

Share Repurchase Motives and Stock Market Reaction

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The present study employs event methodology to explore the relationship between shareholder wealth effects and management's motives for repurchase. The repurchase motives are derived from a questionnaire survey, rather than from the public announcement approach used in prior studies. Study findings reveal a positive relationship between event premiums and the control motive for repurchase. Partial support for the signaling hypothesis also is observed, which is consistent with prior studies. All other repurchase motives—reissuance, undervaluation of stock, lack of investment opportunities, and leverage—are observed to be unrelated to shareholder wealth effects.

INTRODUCTION

Share repurchases have become a commonplace event in the financial markets. A *Wall Street Journal* article (July 2, 1993, p. C1) reports an average buyback of \$9.53 billion per quarter since spring 1992 and an average of \$5.36 billion in earlier quarters.

Various motives for repurchase have been explored in the financial literature.¹ The relationship between repurchase motives and shareholder wealth effects is particularly important to market participants. Prior investigations of the motive-wealth relationship have relied on motive measures that are questionable. Some studies base repurchase motives on the content of public repurchase announcements (Davidson and Garrison, 1989), acknowledging that actual motivations may be other than those presented in announcements.² Others rely on implied motives that are proxied by market behavior or financial statement changes.

This paper examines the relationship between repurchase motives and shareholder wealth effects using an alternative approach. Repurchase motives are based on questionnaire responses received from chief financial officers of major corporations recently having conducted share repurchases.³ Two aspects of the methodology enhance the credibility of the responses. First, respondents were assured confidentiality of their responses. Second, because the survey was conducted several months after the repurchase event had occurred,

¹ For example, see Masulis (1980), Dann (1981), Vermaelen (1981), and Wansley, Lane, and Sarkar (1989).

² It would be untenable for a firm to disclose an agency-based motive in a public repurchase announcement.

³ The data kindly were provided by Wansley, Lane, and Sarkar (1989).

the sensitivity of the event should have diminished, further enhancing the frankness of responses. The repurchase motives then are related to shareholder wealth changes using standard event study methodology.

The findings indicate that repurchases conducted for control reasons (e.g., increasing insider holdings, defending against a takeover attempt, etc.) are related positively to changes in shareholder wealth.

LITERATURE

Multiple motivations may support any given repurchase action. A review of the various motives for repurchase can be found in Wansley, Lane, and Sarkar (1989). As discussed in their study, repurchase motives may be expressed in the form of six hypotheses:

- Dividend substitution, as an alternative to cash dividends;
- Leverage, to move to a more desirable capital structure;
- Reissue of stocks for retirement, bonuses, employee stock options, or other reissue uses;
- Investment of available cash flow due to lack of alternative investment opportunities;
- Signaling management's favorable information not known to the market; and
- Wealth transfer between shareholders, managers, and bondholders of the firm.

The Wansley-Lane-Sarkar study reports several important findings

- All respondents agree with the informational signaling hypothesis of share repurchase;
- Managers confirm the use of share repurchase as a means of signaling their confidence in the firm; and
- All managers disagree with repurchasing actions being motivated by a low general level of market prices or due to management's proportional ownership being down.

Masulis (1980), Dann (1981), and Vermaelen (1981) report abnormal stock price increases in response to stock repurchase announcements. Several researchers such as Vermaelen (1984), Ofer and Thakor (1987), and Sinha (1991) have offered signaling models to explain share repurchases. The insider trading analyses by Jaffe (1974) and Seyhun (1986) provide strong evidence that managers had information that other market participants do not have.

The nature of information conveyed by open market stock repurchase announcements is empirically examined by Bartov (1991). He finds that repurchase announcement returns are positively (negatively) correlated with the earnings (risk) changes conveyed by repurchase announcements. Medury, Bowyer, and Srinivasan (1992) find that the open market

mode of repurchase is motivated best by the leverage adjustment hypothesis and the free cash flow hypotheses.

Davidson and Garrison (1989) analyze announced reasons for repurchase using market model premiums. They divide their overall sample into three subsamples based on the announced reason for repurchase

- Prevent takeover (sample size = 9);
- Investment repurchases (sample size = 8); and
- Support employee stock option plan (sample size = 6).

They find that firms that purchase stocks to prevent takeovers have negative reactions, while those that purchase undervalued stock as an investment have the largest and most statistically significant cumulative abnormal returns. They further observe that the market did not react at all to stock repurchases for employee stock option plan purposes. The Davidson-Garrison findings, however, are based on small sample sizes.

Although many prior studies are based on market data, Wansley, Lane, and Sarkar (1989) adopt a survey method to examine management's reasons for share repurchase and tender offer premiums. The present study attempts to extend the Wansley-Lane-Sarkar research by exploring how the market prices the repurchase reasons given by management. The market premiums are analyzed in light of the survey responses. This differs from the Davidson and Garrison (1989) study design in several ways. Davidson and Garrison use publicly announced reasons for repurchase, while the present study employs a detailed survey completed by the repurchasing authority in each firm. Davidson-Garrison divide their data into three subsamples according to announced repurchase reason. Consequently, their model tests for only three reasons, and their subsample sizes are small (six, eight, and nine respectively).

STUDY DATA

Repurchase motives are based on questionnaire responses obtained by Wansley, Lane, and Sarkar (1989). The Wansley-Lane-Sarkar questionnaire survey was conducted in July 1987. Their questionnaire instrument was sent to the chief financial officers (CFOs) of 620 large U.S. corporations, as identified in the 1986 *Institutional Investor* annual CFO roster. Usable questionnaires were received from 182 respondents. Among the questions in the survey instrument were 17 statements addressing the reasons for repurchasing shares. (See Appendix A.)⁴ Market share price data are obtained from the CRSP data base.

METHODOLOGY

REPURCHASE MOTIVE MEASUREMENT

Each of these 17 questions addresses a specific motive for tender offer repurchase (Appendix A). Respondents were requested to indicate their degree of agreement/disagreement with each statement on a Likert scale ranging from -3 (strongly dis-

⁴ The complete survey with the distribution of responses are in an appendix to Wansley, Lane, and Sarkar (1989).

agree) to +3 (strongly agree). Although each statement addresses a specific reason for repurchase, it is possible that collective subsets within the 17 statements may reflect a lesser number of generic motives. Factor analysis is applied to the original 17 statements to reduce the data into their more basic underlying attributes. The factor scores are saved and used as independent variables in the subsequent regression analyses. This methodology allows the fundamental constructs of overlapping responses to be captured.⁵

REPURCHASE PREMIUM MEASUREMENT

Shareholder wealth effects are determined using standard event methodology. Benchmark returns are defined as:

$$(1) R_{jt} = A_j + B_j R_{mt} + e_{jt}$$

where:

- R_{jt} = Return on stock j on day t ;
- R_{mt} = Return on the market (CRSP value-weighted portfolio) on day t ;
- A_j and B_j = Ordinary least squares regression parameters for security j ; and
- e_{jt} = Residual term for security j on day t .

Regression parameters A_j and B_j are estimated by regressing the pre-event returns for stock j on the returns on the CRSP portfolio for $t = -315$ to -61 . The event day ($t = 0$) is defined as the day the first news on repurchase was published in *The Wall Street Journal*.

The abnormal return on stock j for day t (AR_{jt}) was then determined as:

$$(2) AR_{jt} = R_{jt} - (\hat{A}_j + \hat{B}_j R_{mt})$$

Cumulative abnormal returns for each stock j (CAR_j) for an event period $(-T, +T)$ are determined as:

$$(3) CAR_j = \sum_{t=-T}^T AR_{jt}$$

The cumulative abnormal return measures serve as the dependent variables in the subsequent regression analyses.

Cumulative abnormal returns are determined for selected event periods ranging from 11 days $(-5, +5)$ to 121 days $(-60, +60)$ surrounding the repurchase announcement. Different period CARs are employed for two reasons. First, according to the Williams Act, a tender offer must be kept open for a minimum period of 20 business days. Also, Rule 14d-7 of the act allows stockholders to withdraw their tendered shares within 15 business

⁵ For example, some takeover defenses (R7) involve increasing insider holdings (R5). If respondents view these actions as acting in concert, the two questionnaire statements may reflect one motive.

days of the commencement of the offer. Second, different period CARs may provide for a robust test of the findings (Gaughan, 1991).

RESULTS AND ANALYSIS

DESCRIPTIVE CHARACTERISTICS

Market and questionnaire data are complete for all study variables for 77 repurchasing firms, which serve as the basis for empirical analysis. Descriptive values for the survey questions are displayed in Table 1. Ten of the 17 questionnaire statements generated response means that are significantly different from zero (a neutral response). The significance findings are consistent with those of Wansley, Lane, and Sarkar (1989).

The effect of industry groupings on survey responses is examined. Survey variables exhibiting significant differences across industry groups are displayed in Table 2. Two of the survey variables, R6 (excess cash) and R10 (underpriced market), produce significant differences consistent with the Wansley, Lane, and Sarkar (1989) findings. Wansley, Lane, and Sarkar also find these specific motives to be stronger for the manufacturing-mining industry group (SIC codes less than 4000) than for the remaining industry group (SIC codes 4000 or above). They further observe similar significant differences for R3 (insufficient investment opportunities) and R9 (substitute for cash dividend). The differences in the significance findings between the two studies may be attributed to the fact that the present sample is only a subset of the Wansley, Lane, and Sarkar sample, defined by the availability of both questionnaire responses and market returns.

Table 1—Survey Questionnaire Responses,^a n = 77

Variable	Mean	(S.D.)	Variable	Mean	(S.D.)
R1	.351	(1.992)	R10	.130	(1.516)
R2	1.870 **	(1.408)	R11	-1.156 **	(1.582)
R3	.390	(1.994)	R12	-.519 *	(2.049)
R4	-1.065 **	(1.838)	R13	-.643 **	(1.907)
R5	-1.506 **	(1.691)	R14	.071	(2.042)
R6	.273	(1.958)	R15	.052	(1.856)
R7	-.325	(1.983)	R16	-.545 *	(2.068)
R8	1.143 **	(1.466)	R17	-1.090 **	(1.921)
R9	-.662 **	(1.882)			

^aResponses were Likert-scale structured ranging from -3 (strongly disagree) to +3 (strongly agree)

** Significantly different from zero (neutral response) at the .01 level (two tailed test)

* Significantly different from zero (neutral response) at the .05 level (two tailed test)

Table 2—Significant Questionnaire Variable Differences Between Industry Groups, n = 77

Survey Question	SIC Code Below 4000 (n = 43)	SIC Code 4000 and Above (n = 34)	Difference in Means	t Statistic
R6	.7442	-.3235	1.0677	2.40*
R10	.4419	-.2647	.7066	2.01*
R17	-1.4186	-.6765	-.7421	-1.69 #

* Significant at the .05 level (two tailed test)

Significant at the .10 level (two tailed test)

Table 3—Abnormal Returns, $n = 77$

Event Day	AR _t (%)	CAR _t (%)	Event Day	AR _t (%)	CAR _t (%)
-60	0.29	0.29	+6	0.13	2.88 *
-50	-0.10	0.05	+7	0.19	3.07 *
-40	-0.00	-0.32	+8	-0.09	2.97 *
-30	0.04	-0.06	+9	-0.03	2.94 *
-29	-0.07	-0.13	+10	-0.04	2.90 *
-28	0.15	0.02	+11	-0.30 *	2.60 *
-27	0.03	0.05	+12	-0.07	2.53 *
-26	0.16	0.21	+13	-0.05	2.48 *
-25	0.12	0.33	+14	0.03	2.51 *
-24	-0.19	0.14	+15	0.09	2.59 *
-23	0.14	0.28	+16	0.08	2.67 *
-22	0.01	0.29	+17	0.09	2.76 *
-21	0.01	0.30	+18	-0.20	2.56 *
-20	0.00	0.30	+19	0.15	2.71 *
-19	0.22	0.52	+20	-0.01	2.70 *
-18	0.34 *	0.86	+21	0.03	2.73 *
-17	0.05	0.91	+22	0.10	2.83 *
-16	0.06	0.97	+23	0.09	2.92 *
-15	-0.21	0.76	+24	-0.19	2.73 *
-14	-0.09	0.66	+25	-0.06	2.67 *
-13	0.01	0.67	+26	0.02	2.69 *
-12	0.07	0.75	+27	-0.44 *	2.25 *
-11	-0.13	0.62	+28	-0.20	2.05 #
-10	-0.15	0.47	+29	-0.19	1.86 #
-9	0.11	0.59	+30	0.42 *	2.28 *
-8	0.48 **	1.06	+40	-0.09	2.22 *
-7	-0.05	1.01	+50	-0.06	2.73 *
-6	0.12	1.13	+60	0.19	2.86 *
-5	-0.05	1.08			
-4	-0.10	0.97			
-3	-0.06	0.91	Selected Event Window Returns:		
-2	0.07	0.98			
-1	1.48 **	2.46 *	CAR _{-5,+5}		1.622 **
0	0.98 **	3.44 **			
+1	0.04	3.48 **	CAR _{-10,+10}		2.279 **
+2	-0.11	3.37 **			
+3	-0.51 **	2.86 *	CAR _{-30,+30}		2.391 *
+4	-0.03	2.83 *			
+5	-0.08	2.75*	CAR _{-60,+60}		2.860 *

** Significant at the .01 level (two tailed test)

* Significant at the .05 level (two tailed test)

Significant at the .10 level (two tailed test)

Standard event study returns also are examined (Table 3). Cumulative abnormal returns (CAR_{-60,t}) are positive, becoming statistically significant in period $t = -1$ and remaining statistically significant through the end of the observation period ($t = +60$). Selected event window premiums (CAR_{-5,+5}, CAR_{-10,+10}, CAR_{-30,+30}, and CAR_{-60,+60}) that are used in the regression models also are displayed. All four of the selected event window premiums are positive and statistically significant. These findings are consistent with those of prior studies (e.g., Masulis, 1980; Dann, 1981; and Davidson and Garrison, 1989).

FACTOR LOADINGS

The results of the factor analysis applied to the 17 questionnaire statements are displayed in Table 4. The original questionnaire statement responses appear to cluster into six specific generic motives, represented by the six factors. The factor loadings for most variables are 0.70 or higher, suggesting a relatively cohesive grouping of variables for each factor. Those motives appear to be related to issuance of shares (FACTOR1), undervaluation of stock (FACTOR2), control considerations (FACTOR3), lack of investment opportunities (FACTOR4), leverage (FACTOR5), and signaling (FACTOR6).

Table 4—Factor Analysis Results, $n = 77$

Factor	Motive	Variable	Loadings ^a
FACTOR1	Provide Shares for Reissue	R12	.881
		R14	.881
		R13	.825
		R16	.539
FACTOR2	Undervalued Stock	R2	.766
		R15	.770
FACTOR3	Control	R4	.891
		R7	.832
		R5	.613
FACTOR4	Lack of Investment Opportunities	R6	.814
		R3	.751
FACTOR5	Leverage	R1	.830
		R17	-.519
FACTOR6	Signal Market	R11	-.827
		R8	-.711
		R9	-.544

^aAll other factor loadings in the factor matrix were less than .400. Variable R10 failed to produce a loading of at least .400 on any of the above factors

Because the composition of the variable groupings on each factor provides a set of identifiable generic motives and the primary factor loading for most variables is relatively high, factor scores are generated for each repurchasing firm to be used as independent variables in exploring the motive-wealth relationship.

MOTIVE-WEALTH RELATIONSHIP

A series of regression analyses is employed in which the six factors serve as independent variables in each regression and the various repurchasing premiums (CARs) alternately serve as the dependent variable (Table 5).

The event period repurchase premiums are observed to be related positively to the control motive factor (FACTOR3). Higher repurchase premiums are associated with repurchasing firms whose CFOs are in relatively less disagreement with the control motive statements. The relationship is significant for all of the event periods examined.

Although repurchases in general result in a proportional increase in insider ownership of the firm, such an increase may be purely coincidental and of a temporary nature (e.g., repurchases motivated by a lack of investment opportunities). On the other hand, the motives manifested by FACTOR3 (e.g., increasing insider holdings (R5) and removing overhanging blocks of shares (R4)) appear to indicate a deliberate and long-term increase

in insider ownership via repurchases, thereby more closely aligning management's interests with those of stockholders. Although many such repurchases may cause a less concentrated ownership and a decline in monitoring by blockholders, the observed positive stock market reaction to control-motivated repurchases suggests that on the whole the market perceives less need for blockholder monitoring due to a reduction in agency costs.

Table 5—Regression Results, n = 77

Independent Variables	Dependent Variable {Coefficient / (t-Value)}			
	CAR _{-5,+5}	CAR _{-10,+10}	CAR _{-30,+30}	CAR _{-60,+60}
Constant	1.6223 (2.49)*	2.2790 (2.82)**	2.3905 (1.82)#	2.8604 (1.27)
FACTOR1	-.7213 (-1.10)	-.5972 (-.73)	-.6789 (-.51)	-.9299 (-.41)
FACTOR2	.8653 (1.32)	.6434 (.79)	-1.3546 (-1.03)	-1.7514 (-.77)
FACTOR3	1.7610 (2.68)**	2.7537 (3.39)**	4.7770 (3.62)**	5.0531 (2.22)*
FACTOR4	-.0959 (-.15)	-.0381 (-.05)	1.4449 (1.10)	.6442 (.28)
FACTOR5	.5649 (.86)	.1994 (.25)	.7068 (.54)	-1.2699 (-.56)
FACTOR6	-.3757 (-.57)	-.1323 (-.16)	-2.6915 (-2.04)*	-4.0889 (-1.80)#
R-squared	.154	.169	.224	.121
F	2.128#	2.3772*	3.3621**	1.6122

** Significant at the .01 level (two tailed test)

* Significant at the .05 level (two tailed test)

Significant at the .10 level (two tailed test)

Furthermore, even repurchases motivated by the desire to resist takeovers (R7) may invoke a positive reaction from the market because such repurchases cause cash disbursements from management and reduce the agency costs of free cash flows. These repurchases also may result in a closer capital market monitoring of management if the repurchases are debt-financed or if they force managers to raise capital in the market in the near future. Finally, repurchases to avoid takeovers may be a signal to the market that managers expect higher bids for the firms. The above positive interpretations of repurchases, however, need to be balanced with the likelihood that repurchases to avoid takeovers may be motivated by the managerial desire to entrench themselves. Nevertheless, the positive market reaction to repurchase announcements associated with the control motive in general suggests that the market does not see these repurchases as promoting managerial entrenchment.

The above finding conflicts with the Davidson-Garrison (1989) results, which find that lower repurchase premiums are associated negatively with the antitakeover motive. Again, however, their study only explores the antitakeover facet of the control motive and contains a limited number of antitakeover motive cases (n = 9).

The only other variable found to be significant in the regression models reflects the signaling motive (FACTOR6). The regression coefficient for FACTOR6 is negative, but because the individual questionnaire items (R8, R9, and R11) loaded negatively onto FACTOR6, higher repurchase premiums, therefore, are associated with a greater signaling

motive. The regression coefficient for FACTOR6, however, is only significant for two event windows, $CAR_{30,+30}$ and $CAR_{60,+60}$.

An explanation for why FACTOR3 (the control motive) would be related to both shorter-term and longer-term event window premiums while FACTOR6 (the signaling motive) is related only to longer-term premiums may rest with the urgency of the motive. The signaling motive may not reflect an urgent or crisis event for management. For example, plans to signal the market of increased confidence in the firm's future earning power may be more carefully planned and orchestrated. Consequently, management may be aware of the plans for a stock repurchase well in advance of the public announcement and, as a result, earlier market response related to information leakages would be more feasible. The control motive, however, may reflect a much more urgent development or crisis situation. For example, a repurchase action may be in response to defending against a hostile takeover attempt. Management actions in this instance would be reactionary and not planned in advance. Consequently, market response to management actions would be revealed much closer to the event date, resulting in short-term, as well as long-term, repurchase premiums capturing the impact of the market's response to the event.

INDUSTRY GROUPING EFFECTS

The sensitivity of the observed motive-wealth relationships is explored through the creation of interaction variables, which are each the product of an original motive factor variable and an industry dummy variable. The industry dummy variable is assigned a value of 1 for firms in the mining or manufacturing industry groups (SIC codes less than 4000) and a value of 2 for all other industry groups (SIC codes 4000 or greater). A stepwise procedure is selected due to the large number of independent variables relative to the sample size. Some form of the control motive variable is entered in each stepwise model. For some regressions, the interaction variable for the control motive is entered, instead of the original corresponding variable (FACTOR3). In those regressions in which the interaction variable for the control motive is entered, the results imply that the control motive-wealth relationship is stronger for the nonmining/ manufacturing industry group than for the mining/ manufacturing group. FACTOR6 is the only other significant variable and is entered only in the $CAR_{30,+30}$ regression model. Consequently, the impact of industry groupings on the wealth-motive relationships is observed to be inconsistent and, therefore, inconclusive.

SUMMARY AND CONCLUSION

This paper explores the relationship between management's reasons for stock repurchase and the observed market repurchase premiums. As opposed to the use of public announcements or implied motives derived from changes in financial statement items, the present study employs a direct questionnaire survey of repurchasing firms and their motives.

Repurchase premiums are found to be consistently related to one generic motive for repurchase. A positive and permanent relationship is observed between repurchase premiums and the control motive for repurchase. The study also finds partial support for the signaling hypothesis, which is in agreement with prior evidence (e.g., Jaffe, 1974; Seyhun, 1986; and Bartov, 1991).

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APPENDIX A—SURVEY QUESTIONS***Shares Were Repurchased:**

- R1 As a means to increase the firm's leverage
- R2 Because management felt that the stock was undervalued
- R3 Because the company lacked sufficient investment opportunities to use available cash
- R4 To remove an overhanging block of shares
- R5 To increase the percentage of insider holdings.
- R6 Because the company had excess cash
- R7 As part of a defensive strategy to avoid a takeover
- R8 As a method to signal investors of confidence in the future level of earnings and stock prices
- R9 As a substitute for a cash dividend
- R10 Because the general level of market prices was low
- R11 To bring the firm to the attention of the market through press announcements of the repurchase
- R12 To provide shares for dividend reinvestment plans
- R13 To provide shares for conversion of other securities
- R14 To provide shares for employee bonus/retirement plans
- R15 Because the firm's stock price had recently lagged the market
- R16 To reduce the cost of servicing small, odd lot shareholdings
- R17 To buy out minority shareholders

*Refer to Wansley, Lane, and Sarkar (1989).