

# Is cash king? An analysis of mixed payments in corporate takeovers and the preferences of target shareholders

Audra L. Boone  
School of Business  
University of Kansas  
Lawrence, KS 66045  
Tel: 785-864-7507  
Email: alboone@ku.edu

Erik Lie  
Henry B. Tippie College of Business  
University of Iowa  
Iowa City, IA 52242  
Tel: 319-335-0846  
Email: erik-lie@uiowa.edu

Yixin Liu  
Whittemore School of Business and Economics  
University of New Hampshire  
Tel: 603-862-3357  
Email: yixin.liu@unh.edu

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## Abstract

Corporate acquirers have increasingly resorted to a mix of cash and stock to finance takeovers in recent years. We show that mixed payment deals are rich in diversity and fundamentally different from pure cash and pure stock deals. One unique feature of mixed payment deals is that they often offer target shareholders the choice of payment method. Based on election results, we document that target shareholders generally prefer stock over cash, especially when the value of the stock payment is high relative to the cash payment on the election date. We also document that a non-trivial fraction of target shareholders fail to make a valid election even in the presence of a substantial value difference between the stock and cash payments.

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## Abstract

Corporate acquirers have increasingly resorted to a mix of cash and stock to finance takeovers in recent years. We show that mixed payment deals are rich in diversity and fundamentally different from pure cash and pure stock deals. One unique feature of mixed payment deals is that they often offer target shareholders the choice of payment method. Based on election results, we document that target shareholders generally prefer stock over cash, especially when the value of the stock payment is high relative to the cash payment on the election date. We also document that a non-trivial fraction of target shareholders fail to make a valid election even in the presence of a substantial value difference between the stock and cash payments.

## 1. Introduction

Many studies examine the choice of payment in mergers and acquisitions, including the theoretical studies of Hansen (1987), Fishman (1989), and Eckbo et al. (1990) and the empirical studies of Carleton et al. (1983), Amihud et al. (1990), Martin (1996), and Faccio and Masulis (2005). These studies primarily focus on the choice of stock versus cash, although the empirical studies often include mixed payments in their samples.<sup>1</sup> Other studies examine more narrow payment terms, such as collars in stock acquisitions (Officer (2004)) and earnouts (Kohers and Ang (2000) and Cain, Denis, and Denis (2005)).

We take a more detailed look at the use of mixed payments for three reasons. First, we document that their fraction of all payment types has almost tripled from the end of the last century to the current century. In particular, in our sample of 2,250 acquisitions announced between January 1985 and June 2008, mixed payments represent 10% of all payment types in the 1980s and 1990s to 28% in 2000s. Because mixed payments are particularly common among large acquisitions, they represent an even larger proportion of transaction values. Thus, mixed payments merit more attention in the academic literature.

Second, prior studies have merely examined mixed payments as part of the continuum of choices between pure cash and pure stock, e.g., by analyzing the fraction of cash used (Heron and Lie (2002), Faccio and Masulis (2005), and Harford, Klasa, and Walcott (2008)). We show that mixed payments are fundamentally different from both

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<sup>1</sup> To our knowledge, Eckbo, Giammarino, Heinkel's (1990) model is the only one that proves the existence of mixed offers in an equilibrium setting. They achieve this by introducing two-sided information asymmetry, whereas the previous theories by Hansen (1987) and Fishman (1989) assume one-sided information asymmetry.

cash and stock payments and come with their own rich diversity, and should therefore be treated as a separate payment category, as we do in our study.

Third, mixed payments often leave the choice of payment type – cash or stock – to the individual target shareholders, thus offering a unique opportunity to examine the payment preferences of target shareholders. In this sense, our study stands in contrast to the numerous studies that examine the payment preferences of acquiring firms instead.

In the first part of our analysis, we compare mixed payment acquisitions to pure stock and cash payment acquisitions. We report that mixed payment acquisitions are more similar to stock acquisitions than to cash acquisitions both in the stock price reaction to the announcements and the characteristics of the firms involved. Furthermore, whereas some characteristics of firms involved in mixed payment acquisitions fall between the characteristics of firms involved in cash and stock acquisitions, other characteristics do not, suggesting that mixed payments should not be viewed as merely a hybrid between cash and stock payments.

We further document that mixed payments offer more variations and intricacies than do pure cash and stock payments. In our sample, 51% of the mixed payment transactions give each target shareholder the choice whether to receive cash or stock. In the remaining 49% of mixed payment transactions, the mix of cash and stock is set in advance to be the same across all target shareholders.

Among the mixed payment transactions offering a choice, 47% are designed such that the pre-tax value of the cash and stock payments are approximately the same. For example, in November, 2009, Berkshire Hathaway Inc. announced that it would acquire Burlington Northern Santa Fe Corp., by far Berkshire's largest acquisition to date, and

the target shareholders could choose between \$100 in cash per share or the equivalent value in stock. In the remaining 53% of the transactions, the values of the cash and stock payments can be very different, depending on the movements of the acquiring firm's stock leading up to the election date. For example, in Microsoft Corporation's notorious acquisition attempt of Yahoo Inc. in 2008, Microsoft indicated that it would give Yahoo holders the choice between \$31 in cash per share and 0.9509 of a Microsoft share. This structure initially pegged the cash and stock payments to be the same, but these quickly diverged as Microsoft's stock price dropped in the subsequent days.

In the last part of our analysis, we examine the election results for the sample of offers in which target shareholders can choose between cash and stock. We find that, given a choice, target shareholders generally prefer stock, perhaps because it is the most tax-efficient payment method. For example, when the pre-tax values of cash and stock are designed to be the same, stock is preferred over cash in 59% of the cases, and when the values of cash and stock might differ, stock is preferred over cash in 56% of the cases.

As expected, the preference for stock increases with the relative value of the stock payment to the cash payment at the time shareholders must make an election. When the stock payment value exceeds the cash payment value by at least 10%, less than 1% of shareholders choose cash. But when the stock payment value falls short of the cash payment value by at least 10%, 17% still choose stock. These figures illustrate the importance of the relative value of the payment for the payment choice, but they also provide additional testament to the preference for stock payment among target shareholders.

Surprisingly, even when stock and cash payments have very different values, a non-trivial portion of the shareholders do not make any election at all. For example, when the cash and stock payment values differ by more than 10%, target shareholders fail to make an election for more than 5% of the shares, on average. Because these shares typically get the least favored payment, non-election is consequential. Thus, many shareholders appear to suffer because they do not pay attention to the election process.

The remainder of the paper proceeds as follows. The next section describes the sample and the methodology. Section 3 presents empirical results. Finally, section 4 summarizes and concludes.

## **2. Sample**

We examine acquisitions announced between January 1985 and June 2008. We end the sample in June 2008 to avoid the effects of the financial crisis that dramatically impaired the financial markets in the second half of 2008. The source of our sample is the Securities Data Company's (SDC) Mergers and Acquisitions database. While we obtain information about the transactions from SDC, we also search various news sources for additional information about the acquisitions, and, in some cases, to correct the SDC information. We require that (i) the acquiring firm sought 100% of the shares of the target firm, (ii) the status is known and not pending, (iii) both the target and the acquiring firm are publicly traded and have available information on *CRSP* and *Compustat*, (iv) the target shares are ordinary common shares, (v) the payment only includes cash and/or stock, and (v) any mixed payment includes at least 10% cash and 10% stock. This leads to a total sample of 2,250 observations.

Figure 1 shows the distribution of the sample over time by payment method. The number of transactions is pretty steady from 1985 through 1993. But, there is an extraordinary rise in the number of transactions from 1993 through 1997, followed by a sharp decline from 1999 to 2002. The number has subsequently leveled off, but is higher than it was during the first part of the sample period. The fraction of cash deals declined gradually from the beginning of the sample period until 1997, and has gradually increased afterward. The trend for the fraction of all-stock deals is the opposite, increasing gradually until 1997, and decreasing thereafter. Finally, the fraction of mixed payment deals hovered around 10% from 1985 to 2000, but has subsequently increased dramatically, representing as many as 31% of all deals during 2001-2008.

Figure 2 shows a further breakdown of the stock deals over time. In particular, the stock deals have been partitioned into those that have a fixed exchange ratio (labeled as regular stock deals in the figure), those that have a fixed value (i.e., the exchange ratio fluctuates over time such that the dollar value of the stock used as payment remains fixed), and those that come with a collar.<sup>2</sup> Only 4% of the stock deals have a fixed value, and this fraction has declined during the sample period. Collar deals represent 24% of the stock deals. Their popularity, both in terms of absolute numbers and as a fraction of all stock deals, reached a peak in the 1990s and the first couple of years of the current century. Thus, the overall trend is for both fixed stock deals and collar deals to have gone out of favor in recent years.

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<sup>2</sup> Officer (2004) describes collars in detail. Collar deals are essentially a hybrid between fixed exchange ratio deals and fixed value deals. They can be based on either a fixed exchange ratio deal or a fixed value deal, but provide a minimum and maximum exchange ratio or fixed value, respectively, depending on the stock price of the acquirer.

Finally, figure 3 shows the distribution of mixed payment deals partitioned on the basis of whether the target shareholders are given a choice between stock and cash. There is a dramatic increase in the use of mixed payments over time, particularly from 1998 to 2003, but there is no clear trend in whether shareholders are given a payment choice. During the entire sample period, the fraction of mixed payments that leave target shareholders a choice is 51%, showing that this is a non-trivial arrangement, especially as the use of mixed payments has risen in recent years. Overall, the figures suggest that the mixed payment category has emerged as a popular payment choice, while all-stock deals, especially those that have a fixed value or a collar, have become less popular.

### **3. Empirical results**

#### *3.1 Comparing payment types*

Table 1 presents descriptive statistics for the acquiring firm, target firm, and the transaction by payment type. Consistent with extant literature (e.g., Martin (1996) and Faccio and Masulis (2005)), acquirers that use stock have higher market-to-book ratios resulting from recent stock price run-ups. But the stock price reaction to announcements of stock deals is on average negative for the acquirers, even when a mix of stock and cash is used, whereas the stock price reaction to announcements of cash deals is on average positive for the acquirer. Consistent with Officer (2005), the negative stock price reaction to stock deals is muted in the presence of some kind of assurance of the underlying payment value, as is the case with fixed value deals and collar deals. The average stock price reaction for the target firm is, as expected, very positive across all payment types. This average exceeds 30% for cash deals and it is roughly 20% for the

other payment categories. Therefore, on the basis of the stock price reactions for both the acquiring and target firms, the mixed payment deals are more similar to stock deals than to cash deals.

Table 2 presents results from pairwise logistic regressions of cash versus stock, mixed payment versus cash, and mixed payment versus stock. The results suggest that the ratio of the market capitalization of the target to that of the acquirer is lower for cash deals than it is for both stock deals and mixed payment deals. Compared to targets of stock deals, targets of cash deals have more cash. Furthermore, acquirers have experienced a more positive stock price run-up before stock deals than before cash deals.

Following Officer's (2005) study of collars, we also incorporate the standard deviation of returns. The standard deviation of returns is higher for acquirers in stock and, though less pronounced, mixed payment deals than for acquirers in cash deals, suggesting that acquirers use stock as at least part of the payment when the uncertainty about their own value is great. Because inside information about the target's true value is particularly helpful when valuation uncertainty is great, this result might be interpreted as evidence that insiders use equity as payment when they believe the target is overvalued by the market and cash when they do not possess much of an informational advantage.<sup>3</sup>

The standard deviation of returns is lower for targets in mixed payment deals than for targets in pure cash and stock deals, and similar for stock deals and cash deals. These results are interesting (and perhaps puzzling) for two reasons. First, the results suggest that the standard deviation of returns for targets of mixed offerings do not fall between those for targets of cash and stock offerings, as would be the case if mixed offerings are

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<sup>3</sup> A further implication is that no acquisition would take place if insiders believe its stock to be undervalued.

merely a blend of pure cash and stock offerings. Second, the results seem inconsistent with the theory. According to Hansen (1987), acquirers use more stock as payment in the face of high uncertainty of the target value, because this forces the target shareholders to share any loss in the case that the target is overvalued. Thus, we would expect targets of cash offerings to have the lowest standard deviation of returns, but we find no evidence of this.

Finally, we find that the correlation of standard deviation of returns across the acquirers and targets is higher in mixed payment deals than in pure cash and stock deals, and higher in stock deals than in cash deals. We would have expected that targets would be more willing to accept stock as a payment method when the correlation is high, because this implies a lower fluctuation of the premium that the stock payment represents over the target's value. While the correlation is indeed higher for stock deals than for cash deals, the mixed payment deals once again stand out in that they have the highest correlation of them all, suggesting that mixed payment deals do not fall between stock and cash deals.

The results presented in this section are largely consistent with prior literature. However, with the exception of Officer's (2005) work on collars, the previous literature does not incorporate the standard deviation of returns. Furthermore, the previous literature focuses on cash versus stock or the fraction of cash used in the transaction. Our pairwise regressions reveal something more. First, there are few statistically significant differences between mixed payment and stock transactions, suggesting that the determinants of these two types are quite similar, and apparently more similar than the determinants of mixed payment and cash transactions. Second, the coefficients on the

standard deviation of the target suggest that the standard deviations is similar for stock and cash deals, and lower for mixed payment deals than for both pure stock and cash deals. The results on the correlation of returns also show that mixed payments are not simply a hybrid between pure cash and pure stock payments, but a payment category that is very unique.

Overall, the stock price reactions presented earlier and the logistic regressions presented here suggest that mixed payment deals appear to be more similar to pure stock deals than to cash deals. Yet, some of their determinants and features make them different from both. We explore the unique features of mixed payments next.

### *3.2 The choice of payment type in mixed payments*

As noted earlier, 51% of the mixed payment deals give the target shareholders a choice between cash and stock. In this section, we discuss the mechanisms of giving target shareholders this choice and examine the determinants of giving target shareholders a choice. In the next section, we examine the election results.

Even when target shareholders are offered a choice of payment method, the acquiring company will generally specify the fraction of the total payment that will come in the form of cash and the fraction that will come in the form of stock. These fractions might be very specific, approximate, or given as a range, such as a maximum amount of cash to be paid. If too many shareholders request a certain payment method, the payment method will be prorated. Those shares that are deemed not to have made any election will generally be treated the same as the shares that elected the payment method that did not require proration. As an example, suppose that the acquirer specified that it would

pay cash for 50% of the shares and stock for the other 50% of the shares, and that 75% of the shares elected cash, 15% elected stock, and 10% made no election. Then, typically 2/3 of the shares that elected cash will be exchanged for cash, while all other shares will be exchanged for stock.

The acquirer will offer a choice between a cash value and a certain number of shares. The cash value is typically set in advance (although it can also be adjusted later according to the stock price of the target). The exchange ratio for the shares can either be given in advance (although it might come with a collar) or be set later depending on the stock price of the acquirer. In our sample, 47% of the offers are designed such that the pre-tax value of the cash and stock payments are approximately the same.<sup>4</sup> An example of this follows from Whitney Holding Corporation's S-4 dated December 2005:

If the merger is completed, each of your shares of First National common stock will be automatically converted into the right to receive an aggregate value of \$34.64, subject to adjustment as described in this proxy statement-prospectus. You may elect to receive the merger consideration in the form of (1) shares of Whitney common stock, (2) cash, or (3) a combination consisting of 65% shares of Whitney common stock and 35% cash. However, Whitney has the right to adjust the form of consideration to be paid to those shareholders who have elected all cash so that the total cash consideration to be paid in the merger does not exceed 35% of the total consideration to be paid to all First National shareholders.

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<sup>4</sup> In some cases, the values are designed to be equal irrespective of future stock prices, while in other cases the values are designed to be equal only within a pre-specified price range of the acquirer's stock (i.e., there is an imbedded collar arrangement). We analyze these transactions separately.

In the remaining transactions, the values of the cash and stock payments can differ substantially even on the date by which target shareholders have to make a choice, depending on the movements of the acquiring firm's stock leading up to this election date. An example of this follows from Alliance Financial Corporation's S-4 dated June 2006:

If the merger takes place, Bridge Street stockholders will receive (a) 0.7547 shares of Alliance common stock, (b) \$23.06 in cash for each share of Bridge Street common stock they own, or (c) a combination thereof. Bridge Street stockholders will have the opportunity to elect the form of consideration to be received for their shares (all stock, all cash, or a combination thereof), subject to allocation procedures set forth in the merger agreement which are intended to ensure that 75% of the outstanding shares of Bridge Street common stock will be converted into shares of Alliance common stock and 25% of the outstanding shares of Bridge Street common stock will be converted into cash.

In the special cases of Berkshire Hathaway's acquisitions of FlightSafety International in 1996 and International Dairy Queen in 1997, both the cash and dollar values of the stock were set in advance, but the cash values exceeded the stock values. This situation is described in the announcement dated October 21, 1997, for the latter of these acquisitions:

In the merger, the holders of shares of Class A and Class B Common Stock of Dairy Queen can elect to receive for each of their shares either \$27 in cash or \$26 in Class A or Class B Common Stock of Berkshire Hathaway, for a total value of approximately \$585 million, subject to a limitation that the amount of cash to be issued in the merger will not exceed 55% of the total value of the consideration to be received in the merger. The number of shares of Berkshire Hathaway to be received under the stock election will be determined based on the market price for Berkshire Hathaway shares during a 5-day trading period ending the day prior to the Dairy Queen shareholders' meeting to approve the merger.

The election deadline, i.e., the date by which the target shareholders have to make a payment choice, generally comes shortly before the completion of the merger. In our sample, the mean and median number of calendar days between the election deadline and the completion date are 7.7 and 7, respectively.

We expect that, all else equal, target shareholders prefer to have a choice over no choice, or, at the very least, they should be indifferent between having a choice and not having a choice. This preference for a choice can arise from, e.g., the ability to choose the payment method that minimizes tax payments. Generally, only cash payments will be taxed as a capital gain for the target shareholders, just as if the shareholders simply sold their shares in the open market. Thus, for shareholders facing a high marginal tax rate on capital gains, the flexibility to choose payment type can be valuable. We cannot think of any circumstances under which target shareholders would prefer not to have a choice. Furthermore, giving target shareholders their preferred method of payment might be

beneficial for the acquirer, because, *ceteris paribus*, it might reduce resistance to the transaction. On this basis, it appears advantageous for the acquirer to always give target shareholders a choice of payment method. However, offering target shareholders a choice comes with the additional administrative costs of mailing election forms to all shareholders and subsequently gathering and processing all of the information in these forms. As a result, we cannot conclude that offering a payment choice is generally more optimal for the bidder than not offering such a choice.

Yet, there are likely to be circumstances under which having a choice is relatively more appealing. The capital gains consideration is more consequential if the recent return on the target's stock has been large. Thus, target shareholders might have a general preference for stock payment, especially after a recent run-up in the stock price. Furthermore, the flexibility to opt for stock payment is particularly valuable among shareholders with a high marginal capital gains tax rate when recent stock returns have been high. Consequently, we conjecture that acquirers are more likely to give target shareholders a payment choice when the return on the target's stock has been high.

Table 3 shows the results from a logistic regression of whether target shareholders are given a payment choice in mixed payment transactions. The only coefficient that is statistically significant at the 0.01 level is the negative coefficient on the standard deviation of returns of the acquirer, suggesting that method of payment choices are associated with a low standard deviation of returns for the acquirer. The coefficient on the target return is insignificant. Thus, there is no evidence that acquirers are more likely to offer target shareholders a payment choice when the potential capital gains consequences are large.

### *3.3 The election results when target shareholders are given a choice and the payment values are set to be similar*

We obtain election results from the payment choices from various news announcements, SEC filings, and correspondences with the companies. Nevertheless, we lack election results for a large fraction of the sample. Of the 208 completed mergers in our sample that offer target shareholders a payment choice, we have detailed election results for 42 transactions and sufficient election results to determine whether stock or cash was more popular for another 68 transactions.

Table 4 presents the election results for all completed mergers for which the stock and cash payments are set to have equal pre-tax values, either within a range for the stock price close to the completion date of the acquirer or irrespective of the stock price. Based on the sample of 21 observations with complete data, the average fractions of shares that were turned in for stock and cash are 50.8% and 39.0%, respectively. The remaining average of 10.2% were deemed not have made any election. When we also include some of the observations for which we do not have complete election results, but sufficient information to establish whether stock or cash was more popular, we find that stock was more popular than cash in 26 transactions and cash was more popular than stock in 23 transactions.

The majority of these transactions are set to have equal payment values irrespective of the stock prices around the completion date. But to ascertain that the results are not driven by some observations with equal values only within a stock price range that had stock price movements outside this range, we separately report election

results for the transactions that have equal values irrespective of subsequent prices. Based on the sample of 17 observations with detailed data, the average fractions of shares that were turned in for stock and cash are 50.0% and 38.9%, respectively, and 11.0% were deemed not have made any election. Moreover, stock was more popular than cash in 19 transactions and cash was more popular than stock in 13 transactions.

Overall, it is evident that stock is a more popular payment method than cash. This result seems to contradict the general notion that “cash is king.” It also seems inconsistent with the result that the stock price reaction is more positive upon announcements of cash deals than announcements of stock deals, which suggests that investors are more enthusiastic about cash deals. We believe that stock is the preferred payment method because it results in a lower tax bill for target shareholders, given that their shares have generally risen substantially in price during the prior years. Yet, stock transactions elicit a less favorable stock price reaction for both the acquirer and the target because they signal that the underlying shares of the acquirer and/or the target are overvalued by the market.

We conjecture that the relative appeal of stock versus cash depends upon the recent gains in the stock price of the target. *Ceteris paribus*, a larger price gain implies a higher tax bill for cash payments, and, thus, a lower post-tax value. Thus, target shareholders should exhibit a stronger preference for stock when the price has recently increased. We use the subsample of transactions designed to give the same pre-tax values for cash and stock payments irrespective of subsequent stock prices to test this hypothesis, because the election results for these should not be affected by any differences in values across the payment types. In table 4, we present the election results

for those cases where the prior one-year return for the target is 40% or less and those cases where the prior one-year return exceeds 40%. We chose a cutoff of 40% because it roughly splits the sample into halves based on the number of observations with available election results. There is scant evidence that shareholders prefer stock when the prior return is high. If the return exceeds 40%, 51.5% (36.7%) of the shares elect stock (cash), and otherwise 48.3% (41.4%) of the shares elect stock (cash). Furthermore, if the return exceeds 40%, stock (cash) is more popular than cash (stock) in 8 (8) cases, and otherwise stock (cash) is more popular than cash (stock) in 11 (5) cases. The election results do not differ statistically across the samples where the prior return is less than 40% versus more than 40%, and other cutoffs for the prior return or other measures for the capital gain do not strengthen the differences.<sup>5</sup>

There are several plausible reasons for the lack of evidence that the prior stock return for the target influences the payment choice. First, the prior target returns tend to be high in all of our transactions. So one could argue that target shareholders consistently choose stock to minimize taxes. Yet, we would have expected that they would be somewhat less inclined to do so when the prior returns have been lower than the norm in our sample. Second, target shareholders could have other ways of mitigating the tax bill associated with cash transactions. For example, they might have realized capital losses on other transactions that cancel out any gains on the cash transactions in our sample. While this could weaken the effect of capital gains on the payment choice, the effect

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<sup>5</sup> The relative attractiveness of stock versus cash could also depend on the ownership structure of the target firm. For example, if large shareholders at the target firm are taxable institutions, they would optimally choose stock over cash. We examine the effect of total institutional ownership, ownership by taxable vs. non-taxable institutions, block holdings, managerial ownership and block holdings by managers. We do not find evidence that the tax (or ownership) characteristics of the target shareholders explain the election results.

should not disappear entirely. Third, it is possible that the prior return is a proxy for the uncertainty that surrounds the target value, and that target shareholders prefer to cash out after high returns to lock in the gains and not be exposed to the large risk of holding the stock in those cases.

#### *3.4 The election results when target shareholders are given a choice and the payment values are not set to be similar*

Next, we analyze the election results for the transactions for which the values of the pre-tax stock and cash values are not designed to be identical. Rational target shareholders should incorporate the relative values of the stock and cash payments in their elections. Thus, we partition our sample on the basis of a “value ratio,” defined as the value of the stock exchange ratio on the election date scaled by the cash value. As this ratio increases, we conjecture that stock becomes more popular than cash as a payment means.

Figure 4 shows the distribution of the natural logarithm of the value ratio for our sample. There are two aspects worth noting here. First, there is a large variation in the value ratio, suggesting that the elections are quite consequential for the wealth of the target shareholders. Second, the value ratio exceeds one in 45% of the transactions, such that it is more likely that the pre-tax cash value will exceed the pre-tax stock value than vice versa. Thus, the overall trends in the valuation ratio cannot explain the overall popularity of stock.

Table 5 presents the election results for five grids based on the natural logarithm of the value ratio: below -0.1, between -0.1 and -0.01, between -0.01 and 0.01, between

0.01 and 0.1, and above 0.1. Cash is more popular than stock in all 14 cases in the lowest grid, while stock is more popular than stock in the highest grid. Thus, the value ratio is a strong predictor of the election outcome. Other statistics in the table confirm these trends. To present even further details, figure 5 plots the fractions that elected cash, stock, or nothing, against the value ratios. This gives a visual impression of the strong predictive power of the value ratios in these elections. Clearly, target shareholders pay close attention to the relative pre-tax values of the payment types when they make their choice.

The results in table 5 also speak to the general popularity of stock payments in two ways. First, for the subsample where the cash and stock payment values are within 1% of each other (the middle grid based on the value ratio), stock (cash) was more popular than cash (stock) in five (zero) cases, and, on average, 64.2% elected stock and 27.1% elected cash. Thus, when the pre-tax values are similar, stock is the favored payment, consistent with the results in table 4 discussed earlier. Second, when the stock value exceeds the cash value by at least 10%, only 0.8% elected cash, but when the cash value exceeds the stock value by at least 10%, as many as 17.0% elected stock. In other words, when the cash value is relatively low, nearly no one elect cash, but when the stock value is relatively low, a significant portion still elect stock.

It is finally worth noting that when the cash value exceeds the stock value by at least 10% (the lowest grid), an average of 7.2% were deemed not to have made an election, and when the cash stock exceeds the cash value by at least 10% (the highest grid), an average of 5.0% were deemed not to have made an election. While these averages are lower than the average across the middle three grids at 9.0%, we find it

surprising that shareholders representing such high proportions of the overall holdings do not make an election in these cases, as these elections have large effects on the shareholders' wealth. Inattentive shareholders are evidently the losers in many payment elections.

#### **4. Summary and conclusion**

We show that mixed payments are not merely a hybrid between pure cash and pure stock payments. The characteristics of firms involved in mixed payment deals and the stock price reaction to mixed payment deals place them close to pure stock deals. But mixed payment deals are rich in diversity and come with truly unique features. Perhaps most interestingly, mixed payment deals often allow individual target shareholders to choose the payment method. This enables us to examine what payment type target shareholders prefer, unlike prior studies that only study what payment type the acquiring firms choose.

We find that cash is *not* king. Rather, target shareholders generally prefer stock as a payment means. Naturally, the preference for stock increases with the relative value of the stock consideration to the cash consideration upon the election date. But even when the values of the stock and cash considerations are similar, stock is more popular.

Despite the preference of target shareholders to be paid in stock, pure cash transactions are more popular than pure stock transactions during each of the most recent five years of our sample. There are at least three possible reasons for the relative popularity of cash transactions in light of our results. First, decision makers might erroneously assume that cash is king – perhaps because they observe that the stock price

reaction is higher for both the acquirer and target upon announcements of cash acquisitions – and that target shareholders therefore prefer cash payments. Second, decision makers might be reluctant to use stock as a payment method, because investors often interpret this as a signal that the acquirer stock and/or target stock is overvalued, thus driving down the stock price. Third, the acquirer and/or target might have excess cash, and paying this cash out in the merger might be just as tax-efficient as paying out the cash in the form of share repurchases or dividends.

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**Table 1**  
**Descriptive statistics**

The table provides descriptive statistics for the sample of 2,250 acquisitions announced between January 1985 and June 2008. The market capitalization is estimated five days before the acquisition announcement. The market-to-book ratio, cash ratio (cash and cash equivalents scaled by book value of assets), and long-term debt ratio (long-term debt scaled by book value of assets) are measured at the end of the fiscal year before the acquisitions announcement. The three-day cumulative abnormal return (CAR) is the abnormal stock return measured from the day before through the day after the acquisition announcement using a one-factor market model, where the equal-weighted index is used to proxy overall market returns and the estimation period spans from 250 to 10 days prior to the announcement. The three-day raw return minus the market return is the stock return minus the return on the equal weighted market index from the day before through the day after the acquisition announcement during. The prior one-year stock return and the standard deviation of stock return are measured during the year ending five days before the acquisitions announcement, while the prior three-year return is measured during the three years ending five days before the announcement. The correlation of returns is the correlation of the stock returns of the acquirer and the target during the year ending five days before the announcement. The relative market capitalization of the target is the market capitalization of the target scaled by the sum of the market capitalizations of the acquirer and the target. The premium offered is estimated as the acquisition price scaled by the target's price five days before the acquisition announcement, less one.

	Cash payment (n = 731)		Stock payment – fixed exchange ratio (n = 804)		Stock payment with collar (n = 262)		Stock payment – fixed value (n = 44)		Mixed payment – no choice (n = 201)		Mixed payment – choice (n = 208)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
<b>Panel A: Acquirer</b>												
Market cap. (in million \$)	17,569	2,438	10,789	1,248	6,533	1,347	31,808	3,318	8,426	1,242	8,422	1,634
Book value of assets	17,966	2,270	18,755	1,656	11,081	1,677	31,379	3,036	26,170	1,353	20,730	4,883
Long-term debt ratio	0.165	0.133	0.142	0.093	0.153	0.104	0.122	0.091	0.186	0.141	0.160	0.122
Total debt ratio	0.205	0.182	0.190	0.162	0.195	0.158	0.179	0.154	0.224	0.200	0.217	0.192
Cash ratio	0.141	0.078	0.170	0.069	0.138	0.068	0.133	0.081	0.160	0.063	0.076	0.037
Market-to-book ratio	2.018	1.637	2.592	1.433	2.495	1.705	2.926	1.751	1.998	1.440	1.316	1.108
3-day CAR	0.011	0.005	-0.032	-0.027	-0.011	-0.013	-0.009	-0.012	-0.021	-0.021	-0.021	-0.018
3 day raw ret. – mkt. ret.	0.009	0.005	-0.033	-0.028	-0.013	-0.013	-0.008	-0.009	-0.022	-0.022	-0.024	-0.020
Prior one-year return	0.173	0.117	0.451	0.242	0.427	0.291	0.361	0.251	0.310	0.206	0.169	0.141
Std. dev. of returns	0.023	0.021	0.030	0.025	0.028	0.024	0.023	0.019	0.028	0.025	0.019	0.017

**Table 1 (cont'd.)**

	Cash payment (n = 731)		Stock payment – fixed exchange ratio (n = 804)		Stock payment with collar (n = 262)		Stock payment – fixed value (n = 44)		Mixed payment – no choice (n = 201)		Mixed payment – choice (n = 208)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
<u>Panel B: Target</u>												
Market cap. (in million \$)	409	104	1,296	187	310	91	183	52	1,528	220	782	120
Book value of assets	493	134	3,910	309	523	157	339	95	2,882	426	1,891	645
Long-term debt ratio	0.147	0.074	0.137	0.068	0.121	0.062	0.164	0.055	0.161	0.097	0.153	0.119
Total debt ratio	0.190	0.117	0.177	0.133	0.171	0.110	0.222	0.132	0.197	0.137	0.197	0.161
Cash ratio	0.202	0.101	0.184	0.072	0.173	0.082	0.198	0.084	0.178	0.068	0.081	0.034
Market-to-book ratio	1.734	1.358	2.134	1.239	1.980	1.363	1.935	1.224	1.757	1.286	1.286	1.064
3-day CAR	0.320	0.253	0.167	0.133	0.188	0.152	0.270	0.166	0.208	0.173	0.196	0.177
3 day raw ret. – mkt. ret.	0.324	0.257	0.168	0.135	0.189	0.155	0.265	0.161	0.210	0.172	0.200	0.175
Prior one-year return	0.148	0.088	0.233	0.091	0.222	0.185	0.226	0.023	0.220	0.155	0.244	0.172
Std. dev. of returns	0.037	0.032	0.038	0.032	0.039	0.035	0.043	0.038	0.034	0.029	0.024	0.020
<u>Panel C: Other</u>												
Rel. mkt. cap. of target	0.104	0.055	0.190	0.152	0.109	0.073	0.085	0.015	0.223	0.166	0.172	0.134
Premium offered	0.416	0.333	0.346	0.285			0.405	0.325				
Correlation of returns	0.122	0.097	0.175	0.129	0.110	0.087	0.074	0.066	0.205	0.159	0.167	0.120

**Table 2**  
**Pairwise logistic regressions of payment type**

The table presents results from logistic regressions of cash versus stock payment, mixed versus cash payment, or mixed versus stock payment. The market capitalization is estimated five days before the acquisition announcement. The relative market capitalization of the target is the market capitalization of the target scaled by the sum of the market capitalizations of the acquirer and the target. The market-to-book ratio, cash ratio (cash and cash equivalents scaled by book value of assets), and long-term debt ratio (long-term debt scaled by book value of assets) are measured at the end of the fiscal year before the acquisitions announcement. The prior one-year stock return and the standard deviation of stock return are measured during the year ending five days before the acquisitions announcement. The correlation of returns is the correlation of the stock returns of the acquirer and the target during the year ending five days before the announcement.

	Probability of cash versus stock payment (n = 1,841)		Probability of cash versus mixed payment (n = 1,140)		Probability of mixed versus stock payment (n = 1,519)	
	Coeffic.	p-value	Coeffic.	p-value	Coeffic.	p-value
Intercept	0.282	0.642	-0.401	0.627	1.399	0.068
Market cap. of acquirer	0.038	0.350	0.028	0.618	-0.071	0.172
Relative mkt. cap. of target	<b>-2.452</b>	<b>0.000</b>	<b>-2.973</b>	<b>0.000</b>	0.284	0.579
Debt ratio of acquirer	<b>0.922</b>	<b>0.009</b>	0.429	0.345	0.690	0.094
Debt ratio of target	0.644	0.031	0.372	0.372	0.118	0.759
Cash ratio of acquirer	0.445	0.255	-0.244	0.656	0.606	0.229
Cash ratio of target	<b>1.619</b>	<b>0.000</b>	0.954	0.043	0.675	0.150
Market-to-book ratio of acquirer	-0.004	0.984	<b>0.944</b>	<b>0.002</b>	-0.681	0.010
Market-to-book ratio of target	-0.480	0.013	0.209	0.500	-0.400	0.131
Std. dev. of returns of acquirer	<b>-32.450</b>	<b>0.000</b>	-18.562	0.023	-6.759	0.343
Std. dev. of returns of target	2.542	0.474	<b>15.973</b>	<b>0.003</b>	<b>-20.413</b>	<b>0.000</b>
Correlation of returns	<b>-1.144</b>	<b>0.005</b>	<b>-2.314</b>	<b>0.000</b>	1.020	0.017
Prior one-year return of acquirer	<b>-0.877</b>	<b>0.000</b>	-0.332	0.030	<b>-0.373</b>	<b>0.005</b>
Prior one-year return of target	0.051	0.482	-0.209	0.036	0.206	0.010

**Table 3**  
**Logistic regression of choice in mixed payments**

The table presents results from a logistic regression of the probability that the acquirer offers the target shareholders a choice of payment based on the sample of mixed payment transactions. The market capitalization is estimated five days before the acquisition announcement. The relative market capitalization of the target is the market capitalization of the target scaled by the sum of the market capitalizations of the acquirer and the target. The market-to-book ratio, cash ratio (cash and cash equivalents scaled by book value of assets), and long-term debt ratio (long-term debt scaled by book value of assets) are measured at the end of the fiscal year before the acquisitions announcement. The prior one-year stock return and the standard deviation of stock return are measured during the year ending five days before the acquisitions announcement. The correlation of returns is the correlation of the stock returns of the acquirer and the target during the year ending five days before the announcement. The number of observations is 409.

	Coeffic.	p-value
Intercept	4.794	0.001
Market cap. of acquirer	-0.093	0.371
Relative mkt. cap. of target	-2.376	0.013
Debt ratio of acquirer	-0.281	0.713
Debt ratio of target	-0.312	0.682
Cash ratio of acquirer	0.145	0.887
Cash ratio of target	-0.996	0.290
Market-to-book ratio of acquirer	-1.270	0.041
Market-to-book ratio of target	-0.053	0.928
Std. dev. of returns of acquirer	<b>-40.946</b>	<b>0.009</b>
Std. dev. of returns of target	-17.915	0.062
Correlation of returns	-0.265	0.734
Prior one-year return of acquirer	-0.725	0.036
Prior one-year return of target	0.357	0.134

**Table 4**  
**Election results for the sample of transactions designed to have equal value for cash and stock payments**

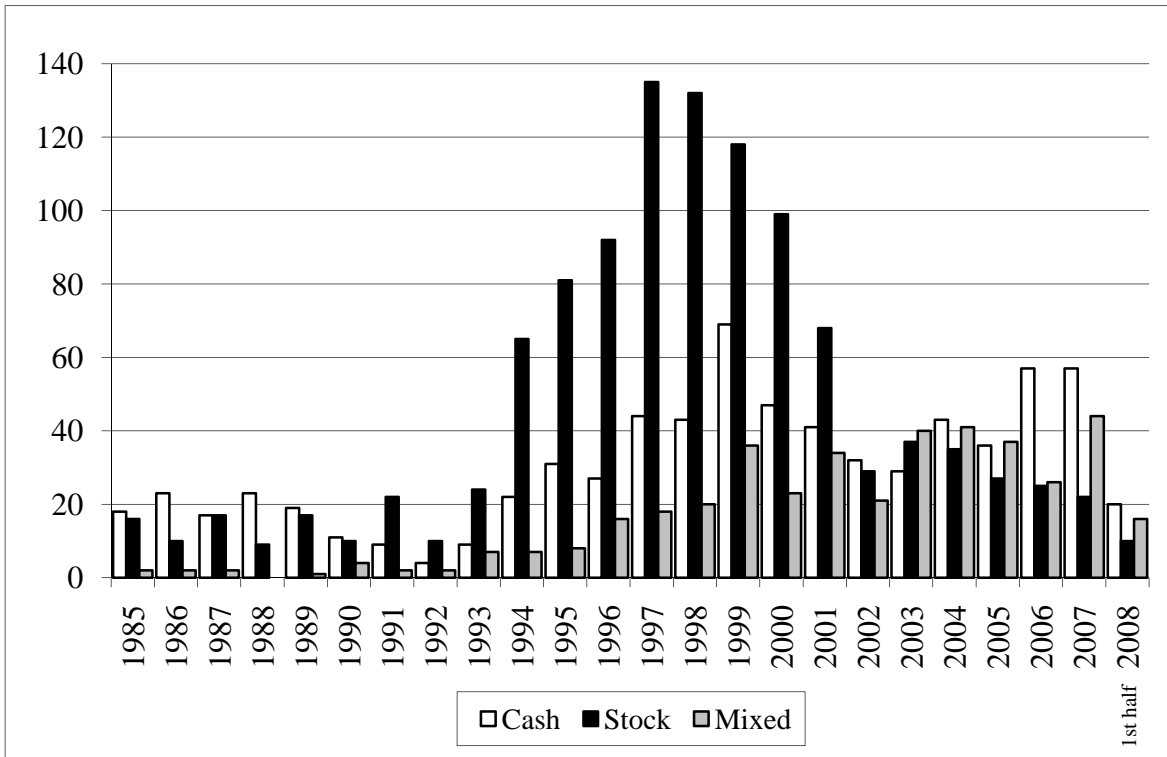
The table presents election results for the sample of transactions in which target shareholders are offered a payment choice and the payment types are designed to have an equal value. The sample is further partitioned into those transactions for which the payment types have the same value for a given price range of the acquirer only, and those for which the payment types have the same value irrespective of the price of the acquirer.

	All	Transactions with equal value only within a range	Transactions with equal value		
			All	Prior one-year return of target is 40% or less	Prior one-year return of target is more than 40%
Election results among observations with complete data					
Number of transactions	21	4	17	8	9
Mean fraction that elected stock	50.8%	54.4%	50.0%	48.3%	51.5%
Mean fraction that elected cash	39.0%	39.3%	38.9%	41.4%	36.7%
Mean fraction that did not make an election	10.2%	6.4%	11.0%	10.3%	11.8%
Number of transactions in which stock was more popular than cash	26	7	19	11	8
Number of transactions in which cash was more popular than stock	23	10	13	5	8

**Table 5****Election results for the sample of transactions *not* designed to have equal value for cash and stock payments**

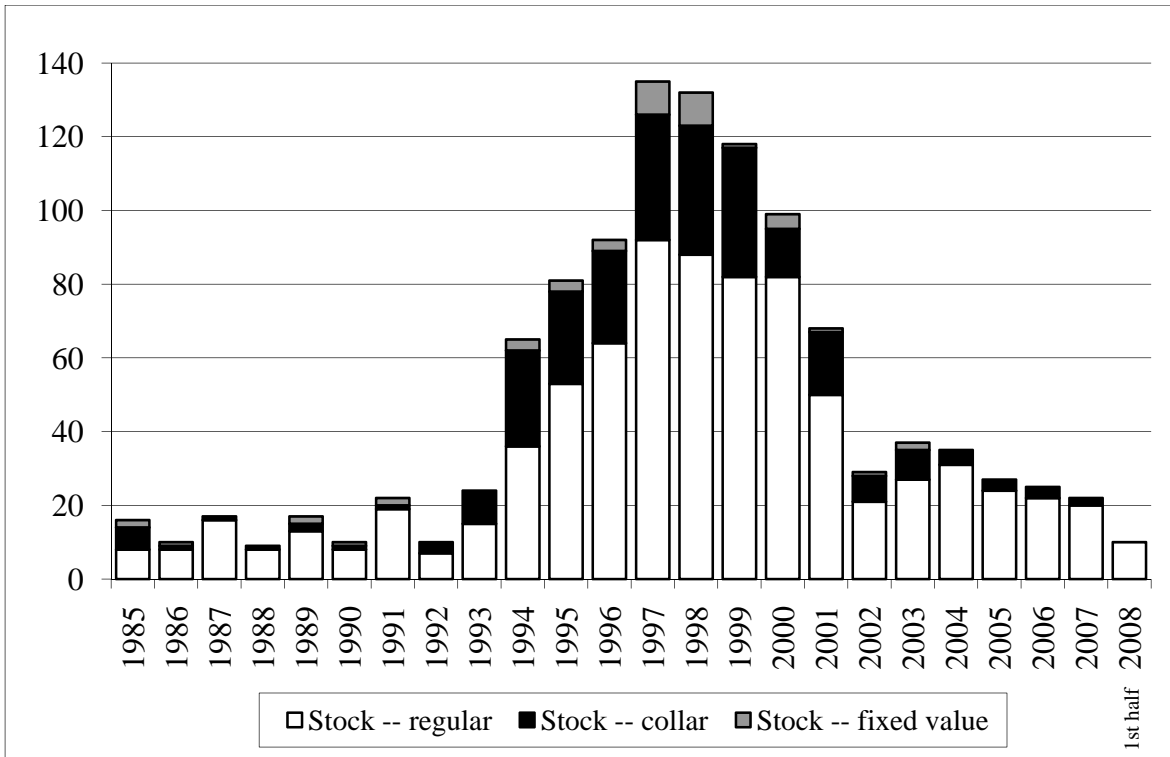
The table presents election results for the sample of transactions in which target shareholders are offered a payment choice and the payment types might deviate in value at the time of the election. The natural logarithm of the value ratio is used to partition the sample further, where the value ratio is the value of the stock exchange ratio scaled by the cash value at the election deadline.

	All	In Value ratio below -0.1	In Value ratio between -0.1 and -0.01	In Value ratio between -0.01 and 0.01	In Value ratio between 0.01 and 0.10	In Value ratio above 0.10
Election results among observations with complete data						
Number of transactions	21	6	2	4	3	5
Mean fraction that elected stock	56.4%	17.0%	41.0%	64.2%*	65.7%	94.3%
Mean fraction that elected cash	36.3%	75.9%	45.5%	27.1%*	27.6%	0.8%
Mean fraction that did not make an election	7.3%	7.2%	13.4%	8.7%	6.8%	5.0%
Number of transactions in which stock was more popular than cash	34	0	2	5	8	15
Number of transactions in which cash was more popular than stock	27	14	9	0	3	0



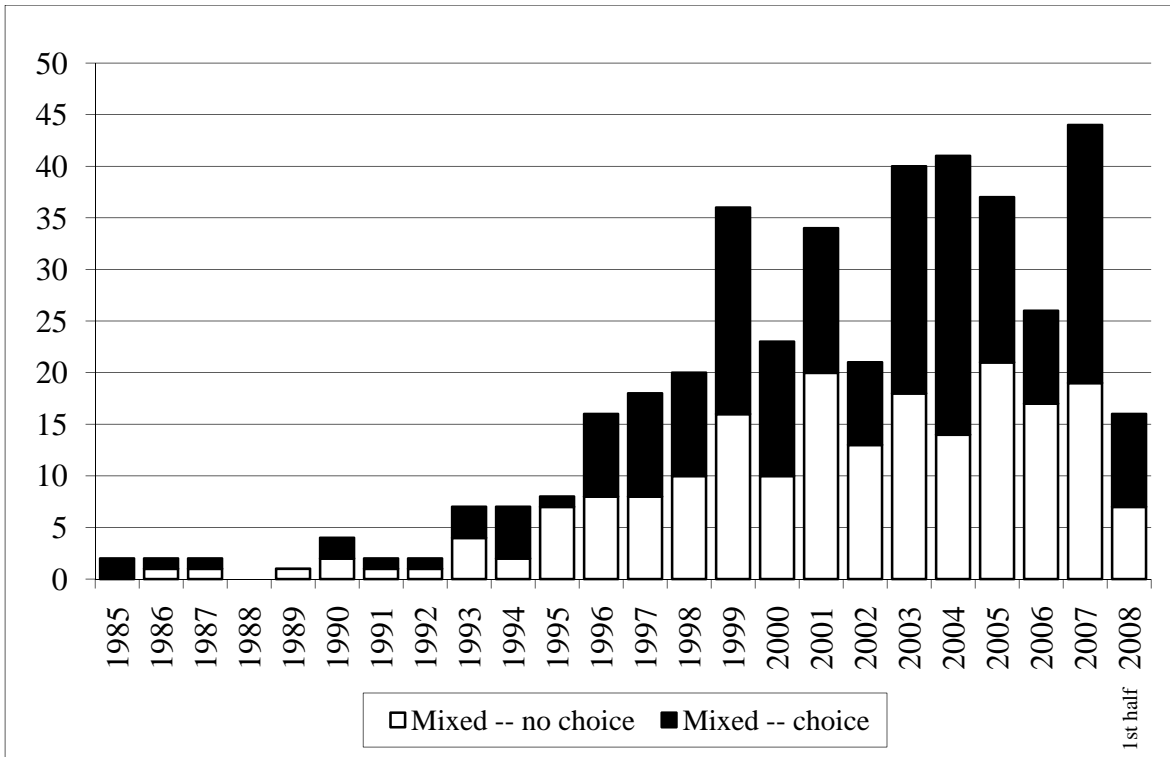
**Figure 1**  
**Distribution of sample over time by payment method**

The figure shows the distribution of the sample of 2,250 acquisitions announced between January 1985 and June 2008 by payment method (cash, stock, or mixed).



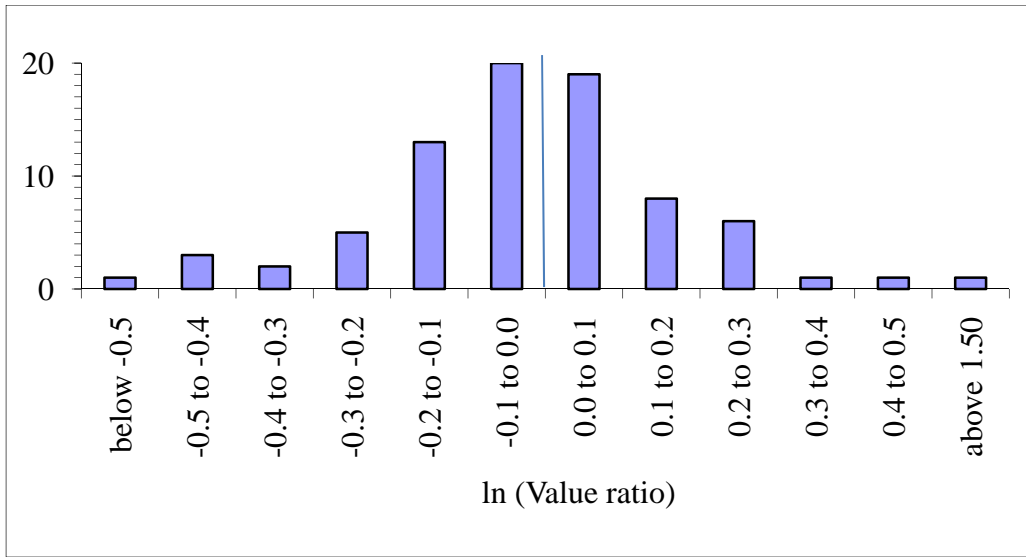
**Figure 2**  
**Distribution of stock deals over time**

The figure shows the distribution of the sample of 1,110 stock acquisitions announced between January 1985 and June 2008 by the use of some kind of price guarantee (regular with no guarantee, collar, or fixed value).



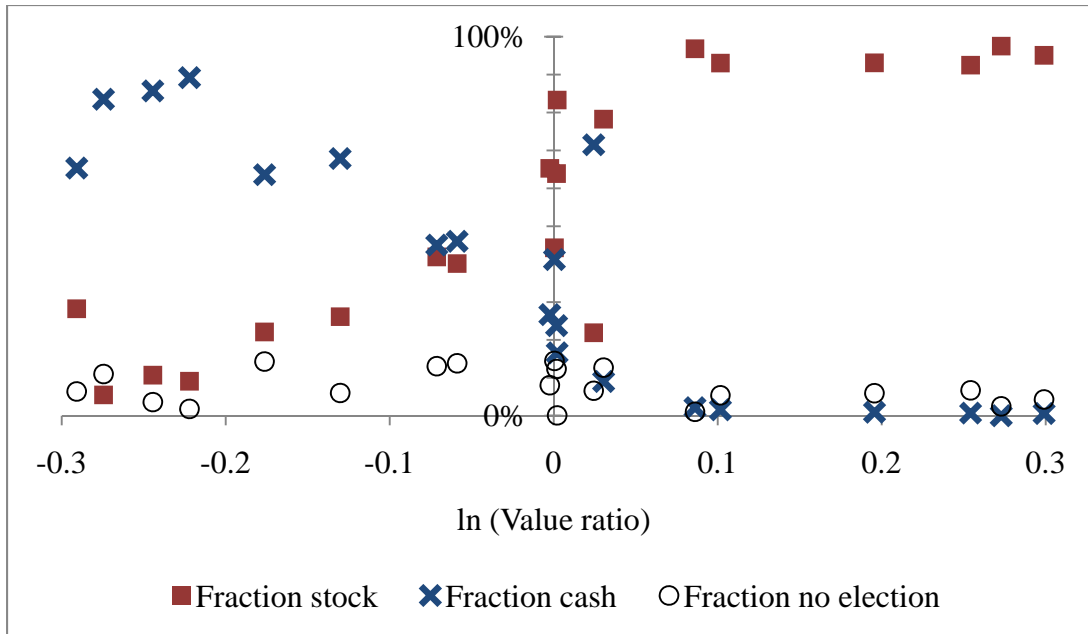
**Figure 3**  
**Distribution of mixed payments over time**

The figure shows the distribution of the sample of 409 mixed payment acquisitions announced between January 1985 and June 2008 by the offer to give target shareholders a choice of payment type or not.



**Figure 4**  
**Distribution of value ratios for observations not designed to have same value across payment types**

This figure shows the distribution of value ratios for transactions in which the cash and stock components may deviate in value. The value ratio is the value of the stock exchange ratio scaled by the cash value at the election deadline.



**Figure 5**  
**Relationship between elections and value ratios for observations *not* designed to have same value across payment types**

This figure shows the relationship between elections and value ratios for transactions in which the cash and stock components might deviate in value. The value ratio is the value of the stock exchange ratio scaled by the cash value at the election deadline.