. This raises the possibility that some of the bonds may have $CV > CP$ while they are still call protected and unable to be called. This phenomenon of CV exceeding the CP while a bond is still call protected necessarily increases the call premium even if the bond is called on the first possible day. In fact, 15 bonds are called so that they were redeemable on the first day their call protection expired. (This means they were called exactly 30 days before the call protection expired so that they could be redeemed on the first possible day.) For these bonds there can be no question of delay. The average call premium for these 15 is 80.8%. In total 37 of the called bonds have $CV > CP$ when their call protection expires. Table 3 shows the average call premium for these 37 is 63.5%, well above the average 43.2% for the entire sample of called bonds. The average call premium for the 71 called bonds which do not have $CV > CP$ when they are first callable is 32.7%.

4.3.2 Call Premiums and Cash Flow

The call premium is also affected by the cash flow criteria. If a firm delays calling because there is a cash flow disadvantage in calling, then this may cause the eventual call premium to increase. Table 3 reports that for the 14 bonds with $\max D > I(1-t)$ that do not simultaneously have $CV > CP$ on the first possible call day, the average call premium is 42.5%. For the 57 bonds with $\max D < I(1-t)$ that do not have $CV > CP$ on the first possible call day, the average call premium is 30.3%. This result extends the earlier conclusion that firms with a cash flow disadvantage delay their calls. This call delay also affects the eventual call premium.

In addition, there is another factor which may affect the measured call premiums. For some bonds the stock price may rise suddenly. Even if the firm calls quickly, the average call premium of CV-CP can be large. Of the 71 bonds with CV<CP at call protection expiration, 5 have average daily stock price returns greater than 1% from the first day that CV>120%CP until the bond is called. Even though the average number of days that CV>120%CP for these five bonds is only 28.8, the average call premium for these bonds is 63.5%. (All five of these bonds have $\max D < I(1-t)$.)

Thus as Table 3 shows, the average call premium for the entire sample of 108 called bonds is 43.2%. Eliminating bonds where CV exceeds CP at the time call protection expires reduces the average premium on the remaining bonds to 32.7%. Eliminating the 14 bonds which may not want to call because of a cash flow advantage reduces the average call premium further to 30.3%. Finally, eliminating the five bonds with an average daily stock price runup over 1% from the first day that CV exceeds 120%CP until the call announcement reduces the average call premium to 27.1% and the median premium to 26.4%. What is clear from this discussion is that call premiums are not the correct way to determine if a bond is called late or not.

4.3.3 Call Premiums and Stock Price Volatility

In addition, stock price volatility should be a factor in deciding when a firm calls a convertible bond. The average monthly stock price standard deviation for all 151 bonds which have CV>CP is 10.7%. This is measured over the period one month before and one month after the date when CV first exceeds CP. The median monthly standard deviation is also 10.7%. For the sample of 108 called bonds the mean and median monthly standard deviations are both 11.1%. Thus, on average, Asquith and Mullins' 20% safety premium is approximately two monthly standard deviations and should provide a sufficient safety premium for almost all calls. Of course this 20% safety premium may be too low if volatility is higher than 11% and too high if volatility is lower²⁰.

Importantly, very few calls fail. A failure is where $CV > CP$ at the call announcement but $CV < CP$ by the end of the call notice period. In this sample of 108 calls only one fails. Singh, Cowan, and Nayar (1991), in a different sample of 129 convertible bond calls also find only one failure.²¹ Thus firms wait until the call premium is large enough so that convertible calls rarely fail. This behavior is consistent with costs from failed calls.

Further examining this issue by regressing each firm's call premium against its monthly stock price standard deviation gives the following result for the entire sample:

$$CV/CP = a + b(\text{monthly stock price standard deviation})$$

Sample:	a	b	R ²	F
All 108 called bonds	1.14	2.66	.0495	6.58
t-stat	(9.41)	(2.57)		

Regressing each firm's call premium against its monthly stock price standard deviation for only those firms which do not have $CV > CP$ on the first possible call day gives similar results:

Sample:	a	b	R ²	F
71 bonds with $CV < CP$	1.09	2.06	.0553	5.10
t-stat	(10.31)	(2.26)		

Thus an increase in stock price volatility can increase the call premium substantially. For example, a 5% increase in monthly standard deviation will result in a 13.3% increase in the average call premium for the entire sample.

4.4 Post-call Dividend and Stock Price Performance

As mentioned above, the literature on call delays has examined the post call performance of firms several times. The reason for the attention to this issue has been the Harris-Raviv signalling model which implies that calling a convertible bond is a negative signal of future firm performance. Most recently, Campbell, Ederington, and Vankudre (1991) find that after correcting for superior pre-call performance, post-call earnings and stock returns do not decline absolutely or relative to their industries.

This paper briefly examines the post-call performance of stock returns, dividends, and stock prices. Daily market adjusted returns, $R_{stk} - R_{mkt}$, are used to estimate excess stock

returns since this introduces no estimation bias from either pre- or post-call performance. The results show no significant post-call trend in cumulative excess returns. For example, the one year cumulative market adjusted stock return for the 108 firms which call their convertibles is -2.83% which is not significant ($t=-0.92$). The results for calls by NYSE and ASE listed firms using CRSP excess returns are similar. These results confirm Campbell, Ederington, and Vankudre who test extensively for pre- and post-call performance bias.

Examining post-call dividends for the 108 called bonds also finds no significant post-call negative performance since dividends rarely decrease. Of the 108 called bonds, in only five cases were dividends cut from the time of the call until December 1990. Of these five, four of the firms actually raised dividends after the call before subsequently cutting them. Three of the firms still had dividend levels, as of December 1990, above the dividend level at the time of the call even after the cut. Union Carbide is the only firm to cut dividends without first raising them and it is also the only firm to cut dividends within four quarters of the call. This occurred at the time of the Bhopal disaster.

Finally, firms may call convertibles because they believe the CV will shortly fall below the CP and thus eliminate the opportunity to call. Examining post-call stock prices finds that after one year 39 of the firms have $CV < CP$ at least for one day. However, only 16 of the bonds have $CV < CP$ on the one year anniversary of the call. This is neither significant nor necessarily surprising given that the monthly standard deviation of returns for the sample of called bonds is 11.1%, which implies an annual standard deviation of 38.5%. With an average call premium of 42.3% and assuming a normal distribution of returns, 14.9 bonds would be expected to fall out of the money after one year.

Thus examining the post-call performance of called bonds does not provide support for a theory of generalized negative signalling. Furthermore, since most firms (99 of the 109 for which $CV > 120\%CP$) call their bonds and do so quickly (in a median time of 19.5 days), any model which predicts negative post-call performance for calling firms must assume that most

firms which have convertible bonds significantly in the money will soon encounter negative results.

Examining separately the post-call performance of called bonds which have $\max D > I(1-t)$ also provides no support for a cash-flow signalling explanation of convertible calls. The post-call stock returns, dividends, and stock prices do not differ significantly from those for the entire sample or from those for called bonds which have $\max D < I(1-t)$. This is true for both the sample of all 25 firms with $\max D > I(1-t)$ and for the subsample of 9 firms which have $D > I(1-t)$ on the day of the call.

4.5 Market Reaction to Call and Issuing Announcements

Although this paper resolves Ingersoll's anomaly of why firms call their convertible bonds late by showing that they in fact don't, it reestablishes the dilemma of explaining Mikkelsen's results of negative announcement day excess returns. Table 4 presents the stock market's reaction to call announcements and to announcements of convertible issuances. On both days there are significant negative excess returns to firms which call or issue convertible bonds. For the 98 firms whose call announcements are in the Wall Street Journal or NEXIS, the average two day market adjusted stock return is -1.22% ($t = -3.33$)²². The median excess return is -1.51%. The average two day market adjusted stock return for issue day announcements is -1.03% ($t = -3.41$) for the entire sample of 183 issuing firms where an announcement date could be identified and -1.48% ($t = -4.16$) for the sample of 103 firms that eventually called.

The above results are troublesome for several reasons. The call announcement results show that the market clearly infers that calling a convertible bond is negative information. The problem is that the post-call results reported here and elsewhere show that post-call performance of returns, dividends, and earnings is not negative. Also most firms, unless there is a cash flow disadvantage to calling, call quickly after they can assure a successful call. This is in spite of regression results which show that the market's reaction to call announcements is less negative the higher the call premium. The results for the regression

$$\text{Market Adjusted Excess Return} = a + b(\text{CV}/\text{CP})$$

on the sample of firms which were not in-the-money on their first callable day are:

Sample	a	b	R ²	F
67 called bonds	-0.072	+0.041	.107	8.92
t-stat	(-3.93)	(+2.99)		

The results for the sample of all 98 called bonds for which there is an identifiable call announcement date are similar in both size and significance.²³

Finally, the negative market reaction on the issue announcement date is also perplexing. Although convertible bonds do have an equity component, equity is not issued until the firm's stock price has risen enough to exceed the conversion premium. Since the stock prices of 151 of the 199 firms in the sample eventually exceed that premium, it could be argued that convertible issues are positive information, not negative. This line of reasoning is developed more fully in Stein(1992) who argues that the market reaction to convertible bond issues should be "less negative (or perhaps even positive)" than announcement impacts of equity issues.

5. Conclusions

This paper examines the set of all convertible bonds issued in the three years 1980-1982 to examine whether firms delay their calls. The evidence strongly indicates that calls are not delayed. Firms' decisions to call or not are consistent with three elements: the extinguishment of the option value predicted by Ingersoll and Brennan and Schwartz, the existence of a safety premium as modelled by Jaffee and Shleifer, and the direction of the cash flow advantage as hypothesized by Asquith and Mullins. Together these three incentives interact to explain convertible call policy.

If CV exceed the CP by a sufficient safety premium so that the risk of a failed call is low, and if the firm gains a cash flow advantage by calling, then the call delay is extremely short. With a safety premium of 20% (which is approximately twice the average monthly stock price standard deviation) and with a cash flow advantage of lower dividends on the converted shares

than the after-tax coupon payments on the unconverted bond, the mean and median call delays for called bonds are only 38.5 and 18 days. Without a 20% safety premium and with a cash flow disadvantage to calling, most bonds are not called. These results hold even for firms eventually acquired in mergers or restructured.

The average call premium at the time of call is 43.2%. This premium, however, is strongly influenced by the existence of call protection and is also affected by the cash flow advantage and the volatility of stock prices. Of the 108 called bonds, 37 had CV exceeding the CP while they were still call protected. Thus even if these bonds are called quickly after call protection expires, they are often called at a large premium. After correcting for: (1) bonds which had $CV > CP$ at the time call protection expired, (2) bonds which had a cash flow disadvantage to calling, and (3) bonds which had large stock price increases shortly before a call, the average call premium is 27.1%. In addition, the call premium is found to be positively and significantly related to the volatility of a firm's stock price. Furthermore, failed calls are extremely rare. Because of all of the above phenomena, call premia are not an accurate way to analyze whether a bond is called late or not.

Finally, new information is released to the market as evidenced by the negative stock price performance at the time of call. However, the market's reaction does not appear to be consistent with the post-call performance of either all calling firms or only those firms that call with a cash-flow disadvantage.

In summary, convertible bonds are called quickly after the CV exceeds the CP plus some safety premium unless there is a cash flow advantage to not calling. The required safety premium appears to be a function of stock price volatility. The large call premium found by Ingersoll can be largely explained by call protection and doesn't indicate a call delay. While there is no longer a call delay anomaly to explain, there is still the open question of explaining why the market reacts negatively to a convertible call.

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¹ Another way to consider this rule is that Ingersoll and Brennan and Schwartz did not price the complete option for convertible bonds. That is, they failed to consider the cash flow implications of the cash dividends on converted bonds.

² Asquith and Mullins do use the cash flow advantage theory to investigate the issue of voluntary conversion. They find that the percentage of bonds outstanding after voluntary conversion is significantly related to the cash flow advantage (the difference between dividends on the converted stock and the after-tax coupon on the convertible debt) and to the amount the conversion value exceeds the call price. The second term is an indirect measure of the bondholders' option value.

³ Campbell, Ederington, and Vankudre (1991) also attempt to test the cash-flow advantage versus signalling rationales by examining the subsequent earnings performance and stock price reaction to called bonds both when dividend payments are greater than and less than after-tax interest payments. While earnings growth rates decline post-call in both circumstances, they remain positive and comparable to normal earnings growth rates for other firms in the same industry. Furthermore, the absolute level of post-call earnings do not decline in either subsample. More importantly, there is no evidence of poor post-call stock performance. In addition, these tests suffer from two design problems. First, they use earnings data and not dividend data to test the cash flow hypothesis. Second, their sample is a partial one since they evaluate only called bonds.

⁴ Presumably, managers will only call in this situation if they believe the negative cash-flow will soon be reversed, or if the conversion value is expected to fall below the call price (thus eliminating management's option to force conversion by calling).

⁵ Post-call dividends are not expected to surpass after-tax coupon payments in the immediate post-call period. If this were expected, managers may not call since to do so may result in a negative cash-flow advantage (once dividend payments surpass after-tax coupon payments).

⁶ This can be because interest rates have fallen generally or because the firm debt is upgraded to a higher bond rating.

⁷ Exchangeable bonds are convertible into the equity of another firm's stock, not the issuing firm. ARCNs are Adjustable Rate Convertible Notes. The bond not convertible into equity was convertible into cash.

⁸ Not all call announcement dates are reported in the Wall Street Journal. When they were not, NEXIS was used as the primary source. When both the Wall Street Journal and NEXIS did not have an announcement date, the date of the S&P Called Bond Guide where the call was reported was used. (This occurred in 10 of the 108 calls.) This last reference is published weekly and sometimes delays reporting a call for a week or two. This means that the actual call delays are less than or equal to those reported below.

⁹ Two of these firms stated that they were using the proceeds of new convertibles to redeem their old convertibles. In one instance a 7-3/4% convertible bond was issued to redeem a 9% convertible bond. In the other, a 6-3/4% convertible was issued to redeem a 10% convertible. The other two firms did new financing at a lower cost during the period they were calling their convertible bonds, but they did not formally announce any link.

¹⁰ In addition, there are four bonds which have $CV < CP$ at the announcement date even though they previously had $CV > CP$.

¹¹ Number of days are counted only if $CV > 120\%CP$ for 20 consecutive days at least once. When that happens all 20 days are counted as part of the call delay.

¹² Call delays are defined here as the period until December 31, 1990. Choosing a later date may either extend this period or result in the bond being called.

13 There are only nine bonds in the entire sample where the call delay of $CV > 120\%CP$ exceeds 200 days and eight of those have $D > I(1-T)$ at the end of 1990. Six of these eight remain outstanding. The ninth bond which did not have $D > I(1-T)$ was called.

14 The regression results are even stronger when called and outstanding bonds are considered together. This is primarily because the number of days and the cash flow advantage for outstanding bonds are both quite large when compared to those for called bonds.

15 It also contradicts the predictions of the Constantinides and Grundy model which predicts that managers will delay calling bonds if the firm expects good news, preferring instead for investors to voluntarily convert.

16 Two of these bonds also have $D >$ before tax coupon payments. If investors consider cash flow as Asquith and Mullins (1991) predict, then these two bonds should have a large percentage of bonds voluntarily converted. The percentages of the original issue amount still outstanding for these two bonds are 11.0% and 0.4%. For none of the called bonds is $D > I$ while the bond was still outstanding.

17 The shortest time period between when the CV was last $>CP$ and the bankruptcy or restructuring is eleven months. That bond had CV exceed the CP on three separate occasions and then fell below it three times. The total number of days that $CV > CP$ was 20 days and CV never exceeded $120\%CP$.

18 One was called on the first day allowed and the other in 205 days.

19 All of this evidence on timely calls raises the issue of why, if firms desire to delay their calls as the signalling model predicts, are call provisions and call protection periods necessary.

20 In fact, of the 108 calls only 29 call below a 20% premium and only 11 call below a 10% premium. Four of these 11 are bonds with CV below the CP on the day the call is announced. (Although CV was $> CP$ earlier.) One of these four bonds has $CV > CP$ by the redemption date. The other three bonds behave similarly to the four bonds which never have CV exceed CP yet are called. (See text and footnote 9 above) That is, these three bonds call convertibles with coupon rates of 11%, 12-5/8%, and 12-1/4% and refund at lower rates.

21 They also find that only 32% of their convertible bond calls are underwritten.

22 The excess returns used here are market adjusted returns, $R_{stk} - R_{mkt}$. They were also compared to the CRSP excess return tape for the New York and American Stock Exchange listed stocks with no meaningful difference. CRSP does not produce excess returns for NASDAQ firms.

23 The call announcement day excess returns for firms which have $\max D > I(1-t)$ is less negative than the excess returns for firms with $\max D < I(1-t)$. This result is opposite those predicted by a cash-flow signalling model. As shown in Table 3, however, these firms do call at a higher CV/CP. As the regression results show, a higher CV/CP increases announcement day excess returns.

TABLE I
OUTCOMES AS OF DECEMBER 31, 1990 FOR CONVERTIBLE BONDS ISSUED DURING 1980-1982

PANEL A: ALL BONDS					
CRITERIA	N	CALLED	STILL OUTSTANDING	ISSUING FIRM ACQUIRED	RESTRUCTURING OF ISSUING FIRM
ALL BONDS	199	112	40	25	22

PANEL B: OUTCOMES DIVIDED BY CRITERIA THAT CV EXCEEDS CP					
CRITERIA	N	CALLED	STILL OUTSTANDING	ISSUING FIRM ACQUIRED	RESTRUCTURING OF ISSUING FIRM
CV > CP FOR AT LEAST ONE DAY AFTER CALL PROTECTION EXPIRES AND BEFORE BONDS IS CALLED	151	108	19	13	11
CV < CP FOR ENTIRE PERIOD FROM CALL PROTECTION EXPIRATION UNTIL CALLED OR 12/31/90	48	4	21	12	11

TABLE 2
NUMBER OF DAYS AFTER CV > CP UNTIL CALL ANNOUNCEMENT

	MAX D < I(1-T)			MAX D > I(1-T)								
	N	ND	ND20	Mean/Median	N	ND	ND20	Mean/Median	N	ND	ND20	Mean/Median
CALLLED	108	110.8/74	44.0/19.5	83	98.1/71	38.5/18	25	153.0/118	62.0/35			
NOT CALLED	19	660.1/146	498.7/1	12	99.5/65.5	4.5/0	7	1621.1/1887	1345.9/1825			
MERGERS	13	227.1/154	161.0/73	9	121.9/99	76.0/69	4	463.8/447.5	352.3/388.5			
BANKRUPTCY	11	98.9/43	10.2/0	11	98.9/43	10.2/0	0	N/A	N/A			

CV is the conversion value of the bond. CP is the call price. MAX D is the maximum dividends on the converted stock from the time the bond is first convertible until December 31, 1990.

Table 3

Average and Median Call Premiums (i.e. Conversion Value/Call Price) At Call Announcement Date For Firms That Issued Convertible Bonds During 1980-1982.

	N	Mean	Median
Entire Sample	108	43.2%	32.7%
Bonds With CV > CP When Call Protection Expires	37	63.5%	48.1%
Remaining Called Bonds	71	32.7%	28.1%
Bonds With Max D > I(1-T) And CV < CP When Call Protection Expires	14	42.5%	24.2%
Remaining Called Bonds With Max D < I(1-T)	57	30.3%	28.7%
Bonds With Average Daily Price Gains of Greater Than 1% (From First Day CV > 120% CP Until Call Date)	5	63.5%	51.6%
Bonds With:			
(1) CV < CP When Call Protection Expires			
(2) Max D < I(1-T)	52	27.1%	26.4%
(3) Average Daily Price Gain From First Day CV > 120% CP Until Call Date			

Table 4

Two Day Market Adjusted Excess Returns At Call And Issue Announcement Date
For Firms That Issued Convertible Bonds During 1980-1982

Panel A: Call Announcement				
N	Mean Announcement Return (t-statistic)	Median Announcement Return	% Negative	
98	-1.22% (-3.33)	-1.51%	70.4%	
Panel B: Issue Announcement For All Bonds				
N	Mean Announcement Return (t-statistic)	Median Announcement Return	% Negative	
183	-1.03% (-3.41)	-1.35%	64.5%	
Panel C: Issue Announcement For Called Bonds				
N	Mean Announcement Return (t-statistic)	Median Announcement Return	% Negative	
103	-1.48% (-4.16)	-1.40%	68.0%	