Managing EPS Through Accelerated Share Repurchases: Compensation Versus Capital Market Incentives

Carol Marquardt
Associate Professor
Baruch College – CUNY

Christine Tan
Assistant Professor
Baruch College – CUNY

and

Susan Young
Associate Professor
Baruch College – CUNY

Preliminary Draft
March 2007

Abstract: This paper empirically examines the determinants of firms' decisions to undertake accelerated share repurchases (ASRs). In an ASR, the firm repurchases its own shares of stock through an investment bank rather than on the open market, allowing the company to acquire a targeted number of shares and record its effects on earnings per share (EPS) immediately. Consistent with our predictions, we find that ASR firms are more likely to compensate their managers explicitly on reported EPS figures and are less likely to beat earnings benchmarks than are OMR firms. These results are robust to controlling for signaling effects, as well as other known determinants of stock repurchase decisions. Additional evidence on ASR settlement costs suggests that firms are willing to incur costs to secure perceived financial accounting and compensation benefits. Our results have implications for standard setting, public policy, and corporate governance.

Managing EPS Through Accelerated Share Repurchases:
Compensation Versus Capital Market Incentives

1. Introduction

This paper empirically examines the recent phenomenon of accelerated share repurchases (ASRs). ASRs differ from typical open market repurchases (OMRs) of stock in two important respects. First, in an ASR, the firm does not repurchase shares on the open market but rather borrows its own shares of stock from an investment bank. This allows the company to both acquire a targeted number of shares immediately and to recognize the full effects of the transaction on reported earnings per share (EPS) in the current accounting period. Second, the firm enters into a forward contract with the investment bank and is thus *obligated* to repurchase a pre-specified number of shares at a purchase price determined by an average market price over the contract period; there is no similar obligation in OMRs. Recent articles in the financial press have criticized the increasing use of ASRs (Maremont and Ng 2006). The main concern is that firms are using ASR arrangements to obtain short-term EPS increases but damage shareholder value in the long run due to the guaranteed nature of the repurchase agreement.

Prior research on stock repurchases shows that firms do use OMRs to manage earnings per share (EPS). For example, Bens et al. (2003) find that firms increase the level of their firms' stock repurchases when earnings are below the level required to achieve the desired rate of EPS growth, and Hribar, Jenkins, and Johnson (2006) find that firms use stock repurchases to meet or beat analysts' forecasts of EPS. We extend the prior literature on the use of stock repurchases to manage EPS by examining whether

there are systematic differences in firms' motivations in undertaking ASRs rather than OMRs.

We exploit the underlying differences between ASRs and OMRs to derive differential predictions regarding firms' decisions to engage in ASRs versus OMRs. In particular, we expect the different financial reporting treatment of ASRs versus OMRs to be an important determinant in the decision to undertake one or the other of these transactions. Because the full amount of shares targeted for repurchase are acquired immediately through an investment bank in an ASR, shares outstanding immediately decrease, with the corresponding effect reflected in reported EPS on a weighted average basis. In contrast, there is no immediate financial reporting effect that occurs upon announcement of an OMR; shares outstanding decrease only as actual open market repurchases occur over time.[1]

Because the financial reporting effect of ASRs occurs "all at once," we argue that it is less likely that firms undertaking ASRs are doing so in order to maintain financial reporting flexibility to meet earnings benchmarks, as has been shown with OMRs. We therefore expect capital market incentives to be relatively less important in the decision to undertake an ASR versus an OMR. The immediate recognition of a decrease in shares outstanding with ASRs does suggest an alternative motivation, however – that the managers of ASR firms are more likely to be compensated on reported EPS figures than are the managers of OMR firms. Prior research shows that the use of earning-based bonuses affects firm's financial reporting choices. For example, Beatty and Weber (2006) find that the likelihood of managers receiving earnings-based bonuses affects goodwill

[1] In fact, in many OMR plans, the full amount of the shares repurchase is never reached. In a sample of 450 repurchase programs over 1981-1990, Stephens and Weisbach (1998) find that firms on average acquired 74-82% of the shares announced as repurchase targets within three years of the repurchase announcement.

impairment decisions, and Marquardt and Wiedman (2005) find that firms are more likely to structure convertible bond transactions to increase EPS when manager bonuses are based on reported EPS figures. Given the relatively large magnitude of ASRs on reported EPS and the lack of financial reporting flexibility that ASRs offer, we believe that compensation incentives are a likely determinant in the decision to undertake an ASR versus an OMR.

Using multivariate probit analysis, we empirically test our predictions using a sample of 156 repurchase announcements from January 2004 through March 2006. We proxy for capital market incentives by creating a variable, *STRING*, that equals the number of consecutive quarters prior to the announcement date of the repurchase that the firm has met or exceeded the benchmark of the prior year's EPS for the same fiscal quarter. We proxy for compensation incentives by creating an indicator variable, *BONUS*, that equals one if EPS is explicitly mentioned as a determinant of annual bonuses in the firms' proxy statement and zero otherwise.

After controlling for the possibility that signaling arguments might affect the decision to undertake an ASR versus an OMR, as well as for other variables known to be associated with stock repurchases, including growth, prior stock price performance, free cash flows, and firm size, we find that firms are more likely to choose an ASR over an OMR when managers are explicitly compensated on EPS. We also find that ASR firms have shorter strings of quarterly earnings increases than do OMRs, consistent with capital market incentives playing a stronger role in the case of OMRs. ASR firms also tend to be significantly larger, with higher free cash flows and lower stock price volatility, than

OMR firms. Contrary to assertions in the financial press, we do not find strong evidence that signaling is a significant determinant in the decision to undertake an ASR.

In addition, we provide descriptive evidence on the settlement costs of ASRs and find that, on average, the settlement cost of the forward contract exceeds the initial repurchase price by an average of 7.1%. We further find that in cases where the settlement price exceeds the initial repurchase price (20 out of 22 cases), the contract is settled in cash, while in instances where the settlement price is less than the initial repurchase price (7 out of 9 cases), the contract is settled in shares. This pattern is consistent with firms choosing the form of settlement in order to minimize the contract's dilutive effect on EPS.

The paper contributes to the accounting literature in several ways. First and most obviously, we extend the literature on stock repurchases by examining the determinants of the decision to undertake ASRs versus OMRs. While either repurchase type may be used to increase reported EPS, our results suggest that compensation incentives are the primary driver in the ASR decision while, consistent with prior work by Bens et al. (2003) and Hribar et al. (2006), capital market incentives appear to be more important for OMRs. This finding should be of particular interest to equity investors, as it bears on the relative quality of earnings of firms engaging in these transactions.

Second, we add to the small but growing literature that demonstrates that firms are willing to incur costs to secure financial reporting benefits. While ASRs deliver a perceived financial reporting benefit in immediately improving reported EPS, the guaranteed nature of the repurchase also makes ASRs more costly to implement than

OMRs.[2] Our evidence on ASR settlement costs that exceed initial repurchase prices by 7.1%, on average, is consistent with this view. As such, the paper complements findings by Erickson, Hanlon, and Maydew (2004), Ayers, Lefanowicz, and Robinson (2002), Lys and Vincent (1995), and Matsunaga, Shevlin and Shores (1992), who all empirically document that firms incur costs to report higher net income.[3]

Our evidence on ASR settlement costs further shows that while ASR firms structure the forward contract transaction such that it allows them to avoid mark-to-market accounting (i.e., they retain the option to settle the forward contract in cash or shares), they typically settle the contracts in cash to avoid issuing new shares that would dilute reported EPS. This finding has implications for standard setting, as the Financial Accounting Standards Board (FASB) in its re-deliberation of SFAS 128 has recently issued a tentative decision in October 2006, stating that "contracts that may be settled in either cash or shares at the entity's option should presume that the contract will be settled in shares if the effective is dilutive."[4] Our results suggest that such a provision may be necessary to prevent managers from structuring forward contract transactions in a manner that enriches themselves at the expense of shareholders.

Finally, we contribute to the literature linking executive compensation and earnings management. Previous research (Healy 1985; Holthausen, Larcker, and Sloan 1995; Guidry, Leone, and Rock 1999) shows that managers will manipulate net income in response to bonus contracts. We contribute to this literature by providing evidence that

[2] McConnell, Pegg, Senyek, Mott, and Calingasan (2006) provide an example involving TXU illustrating this point. In the first quarter of 2005, TXU Corp. missed earnings estimates due to an outstanding ASR and a rising share price. The company entered into a $3.4 billion ASR in November 2004 at an approximate share price of $65. The settlement share price in May 2005 was $74, requiring the company to pay approximately $423 in cash to settle the ASR contract, increasing the cost of its share repurchase program.

[3] Graham, Harvey, and Rajgopal (2005) comment on the difficulty of convincingly documenting the tradeoff between financial reporting costs and benefits using archival data.

[4] See http://www.fasb.org/project/short-term_intl_convergence.shtml#eps_plans.

managers are more likely to undertake potentially value-decreasing ASRs when their bonuses depend on EPS, consistent with arguments by Watts and Zimmerman (1990).

The remainder of the paper is organized as follows. Section 2 presents the accounting treatment for ASRs in more detail. We develop our hypotheses in Section 3 and describe our research design in Section 4. We outline our sample selection criteria in Section 5 and provide descriptive statistics. Our results are presented in Section 6. Section 7 provides some details on the associated costs of settling the forward contract and Section 8 concludes.

2. Accounting Treatment of ASRs

The volume and magnitude of share repurchases has reached record levels in the past few years with little evidence that this trend will soon subside. A report by Standard and Poor's issued in June 2006 showed that companies had spent a record $367 billion on stock buybacks in the year ended March 31. Companies in the S&P 500 alone were expected to repurchase more than $435 billion in shares during 2006, a considerable increase from the approximately $349 billion repurchased by the 500-index firms in 2005 One method of share repurchases that has shown a corresponding increase is an ASR.

An ASR is an arrangement in which a company borrows a block of firm shares from an investment bank and immediately recognizes a reduction in EPS (on a weighted average basis). At the time of the arrangement, the company also enters into a forward agreement with the investment bank. The investment bank immediately sells the shares to the company by borrowing the shares from other investors. The investment bank buys the

company shares back in the open market over time, generally less than one year, and replaces the borrowed shares (see Figure 1).

Two accounting transactions occur when a firm enters into the ASR agreement. First, equity is immediately decreased by the number of shares to be repurchased times the current share price, and cash is decreased or a liability is increased by an equal amount. Second, the firm enters into a forward contract with the financial institution, which allows the investment bank to hedge its short sale of shares. For most ASR agreements, the firm can choose to settle the contract in either cash or shares for the volume-weighted-average-value of the difference in share price as of the beginning of the ASR agreement to the settlement date. Under an ASR agreement with a cash or share settlement option, companies are not required to mark the forward contract to market on their books. The assumption behind the accounting treatment of the forward contract (not requiring it to be marked to market as the underlying value of the firm's stock changes) is that the company *intends* to settle the forward contract in shares and therefore need not consider the change in the fair value of the forward contract in the calculation of net income. In reality, the large majority of ASR forward contracts are settled in cash. At settlement, the accounting treatment is to decrease cash (or increase liabilities) and to decrease equity, assuming the price of the companies stock has increased. The repurchased shares may be kept in treasury or retired.

The key difference in accounting treatments between ASR agreements and OMRs is the timing of the recognition of the decrease in shares outstanding. Therefore, the main advantage to a firm in choosing an ASR is the immediate impact on outstanding shares and perhaps a stronger signal to the market about firm value. The disadvantage is that

cash must be provided up front, and the firm must pay the average share value over the life of the contract regardless of the increase in share price. Firms do not have an option to discontinue repurchasing shares once the ASR has been entered into as they would with an OMR program. In fact, prior research has shown that almost 25% of firms that announce an OMR do not repurchase shares in the announcement quarter (Lie 2005).

We believe the noted increase in the occurrence of ASR agreements is primarily due to the issuance of Statement of Financial Accounting Standard (SFAS) No. 150, "Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity." FAS 150 became effective for interim periods after June 15, 2003. Prior to SFAS 150, firms commonly wrote put options on their own shares to hedge against price increases. SFAS 150 requires that firm use mark-to-market accounting on puts and forward options, reducing the benefit to the firm by requiring changes in value to be recorded as increases or decreases to net income. However, as noted above, the forward contracts associated with ASRs are not required to be marked to market when the firm has the option of settling the contract in cash or shares.[5]

We provide a numerical example of the accounting treatment for ASRs in the Appendix.

3. Hypothesis Development

We consider the above differences in the accounting treatment of ASRs versus OMRs in developing our hypotheses about managerial incentives behind each repurchase type. Specifically, because the decrease in equity is recognized immediately for the full

[5] An additional discussion of accounting for ASRs can be found in EITF 99-7, "Accounting for an Accelerated Share Repurchase Program."

amount of shares announced as repurchase targets in an ASR, this repurchase type does not provide the financial reporting flexibility that OMRs offer. For example, Hribar et al. (2006) empirically show that in response to capital market pressures to meet analysts' EPS forecasts, firms exploit the flexibility that OMRs offer in terms of choosing when or whether to buy back stock when they fall short of meeting analyst expectations; i.e., they do an OMR when they "need a penny" to make the forecast. Because there is no such flexibility available with ASRs, we expect capital market incentives to be relatively less important in the decision to undertake an ASR versus an OMR. Our first hypothesis is therefore as follows:

> H1: Capital market incentives play a more important role in open market repurchase decisions than they do for accelerated share repurchases.

In addition, the "all at once" nature of the EPS effect of ASRs suggests to us to a quite different motivation: we predict that the managers of ASR firms are more likely to be compensated on reported EPS figures than are the managers of OMR firms. Prior research by Marquardt and Wiedman (2005) shows that firms are more likely to structure convertible bond transactions to increase EPS when manager bonuses are based on reported EPS figures, and Bens et al. (2003) argue that compensation incentives may apply to stock repurchases as well. Given the relatively large magnitude of ASRs on reported EPS and the lack of financial reporting flexibility that ASRs offer, we believe that compensation incentives are a likely determinant in the decision to undertake an ASR versus an OMR. Stated formally:

> H2: Compensation incentives play a more important role in decisions to undertake accelerated share repurchases than in open market repurchases.

4. Research Design

We use a multivariate probit regression model to test Hypotheses 1 and 2, where the dependent variable, *ASR*, equals one if the firm chooses to undertake an ASR and zero if the firm chooses an OMR. As such, our analysis is conditional on the decision to repurchase stock; that is, we assume that firms first decide to repurchase stock and subsequently determine the type of repurchase to undertake.

To proxy for capital market incentives (H1), we create a variable based on the findings of Barth, Elliott, and Finn (1999), who find that the market rewards patterns of increasing earnings, and Graham, Harvey, and Rajgopal (2005, p. 22), who report that chief financial officers regard the same quarter last year's EPS as the most important benchmark. This variable, *STRING*, equals the number of consecutive quarters prior to the announcement date of the repurchase that the firm has met or exceeded the benchmark of the prior year's EPS for the same fiscal quarter, up to a maximum of 20 quarters. If capital market incentives to maintain this string are stronger for OMR firms, we expect a negative coefficient on *STRING* in our probit analysis.

To proxy for compensation incentives (H2), we follow Marquardt and Wiedman (2005), and create an indicator variable, *BONUS*, that equals one if EPS is explicitly mentioned as a determinant of annual bonuses in the firms' proxy statement and zero otherwise. We believe that this is the most direct measure of whether a manager is compensated based on reported EPS. If managers of ASR firms are motivated by compensation concerns, we expect a positive coefficient on *BONUS*.

We also control for a possible alternative motivation for undertaking an ASR instead of an OMR: firms want to send a stronger signal of good future prospects by

locking themselves into the repurchase. Research in corporate finance shows that a stock repurchase announcement typically leads to an increase in the value of the firm's stock, which is primarily attributed to information signaling (see, e.g., Peyer and Vermaelen 2005). This theory suggests that the willingness of managers to increase their holdings of a company's stock conveys new, positive information to the market regarding the future cash flow of the company, driving the price increase. It may be argued that the guaranteed nature of the repurchase in an ASR sends a stronger signal to investors than does an OMR, since there is no obligation on the part of the issuer to actually repurchase any shares in an OMR.

We attempt to control for signaling effects by including firms' debt-to-equity ratios (*DE*) and dividend yields (*DIVYIELD*) as independent variables in our analysis, both measured for the fiscal year prior to the repurchase announcement. When managers possess inside information, financial structure signals information to the market, with the value of the firm rising with increasing leverage; similarly, when outside investors have imperfect information about firms' profitability, dividends function as a positive signal of expected cash flows (Barclay, Smith, and Watts 1995). If ASRs serve in a signaling role, it may be more likely that firms undertaking ASRs have already exhausted their signaling capacities by having high debt levels and high dividend yields. We therefore expect *DE* and *DIVYIELD* to be positively associated with the ASR decision.

Our prediction that accelerated stock repurchasers have higher dividend yields also suggests that these firms have lower growth relative to open market repurchasers. In their examination of the choice between paying dividends or repurchasing stock, Jagannathan, Stephens, and Weisbach (2000) find that growth, stock returns, free cash

flows, and firm size all affect repurchase decisions. Repurchasers are likely to be high growth firms because the alternative form of corporate cash payout, i.e., dividends, tends to be paid out of long-run, sustainable earnings, and a growth firm would be less likely to commit to regular dividend payments.

In addition, the capital market incentives to meet or exceed earnings benchmarks are more pronounced for growth firms. Skinner and Sloan (2002) find that the dramatic losses in firm value that often occur after missing an earnings benchmark are more severe for growth stocks. We thus expect open market repurchasers to have higher growth than accelerated share repurchasers.

We use three measures to capture different aspects of growth: the market-to-book ratio (*MB*), which is commonly used in the accounting literature as a growth proxy; the annualized daily stock price volatility, *STKVOL*, in the year prior to the repurchase announcement; and earnings volatility, *STDROA*, defined as the standard deviation of quarterly return-on-assets over the five-year period prior to the repurchase announcement. We expect a negative association between each of these variables and the decision to undertake an ASR rather than an OMR.

Because Jagannathan et al. (2000) and others have found that poor stock price performance typically precedes a stock repurchase, we add buy-and-hold abnormal returns (*BHAR*), measured over the 12-month period prior to the repurchase announcement date, as a control variable.

Jagannathan et al. (2000) also find that stock repurchasers tend to have high free cash flows. This is likely to be even more characteristic of accelerated stock repurchasers, since they must reacquire the targeted number of shares immediately through an

underwriter, which would require a large cash outlay. We therefore include free cash flows, *FCF*, as an independent variable in our analysis and predict that it will be positively associated with the ASR decision.

Lastly, we include firm size, *SIZE*, defined as the log of total assets at the end of the fiscal year prior to the repurchase announcement, as a control variable, as Jagannathan et al. (2000) find that repurchasers tend to be smaller firms. Given our previous predictions that accelerated stock repurchasers will have higher dividend yield and lower growth than open market repurchasers, we expect *SIZE* to be positively associated with the ASR decision.

Our final model is as follows:

$$ASR_i = \alpha_0 + \beta_1 STRING_i + \beta_2 BONUS + \beta_3 DE_i + \beta_4 DIVYIELD_i + \beta_5 STKVOL_i + \beta_6 STDROA_i + \beta_7 MB_i + \beta_8 BHAR_i + \beta_9 FCF_i + \beta_{10} SIZE_i + \varepsilon_i$$

where *i* denotes firm *i*. We predict positive coefficient on *BONUS*, *DE*, *DIVYIELD*, *FCF*, and *SIZE*, negative coefficients on *STRING*, *STKVOL*, *STDROA*, and *MB*, and make no prediction on *BHAR*.

5. Sample Selection and Descriptive Statistics

5.1 Sample Selection Criteria

We identify our sample of ASR firms by conducting key word searches on Lexis-Nexis and the SEC's EDGAR database for the term "accelerated share repurchase." Our initial search over 2001-2006 yielded 72 firms that had engaged in an ASR during this time period. Consistent with reports in the financial press that state that the prevalence of

ASRs has only recently increased dramatically, we note that we could identify only six ASRs prior to 2004; we therefore limit our focus to the 2004-2006 period.

To obtain our control sample of first-time open market repurchasers, we conducted a search on the SDC Platinum database over 2004-2006 and initially identified 531 OMRs. We then eliminated observations if they did not have the necessary Execucomp, Compustat, or CRSP data or if we could not identify announcement dates. We also eliminated firms that had multiple repurchasers (we retained the earliest one), duplicate observations, and firms with negative book value of equity. The final sample consists of 40 ASRs and 116 OMRs. We provide more detail on the sample selection in Table 1.

We present descriptive statistics for the ASR and OMR subsamples in Table 2. Panel A provides the distribution of ASR and OMR firms by year. We observe a dramatic increase in the number of ASRs from 2004 to 2005, and while there is an apparent decrease in 2006, recall that our sample period ends in March 2006, leaving us with only three months of data. Panel B provides information on industry membership, and Panel C shows the ASR and OMR announcement dates by fiscal quarter. Most notable is the fact that 47.5% of our sample ASRs fall into the first quarter, while only 26.72% of our sample OMRs do; a chi-squared test reveals that this difference is highly significant ($\chi 2$ = 5.895, p=0.015). This finding provides indirect support for our compensation (H2). Managers would benefit most from share repurchases made at the beginning of the fiscal year in computing their year-end bonus based on EPS.

6. Results

6.1 Univariate tests

Table 3 presents the results from univariate comparisons of firm characteristics across the ASR and OMR subsamples. We report limited evidence for H1, which predicts that capital market incentives play a more important role for OMR firms. OMR firms do have a longer series of having met or exceeded last year's quarterly reported EPS; mean (median) *STRING* is 5.85 (5) quarters for OMR firms versus 4.33 (3) for ASRs, and the difference for medians is marginally significant. There is stronger evidence in favor of H2, which predicts that compensation incentives play a more important role for ASRs than OMRs. Mean *BONUS* is 0.650 for ASRs versus 0.336 for OMRs, and this difference is highly significant.

The univariate results also reveal that ASR firms have significantly higher debt-to-equity ratios. Mean (median) *DE* is 1.251 (0.659) for ASR firms versus 0.745 (0.385) for OMR firms; differences in means and medians are significant at the 0.05 and 0.01 levels, respectively. We also find that median dividend yields are significant higher for ASR firms, with a median of 0.015 versus 0.000 for OMR firms. These results provide some evidence for signaling arguments – ASR firms already have higher debt ratios and dividend yields are therefore may have exhausted these choices as potential signals of good future performance.

We find mixed results for our growth proxies. While there is no significant differences between ASR and OMR sample firms for market-to-book ratios (*MB*), we do find that ASR firms have significantly lower stock price volatility (*STKVOL*) over the year prior to the repurchase announcement ($p<0.01$) and limited evidence of lower

earnings volatility (*STDROA*) ($p<0.05$, medians). These results support our expectation that OMR firms would have higher growth than ASR firms.

Contrary to our expectations, however, we find no significant differences in either free cash flows (*FCF*) or prior stock price performance (*BHAR*) between ASR and OMR sample firms. Finally, we find that ASR firms are significantly larger than OMR firms; differences in both mean and median *SIZE* are significant at the $p=0.01$ level. This may reflect the fact larger firms are more likely to already have established relationships with investment banks, which would enable them to negotiate the ASR contracts more quickly and easily than smaller firms. Larger firms may also be more likely to have the available assets to repurchase a large block of stock in a single transaction.

6.2 Multivariate tests

Table 5 presents the results of a multivariate probit analysis in which we examine the role of compensation and capital market incentives in determining the decision to undertake ASRs versus OMRs. Consistent with H1, where we predict that capital market incentives play a less important role in ASRs than in OMRs, we find that *STRING* is significantly negative at the $p=0.05$ level ($\chi^2 = 4.93$). This indicates that the incentive to continually meet the benchmark of last year's EPS for the same fiscal quarter is less pronounced for ASR firms than for OMR firms. We also find empirical support for H2, where we predict that compensation incentives play a more important role in the decision to undertake an ASR versus an OMR. As expected, *BONUS* is significantly positive ($\chi^2 = 3.06$), indicating that firms that explicitly link managers' annual bonuses to reported EPS are more likely to accelerate their share repurchases to improve this figure than are firms that repurchase stock on the open market.

We control for signaling effects in our probit model by including *DE* and *DIVYIELD* as independent variables. As stated earlier, we expect these variables to be positively associated with the ASR decision if ASRs are meant to serve as a signal of good future performance. Our results indicate that the estimated coefficients on both *DE* and *DIVYIELD* are insignificantly different from zero, indicating that they do not play a prominent role in the share repurchase choice.

Our analysis also includes the independent variables *MB*, *STKVOL*, and *STDROA*, which proxy for different aspects of firm growth. Only *STKVOL* is significant in the expected direction (χ^2 = 12.08). In untabulated findings, our main results for H1 and H2 are qualitatively similar we include/exclude various combinations of these growth proxies in the probit analysis.

We also control for the prior stock performance of our sample firms by including *BHAR*, the 12-month buy-and-hold abnormal returns prior to the share repurchase announcement, which does not appear to be a significant determinant in the choice between an ASR and OMR.

Our priors suggest that ASR firms are more likely to be larger in size and have higher free cash flows. As predicted, both *SIZE* and *FCF* are significantly positive (χ^2 = 3.18 and χ^2 = 5.53, respectively). In addition, the pseudo-R^2 for the model is approximately 28%, suggesting that the model has reasonable explanatory power, and the average variance inflation factor (VIF) is approximately 1.4, which is far below 10, indicating that multicollinearity is not a concern.

Overall, our results support both our hypotheses that 1) capital market incentives play a strong role in open market repurchase decisions than they do for accelerated share

repurchases; and 2) compensation incentives play a more important role for accelerated share repurchases than they do for open market repurchases. These findings are robust to controlling for signaling arguments, as well as for other known determinants of the decision to repurchase stock.

7. Additional Analysis – Settlement Costs for ASR Firms

To gain further insight into the costs of engaging in an ASR, we examined the 10-Ks and 10-Qs for the 40 ASR firms to determine the costs of settling the forward sale contract. We were able to collect this information for 29 firms. Of these 29 firms, 22 firms settled the forward sale contract in cash, and 7 firms settled in stock. The overwhelming majority of firms choosing cash settlement had to pay additional amounts to the investment bank, resulting in additional costs to the firm. The average payout made by the 22 ASR firms is approximately $20M (approximately 6% of the initial ASR deal size). Only two firms choosing cash settlement received cash from the investment bank. All seven firms selecting stock settlement received additional stock from the investment bank at the time of settlement. Overall, the descriptive evidence on settlement costs suggests that companies structure their transactions to avoid the mark-to-market treatment (by retaining the option to settle the forward contract in cash or shares). Nevertheless, the overwhelming majority of companies typically avoid issuing new shares to settle the forward contract in order to prevent further EPS dilution.

8. Conclusions

This paper empirically examines the determinants of firms' decisions to undertake accelerated share repurchases (ASRs). In an ASR, the firm repurchases a large block of shares through an underwriter, which allows for immediate recognition of a decrease in shareholders' equity and a corresponding increase in reported EPS. We argue that the financial reporting effects associated with ASRs suggest that the incentives behind these transactions are fundamentally different from those associated with open market repurchases (OMRs). Consistent with our predictions, we find that ASRs firms are more likely to compensate their managers explicitly on reported EPS figures and are less likely to beat earnings benchmarks than are OMR firms. These results are robust to controlling for signaling effects, as well as other known determinants of stock repurchase decisions. Finally, we provide descriptive evidence on the settlement costs incurred by ASR firms.

One limitation of the paper is that we rely on single measures to proxy for capital market incentives (*STRING*) and for compensation incentives (*BONUS*). In a future draft of the paper, we will include alternative measures of managerial incentives to provide additional evidence on our hypotheses. A second limitation is that in the current specification of our probit model, we do not control for the need to offset dilution from employee stock options, nor do we include the financial reporting effect on EPS in our model. These issues will also be addressed in the next draft of the paper.

Our results suggest additional questions that are worth exploring. For example, how do investors view ASRs? The finance literature has documented that stock repurchase announcements typically result in a stock price increase. Do investors react

less (or more) positively to ASR versus OMR announcements? An analysis of this question will be included in a future draft of the paper.

APPENDIX

The following is an example of the accounting treatment for an ASR. Suppose Company X wants to buy back 1 million shares of stock. Currently, the company has 10 million shares outstanding and the stock price is $10 per share. After the decision, the company has net earnings of $2 million for the quarter ended March 31.

Scenario 1: The stock price stays the same over the quarter.

Company X enters into an ASR agreement on January 1 and agrees to repurchase 1 million shares of stock. The ASR has an end contract date of March 31. The current stock price is $10 per share.

Jan. 1:	Treasury Stock	$10,000,000	
	Cash or Liability		$10,000,000

Forward agreement: no entry made as the forward contract has no significant value at the contract's initiation date.

April 30: No entries required

Effect on EPS at 4/30:

With ASR:	Without ASR:
$2,000,000/9,000,000 = $.22	$2,000,000/10,000,000 = $.20

Scenario 2: The stock price increases to $15/share on January 31 and remains there for the rest of the quarter.

Jan. 1:	Treasury Stock	$10,000,000	
	Cash or Liability		$10,000,000

April 30:
If settled in cash:

	Treasury Stock	$5,000,000	
	Cash or Liability		$5,000,000

If settled in stock:
An adjustment would be made to the shares outstanding. The company would now show that approximately 666,667 shares have been repurchased, versus 1,000,000. There is no impact on the balance sheet.

REFERENCES

Ayers, B., C. Lefanowicz, and J. Robinson. 2002. Do firms purchase the pooling method? *Review of Accounting Studies* 7, 5-32.

Barclay, M., C. Smith, and R. Watts. 1995. The determinants of corporate leverage and dividend policies. *Journal of Applied Corporate Finance* 7: 4-19.

Barth, M., J. Elliott, and M. Finn. 1999. Market rewards associated with patterns of increasing earnings. *Journal of Accounting Research* 37: 387-414.

Beatty, A. and J. Weber. 2006. Accounting discretion in fair value estimates: An examination of SFAS 142 goodwill impairments. *Journal of Accounting Research* 44: 257-288.

Bens, D., V. Nagar, D. Skinner, and M.H.F. Wong. 2003. Employee stock options, EPS dilution, and stock repurchases. *Journal of Accounting and Economics* 36: 51-90.

Erickson, M., M. Hanlon, and E. Maydew. 2004. How much will firms pay for earnings that do not exist? Evidence of taxes paid on allegedly fraudulent earnings. *The Accounting Review* 79: 387-408.

Graham, J., C. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3-73.

Guidry, F., A. Leone, and S. Rock. 1999. Earnings-based bonus plans and earnings management by business-unit managers. *Journal of Accounting and Economics* 26: 113-142.

Healy, P. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7: 85-107.

Holthausen, R., D. Larcker, and R. Sloan. 1995. Annual bonus schemes and the manipulation of earnings. *Journal of Accounting and Economics* 19: 29-74.

Hribar, P., N. Jenkins, and W.B. Johnson. 2006. Stock repurchases as an earnings management device. *Journal of Accounting and Economics* 41: 3-27.

Jagannathan, M., C. Stephens, and M. Weisbach. 2000. Financial flexibility and the choice between dividends and stock repurchases. *Journal of Financial Economics* 57: 355-384.

Lys, T. and L. Vincent. 1995. An analysis of the value destruction of AT&T's acquisition of NCR. *Journal of Financial Economics* 39: 353-278.

Maremont, M. and S. Ng. 2006. Moving the market – Tracking the numbers outside audit: Buybacks via loophole can have hidden cost. The Wall Street Journal, January 31, p. C1.

Matsunaga, S., T. Shevlin, and D. Shores. 1992. Disqualifying dispositions of incentive stock options: Tax benefits versus financial reporting costs. *Journal of Accounting Research* 30 (Supplement): 37-68.

McConnell, P., J. Pegg, C. Senyek, D. Mott, and A. Calingasan. 2006. Accounting Issues: Accelerated Share Repurchase – Share Repurchase Using Derivatives. Bear Stearns Equity Research, January 10.

McDonald, Ian. 2006. Big companies put record sums into buybacks. *The Wall Street Journal*, June 12, p. A1.

Marquardt, C. and C. Wiedman. 2005. Earnings management through transaction structuring: Contingent convertible debt and diluted EPS. *Journal of Accounting Research*.

Peyer, U. and T. Vermaelen. 2005. The many facets of privately negotiated stock repurchases. *Journal of Financial Economics* 75.

Ross, S. 1977. The determination of financial structure: The incentive-signalling approach. *Bell Journal of Economics* 8: 23-40.

Skinner, D. and R. Sloan. 2002. Earnings surprises, growth expectations and stock returns, or, don't let an earnings torpedo sink your portfolio. *Review of Accounting Studies* 7: 289-311.

Stephens, C. and M. Weisbach. 1998. Actual share reacquisitions in open-market repurchase programs. *Journal of Finance* 53: 313-333.

Watts, R. and J. Zimmerman. 1990. *Positive Accounting Theory*. Prentice Hall, New York, NY.

Figure 1
Overview of ASR transaction

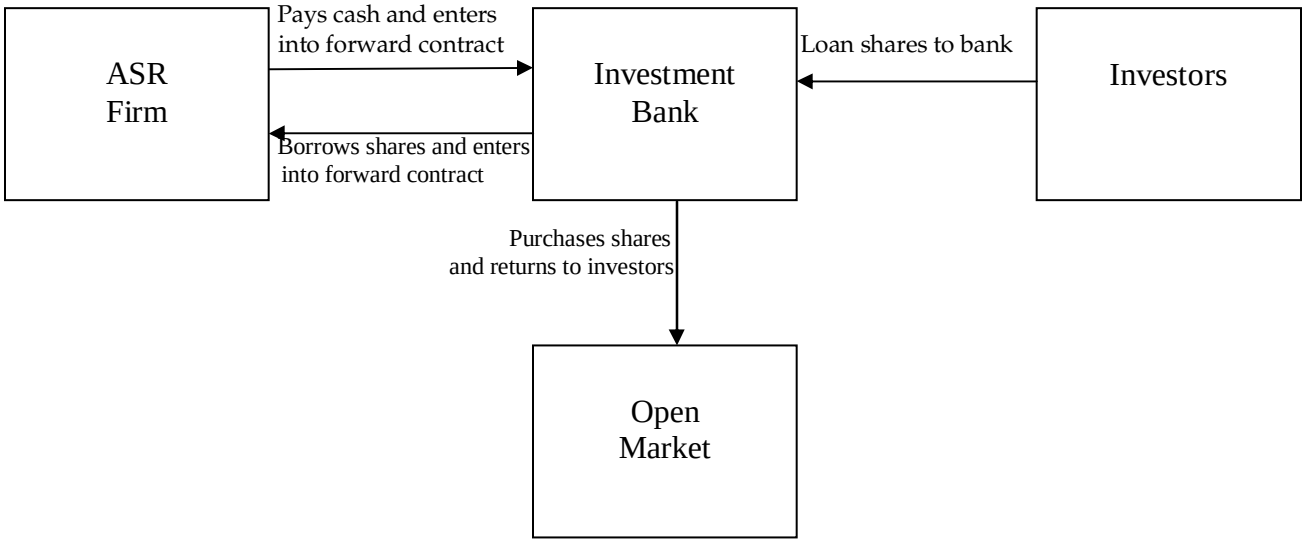

Table 1
Sample Selection

Accelerated Share Repurchases (ASR)	
Lexis-Nexis word search for 'accelerated share repurchase' during 2001-2006	72
Drop:	
No announcement date	2
Duplicate firm observation	1
ASR prior to 2004	6
Multiple ASRs in the one year	4
Incomplete/Unavailable ExecuComp data in the year prior to the ASR	11
Incomplete/Unavailable Compustat data in the year prior to the ASR	1
Final ASR sample	47
Open Market Repurchases (OMR)	
Securities Data Platinum search for first-time OMRs during 2004-2006	531
Drop:	
Incomplete/Unavailable ExecuComp data in the year prior to the OMR	396
Final OMR sample	135
Total Final sample of ASRs and OMRs	182
Drop:	
Outliers, negative book value of equity, incomplete CRSP data	26
Total Final sample of ASRs and OMRs used for tests	156

Table 2
Descriptive Statistics

Panel A: ASRs and OMRs by Year

Year	ASR		OMR		Total
	Number	% of Total	Number	% of Total	
2004	10	16.39	51	83.61	61
2005	21	27.63	55	72.37	76
2006	9	47.37	10	52.63	19
Total	40	25.64	116	74.36	156

Panel B: ASRs and OMRs by Industry

Industry	ASR (% of Total)	OMR (% of Total)	Total
Business Services	3 (30.00%)	7 (70.00%)	10
Chemicals and Allied Products	3 (23.08%)	10 (76.92%)	13
Electronic and Other Electrical Equipment and Components	0 (0%)	11 (100%)	11
Financial Institutions	9 (60.00%)	6 (40.00%)	15
Industrial and Commercial Machinery and Computer Equipment	2 (12.50%)	14 (87.50%)	16
Insurance	2 (20.00%)	8 (80.00%)	10
Other	21 (25.93%)	60 (74.07%)	81

Panel C: ASRs and OMRs by Quarter

Quarter	ASR (% of Total ASR)	OMR (% of Total OMR)	Total (% of Total)
1	19 (47.50%)	31 (26.72%)	50 (32.05)
2	3 (7.50%)	28 (24.14%)	31 (19.87%)
3	11 (27.50%)	33 (28.45%)	44 (28.21%)
4	7 (17.50%)	24 (20.69%)	31 (19.87%)
Total	40 (100.00%)	116 (100.00%)	156 (100.00%)

Table 3

Univariate Results

Variable	ASR Mean (Median) n = 40	OMR Mean (Median) n = 116	t-statistic (Wilcoxon z-statistic)
STRING	4.325	5.853	-1.647
	(3.000)	(5.000)	(-1.810)*
BONUS	0.650	0.336	3.590***
	(1.000)	(0.000)	(3.460)***
DE	1.251	0.745	2.101**
	(0.659)	(0.385)	(3.049)***
DIVYIELD	0.016	0.011	1.329
	(0.015)	(0.000)	(3.526)***
STKVOL	0.220	0.323	-5.119***
	(0.200)	(0.293)	(-5.203)***
STDROA	0.011	0.014	-0.827
	(0.006)	(0.007)	(-2.210)**
MB	3.909	3.296	0.889
	(2.575)	(2.530)	(0.093)
BHAR	0.029	0.033	-0.050
	(0.012)	(-0.031)	(0.860)
FCF	0.100	0.090	0.681
	(0.072)	(0.084)	(-0.262)
SIZE	9.329	7.993	4.217***
	(9.555)	(7.898)	(3.941)***

***, **, * denote significance at the 1%, 5% and 10% levels, respectively. BONUS is equal to 1 if the annual bonus compensation of employees, as determined from a search of the firm's 10-K, is tied to the earnings-per-share figure. STRING is the number of consecutive quarters prior to the announcement date of the share repurchase that the firm has met or exceeded the benchmark of the prior year's EPS for the same fiscal quarter, up to a maximum of 20 quarters. DE is debt/equity. DIVYIELD is the firm's dividend yield. STKVOL is the stock returns volatility in the 12-month period prior to the share repurchase announcement. STDROA is the standard deviation of the return on assets of the firm over the 20 quarters prior to the share repurchase announcement. MB is the beginning-period market value of equity/book value of equity. BHAR is the buy-and-hold-returns of the firm in the 12-month period prior to the share repurchase announcement. FCF is (operating income – capital expenditure)/beginning of year total assets. Both operating income and capital expenditure are determined from the prior fiscal period. SIZE is the log of total assets of the firm.

Table 4
Spearman and Pearson Correlations

Variables	ASR	STRING	BONUS	DE	DIVY	STKVOL	STDROA	MB	BHAR	FCF	SIZE
ASR	1.000										
STRING	-0.132 -0.145*	1.000									
BONUS	0.278*** 0.278***	-0.174** (-0.158)**	1.000								
DE	0.167** 0.245***	-0.004 (-0.119)	0.188** (0.182)**	1.000							
DIVYIELD	0.106 0.283***	-0.115 (-0.026)	0.047 (0.158)**	0.319*** (0.500)***	1.000						
STKVOL	-0.381*** -0.418***	-0.081 (-0.025)	-0.241*** (-0.257)***	-0.197** (-0.403)***	-0.393*** (-0.599)***	1.000					
STDROA	-0.067 -0.178**	-0.172** (-0.214)***	-0.137* (-0.183)**	-0.155* (-0.296)***	-0.155* (-0.296)***	0.334*** (0.424)***	1.000				
MB	0.071 0.008	0.273*** (0.233)***	-0.016 (-0.094)	0.108 (-0.070)	-0.085 (-0.145)*	-0.022 (0.058)	-0.050 (0.030)	1.000			
BHAR	-0.004 0.069	-0.013 (0.023)	-0.063 (0.018)	0.163** (0.258)***	0.038 (0.172)**	0.084 (-0.142)*	-0.061 (-0.044)	-0.051 (-0.067)	1.000		
FCF	0.055 -0.021	0.335*** (0.280)***	-0.114 (-0.159)**	-0.149* (-0.230)***	-0.059 (-0.141)*	-0.039 (0.032)	-0.111 (0.114)	0.521*** (0.534)***	-0.113 (-0.127)	1.000	
SIZE	0.322*** 0.526***	0.028 (0.048)	0.267*** (0.266)***	0.427*** (0.508)***	0.334*** (0.524)***	-0.598*** (-0.633)***	-0.200** (-0.357)***	-0.091 (-0.170)**	0.149* (0.199)**	-0.199** (-0.246)***	1.000

***, **, * denote significance at the 1%, 5% and 10% levels, respectively. BONUS is equal to 1 if the annual bonus compensation of employees, as determined from a search of the firm's 10-K, is tied to the earnings-per-share figure. STRING is the number of consecutive quarters prior to the announcement date of the share repurchase that the firm has met or exceeded the benchmark of the prior year's EPS for the same fiscal quarter, up to a maximum of 20 quarters. DE is debt/equity. DIVYIELD is the firm's dividend yield. STKVOL is the stock returns volatility in the 12-month period prior to the share repurchase announcement. STDROA is the standard deviation of the return on assets of the firm over the 20 quarters prior to the share repurchase announcement. MB is the beginning-period market value of equity/book value of equity. BHAR is the buy-and-hold-returns of the firm in the 12-month period prior to the share repurchase announcement. FCF is (operating income – capital expenditure)/beginning of year total assets. Both operating income and capital expenditure are determined from the prior fiscal period. SIZE is the log of average total asset of the firm.

Table 5
Multivariate Probit Regression

$$ASR_i = \alpha_0 + \beta_1 STRING_i + \beta_2 BONUS + \beta_3 DE_i + \beta_4 DIVYIELD_i + \beta_5 STKVOL_i + \beta_6 STDROA_i + \beta_7 MB_i + \beta_8 BHAR_i + \beta_9 FCF_i + \beta_{10} SIZE_i + \varepsilon_i$$

Variable	Expected Sign	Coeff. estimate	Wald χ^2
Interecept		-0.947	0.50
STRING	-	-0.067	4.93**
BONUS	+	0.493	3.06*
DE	+	0.092	0.88
DIVYIELD	+	-10.648	1.63
MB	-	-0.013	0.10
STKVOL	-	-7.591	12.08***
STDROA	-	13.534	2.39
BHAR	?	0.087	0.03
FCF	+	6.569	5.53**
SIZE	+	0.192	3.18*
Log-Likelihood			-63.321

***, **, * denote significance at the 1%, 5% and 10% levels, respectively. BONUS is equal to 1 if the annual bonus compensation of employees, as determined from a search of the firm's 10-K, is tied to the earnings-per-share figure. STRING is the number of consecutive quarters prior to the announcement date of the share repurchase that the firm has met or exceeded the benchmark of the prior year's EPS for the same fiscal quarter, up to a maximum of 20 quarters. DE is debt/equity. DIVYIELD is the firm's dividend yield. STKVOL is the stock returns volatility in the 12-month period prior to the share repurchase announcement. STDROA is the standard deviation of the return on assets of the firm over the 20 quarters prior to the share repurchase announcement. MB is the beginning-period market value of equity/book value of equity. BHAR is the buy-and-hold-returns of the firm in the 12-month period prior to the share repurchase announcement. FCF is (operating income – capital expenditure)/beginning of year total assets. Both operating income and capital expenditure are determined from the prior fiscal period. SIZE is the log of average total asset of the firm.