The Many Facets of Privately Negotiated Stock Repurchases

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Abstract - We investigate the causes and consequences of 737 privately negotiated share repurchases in the years 1984-2001. In contrast to the negative announcement returns and positive repurchase premiums reported by past research, we find positive announcement returns and premiums that are not significantly different from zero. Only when we investigate the 60 "greenmail" events separately, we find results similar to past research. However, for this sub-sample, we find long-horizon excess return that are comparable to the average 18% repurchase premium, challenging the widely accepted opinion that managers overpay in "greenmail" repurchases. Moreover, we also find that our understanding of the event improves when we split the non-greenmail repurchases according to the price paid. Repurchases at a premium can be modeled as signals, while other repurchases are mere wealth transfers between the corporation and the selling stockholders the extent of which is determined by the relative bargaining power of the seller and the repurchasing firm.

1 Introduction

When companies repurchase shares in the open market or via a public tender offer, stock prices tend to increase.[1] The most widely accepted explanations for this stock price increase are benefits from improved capital structure or signaling effects. Capital structure benefits include corporate tax savings from increased leverage as well as a reduction in agency costs of free cash flow. Signaling effects could result from a deliberate attempt to signal positive information, or could be unintentional, i.e., firms repurchase shares for a variety of reasons, but only when the stock is undervalued. Ikenberry, Lakonishok and Vermaelen (1995) and Mitchell and Stafford (2000) also report significant positive abnormal returns several years after open market repurchase announcements, while Lakonishok and Vermaelen (1990) find that the market under-reacts to fixed price tender offers made by relatively small firms. The evidence of long-horizon returns suggests that managers are able to time the market by repurchasing stock when the shares are undervalued. Such timing strategies are possible, because, on average, the market under-reacts to the information contained in a repurchase announcement. Attempts to formalize under-reaction can be found in the growing behavioral finance literature (e.g., Daniel, Hirshleifer, and Subramanyam (1998)).

In this paper, we investigate the causes and consequences of another repurchase method: privately negotiated share repurchases, also called targeted repurchases. This type of repurchase is somewhat unique for several reasons. First, the initiative to repurchase shares may be actually taken by the seller and not by the corporation. Of course, the company has to agree to repurchase the stock, but the seller may be the proactive agent in the repurchase process. For example, large investors may prefer to sell their shares to the company rather than in the open market, especially if the stock is thinly traded. Second, in contrast to the case of a repurchase in the open market or via public tender offers, the seller is typically a large investor (individual investor or company). On average, in our sample, the sellers own 13% of the outstanding shares. As the seller is fully aware that he is selling to the corporation, it may be more challenging for the company to use its information advantage to buy undervalued stock. Moreover, as outside investors may consider large investors as "informed" investors, the repurchase may not be considered as a positive information signal, especially if the

[1] For evidence of positive announcement effects after open market and tender offer repurchases, see, e.g., Dann (1981), Vermaelen (1981), Comment and Jarrell (1991), Lakonishok and Vermaelen (1990).

company repurchases stock at a discount from the market price. Finally, considering that large investors may reduce agency costs, it is not obvious that the reduction in excess cash will result in lower agency costs. For all these reasons, we expect private repurchases to be associated with different motivations and price behavior from repurchases in the open market, through public tender offers or Dutch auctions.

Consistent with this hypothesis, past research shows that private repurchases are different from repurchases in the open market or via a tender offer. Dann and De Angelo (1983), Bradley and Wakeman (1983), Klein and Rosenfeld (1988), Denis (1990), Mikkelson and Ruback (1991) all report significant *negative* announcement returns, although companies are paying significant premiums to repurchase their own stock. The general interpretation of these results is that private repurchases are "greenmail": defensive measures to fight takeovers, especially in the light of the fact that the repurchase is often accompanied by a standstill agreement. Although managers, who are often significant stockholders, lose by paying a significant premium above "fair" value, these losses are compensated by private benefits from control.

The reason for re-examining private repurchases is threefold. First, past research uses only small sample sizes. Second, the data are old: most announcements are from the late 1970s or the early 1980s. This period was characterized by an exceptionally large number of hostile takeover bids (see, e.g., Schwert, 2000) to the extent that the sample is biased toward repurchases to thwart hostile takeovers. Finally, all the studies assume semi-strong form market efficiency and do not examine long-term performance.

The results of this paper are based on 737 private repurchases made during the 1984 - 2001 period. Changing the sample period changes the results quite significantly. In contrast to the negative announcement returns reported by past research, we find that private repurchases are associated with significantly positive announcement returns. Moreover, compared to the experience of the 1970s and the early 1980s, companies no longer pay a significant premium relative to the market price two days before the announcement. In effect, in 45% of our sample, companies repurchase shares at a discount, and in 15% the premium is exactly zero. Only when we examine separately the 60 cases where Securities Data Corporation (SDC) classifies the event as a purchase from a hostile party, we obtain results similar to those reported by past research. In these "greenmail" cases, on average, firms pay a repurchase premium of 18%, and announcement returns are significantly negative with –2.57% over a three-day period around the announcement date. Moreover, 54 out of these 60 repurchases are announced

during the 1980s, and are therefore not representative of the typical targeted repurchases we observe today.

The motivations and consequences of targeted repurchases are apparently much more complex than the greenmail story which emerges from past research. In order to better understand this complexity, we find it useful to break up the 737 repurchase announcements into four categories: (1) 60 greenmail transactions, (2) 238 non-greenmail repurchases where the company pays a premium above the market price, (3) 109 repurchases where the company repurchases stock at a zero premium and (4) 330 transactions where shares are repurchased at a discount. After adjusting for wealth transfers between selling and non-selling shareholders, we find that only the second type of repurchase increases shareholder value in an economically significant way. Other repurchases are perceived as value-neutral negotiated transactions, resulting in wealth transfers between the corporation and the selling shareholder. In greenmail transactions, wealth is transferred to sellers. In discounted repurchases, wealth is transferred from the sellers to the corporation, i.e., the remaining shareholders. Hence, for premium (non-greenmail) repurchases, the challenge is to explain the positive abnormal returns around the announcement. For the buybacks at a discount, the focus of this paper is on analyzing the negotiation process that affects the repurchase price. We do this by regressing the discount against a variety of variables that proxy for the negotiation power of the corporation. Consistent with our intuition, we find that companies repurchase stock at deeper discounts (or lower premiums) when the shares are: (1) relatively illiquid, (2) the firm has relatively large growth opportunities, (3) the firm is more financially constrained and (4) managers own a larger fraction of the shares, i.e., are paying with their own money. Further insight into the negotiation dynamics is obtained by examining a subset of 57 cases where the seller is also a publicly traded corporation. The combined results are consistent with those of a bargaining situation where the financial health of both parties and the need/availability of funds determine their bargaining strength. In particular, when the repurchasing company has high growth opportunities, it will only invest in itself when it can get the shares at a bargain price. On the other hand, the seller is willing to sell at a discount when he faces a higher probability of financial distress, similar to fire-sale situations.

In order to explain the price behavior around the announcement of premium repurchases, we develop and test a signaling model similar to the one proposed by Vermaelen (1984) in the context of public repurchase tender offers. Consistent with the

predictions of our signaling model, as well as with the results on tender offers reported by Vermaelen (1981, 1984), we find that announcement returns are positively related to the repurchase premium, the fraction of outstanding shares repurchased and the fraction of outstanding shares held by insiders. However, the explanatory power of the variables and the magnitude of the coefficients raise the question to what extent bargaining between repurchasing firm and seller influences the premium paid. We find that adding variables that proxy for bargaining power add to our understanding of the determinants of the repurchase premium.

All these conclusions are based on observing short-term announcement returns and relating the premium paid to known firm characteristics. When we examine long-horizon returns using Ibbotson's (1975) return across time and security methodology, combined with the three-factor model of Fama-French (1993), it turns out that repurchasing firms experience significant positive excess returns of 6.74% in the 12-month period after the announcement. Surprisingly, the largest positive excess returns are observed in the greenmail sample, where repurchasing firms outperform their benchmark by 16% over 17 months. Compared to the average greenmail premium paid of 18%, this means that the widespread view that managers pay large premiums above "fair" value to hostile bidders to make them "go away" is flawed. In reality, managers repurchase shares from hostile bidders when they believe the stock is undervalued.

Non-greenmail premium and discounted repurchases are also followed by positive abnormal returns in the year after the repurchase announcement. Thus, we conclude that private repurchases at a premium and discount are very similar to repurchases in the open market and public tender offers, in the sense that (1) companies tend to repurchase stock when they believe their stock is undervalued and (2) the market under-reacts to the announcement of a repurchase. Most surprisingly, the market does not interpret the discounted repurchase as a signal of undervaluation at the announcement at all. Only in the long-run does the market seem to realize the value of the company.

In contrast to this general rule we find no significant long-run abnormal returns for zero-premium events. This is not surprising, because in these cases, we find that the sellers are mainly insiders (mostly current, retiring or retired employees). Only when the company is buying shares from outsiders does it try to get the best deal possible for their long-term shareholders.

In section 2 we begin with a description of the data set and present some initial empirical results. Section 3 puts targeted repurchases in the context of the block transactions literature. Section 4 focuses on estimating how the bargaining strength of buyer and seller explains repurchase discounts within a bargaining framework. Section 5 develops a signaling model and tests whether the model can explain the premium repurchases. Section 6 examines long-horizon returns for the buyers, as well as for the sellers, when the seller is a publicly traded corporation. Section 7 concludes.

2 Data Selection and Description

2.1 Sample selection

We collect a sample of targeted repurchases from SDC's database on mergers and acquisitions. The database contains information on share repurchases from 1980 onwards. We require that events have complete information on the following variables: (1) the announcement date (2) the repurchase price paid per share and (3) the fraction of shares purchased. We also require that the repurchase price is not predetermined in the following sense: a) we exclude from our sample synthetic buybacks in which companies buy a call or sell a put on their own shares. In these cases the repurchase takes place at the strike price, which is below the market price for calls and above the market price for put option transactions; b) we exclude eleven events where the repurchase price was based upon an average of stock prices over a certain number of days prior to the repurchase announcement; and c) we eliminate two events where the repurchase price was fixed two (three) years in advance in conjunction with a private placement. These two repurchases took place at a 77% and 21% discount, respectively.[2] We further require that, simultaneously, no other repurchase program is announced. All the above requirements result in the elimination of all events prior to 1984, so that we end up with 737 observations. For comparison, we also collect data from SDC on announcements of 6,470 open market repurchases, 303 fixed price tender offers and 251 Dutch auction tender offers. Table 1 shows summary statistics for each sample.

2.2 Summary Statistics

In the targeted repurchase sample, on average, companies pay a premium relative to the stock price two days before the announcement of only 1.92%. The

[2] We collect this information from SDC's synopsis, the news wires and Wall Street Journal (WSJ) articles related to the repurchase announcement and searching earlier references for any agreement. Since the electronic versions of these new wires and the WSJ are only available after 1984, we cannot exclude that some early events with a predetermined repurchase price are still in our database. However, the inferences drawn from this study are unchanged even if we include the 13 events excluded in b) and c).

median premium is exactly 0. The lack of a repurchase premium contrasts with the large premiums observed in fixed price tender offers (20.74%) and Dutch auction offers (14.72%), as well as with the large premiums reported by previous studies on targeted share repurchases (e.g., Dann and De Angelo, 1983; Bradley and Wakeman, 1983; Klein and Rosenfeld, 1988; Denis, 1990; Mikkelson and Ruback, 1985, 1991). Actually, table 1 shows that in 45% of the cases, firms repurchase shares from blockholders at a discount from the market price - that is after having eliminated events where the repurchase price was predetermined as described above. The premium is also not lower than documented in previous research because of potential differences in the fraction repurchased. In fact, companies repurchase an average 13% of their stock (median: 9.7%, panel B). Notice that there is only one event where more than 50% of the shares outstanding are repurchased and only 10% of the events involve a repurchase of more than 25%. Since those events are potentially controlling block transactions we exclude them in a robustness check finding no effect on our inferences (not reported separately).

An additional variable is the abnormal announcement return to the non-selling shareholders. For targeted and open market repurchases, we compute the cumulative abnormal return (CAR) over a period of 3 days, starting on the day before the announcement and ending on the day after the announcement. For tender offers and Dutch auctions, we measure CAR from the day before the announcement until the day after the final expiration date of the offer. CARs are calculated using the standard event study methodology of Brown and Warner (1985), employing the market model with the equally-weighted CRSP index as the market portfolio. Because a repurchase changes the risk of a stock, the parameters of the market model are estimated over 255 trading days, starting 20 days *after* the announcement (in the case of targeted, open market repurchases) or after the final expiration date (fixed price and Dutch auction tender offers). Finally, in order to measure the abnormal returns to the average shareholder, we calculate INFO, the weighted average abnormal returns of the selling shareholders (i.e., the premium or discount relative to the price before the announcement) and remaining shareholders (CAR), following Vermaelen (1981). Specifically,

$$\text{INFO} = \frac{P_T - P_0}{P_0} \times F_P + \text{CAR} \times (1 - F_P), \qquad (1)$$

where P_T is the repurchase price, P_0 is the stock price on the day before the announcement, $F_P = N_P/N_0$ is the fraction of shares repurchased where N_P measures the number of shares repurchased, N_0 measures the number of shares outstanding and CAR

= $(P_{AFTER}-P_0)/P_0$. On average, we find that share repurchases, regardless of the method, increase shareholder value (as measured by INFO) in a statistically significant way, as shown in table 1. Targeted repurchases produce the smallest returns (2.12%), but they are now significantly positive rather than negative, as reported by past research.

2.3 Privately Negotiated Repurchases and the Repurchase Premium Paid

In order to better understand the reason for this difference, we split up the targeted repurchase sample into four groups. The first group includes all 60 events that are described by SDC as greenmail events or as defensive transactions (the greenmail sample). The second group includes the remaining 238 cases with a positive premium (the premium sample), the third group includes the 109 cases where the premium is exactly zero (the zero-premium sample) and the last group includes the largest sample of 330 repurchases at a discount from the market price (the discount sample). Panel A of table 2 shows the distribution of events by year.

2.3.1 Zero-Premium Repurchases

Share repurchases at zero premium seem to be popular when the stock market booms, such as in the late 1990s, and fall when the market crashes such as in 2000 and 2001. This is consistent with the hypothesis that many of these repurchases represent transactions where the company repurchases shares from insiders who, after exercising their stock options, prefer to sell their shares to the company, rather than in the open market. The fact that these transactions take place at zero premiums makes sense, as it would be legally difficult to justify paying premiums to insiders only. We find that as a fraction of the events where we could identify the seller, 55% of the zero-premium repurchases are buybacks from insiders (current, retiring and former officers, directors and employees, as well as majority owners and founding families). This is significantly more than in premium and discount repurchases where inside-sellers make up 18.7% and 18.9% of the sample, respectively. However, none of the premium or discount repurchases involve current and remaining employees of the company. On the other hand, 15 of the 33 insider-sellers, where the premium paid is zero, are current and remaining employees.

2.3.2 Greenmail Repurchases

It is obvious that greenmail transactions are mainly an event of the 1980s: 54 out of the 60 announcements were made during the period 1984-1989. This is not surprising as, during this period, hostile bids were common (e.g., Schwert, 2000). Moreover, in the

late 1980s seven states[3] have adopted anti-greenmail laws and several companies have made anti-greenmail charter amendments (e.g., Eckbo, 1990; Danielson and Karpoff, 1998; Gompers, Ishii and Metrick, 2003). In general, such anti-greenmail laws prohibit repurchases at a premium to the market price from a blockholder who has not held the block for at least two (sometimes three) years and who is a (potentially) hostile bidder. Given that there are only 6 greenmail events after 1989, compared to 156 other premium repurchases, it is unlikely that our sample firms are significantly restricted in their choice of the premium just because of the company's choice of the state of incorporation. One reason for this could be that in addition to the new state laws, after 1987, all selling blockholders had to pay a special greenmail tax of 50% on their gains – on top of the regular tax on capital gains.[4] In addition, we also find that the frequency with which privately negotiated repurchases at a premium, discount and zero-premium occur is independent of the state of incorporation, both before and after the state statutes are added (not tabulated). However as shown in table 2, before 1989, premium repurchases made up 60% of the repurchase events, after 1988, only 35% are at a premium. Interestingly, most of the difference can be explained by the virtual disappearance of the greenmail events. Excluding greenmail events, 43% (33%) are repurchases at a premium before 1989 (post 1988). These fractions are not significantly different using a Chi-square test. We thus conclude that the changes in laws relating to greenmail seem to be affecting all firms, most likely by essentially deterring the initial acquisition of a block by a potential raider who considers a premium repurchase by the company as a possible alternative to a takeover.[5] Finally we use data on individual firm level anti-greenmail charter amendments from IRRC's corporate governance database for the years 1990-2002 and Danielson and Karpoff (1998) for 1983-1989. Most importantly for our study is that by 1985, 36 of the 47 firms that have eventually adopted anti-greenmail charters amendments by 1989 (of a sample of S&P500 firms)

[3] The states are Arizona, Michigan, Minnesota, Mississippi, New York, Tennessee and Wisconsin. See e.g., Matheson and Olson (1991).

[4] Section 5881 of the Omnibus Budget Reconciliation Act of 1987 imposed a 50% excise tax on greenmail payments received (e.g., Lustig, 1988; IRS tax form 8725 "Excise tax on greenmail"; and Gompers, Ishii and Metrick, 2003). Greenmail payments are defined by the Internal Revenue Code as "consideration transferred by a corporation to directly or indirectly acquire stock of such corporation from any shareholder if such shareholder held such stock for less than 2 years before entering into the agreement to make the transfer, [and] at some time during the 2-year period ending on the date of such acquisition such shareholder [or any person related to or acting in concert with such shareholder] made or threatened to make a public tender offer for stock of such corporation, and such acquisition is pursuant to an offer for stock not made on the same terms to all shareholders." (I.R.C. S 5881(b))

[5] We find additional evidence for such a change since in the sample where we could identify the sellers, pre-1989 (post-1988), 39% (15%) of the sellers held their block for less than two years.

have already done so. This reduces the concern that the drop in the number of greenmail events is related to the increasing number of firms adopting anti-greenmail charter amendments since most firms would have adopted these charters before our sample shows a significant drop in greenmail repurchases. However, it could still be that an anti-greenmail charter amendment restricts a company's ability to pay a premium. While we cannot exclude this possibility because we can only determine for 21 events that the firm does and for 168 events that the firm does not have an anti-greenmail charter amendment, we find that of the 21 firms, 6 make repurchases at a premium. In other words, 29% of the firms with an anti-greenmail charter amendment nevertheless repurchase at a premium, a fraction that is similar to the 35% found above in the post-1988 sample. We conclude that the regulation regarding greenmail repurchases has not materially affected firms' ability to repurchase at a premium for non-greenmail reasons.

2.4 Information Content of Various Types of Privately Negotiated Repurchases

Panel B of table 2 shows univariate statistics for the sub-samples. The results for the greenmail sample are consistent with those reported by others: the average CAR of –2.57% is significantly negative (5% level), but, because the company repurchases more than 20% of its shares at an average premium of 18%, INFO is positive, although only significant at the 10% level. It seems, therefore, that the market interprets greenmail transactions predominately as wealth transfers from shareholders to hostile bidders, without any major impact on the total value of the firm. A similar conclusion can be drawn for the repurchases at a discount: the fact that the company is able to buy shares at an average discount of 12.64%[6], without significantly affecting overall firm value (INFO is 0.29%), is seen as a wealth transfer from sellers to remaining shareholders.[7] Repurchases at zero premium generate statistically significant value increases of 1.92%

[6] At first glance, the average discount seems high. However, it is comparable with the cost involved in an SEO where the company sold the blockholder's shares as secondary shares. Corwin (2003) documents average total direct expenses of 6.65% plus an average underpricing of 2.92% for SEOs in 1990-1998.

[7] A numerical example might help to clarify the link between INFO (see equation 1) and wealth transfers. Assume P_0=100, F_P=50% and N_0=100 shares. Let's vary P_{AFTER} and P_T and investigate the effect on INFO and the transfer of wealth between the selling and remaining shareholders. If P_T =120 and P_{AFTER} =120, like in exactly fully subscribed tender offers, then INFO = (120–100)/100 * 50% + (120–100)/100 *50% = 20%. The wealth transferred in this case is 0, i.e, ((120–100) * 50 shares – (120–100) * 50 shares)/2 = 0. For P_T =120 and P_{AFTER} =110, like in premium repurchases, INFO = (120–100)/100 * 50% + (110–100)/100 *50% = 15%. The wealth transferred in this case is ((120–100) * 50 shares – (110–100) * 50 shares)/2 = 250. In other words, even though value has been created/signalled, selling shareholders get 250 too much at the expense of non-selling shareholders. Finally, if P_T =80 and P_{AFTER} = 120, like in discounted repurchases, then INFO = (80–100)/100 * 50% + (120–100)/100 *50% = 0%, i.e., no information is created/signalled. The wealth transferred is ((80–100) * 50 shares – (120–100) * 50 shares)/2 = –1000. In other words if INFO is zero, then observing a premium or discount (i.e., $P_T \neq P_0$) implies a wealth transfer that is dollar for dollar linked to the premium or discount.

(1% level), but the real economically significant value increasing activities are premium buybacks. Although companies pay an average repurchase premium of 18.93% for an average 13.82% of their shares, the remaining shareholders earn abnormal returns of 2.50%, such that, on average, INFO is 4.77% (significant at the 1% level). While we cannot determine whether the firm or the seller initiated the deal, these findings seem consistent with the interpretation that premium repurchases are more likely to be initiated by the firm (information is signaled/revealed) whereas discounted repurchases are more likely to be initiated by the seller (no information is signaled/revealed).

3 Relation between Repurchases and Block Trades

Interestingly, the literature on block trades (e.g., Barclay and Holderness, 1991 and Barclay et al., 2001) also finds that sellers receive large premiums, reminiscent of the premiums observed in privately negotiated repurchases where the premium is positive. In addition, Barclay et al. (2001) also find a significantly positive abnormal return of 5.9% at the announcement of a block trade indicating that non-selling shareholders interpret the block transaction as positive news. One reason for this positive shareholder reaction in their paper is that within two years of the block trade, 22% of the firms are takeover targets. This is a significantly higher occurrence than in the matching sample firms (10%). Therefore, if in contrast to block trades, privately negotiated repurchases are undertaken primarily to *eliminate* a potential bidder or prevent a blockholder to sell his stake to another blockholder, then we should observe that shareholders react negatively to a targeted repurchase announcement. Alternatively, if privately negotiated repurchases are primarily undertaken to reduce agency problems or signal information, then the announcement should be associated with a positive abnormal return. For example, the non-selling shareholders could benefit from reduced agency cost of equity and a better use of the debt tax shield because the company has to use cash to repurchase shares. In a block transaction, the company's net debt position is unaffected. In addition, managers could be better informed about the 'true' value than a large blockholder, which should make the repurchase price more informative than a block transaction price.

Consistent with the argument that non-selling shareholders view a targeted repurchase as reducing the probability of a takeover, greenmail repurchases display a negative announcement return. Given that greenmail repurchases are a defensive response to takeover activity, this is not surprising. However, in the other sub-samples

we observe rather positive announcement returns. This finding is consistent with the interpretation that other effects than a reduced probability of a takeover dominate the shareholders reaction. In fact, we find that in the 2 years following the repurchase, only 9% of our sample firms (11% of the matching sample firms[8]) are listed as targets in the SDC mergers & acquisitions database. In addition we find no significant difference in takeover probability between greenmail and other types of targeted repurchases. It seems that targeted repurchases do not have a significant effect on the probability of a takeover, in contrast to the findings about block trades in Barclay et al. (2001).

The analysis so far suggests that the reasons behind most of the privately negotiated repurchases are fundamentally different from those of block trades. The question thus arises to what extent repurchases and block transactions are substitute means of selling a block. While we do not have data on actual block transactions, we proxy for it by using Compact Disclosure data from May 1988 to October 1995, where we identify other 5%-blockholders in the company that sold their stake to new or existing blockholders in the company. In our sub-sample of 128 events where we can identify the seller and the repurchase is completed within a maximum of six months (Compact Disclosure is available quarterly only) only six firms also recorded a block transaction in the same time frame. Four (two) occurred in firms that repurchased at a premium (discount). This compares with five block transactions in the matching firm sample. The data suggests that targeted repurchases do not reduce the probability of a block transaction. Hence, repurchases and block transactions do not seem to be substitutes. In addition, the finding that block trades are not more frequent in the matching sample than the event sample alleviates possible concerns that premium targeted repurchases occur primarily because the company wants to prevent that the block is sold to another, potentially more hostile, blockholder, thus preventing a block transaction. Furthermore, if this were a major reason for the repurchase, we would expect that the market react negatively to the announcement of a repurchase because either a potential bidder is eliminated and/or the company pays a premium above 'fair' value. Only in greenmail repurchases do we observe a negative announcement return.

[8] The matching firms are selected according to the Loughran-Ritter (1997) method. The matching candidate must be in the same 2-digit SIC code with asset size between 25% and 200% of the asset size of the repurchasing firm, measured at the fiscal year prior to the event. For 53 of the 737 repurchasing firms, no suitable matching firm could be identified using this criterion. For these events, we match purely on asset size where the range is limited to 90% to 110%.

More research is clearly necessary to better understand the factors that lead blockholders to choose to sell back to the company as opposed to selling in a block transaction or the open market. Our study is only a first step in this direction by describing and analyzing privately negotiated repurchases.

The results so far show that targeted repurchases have many facets. Putting them all together in one bag does not seem to be a fruitful research avenue if we want to better understand the event. Greenmail and the remaining premium repurchases are fundamentally different with respect to how non-selling shareholders interpret the event. Only in premium repurchases is economically significant value being created (or revealed), so it makes sense to study the determinants of this value increase. Repurchases at zero premium seem to be special cases where companies are repurchasing shares from insiders. In addition to the premium repurchase sample, the only sample that merits further scrutiny is that of discounted repurchases. Although no value is created/signaled, the interesting question is what the factors are that determine how the pie is divided between the seller and the repurchasing company. The next section starts by analyzing this question.

4 Explaining purchase prices in discounted repurchases: theory and evidence

4.1 Theoretical Considerations

In the sample of discount repurchases, we find an insignificant average INFO of 0.29%. Thus, on average, the combined wealth of the selling shareholder and the remaining stockholders is not affected by the repurchase. It must therefore be the case that the corporation and the seller negotiate a transaction where, on average, one party can only gain if the other one loses, i.e., there is a wealth transfer from the seller to the remaining shareholders. Moreover, in these transactions, the seller is likely to initiate the transaction. Therefore, the relevant research questions are: What are the factors that determine the relative bargaining strength of the seller and the corporation? How does this bargaining strength determine the repurchase price?

We consider the following measures for assessing the relative bargaining strength of the buyer and the seller.

1) Liquidity

The private seller always has the option to walk away from the deal and sell his/her shares in the open market. However, this will be more difficult if the stock is thinly traded or the seller has to sell a large number of shares relative to the number of

shares outstanding or relative to the average trading volume of the stock. So, we expect liquidity to be positively related to sellers' bargaining strength, and therefore positively related to the repurchase price. A second line of argument is that shareholders of illiquid stocks cannot easily 'vote with their feet' and should thus value a monitoring blockholder more highly. If the blockholder has to bear the costs that accrue to the remaining shareholders when selling the block back to the company instead of to another blockholder, then we also expect a lower premium. Thus, in both cases is the bargaining power of the seller worse in illiquid stocks.

2) Growth opportunities of the buyer

For high growth firms, repurchasing shares may be costly in the sense that a repurchase may force the company to delay or to forgo valuable investment opportunities. For a "value" firm, such opportunity costs are less relevant. Hence, we predict that the repurchase price will be negatively related to the growth opportunities of the buyer, i.e., the firm will not repurchase stock unless it gets a good deal.

3) Financial constraints and costs of financial distress of the buyer

When the buyer is financially more constrained or in financial distress, he may be reluctant to repurchase stock, as funding might not be readily available or the leverage increase would increase the probability of financial distress, unless he can buy stock cheaply. Therefore, we expect the companies with higher financial constraints and risks to pay lower repurchase prices.

4) Managerial ownership of the buyer

When managers own a large fraction of the shares, they are indirectly paying with their own money. We hypothesize that in this case they will drive a harder bargain, which will result in a lower repurchase price.

4.2 Empirical Tests

We use three different proxies for *liquidity*. The first is the fraction of shares repurchased. The larger the fraction repurchased, the harder it should be to sell that block of shares in the open market without putting sales pressure on the stock. Thus, we expect a negative relation between the premium and the fraction repurchased. Second, we calculate the number of trading days it would take the seller, were he to sell the shares in the open market rather than to the company. This measure is calculated by dividing the total number of shares repurchased by the average daily trading volume, measured over 30 trading days, ending five days before the event, using daily trading volume from CRSP. Using the cross-sectional distribution of this variable, we construct

a cumulative density function, which takes a value of 1 for the most liquid transaction and 0 for the most illiquid transaction. We call this variable LIQUIDITY and expect it to be positively related to the repurchase price. Finally, we create a variable called "Small stock exchange dummy" which is equal to 1 if the repurchasing company is traded OTC or on the Pink Sheets, and 0 otherwise (8% of cases). However, most repurchasing companies are traded on NASDAQ (50%), fewer on the NYSE (34%), and the remaining 8% on exchanges such as AMEX and Philadelphia.

In order to obtain an estimate for *growth opportunities* we use the market-to-book ratio (MB). MB is computed as the market value of equity plus the book value of debt (total assets – book value of equity – deferred taxes) divided by the book value of assets. We predict that the repurchase premium is negatively related to the buyer's MB. A potential issue with this measure is that MB might also proxy for relative over- or undervaluation. This is a particular problem in our repurchase setting. Therefore, as a measure of relative valuation we also include the matching-firm adjusted MB ratio. Alternatively, we use the abnormal stock return, generated from the market model, measured over the period –120 to –2 days before the announcement.

As a proxy for *financial constraints*, we use the financial leverage (NET DEBT). NET DEBT is long-term debt minus cash divided by the book value of assets. We use the matching-firm adjusted NET DEBT measure to control for differences in the optimal leverage across industries and size. In order to measure the expected costs of financial distress, we need to measure the probability of financial distress and the costs of being in distress. We argue that the probability of financial distress is negatively correlated with Altman's Z-score. Altman's Z-score is computed as $Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999X_5$, where X_1 = working capital/assets, X_2 = retained earnings/assets, X_3 = EBIT/assets, X_4 = market value of equity/total liabilities and X_5 = net sales/assets. The costs of financial distress are higher in companies with more intangible assets because such assets cannot easily be transferred. We estimate this cost by the firm's intangibles in the year prior to the buyback divided by total assets (INTANGIBLES). We predict that the repurchase premiums are negatively related to NET DEBT, INTANGIBLES and Altman's Z-score.

Finally, *managerial ownership*, m_0, is the ratio of insider ownership to total shares outstanding.[9] We expect this variable to be negatively related to the premium.

4.3 Discussion of the Results

In table 3, we report coefficients of OLS regressions, where the dependent variable is the premium paid, conditional on the premium being negative. Thus, the dependent variable is between –1 and 0.[10]

We find broad support for the hypothesis that the premium is determined by factors affecting the bargaining power. Our proxies for liquidity are significantly related to the premium. For example, the coefficient on the fraction repurchased is –0.368 and significant at the 1% level. Economically, selling a 3-percentage point larger block is, on average, associated with a one percent deeper discount. Similarly, the coefficient on LIQUIDITY is 0.105 and significant at the 1% level, indicating that companies with more liquid stocks have to pay a relatively higher premium, i.e., a price closer to the market price. The results are also robust when using the small stock exchange dummy. The coefficient is –0.111, indicating that sellers of shares that are listed OTC and on Pink Sheets, on average, incur a discount of more than 10% relative stocks traded on other exchanges.

We also find a significantly negative coefficient on MB, indicating that firms with more valuable growth opportunities require a deeper discount in order to entice them to invest in their own stock. The controls for potential under- or overvaluation, i.e., the matching-firm adjusted MB and the pre-announcement abnormal stock return, are both insignificant. This is consistent with the interpretation that repurchasing firms in discounted repurchases do not repurchase stock to signal under- or overvaluation. But then, why would firms with valuable growth opportunities not just accept any price below the market price? One reason might be financial constraints. We find that firms with higher NET DEBT relative to their comparable firm ask for a deeper discount.

[9] We collected ownership data from Thomson's Financial Lancer Analytics database. The database contains SEC required forms 3, 4 and 5, which report insider shareholdings and transactions. We consider current directors and employees as insiders. Insider ownership is computed as the sum of all insider stock ownership in the fiscal year ending prior to the announcement. Our primary measure of stock ownership is collected from form 5's 'resulting shares held' which insiders are required to file with the SEC at fiscal year end. Since not all insiders file a form 5, we also use forms 3 and 4 where insiders report their 'resulting shares held' after the selling and buying of shares (at the time of the transaction). When we could not find any information in the database, we used the ownership information in the proxy statements. In particular, all ownership information about companies prior to 1986, the first year where Lancer has information, is collected from proxy statements. Targeted share repurchase firms have an average of 17.71% insider ownership prior to the repurchase (Tables 1 and 4).

[10] Similar results obtain if we use Tobit regressions (omitted for brevity).

Also, firms where the hypothesized cost of financial distress is higher, namely those with higher INTANGIBLES, repurchase at a deeper discount. The Z-score, on the other hand, is not significantly related to the premium paid. One potential explanation is that the Z-scores are relatively high among repurchasing firms: at the fiscal year end prior to the announcement, the average Z-score was 4.14. Altman classifies firms as financially distressed if their Z-score is below 1.81, which occurs only in 12 out of the 330 discount events but none were listed in SDC's bankruptcy database.

The coefficient on insider ownership fraction is also significantly negative. Economically, a one-percentage point higher managerial ownership is associated with about a 0.7% deeper discount, consistent with our predictions that managers would drive a harder bargain if they gained more by doing so.

4.4 Negotiation Dynamics: A Closer Look at a Sub-sample of Traded Sellers

Among the 737 repurchasing firms, 127 repurchase shares from a publicly traded seller firm. Comparing the univariate statistics (not tabulated), we find that premium and discount events are comparable to the full sample. For example, in the discount (premium) sub-sample, 14.1% (13.42%) of the shares outstanding are repurchased at an average discount (premium) of 12.56% (20.41%) and INFO is an insignificant –0.85% (significant 5.86%). However, the zero-premium repurchases are no longer associated with a positive CAR and INFO, while the greenmail sample's average CAR is –10.71%. Given the small number of observations in these two categories and the major differences in the greenmail and zero-premium sample, we focus our analysis on the discount and premium events.

In table 4, we show OLS regressions using the sample of repurchases at a discount. Similar variables are included as in the tests shown in table 3. Because of the limited number of observations, we exclude the buyers' Z-score which was insignificant in the results of table 3. In addition to the buyers' ratios, we also include the seller firm ratios. Of the 61 events, we have 57 with complete information on all the variables.[11]

Consistent with our findings in table 3, the results support the hypothesis that the premium is determined by bargaining power. On the seller side, we find that seller firms with a higher MB are associated with deeper discount repurchases. Using the MB ratio as a proxy for growth opportunities and controlling for the matching firm's adjusted

[11] Unfortunately, we cannot find insider ownership information for 5 sellers in discounted and 3 sellers in premium repurchases. To save degrees of freedom, we omit this variable. In untabulated results we find that the coefficient is positive but insignificant while other seller variables become less significant.

MB, we conclude that sellers are willing to sell their stake at a lower premium the more valuable the growth opportunities in their own firm. This makes sense if such firms are more likely to be in a hurry to receive funding for their growth, which they cannot otherwise finance due to financial constraints. The coefficient on our proxy for the seller's financial constraints, NET DEBT adjusted by the matching firm, is significantly negative, supporting this notion. Furthermore, this argument implies that firms with both, high MB and high leverage should end up with the lowest premium. We test this by creating two dummy variables and interacting them. The first one is called 'High MB dummy, Seller' and is equal to one if the seller firm's MB is bigger than the median seller firm's MB in our sample and zero otherwise. This proxy is intended to capture the value (NPV) of the projects available to the seller firms. The second proxy is 'High Net Debt dummy, Seller' and is equal to one if the seller firm's net debt is bigger than its matching firm's ratio. Firms with a higher leverage relative to comparable firms in similar industries are assumed to be more financially constrained. We find an insignificantly positive coefficient on the 'High MB dummy', a significantly negative coefficient on the 'High Net Debt dummy' (p-value of 0.059) and a significantly negative coefficient on the interaction variable (p-value of 0.083). According to our regression results, seller firms with high growth opportunities *and* more financial constraints achieve an economically significant lower premium of 9.3%.

We also find that the seller's Z-score is significantly positively related to the premium. Thus, sellers that are more likely to be in financial distress, obtain a lower price for their stake when selling it to the company. Given the importance of the Z-score variable we also investigate how many sellers are in distress. From the announcement reports, i.e., either from the WSJ or the News Wires, and the SDC bankruptcy database, we find that nine of the 61 sellers (15%) are in financial distress or have filed for Chapter 11 or 7. For example, the WSJ of 12. September 1991 reports on page B5: "*Transcisco Industries Inc., which has filed for protection under Chapter 11 of the federal Bankruptcy Code, said it agreed to sell its 36% stake in PLM International Inc. back to PLM in order to help raise money for a reorganization*." Note that none of the sellers that sold at a premium were in financial distress.

The seller-firm characteristics thus support two potential reasons for discounted repurchases. First, seller firms with high growth opportunities seem to be in a hurry to raise funds to realize their projects. Due to financial constraints they might not be able to raise the funds from outside investors at short notice or sell the shares in the market

due to low trading volume. Second, firms that are closer to financial distress might be willing to sell their block of shares to the company at a deeper discount in order to alleviate financial constraints.

The question now arises as to how important this sale is for the seller. We use all 127 sellers for which we have data. Our first measure is the ratio of the dollar value of the repurchase (REPVAL) to the market value of the firm's equity at the calendar year end before the announcement. We find a mean (median) of 13.1% (3.1%). This compares with new stock issues where the average (median) ratio of the amount offered to the market value of the firm's equity is 15.1% (11.1%) according to Mikkelson and Partch (1986). The importance in the mean is comparable between the two events although the median in the repurchase sample is clearly lower. A second measure is REPVAL to book value of assets at the fiscal year end before the announcement. We find an average (median) ratio of 6.2% (1.6%). Comparing these numbers to the asset sale to book value of assets ratio in Lang, Poulson and Stulz (1995) of 11% (9%) we conclude again that the sale is less significant for our firms. Finally, we find that REPVAL relative to the book value of long-term debt outstanding at the fiscal year end before the announcement is an average (median) 146% (10.9%). The data clearly is skewed since one company only had very little long-term debt (maximum ratio of 10234%). The median of 10.9% compares to the median divestment to debt outstanding in Easterwood (1998) of 40%. Along all three measures, we thus conclude that the sale is a less significant event for the seller in comparison with pure equity issues, asset sales and divestments in firms that undergo a leveraged recapitalization. Nevertheless, we believe the event is significant enough for the seller as to make it worthwhile to bargain about the repurchase price seriously.

5 Explaining the price behavior in premium repurchases: theory and evidence

5.1 Theory

In order to explain the positive abnormal returns after premium targeted repurchases, we develop a signaling model similar to Vermaelen's (1984) model for fixed price repurchase tender offers. We exclude the sample of zero-premium repurchases and the sample of discounted repurchases, as it is difficult to consider repurchases where no premiums are paid as deliberate, managerially initiated signals. It is also very likely that, in these cases, the initiative for the repurchase comes from the seller, not the corporation. The main difference between the fixed price repurchase

tender offers studied by Vermaelen (1984) and the targeted repurchase is that the fraction of outstanding shares repurchased, F_p, is given so that the only variable under managerial control is the repurchase tender price P_T. We assume that managers choose the tender price in order to maximize

$$B = W[i(P_T)] - \frac{M_0 N_P}{N_0 - N_p}\left(P_T - P_0 - \frac{I}{N_0}\right), \quad (2)$$

where i is the market's assessment of the value of information, M_0 is the number of shares held by insiders, I is the "true" value of the information known to the insider-manager, such that the "true" stock price is equal to $P_0 + I/N_0$.

Intuitively, managers obtain benefits W from increasing the market's assessment of the value of the company. But, to the extent that the company buys N_P shares at $P_T > P_0 + I/N_0$, the management imposes a signaling cost of $N_P(P_T - P_0 - I/N_0)$ on the $N_0 - N_p$ remaining shareholders. As the management owns M_0 shares, they personally bear a fraction $M_0/(N_0-N_P)$ of this signaling cost.

We can rewrite (2) as

$$B = W[i(P_T)] - \frac{M_0 F_P}{1 - F_P}\left(P_T - P_0 - \frac{I}{N_0}\right). \quad (3)$$

Considering that, in a fully revealing signaling equilibrium, i = I, the first order condition for an optimal P_T is

$$\frac{\partial W}{\partial I} \times \frac{\partial I}{\partial P_T} = \frac{M_0 F_P}{1 - F_P} \equiv c\,. \quad (4)$$

If we assume that the marginal benefit $\partial W/\partial I$ is constant and equal to w, then we have to solve the following equation:

$$\partial I = \frac{c}{w}\partial P_T\,. \quad (5)$$

Integrating both sides, we obtain

$$I(P_T) = \frac{c}{w}P_T + K\,, \quad (6)$$

where K is a constant of integration. If we impose a boundary condition that if the shares are priced correctly, the company will not repurchase shares at a premium (that is, if I =0, then $P_T = P_0$), it follows that $K = -c/w\ P_0$. So, we can rewrite equation (6) as

$$I(P_T) = \frac{c}{w}(P_T - P_0) = \frac{M_0 F_P}{(1 - F_P)w}(P_T - P_0)\,. \quad (7)$$

Dividing both sides by P_0N_0 and defining $(P_T–P_0)/P_0$ as the repurchase premium π and M_0/N_0 as the fraction of insider holdings m_0, it follows that, in equilibrium, the value of information, or abnormal return,

$$\alpha = \frac{I}{N_0 P_0} \quad \text{is equal to} \quad \alpha = \pi \times \frac{m_0 F_P}{(1 - F_P)w}. \tag{8}$$

From equation (8) it follows that the abnormal returns should be *positively* related to the premium, the fraction repurchased and the fraction of shares held by insiders, but *negatively* related to the marginal signaling benefits.

Based on the average statistics of our sample, it is possible to get some implied estimate of w. Specifically, if the repurchase premium is 19 %, the fraction of shares held by insiders 16 % and the company repurchases 14 % from a private investor, observing an abnormal return (INFO) of 4.8% implies a marginal benefit w of 10 cents per dollar increase in the value of the shares. This is much larger than the 4 cents estimate in Vermaelen (1984) in a sample of public fixed price tender offers. It seems that the market believes that the marginal managerial benefit from increasing the stock price is larger in a private repurchase than in a public tender offer. Vermaelen (1984) finds that w is positively related to the likelihood of a hostile takeover bid. So, one explanation for the high value of w in private premium repurchases is that eliminating a large shareholder eliminates the threat of a hostile takeover bid. That is why empirical tests of (8) should incorporate a dummy variable to test for the impact of greenmail transactions. In addition, we need to consider a potentially more complex relation between managerial ownership and the block transaction, namely, that repurchasing firms with higher managerial ownership also get higher benefits of control from removing a blockholder. If this is a potential issue when managers set the premium, we should expect that higher insider ownership in greenmail events would be negatively associated with INFO, the information value that the market infers from the event. We test for this by including an interaction variable between insider ownership and the greenmail dummy.

5.2 Evidence

Our tests use the sample that includes all the repurchases in which a premium is paid. The reason for including greenmail transactions as a special case is that these repurchases can be considered as events where the marginal signaling benefits, w, are

very high. Thus, we expect the regression coefficient on the dummy variable to be significantly negative.

The results in table 5 are consistent with the implications of the signaling model: INFO, our dependent variable, is significantly positively related to the premium, the fraction purchased and the fraction of insider holdings, and negatively related to the greenmail dummy variable.[12] We also find an insignificant coefficient (0.029) on the interaction variable between insider ownership and greenmail dummy. The fact that shareholders do not discount the value of the signal in greenmail events more heavily if insider ownership is higher seems inconsistent with the joint hypothesis that higher managerial ownership would be associated with potentially higher conflicts of interest and this being a dominant issue in our sample.

Although, according to the signaling model, the regression coefficients have the expected sign and are statistically significant, the magnitude of the coefficient on the premium (0.066), as well as the R^2 (0.32), are smaller than the coefficients of similar regressions using the sample of 303 fixed price tender offers and 251 Dutch auction tender offers, respectively. For example, the coefficient on the premium is 0.393 (0.361) in the tender offer (Dutch auction) sample and the R^2 is 52% (54%), respectively. To formally test whether the coefficients are different, we run a regression using both samples but interacting each variable with a 'tender offer dummy'. We find that the coefficient on the respective interaction variables with premium and insider ownership are significant but the coefficient on the fraction repurchased is not (results not reported in a table).[13]

To summarize, the information story does not work in the context of targeted repurchases as well as it does in public tender offers. A possible explanation for the difference is that the company is repurchasing shares from a single investor or small group of investors. Such a group of investors can coordinate their actions/demands and thus get some bargaining power in determining the premium paid.

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[12] As alternative proxies for managerial benefits, we use a dummy equal to one if the repurchase is from the only 5% blockholder or if the repurchase is from the largest blockholder. We collect data from Compact Disclosure from 5/1988 – 10/1995 on events where the seller is known and the repurchases were executed within 6 months. Of the 128 events with available data, 43 are premium repurchases. In 7 cases (16%) the repurchases were from the only blockholder, in 27 cases (63%) it was from the largest. The regression coefficient on the dummy for 'no other blockholder' (largest blockholder) is –0.066 (-0.016) with a p-value of 0.07 (0.52) (results not shown).

[13] Looking back at the distribution of the variables in table 1, panel B, it could be that outliers drive the regression results. However, all our results obtain even after curtailing the sample at the first and 99th-percentile (not shown).

5.3 Determinants of the Repurchase Price in Premium Repurchases

In order to test whether the repurchase premium is, in addition to the signaling, also determined by the relative bargaining power of seller and repurchasing firm, we reformulate equation 8 to get the premium (instead of INFO) as the dependent variable and run the following regression:

$$\text{Premium}_i = \delta + w \times [\alpha \times (1-F_P)/(F_P \times m_0)]_i + \beta \times [\text{Proxies for bargaining}]_i + \varepsilon_i ,$$

where, $w \times [\alpha \times (1-F_P)/(F_P \times m_0)]_i$ is the theoretically predicted premium from equation 8 under the assumption of a constant w. We are estimating w as the coefficient on $[\alpha \times (1-F_P)/(F_P \times m_0)]_i$, using INFO as a proxy for α, "fraction repurchased" as a proxy for F_P and "insider ownership fraction" as a proxy for m_0, as before. The subscript i refers to event i. We add the same variables relating to the bargaining power of the repurchasing and selling firms as we have used in table 4.[14] Our sample is thus limited to the 44 premium repurchase events where we have information on the repurchasing firm and on the seller firm.

As shown in the first regression in table 6, our estimate of w is 0.061. This is lower than the estimate of 10 cents per dollar increase in value of the shares we computed based upon the average values (assuming the price is uniquely determined by signaling), but still more than the 4 cents estimate in Vermaelen (1984).

While the addition of the bargaining variables increases the adjusted R-squared from 0.59 to 0.83 (not shown), a closer look at the coefficients shows mixed results. The implications for the premium paid if bargaining power also plays an important role should be reflected in a negative coefficient on the repurchasing firm's INTANGIBLES, and Net Debt adjusted. Only the coefficient on INTANGIBLES is significantly negative, while the coefficient on Net Debt adjusted is positive but insignificant. We also find insignificant coefficients on the variables, LIQUIDITY and the small stock exchange dummy, which suggests that liquidity is not a major instrument in the bargaining process. More interestingly, however, are the findings when we look at the seller related variables. Seller firms with a higher probability of bankruptcy or higher cost of financial distress get a lower premium. The coefficients on INTANGIBLES and Net Debt adjusted are significantly negative (the latter only marginally) and the coefficient on the Z-score measure is significantly positive. In addition, we find a

[14] Notice that the fraction repurchased and the insider ownership (buyer) variables are used in determining the predicted premium and as such are not included separately as independent variables. To save degrees of freedom, we exclude insider ownership (seller) because it is unavailable for 3 firms.

significantly positive coefficient on MB adjusted. Thus, if the matching-firm adjusted MB is again taken as reflecting misvaluation, it might not be in the interest of undervalued firms to raise outside funds given the cost associated with such transactions (e.g., Myers and Majluf, 1984). Selling a block might be a better alternative even at a lower premium relative to the premium sellers with more bargaining power (i.e., less undervaluation) can achieve.

Finally, we include the dollar amount of the repurchase value in the regression. This variable serves as a proxy for the bargaining power that sellers might receive from the possibility to sell their stake in a block transaction to another investor. Barclay et al. (2001) show that the average block transaction takes place at a premium. It is therefore possible that not controlling for this alternative route to sell the shares excludes an important determinate of a negotiated premium. Based upon Barclay et al.'s (2001) finding that the frequency of block trades decreases with the block value in dollar terms, we use this variable as a proxy for the likelihood that another investor would be available as a block purchaser. We find an insignificant coefficient on the repurchase value variable. This is consistent with the interpretation that, at least for premium repurchases, the possibility of a block trade does not significantly influence our results.

It is interesting to compare the importance of the various negotiation variables between the premium (table 6) and discounted repurchase (table 4) samples. While we find similar effects for MB (buyer), Intangibles (buyer), net debt adjusted (seller) and Z-score (seller), differences exist for net debt adjusted (buyer), MB (seller), MB adjusted (seller) and intangibles (seller). However, note that no variable displays the opposite (and both significant) sign. Thus the question arises to what extent a discount can be thought of as a negative premium without a signaling component. Empirically it turns out that all coefficients display a lower significance or are even insignificant if the two samples are combined (not shown). To understand why, picture the premium on the y-axis and an independent variable, say MB (seller), on the x-axis. Within discounted repurchases, there is a negative relationship, but within premium repurchases there is not. Since in both samples, the MB (seller) values are in the same range, the regression line flattens and becomes insignificant. Theoretically, it could have been that the MB (seller) in premium repurchases was concentrated on the low side and in discounted repurchase on the high side, i.e., a continuum of the independent variable instead of a clustering around the same values. Only in the 'continuous' case could we really

conclude that a seller with higher and higher MB would eventually incur a discount and thus think of the bargaining variables as having a 'continuous' effect.

While we find evidence that variables that proxy for the bargaining power influence the repurchase price in addition to the signaling factors, a possible alternative explanation for the relatively weak performance of the signaling model is that the market under-reacts to the information in targeted repurchases, similar to the under-reaction in tender offer and open market repurchases. We test this hypothesis in the following section.

6 Long-horizon returns

6.1 Methodology

In panel A of table 7, we report the long-run abnormal returns for the repurchasing firms and their significance levels. The table shows monthly cumulative average abnormal returns using Ibbotson's (1975) returns across time and security (RATS) method combined with the Fama-French (1993) three-factor model as implemented in Hillion and Vermaelen (2003). The following regression is run each month t:

$$\left(R_{i,t} - R_{f,t}\right) = a_t + b_t\left(R_{m,t} - R_{f,t}\right) + c_t SMB_t + d_t HML_t + \varepsilon_{i,t}, \qquad (9)$$

where $R_{i,t}$ is the monthly return on security i in month t, with t=0 being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk free rate and the return on the equally-weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t, respectively. The numbers reported are sums of the intercepts a_t of cross-sectional regressions over the relevant event-time periods.

As a robustness test we implement a rolling portfolio approach first introduced by Jaffe (1974) and Mandelker (1974) and described in Fama (1998).[15] For this test, we calculate the abnormal return of a stock (in a given calendar month) for which the event took place in the prior 24 months (excluding the announcement month itself). We use the Fama-French (1993) factor model to estimate the abnormal return. Specifically, we estimate the coefficients, using monthly data, over five years ending 13 months prior to the month that we calculate the abnormal return for. We then average the abnormal return in a given calendar month across all stocks that had an event announced within the previous 24 months. We report the mean of these monthly calendar-time portfolio

[15] Robustness tests where we follow Ibbotson (1975) more closely by only selecting one event per calendar month are available from the authors. Inferences are equivalent to the robustness test reported.

abnormal returns in panel B of table 7. The significance test is based upon the time-series variation in the calendar time portfolio abnormal returns.[16]

6.2 The Repurchasing Firms in the Sample of Privately Negotiated Repurchases

Consistent with extant literature on tender offer and open market repurchases, we also find that the sample of targeted repurchases is followed by a significantly positive abnormal return pattern. For example, during the 12 months, starting the month after the announcement, we report in panel A of table 7 a cumulative abnormal return of 6.74%, significant at the 1% level.

Of particular interest are the long-run abnormal returns of the different sub-samples. Contrary to the short-term negative market reaction to greenmail repurchases, the non-selling shareholders experience a significantly *positive* abnormal return after the greenmail payment. In panel A of table 7 and figure 1, we show that after 12 months, the cumulative abnormal return is 11.84%, which is significant at the 5% level. The "maximum" cumulative abnormal return is reached after 17 months with 15.69%. Compared to the average greenmail premium of 18.06% that managers pay the hostile party, our long-run analysis casts doubt on the interpretation that managers are overpaying to make the blockholder go away.[17] More disconcerting is the fact that shareholders initially react negatively to the greenmail event, but following the event there is a positive abnormal return. A similar contradiction between the market's short-term and long-term reaction has been documented by Hertzel et al. (2002) in the context of private equity issues. They find significantly positive short-term and abnormally low long-run abnormal returns to private equity placements.

Investigating the sample of premium repurchases, we find again significantly positive abnormal returns (8.47%, significant at the 1% level). The outperformance of these repurchasing firms is consistent with the previous findings of Lakonishok and Vermaelen (1990) who find that the market under-reacts to information in repurchase tender offer announcements.

We find a less significant long-run performance of firms that repurchased at a discount. Over the 12-month window after the announcement, we find an average abnormal return of 6.49% (significant at the 10% level). The robustness test uncovers

[16] Similar results obtain if we impose a constraint in forming the portfolios on the availability of a minimum of 24 stocks each with a different event month per calendar month (not shown).

[17] However, we cannot conclude from this that managers were maximizing shareholder value. Essentially, only if the blockholder did not intend to make a premium bid and was otherwise of no significant value to the other shareholders, are the non-selling shareholders not harmed by the transaction.

no significant abnormal returns as shown in panel B. However, it is important to note that the abnormal return in month 0 is 4.64% compared to the three-day announcement return of 1.99%. We further investigate the daily abnormal returns in the calendar month of the announcement using the market model. Interestingly, we find that the average abnormal return between day +2 and the end of the calendar months is 2.6% (significant at the 1% level based upon the cross sectional variation in CAR), while the average abnormal return between the beginning of the calendar month and day -2 is -0.3% (insignificant). Although we are not aware of a consistent test of the significance of the long-run abnormal returns based upon a combination of daily and monthly abnormal returns, economically, the post announcement effect even for discounted repurchases is an impressive 9.09% (6.49% + 2.6%) over a 12-months period. The positive (sometimes significant) long-run performance measures indicate that repurchasing at a discount is consistently interpreted by the market as *not* being a *negative* signal about the company's future value. More importantly, it suggests that companies, even when they repurchase at a discount, are signaling that they are undervalued. However, the market does not seem to understand this, and only in the longer-run realizes the value.

The only insignificant long-run abnormal returns are recorded for the sample of firms which repurchase at zero premium. Over the 12-month post-announcement period, the cumulative abnormal return is 4.35% (t-statistic of 0.985). This is less surprising given that the majority of these repurchases involve current or former insiders.

6.3 The Seller Firms in Privately Negotiated Repurchases

Our previous analysis has led us to conclude that the premium is influenced by the bargaining power the different parties have. This is especially true in the discounted repurchase sample, where we found that seller firms potentially sell at a discount because they need the money to fund future growth opportunities or alleviate financial distress problems. The long-run abnormal returns of the seller firms in discounted repurchases, displayed in figure 1 and table 7, seem to support the latter interpretation. The average abnormal return over the twelve months following the announcement is –15.63%, significantly negative at the 5% level. Similarly, the average monthly abnormal portfolio return is –1.37% (significant at the 1% level). While in the short-run the market reacts negatively to the announcement of discounted repurchases (–0.80%, insignificant), the full implications of the discounted repurchase event do not seem to be impounded in the stock price until six to twelve months after the event.

7 Conclusion

We investigate 737 targeted share repurchases in the years 1984-2001 and find that targeted repurchases have many facets. Treating privately negotiated repurchases as homogeneous events is not really helpful in understanding the motivation for this corporate decision. The typical targeted share repurchase is significantly different from the 'greenmail' event described in the earlier literature. Only about 8% of the events in our sample are 'greenmail' repurchases. The majority of the repurchases at a premium, however, are not related to a control event and display characteristics more consistent with a signaling model. In addition to the signaling component, we also find evidence that proxies for bargaining power are important determinants of the repurchase premium. In discounted repurchases we find that, on average, there is no information signaled/conveyed but the discount is significantly affected by the bargaining power of the firm and the seller.

When we extend the analysis of stock returns past the announcement window, we find a surprising result. Following the greenmail repurchase, long-term shareholders accumulate an average abnormal return of 16% which is comparable to the average 18% premium that the seller received in the repurchase, indicating that management does not seem to have overpaid the selling blockholder. Other premium and discounted repurchases also display positive long-run abnormal returns. Only repurchases that take place at zero-premium are not associated with any significant long-run abnormal returns. These are transactions where, typically, the company repurchases shares from officers, directors and employees. From this paper, three conclusions emerge. First, a company repurchases shares from outsiders only when its stock is undervalued. Second, the market does not seem to realize this, especially in greenmail transactions and repurchases at a discount. Finally, in contrast to other forms of repurchases, targeted repurchase premiums are significantly determined by the bargaining strength of the company and the seller.

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Figure 1
Cumulative Abnormal Returns of Repurchasing and Selling Firms

The sample consists of 737 firms that announced a targeted share repurchase between 1984-2001 and 106 firms that sold their shares in such a targeted repurchase. Four sub-samples are formed: Discount (Premium/at-the-market) repurchases are repurchases where the repurchase price is below (above/at) the market price on the day before the announcement. Greenmail events are repurchases where SDC describes the event as greenmail or as a defensive transaction (Following the label is the number of observations). The figure depicts the cumulative long-run abnormal returns (CAR), calculated using Ibbotson's (1975) returns across time and security method and the Fama-French (1993) three-factor model. The following cross-sectional regression is run each month t:

$$\left(R_{i,t} - R_{f,t}\right) = a_t + b_t\left(R_{m,t} - R_{f,t}\right) + c_t SMB_t + d_t HML_t + \varepsilon_{i,t},$$

where $R_{i,t}$ is the monthly return on security i in month t, with t=0 being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk free rate and the return on the equally-weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t, respectively.

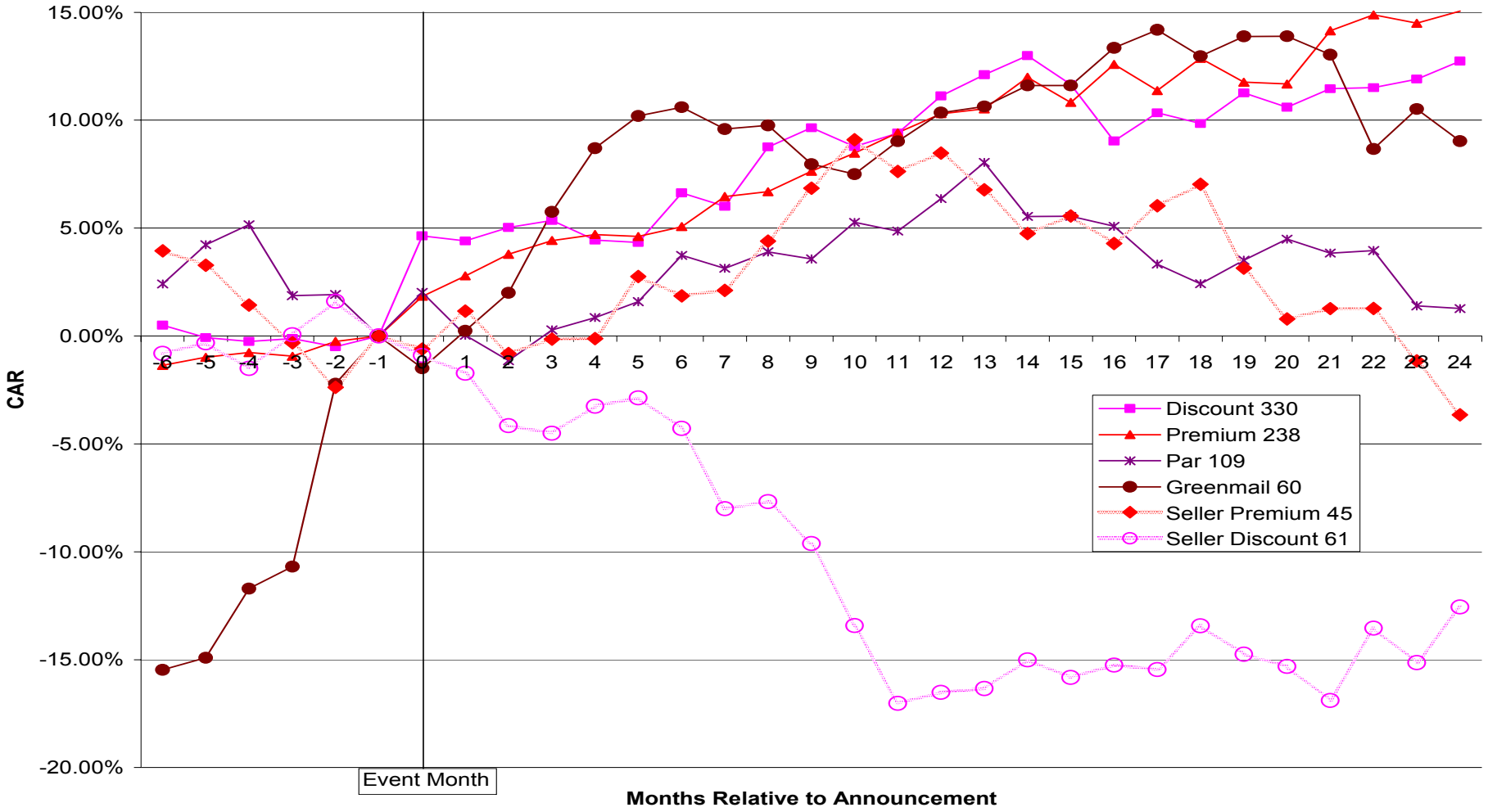

Table 1
Summary Statistics for Various Methods of Share Repurchases

The sample contains only events where the repurchase method is unique (no combinations). The table reports results for the following sub-samples: 'Privately negotiated' is the 737 firms which announced a privately negotiated share repurchase. The remaining three types of repurchases are 'Open Market' (6,470 events), 'Tender Offer' (303) and 'Dutch Auction' (251). Year range indicates the earliest and latest announcement year of the respective category of repurchases. Fraction repurchased (F_P) is the percentage of the shares repurchased in the deal relative to the number of shares outstanding before the event. The premium is the ratio of the repurchase price (P_T) minus the closing price two days before the event (P_0), all divided by the P_0. CAR [-1,1] is the cumulative abnormal return computed over the three days around the repurchase announcement. The CAR is computed using the market model with the equally-weighted CRSP index as the market return. We estimate the parameters alpha and beta starting 20 days after the announcement, based on daily data in the following 255 days (minimum of 100 days with available data required). CAR [-1, expiration] is the cumulative abnormal return between the day before the announcement and the expiration of the tender offer. The market model parameters are estimated starting 20 days after the expiration. INFO is defined as follows:

$$F_P \times \frac{P_T - P_0}{P_0} + (1 - F_P) \times CAR,$$

where CAR is defined as CAR[-1,1] for privately negotiated share repurchases and Dutch auctions and as CAR[-1,expiration] for tender offers. In both cases, the parameters are adjusted for the change in risk due to the repurchase by computing the parameters after the event. Insider ownership fraction is the ratio of insider ownership to outstanding shares. The insider ownership is collected from Thomson Financial Lancer Analytics database year by year by summing up the latest number of shares held (common, ordinary or preferred) before the fiscal year end for all the insiders reported on Forms 3, 4 and 5. Reporting is required by the SEC. Where the ownership information is missing in Lancer, we collect it from the proxy statements. In particular, all ownership information prior to 1986, the first year with available data in Lancer, is collected from the proxy statements. We consider directors and officers as insiders. *, **, *** indicate significance levels at the 10%, 5% and 1% levels, respectively.

Panel A: Summary Statistics for Various Methods of Share Repurchases

	Privately Negotiated	Open market	Tender offer	Dutch auction
Observations	737	6470	303	251
Year Range	1984-2001	1984-2001	1984-2001	1985-2001
Fraction repurchased (F_P)	13.00%	7.37%	29.46%	15.88%
Premium (P_T-P_0)/P_0	1.92%	NA	20.74%***	14.72%***
% with neg. premium	44.78%	NA	0%	0.4%
CAR [-1,1]	1.81%***	2.39%***	7.68%***	7.60%***
CAR [-1,expiration]	NA	NA	6.04%***	8.51%***
INFO	2.12%***	NA	10.37%***	9.50%***
Insider Ownership	17.73%	18.94%	15.48%	8.14%

Panel B: Distribution of Variables for the Sample of 737 Privately Negotiated Share Repurchases

	CAR [-1,1]	Fraction Repurchased	Premium	INFO	Insider Ownership
Min	-38.61%	0.10%	-76.04%	-53.15%	0.05%
5%	-9.38%	1.80%	-27.83%	-9.11%	0.10%
25%	-1.72%	5.20%	-5.56%	-1.76%	7.47%
50%	1.45%	9.70%	0.00%	1.45%	16.15%
75%	4.92%	16.60%	6.12%	5.07%	24.01%
95%	13.02%	35.50%	32.00%	14.86%	43.95%
Max	41.42%	80.10%	747.46%	80.66%	88.47%
Mean	1.81%***	13.00%	1.92%	2.12 %***	17.73%

Table 2
Summary Statistics for Privately Negotiated Share Repurchase Events

The sample consists of companies that announced a privately negotiated share repurchase with no other repurchase announced simultaneously. The table reports results for the following samples: 'Privately Negotiated' is the 737 firms which announced a privately negotiated share repurchase. 'Premium>0', 'Premium=0', 'Premium<0' are firms that announced a privately negotiated share repurchase and paid a premium (238), no premium (109), and a discount (330) relative to the market price two days prior to the announcement, respectively. 'Greenmail' are firms that announced a privately negotiated share repurchase where the repurchase was a defensive strategy as indicated in the SDC database. Fraction repurchased (F_P) is the percentage of the shares repurchased in the deal relative to the number of shares outstanding before the event. The premium is the ratio of the repurchase price (P_T) minus the closing price two days before the event (P_0), all divided by P_0. CAR [-1,1] is the cumulative abnormal return computed over the three days around the repurchase announcement. The CAR is computed using the market model with the equally-weighted CRSP index as the market return. We estimate the parameters alpha and beta, starting 20 days after the announcement, based on daily data in the following 255 days (minimum of 100 days with available data required). INFO is defined as follows: $F_P \times \frac{P_T - P_0}{P_0} + (1 - F_P) \times CAR[-1,1]$. Insider ownership fraction is the ratio of insider ownership to outstanding shares. The insider ownership is collected from Thomson Financial Lancer Analytics database year by year by summing up the latest number of shares held (common, ordinary or preferred) before the fiscal year end for all the insiders reported on Forms 3, 4 and 5. Reporting is required by the SEC. Where the ownership information is missing in Lancer, we collect it from the proxy statements. In particular, all ownership information prior to 1986, the first year with available data in Lancer, is collected from the proxy statements. We consider directors and officers as insiders. Liquidity is computed as one minus the cumulative density function of the ratio of the fraction of shares repurchased to the average trading volume per day expressed as a fraction of the shares outstanding. The average trading volume per day is measured over a 30 trading day period ending 20 days before the repurchase announcement. *, **, *** indicate significance levels at the 10%, 5% and 1% levels, respectively.

Panel A: Distribution of Privately Negotiated Share Repurchase Announcements

Year	Privately Negotiated	Premium>0	Premium=0	Premium<0	Greenmail
1984	2	1	0	0	1
1985	46	16	3	10	17
1986	45	13	4	12	16
1987	34	12	2	12	8
1988	39	13	5	15	6
1989	63	27	6	24	6
1990	53	27	5	21	0
1991	54	20	7	26	1
1992	38	11	4	23	0
1993	35	11	3	21	0
1994	56	18	7	29	2
1995	64	18	5	40	1
1996	45	17	6	21	1
1997	64	12	21	31	0
1998	34	5	12	16	1
1999	33	10	11	12	0
2000	13	5	4	4	0
2001	19	2	4	13	0
Total	737	238	109	330	60

Panel B: Univariate Statistics for Privately Negotiated Share Repurchase Announcements

	Privately Negotiated	Premium>0	Premium=0	Premium<0	Greenmail
Fraction repurchased	13.00%	13.82%	10.38%	11.63%	22.10%
Premium $(P_T-P_0)/P_0$	1.92%	18.93%***	0%	-12.64%***	18.06%***
CAR [-1,1]	1.81%***	2.50%***	2.14%***	1.99%***	-2.57%**
INFO	2.12%***	4.77%***	1.92%***	0.29%	1.98%*
Insider Ownership	17.73%	16.08%	19.25%	18.10%	19.58%
Liquidity	0.498	0.446	0.528	0.506	0.600

Table 3
Factors Affecting the Repurchase Discount

The sample consists of the 330 privately negotiated share repurchases where the premium is negative and where the following variables were available and defined as follows: The fraction repurchased is the number of shares repurchased divided by the number of shares outstanding. Liquidity is computed as one minus the cumulative density function of the ratio of the fraction of shares repurchased to the average fraction of shares outstanding traded daily. The average is computed over a period of 30 days, ending 5 days before the event, using trading volume from CRSP. Small stock exchange dummy is equal to one if the repurchasing firm is traded OTC or Pink Sheets (27 events). The market-to-book ratio (MB) is computed as the (market value of equity + book value of assets – book value of equity – deferred taxes)/book value of assets. If deferred taxes are missing, they are set to zero. Excess stock returns is the cumulative abnormal return over the period –120 to –2 days prior to the event, estimated using the market model. INTANGIBLES is intangible assets divided by book value of assets. Net Debt is long-term debt minus cash divided by book value of assets. Insider ownership fraction is the ratio of insider ownership to outstanding shares. The insider ownership is collected from Thomson Financial Lancer Analytics database year by year by summing up the latest number of shares held (common, ordinary or preferred) for all the insiders reported on Forms 3, 4 and 5. Reporting is required by the SEC. Where the ownership information is missing in Lancer, we collect it from the proxy statements. In particular, all ownership information prior to 1986, the first year with available data in Lancer, is collected from the proxy statements. We consider directors and officers as insiders. 'Adjusted' indicates that we have subtracted from the firm ratio the corresponding ratio of the matching firm. For example, Net Debt adjusted, is 'Net Debt' – 'Net Debt of matching firm'. Matching firms are selected according to the Loughran and Ritter (1997) method. The candidate matching firms must be in the same 2-digit SIC code with asset size between 25% and 200% of the asset size of the repurchasing firm, measured at the fiscal year prior to the event. For 53 of the 737 repurchasing firms no suitable matching firm could be identified using these criteria. For these events, we then match purely on asset size where the range is limited to 90%-110%. The table reports coefficients of OLS regressions and *p*-values underneath, in brackets.

	Dependent Variable: Premium If Premium<0			
Fraction repurchased	-0.368			-0.371
	(0.001)			(0.001)
Liquidity		0.105		
		(0.000)		
Small stock exchange dummy			-0.111	
			(0.006)	
MB	-0.039	-0.051	-0.036	-0.038
	(0.028)	(0.007)	(0.046)	(0.038)
MB adjusted	0.000	0.000	0.000	
	(0.787)	(0.959)	(0.908)	
Excess stock returns				0.015
(days –120 to –2)				(0.667)
Net Debt adjusted	-0.134	-0.135	-0.132	-0.133
	(0.000)	(0.000)	(0.000)	(0.000)
INTANGIBLES	-0.164	-0.148	-0.132	-0.165
	(0.001)	(0.003)	(0.005)	(0.001)
Z-score	0.000	0.001	-0.001	0.001
	(0.886)	(0.858)	(0.826)	(0.872)
Insider ownership fraction	-0.720	-0.733	-0.752	-0.718
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.134	0.055	0.102	0.130
	(0.000)	(0.098)	(0.002)	(0.000)
Adj-R-squared	0.33	0.31	0.30	0.33

Table 4

Bargaining Strength and the Repurchase Discount

The sample consists of the 57 privately negotiated share repurchase events with data available for the repurchasing and selling firms where the premium paid is negative. The variables are defined as follows: The fraction repurchased is the number of shares repurchased divided by the number of shares outstanding. Liquidity is computed as one minus the cumulative density function of the ratio of the fraction of shares repurchased to the average fraction of shares outstanding traded daily. The average fraction of shares outstanding traded daily is computed over a period of 30 days, ending 5 days before the event, using trading volume from CRSP. Small stock exchange =1 if the repurchasing firm is traded OTC or on the Pink Sheets. The market-to-book ratio (MB) is computed as the (market value of equity + book value of assets – book value of equity – deferred taxes)/book value of assets. If deferred taxes are missing, they are set to zero. INTANGIBLES is intangible assets divided by book value of assets. Net Debt is long-term debt minus cash divided by book value of assets. Z-score is Altman's Z-score defined in the following way: Z-score = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 +0.999 X_5, where X_1=working capital/assets, X_2=retained earnings/assets, X_3=EBIT/assets, X_4=market value of equity/total liabilities and X_5=net sales/assets. The insider ownership is collected from Thomson Financial Lancer Analytics database year by year by summing up the latest number of shares held (common, ordinary or preferred) for all the insiders reported on Forms 3, 4 and 5. Reporting is required by the SEC. We consider directors and officers as insiders. Where the ownership information is missing in Lancer, we collect it from the proxy statements. In particular, all ownership information prior to 1986, the first year with available data in Lancer, is collected from the proxy statements. High MB (High Net Debt) dummy is equal to one if the MB (Net Debt) of the seller is above the median MB of all the sellers (is above the matching firm's Net Debt ratio). All the independent variables are measured as of the fiscal year prior to the announcement date. Seller (Buyer) indicates that the variable is from the Seller (repurchasing) firm. 'Adjusted' indicates that we have subtracted from the firm ratio the corresponding ratio of the matching firm. For example, Net Debt adjusted, Seller is 'Net Debt Seller' – 'Net Debt of matching firm'. Matching firms are selected according to the Loughran and Ritter (1997) method as described in table 3. Coefficients of OLS regressions are reported with *p*-values underneath in brackets.

	Dependent Variable: Premium If Premium<0			
Fraction repurchased	-0.141			-0.127
	(0.010)			(0.030)
Liquidity		0.133		
		(0.021)		
Small Stock Exchange dummy			-0.072	
			(0.057)	
MB, Buyer	-0.046	-0.061	-0.071	-0.054
	(0.057)	(0.015)	(0.011)	(0.053)
INTANGIBLES, Buyer	-0.256	-0.278	-0.361	-0.419
	(0.090)	(0.053)	(0.038)	(0.005)
Net Debt adjusted, Buyer	-0.512	-0.526	-0.561	-0.464
	(0.001)	(0.002)	(0.002)	(0.001)
Insider Ownership, Buyer	-0.238	-0.298	-0.342	-0.248
	(0.020)	(0.003)	(0.001)	(0.019)
MB, Seller	-0.057	-0.057	-0.057	
	(0.017)	(0.013)	(0.033)	
MB adjusted, Seller	0.024	0.011	0.014	
	(0.505)	(0.774)	(0.713)	
INTANGIBLES, Seller	-0.010	-0.203	-0.137	-0.048
	(0.960)	(0.415)	(0.576)	(0.836)
Net Debt adjusted, Seller	-0.283	-0.292	-0.280	
	(0.068)	(0.064)	(0.126)	
Z-score, Seller	0.063	0.064	0.065	0.071
	(0.066)	(0.073)	(0.074)	(0.052)
High MB dummy, Seller				0.016
				(0.337)
High Net Debt dummy, Seller				-0.066
				(0.059)
High MB dummy x High Net Debt dummy, Seller				-0.043
				(0.083)
Constant	0.387	0.396	0.466	0.142
	(0.007)	(0.010)	(0.010)	(0.121)
Adj R-squared	0.67	0.65	0.61	0.61

Table 5
Factors Affecting the Information Contained in Repurchases

The sample consists of companies that announced a share repurchase with no other repurchase method announced simultaneously. 'Premium>0 and Greenmail' is a sample of privately negotiated share repurchases where the premium paid was positive or the event was classified as a defensive repurchase or greenmail event by SDC. The other two samples used are 'Tender Offer' and 'Dutch Auction' – they are not privately negotiated. We report coefficients of OLS regressions where the dependent variable is INFO. The variables are defined as follows: Fraction repurchased (F_P) is the percentage of the shares repurchased in the deal relative to the number of shares outstanding before the event. The premium is the ratio of the repurchase price (P_T) minus the closing price two days before the event (P_0), all divided by P_0. CAR [-1,1] is the cumulative abnormal return computed over the three days around the repurchase announcement. The CAR is computed using the market model with the equally-weighted CRSP index as the market return. We estimate the parameters alpha and beta, starting 20 days after the announcement, based on daily data in the following 255 days (minimum of 100 days with available data required). CAR [-1, expiration] is the cumulative abnormal return between the day before the announcement and the expiration of the tender offer or Dutch auction. The market model parameters are estimated starting 20 days after the expiration. INFO is defined as follows:

$$F_P \times \frac{P_T - P_0}{P_0} + (1 - F_P) \times CAR,$$

where CAR is defined as CAR[-1,1] for privately negotiated share repurchases and as CAR[-1,expiration] for tender offers and Dutch auctions. In both cases, the parameters are adjusted for the change in risk due to the repurchase by computing the parameters after the event. Insider ownership fraction is the ratio of insider ownership to outstanding shares. The insider ownership is collected from Thomson Financial Lancer Analytics database year by year by summing up the latest number of shares held (common, ordinary or preferred) before the fiscal year end for all the insiders reported on Forms 3, 4 and 5. Reporting is required by the SEC. We consider directors and officers as insiders. Where the ownership information is missing in Lancer, we collect it from the proxy statements. In particular, all ownership information prior to 1986, the first year with available data in Lancer, is collected from the proxy statements. Greenmail dummy is equal to one if SDC classified the repurchase to be a defensive or a greenmail event. The table reports coefficients and *p*-values underneath in brackets.

	Dependent variable: INFO			
Sample:	Premium>0 and Greenmail	Premium>0 and Greenmail	Tender Offer	Dutch Auction
Independent Variables				
Premium	0.066 (0.064)	0.065 (0.064)	0.393 (0.000)	0.361 (0.000)
Fraction repurchased	0.270 (0.000)	0.270 (0.000)	0.127 (0.006)	0.177 (0.002)
Insider ownership fraction	0.076 (0.001)	0.068 (0.014)	0.022 (0.025)	-0.000 (0.996)
Greenmail dummy	-0.051 (0.001)	-0.056 (0.001)		
Greenmail dummy x Insider ownership fraction		0.029 (0.596)		
Constant	-0.014 (0.194)	-0.013 (0.264)	-0.009 (0.529)	0.010 (0.392)
Observations	238+60=298	238+60=298	303	251
Adj-R-squared	0.32	0.32	0.52	0.54

Table 6
Bargaining Strength and the Repurchase Premium

The sample consists of the 44 privately negotiated share repurchase events with data available for the repurchasing and selling firms where the premium paid is positive. We estimate the following regression:

$$\text{Premium}_i = \delta + w \times [\alpha \times (1-F_P)/(F_P \times m_0)]_i + \beta \times [\text{Proxies for bargaining}]_i + \varepsilon_i ,$$

where $w \times [\alpha \times (1-F_P)/(F_P \times m_0)]_i$ is the theoretically predicted premium given equation 8. The variables are defined as follows: As a proxy for α we use INFO= $(P_T-P_0)/P_0 \times F_P + CAR \times (1-F_P)$, where P_T is the repurchase price, P_0 is the stock price on the day before the announcement, $F_P = N_P/N_0$ is the fraction of shares repurchased where N_P measures the number of shares repurchased, N_0 measures the number of shares outstanding and CAR = $(P_{AFTER}-P_0)/P_0$. Liquidity is computed as one minus the cumulative density function of the ratio of the fraction of shares repurchased to the average fraction of shares outstanding traded daily. The average fraction of shares outstanding traded daily is computed over a period of 30 days, ending 5 days before the event, using trading volume from CRSP. Small stock exchange =1 if the repurchasing firm is traded OTC or on the Pink Sheets. The market-to-book ratio (MB) is computed as the (market value of equity + book value of assets – book value of equity – deferred taxes)/book value of assets. If deferred taxes are missing, they are set to zero. Net Debt is long-term debt minus cash divided by book value of assets. Z-score is Altman's Z-score defined in the following way: Z-score = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 +0.999 X_5, where X_1=working capital/assets, X_2=retained earnings/assets, X_3=EBIT/assets, X_4=market value of equity/total liabilities and X_5=net sales/assets. The insider ownership is collected from Thomson Financial Lancer Analytics database year by year by summing up the latest number of shares held (common, ordinary or preferred) for all the insiders reported on Forms 3, 4 and 5. Reporting is required by the SEC. We consider directors and officers as insiders. Where the ownership information is missing in Lancer, we collect it from the proxy statements. In particular, all ownership information prior to 1986, the first year with available data in Lancer, is collected from the proxy statements. The dollar value of repurchase is measured in billions by multiplying the number of shares repurchased by the repurchase price. All the independent variables are measured as of the fiscal year prior to the announcement date. Seller (Buyer) indicates that the variable is from the Seller (repurchasing) firm. 'Adjusted' indicates that we have subtracted from the firm ratio the corresponding ratio of the matching firm. For example, Net Debt adjusted, Seller is 'Net Debt Seller' – 'Net Debt of matching firm'. Matching firms are selected according to the Loughran and Ritter (1997) method as described in table 3. Coefficients of OLS regressions are reported with *p*-values underneath in brackets.

	Dependent Variable: Premium If Premium>0	
INFO x $(1-F_P)/(F_P \times m_0)$	0.061	0.059
	(0.036)	(0.038)
Liquidity	0.404	
	(0.313)	
Small Stock Exchange dummy		-0.012
		(0.917)
MB, Buyer	-0.051	-0.062
	(0.069)	(0.092)
INTANGILES, Buyer	-0.375	-0.511
	(0.025)	(0.030)
Net Debt adjusted, Buyer	0.250	0.018
	(0.256)	(0.924)
MB, Seller	0.043	-0.006
	(0.538)	(0.932)
MB adjusted, Seller	0.430	0.428
	(0.000)	(0.001)
INTANGIBLES, Seller	-0.140	-0.147
	(0.039)	(0.034)
Net Debt adjusted, Seller	-0.249	-0.291
	(0.061)	(0.057)
Z-score, Seller	0.329	0.268
	(0.028)	(0.036)
Dollar value of repurchase (billions)	0.503	0.275
	(0.205)	(0.545)
Constant	-0.647	-0.934
	(0.415)	(0.352)
Observations	44	44
Adj R-squared	0.83	0.79

Table 7
Long-Run Abnormal Returns

The sample consists of publicly traded repurchasing (737) and seller (127) firms that announced a share repurchase in 1984-2001. The table reports results for the following samples: 'Private Repurchase' is the 737 firms that announced a privately negotiated share repurchase. 'Premium>0', 'Premium=0', 'Premium<0' are firms that announced a privately negotiated share repurchase and paid a premium (238), no premium (109), and a discount (330) relative to the market price two days prior to the announcement, respectively. 'Greenmail' are firms that announced a privately negotiated share repurchase where the repurchase was a defensive strategy as indicated in the SDC database. The 'Full sample' ('Premium>0'; 'Premium<0') consists of all 127 (45; 61) firms that *sold* shares in a targeted repurchase. Panel A shows monthly cumulative average abnormal return using Ibbotson's (1975) returns across time and security (RATS) method combined with the Fama-French (1993) three-factor model. The following regression is run each month t: $(R_{i,t} - R_{f,t}) = a_t + b_t(R_{m,t} - R_{f,t}) + c_t SMB_t + d_t HML_t + \varepsilon_{i,t}$, where $R_{i,t}$ is the monthly return on security i in month t, with t=0 being the month of the repurchase announcement. $R_{f,t}$ and $R_{m,t}$ are the risk-free rate and the return on the equally weighted CRSP index, respectively. SMB_t and HML_t are the monthly return on the size and book-to-market factor in month t, respectively. The numbers reported are sums of the intercepts of cross-sectional regressions a_t over the relevant event-time periods. The significance levels of the window cumulative abnormal returns are indicated by $, *, **, ***, and correspond to a significance level of 10%, 5%, 1%, 0.1%, respectively, using a two-tailed test. Panel B reports the mean of the monthly calendar-time portfolio abnormal returns computed using a rolling portfolio approach similar to Jaffe (1974), Mandelker (1974) and Fama (1998). We first compute a stock's abnormal return in a given calendar month if the event took place in the prior 24 calendar months. We use the Fama-French (1993) factor model to estimate the abnormal return by estimating the coefficients using monthly return data over five years ending 13 months prior to the month for which we compute the abnormal return. The abnormal returns of all stocks where the event was within the previous 24 months form the basis to compute the average abnormal portfolio return. One per calendar month between 1984 and 2001. The mean of this time-series of portfolio abnormal returns is reported. The t-test is based upon a variance estimate using the time-series variation in the portfolio abnormal returns.

Panel A: Ibbotson's (1975) returns across time and security (RATS) method combined with Fama-French factors

	Sample: Repurchasing Firms					Sample : Sellers Firms		
Period	Private Repurchase	Premium >0	Premium =0	Premium <0	Greenmail	Full sample	Premium>0	Premium<0
(-6,-1)	1.71%	1.77%	-1.98%	0.25%	**18.00%*** **	0.97%	-5.32%	-0.32%
(-3,-1)	0.43%	0.77%	**-5.17%** **	0.26%	**11.71%*** **	1.18%	-1.43%	1.50%
(0,0)	**3.01%*** **	**1.84%***	2.02%	**4.64%*** **	-1.49%	-1.42%	-0.61%	-0.90%
(+1,+1)	-0.26%	0.94%	**-1.98%$**	-0.23%	1.73%	-0.52%	1.77%	-0.82%
(+1,+2)	0.33%	**1.95%$**	**-3.16%***	0.40%	3.49%	-2.50%	-0.20%	-3.26%
(+1,+3)	0.96%	**2.59%$**	-1.74%	0.72%	**7.25%***	-2.37%	0.46%	-3.60%
(+1,+4)	0.94%	**2.87%$**	-1.17%	-0.18%	**10.19%** **	-2.24%	0.49%	-2.35%
(+1,+5)	1.23%	2.78%	-0.43%	-0.29%	**11.69%** **	-0.47%	3.36%	-1.97%
(+1,+6)	**2.85%***	**3.24%$**	1.72%	2.00%	**12.09%** **	5.53%	2.47%	-3.39%
(+1,+7)	**3.01%***	**4.63%***	1.12%	1.38%	**11.08%** **	3.23%	2.72%	-7.11%
(+1,+8)	**4.24%** **	**4.86%***	1.88%	**4.12%$**	**11.24%** **	3.37%	5.01%	-6.78%
(+1,+9)	**4.95%*** **	**5.81%***	1.55%	**5.01%***	**9.46%***	3.72%	7.46%	-8.73%
(+1,+10)	**4.96%** **	**6.64%** **	3.25%	**4.15%$**	**8.99%$**	2.41%	9.71%	**-12.53%***
(+1,+11)	**5.40%*** **	**7.59%** **	2.84%	**4.76%$**	**10.51%***	-0.74%	8.24%	**-16.13%** **
(+1,+12)	**6.74%** **	**8.47%** **	4.35%	**6.49%$**	**11.84%***	-1.02%	9.09%	**-15.63%***
(+1,+13)	**7.66%*** **	**8.70%** **	6.02%	**7.46%$**	**12.13%***	-1.95%	7.37%	**-15.45%***
(+1,+14)	**8.11%*** **	**10.16%*** **	3.52%	**8.35%***	**13.11%***	-0.45%	5.35%	**-14.12%$**
(+1,+15)	**7.25%** **	**8.99%** **	3.53%	**7.01%$**	**13.11%***	-1.38%	6.16%	**-14.92%***
(+1,+16)	**6.53%** **	**10.76%*** **	3.06%	4.40%	**14.85%***	-0.57%	4.89%	**-14.35%$**
(+1,+17)	**6.74%** **	**9.55%** **	1.31%	5.70%	**15.69%** **	0.35%	6.62%	**-14.56%$**
(+1,+18)	**6.81%** **	**11.05%** **	0.40%	5.20%	**14.47%***	2.51%	7.62%	-12.53%
(+1,+19)	**6.96%** **	**9.94%** **	1.49%	6.62%	**15.38%***	1.66%	3.74%	-13.86%
(+1,+20)	**6.96%** **	**9.86%** **	2.47%	5.96%	**15.39%***	0.17%	1.38%	-14.43%
(+1,+21)	**7.96%** **	**12.32%** **	1.83%	6.82%	**14.54%***	-0.44%	1.86%	-15.99%
(+1,+22)	**8.21%** **	**13.05%** **	1.94%	6.87%	10.17%	0.77%	1.88%	-12.64%
(+1,+23)	**7.72%** **	**12.66%** **	-0.62%	7.27%	**12.02%$**	-0.97%	-0.56%	-14.24%
(+1,+24)	**8.38%** **	**13.23%** **	-0.75%	8.10%	10.53%	-1.59%	-3.05%	-11.66%
Firms	737	238	109	330	60	127	45	61

Panel B: Calendar time approach (average monthly abnormal portfolio return and t-statistic)

Sample: Repurchasing Firms						Sample: Seller Firms		
Period	Private Repurchase	Premium >0	Premium =0	Premium <0	Greenmail	Full sample	Premium>0	Premium<0
(1,24)	**1.15%*** **	**1.56%*** **	0.18%	0.52%	**1.35%*** **	-0.41	0.37	**-1.37%** **
OBS	204	203	199	203	173	185	176	181