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The Intra-Industry Transfer of Information Inferred from Announcements of Corporate Security Offerings

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ABSTRACT

This study investigates the extent to which information inferred by investors from initial announcements of corporate security offerings affects share prices in the capital markets. The empirical tests measure the response in the common stock prices of both firms announcing a security offering and non-announcing firms operating in the same industry. Small but significantly negative abnormal returns are shown by industry shares upon initial announcements of common stock, convertible debt, and straight debt public offerings. Such an industry response indicates that share prices incorporate an inside assessment of factors relevant to the valuation of an industry subset of firms.

RESEARCH INTO THE VALUATION effects of corporate security offerings to the public indicate that announcements of these financing events can convey new information to investors. Significant negative share price reactions have been documented for offering announcements of common stock and securities convertible into common stock. Response to offering announcements of nonconvertible securities is typically negative but not statistically significant. Researchers generally agree that these reactions reflect more than the direct effects of the financing on the issuing firm's cash flows. Rather the announcement of an impending public offering seems to communicate unfavorable inside information about the announcing firm's value.¹

Several studies provide theoretical underpinning for this interpretation. Miller and Rock (1985) present a model in which unanticipated security sales indicate that earnings are lower than expected. Myers and Majluf (1984) argue that managers have incentive to exploit their inside information

* Drexel University. This paper is based on my Ph.D. dissertation at The Pennsylvania State University. I benefitted from the suggestions and comments of my dissertation committee: John R. Ezzell (chairman), James A. Miles (advisor), Ronald S. Koot, and John Fender. Helpful comments were received from Thomas Chiang, Thomas Hindelang, Robert Liebler, René M. Stulz, George Tsetsekos, Raj Varma, an anonymous referee, and seminar participants at Bowling Green University, University of Delaware, DePaul University, Drexel University, Lehigh University, University of Notre Dame, University of Rhode Island, Rider College, Rochester Institute of Technology, and Temple University. I am solely responsible for any remaining errors.

¹ For a review of the evidence see Smith (1986).

advantage by issuing securities they know to be overpriced. Therefore, outside investors draw unfavorable inferences about the value of the firm's assets and growth opportunities from announcements of forthcoming security issues. Ross (1977) advances a theory in which leverage-decreasing transactions, such as new issues of common stock and convertible securities, signal management's lack of confidence about the firm's future profitability.

In this paper, I test the hypothesis that investors infer unfavorable information regarding the general prospects of the industry from announcements of corporate security offerings. As firms in an industry are likely to compete in the same product markets and use the same resource markets, many common factors can underlie their values. If the true values of firms are correlated within an industry, new information conveyed by an offering announcement could lead to a reassessment of industry share prices.² The evidence is consistent with the hypothesis. Industry share prices fall, on average, when issues are announced and the share price reactions of the industry's non-announcing firms are positively correlated with those of the announcing firms.

I. Sample Design and Description

The sample used in this study consists of 484 public offerings of common stock, convertible debt, and straight debt made over the period 1970 to 1983. This sample was constructed in the two-stage process described below.

I began by establishing a working set of industry groups. As a first step, each firm with returns recorded in the Center for Research in Security Prices (CRSP) Daily Stock Return File over the 1970–1983 period was assigned to an industry group defined by the its four-digit Standard Industrial Classification (SIC) code on the CRSP tape. I excluded public utilities and financial institutions as the regulation of these industries may affect the market's response to announcements of security offerings. I also excluded industries whose four-digit SIC codes were identified as miscellaneous categories in the 1972 *Revision of the Standard Industrial Classification Manual*.³ To ensure that each announcing firm could be matched with at least one non-announcing industry counterpart, I dropped any industry group lacking at least two member firms with CRSP daily stock returns spanning the entire 1970–1983 period.

Next, I removed the smallest firms in the larger SIC industry groups. Within SIC categories that incorporate a sizeable number of firms, there

² Prior studies have found evidence of intra-industry information transfers. Foster (1981) reports intra-industry share price effects following earnings announcements issued by firms. Bowen, Castanias, and Daley (1983) measure the public utility industry's share price reaction to the nuclear accident at Three Mile Island. Eckbo (1983) documents an industry response to announcements of horizontal mergers. Swary (1986) finds a banking industry reaction to regulatory actions taken in the Continental Illinois crisis.

³ Miscellaneous categories are those 4-digit SIC code numbers with the word "miscellaneous" in their industry titles or whose industry titles are designated "Not Elsewhere Classified."

tends to be greater similarity among the larger firms with respect to their geographic markets.⁴ The larger firms typically sell to national markets while small firms are more likely to operate only in local or regional markets. Therefore, removing small firms from large SIC industries is likely to result in industry groupings within which firms are more genuinely comparable.

I restricted the maximum number of firms in each listed industry group to five (the median size of the four-digit SIC industry groups). If a group included more than five firms, I retained only the five with the largest average dollar volume of sales over the study's time frame. Sales rather than the market value of the firm's equity is used as a proxy for firm size in order to avoid a sample selection criterion based on pre-announcement capital structure choice. The resulting working set consisted of 823 firms in 192 industry groups.

In the second stage, I compiled each firm's history of issuing common stock, convertible debt, and straight debt through public offerings in the 1970–1983 period, using the *Moody's Manuals* and the *Investment Dealers Digest*. The resulting sample comprises 484 public offerings that satisfied the following criteria:

1. An unambiguous initial announcement date, preceding the issuance date, is identifiable in the *Wall Street Journal Index*. Initial public offerings of common stock and shelf registrations are excluded.
2. No other announcement appearing in the *Wall Street Journal Index* on the initial announcement date nor on the ten preceding trading days is made by the issuing firm or by its industry counterparts in the working set.
3. No other class of security is issued jointly with the common stock, convertible debt, or straight debt public offerings. No secondary offering is made in combination with the primary offering.
4. CRSP daily stock return data are available to meet the requirements of the empirical testing procedure. This requirement limits the sample to firms that were listed on either of the New York Stock Exchange (NYSE) or the American Stock Exchange (AMEX) at the time of the offering announcement.

The selection criteria ensure that reactions to the sample's financing events are not distorted by other informative announcements or the simultaneous issuance of other types of financing.

As Table I shows, the 484 announcements are made by 245 firms in 112 industries.⁵ More than half (302) of the announcements are straight debt offerings, 128 are common stock offerings, and 54 are convertible

⁴ Foster (1981) notes a lack of homogeneity between large and small firms with respect to the markets in which they operate in several SIC-defined industries.

⁵ The 112 industry groups are composed of 523 member firms. The industry groups and firms used in the tests are listed in Szewczyk (1987).

Table I
**Frequency Distribution of Offering Announcements by Type
of Financing, Number of Different Announcing Firms, and
Number of Different Industry Groups**

This table presents the frequency distribution of the sample by the type of financing, the number of different announcing firms, and the number of different industry groups in which the announcing firms operate. The full sample consists of 484 public offerings of common stock, convertible debt, and straight debt announced over the period 1970–1983. Firms with returns recorded in the CRSP Daily Stock Return File are assigned to industry groups based on their 4-digit SIC code on the CRSP tape. The sample is obtained by screening the *Moody's Manuals* and the *Investment Dealers Digest* for public offerings made by the five firms with the largest average dollar volume of sales over the 1970–1983 period in each of the 4-digit SIC industries. Public utilities, financial institutions, and firms assigned “miscellaneous” or “not elsewhere classified” SIC codes are excluded from the sample.

Type of Financing	Number of Offerings	Number of Different Announcing Firms	Number of Different Industry Groups
Common stock	128	96	61
Convertible debt	54	46	37
Straight debt	302	171	94
Total sample	484	245	112

debt offerings. Sixty-one industry groups contributed to the common stock sample, 37 industry groups to the convertible debt sample, and 94 to the sample of straight debt offerings.

III. Methodology

A standard event study methodology is used to measure share price reactions to the security offering announcements. Day 0 in event time is defined as the date of the earliest pre-issuance report of the offering in the *Wall Street Journal Index*. The abnormal return for an announcing firm is the deviation of its common stock's actual return from a contemporaneous expected return generated by the market model. The market model's parameters are estimated over a 200-trading-day estimation period beginning 230 days prior to the announcement. Abnormal returns are measured over days –1 and 0. I followed the procedure described in Mikkelsen and Partch (1986) to calculate standardized test statistics (z -statistics) used to evaluate the significance of the average abnormal returns (AAR).

In the tests performed on the industry counterparts of the announcing firms, the procedure outlined above is modified to account for potential cross-correlation of returns induced by a clustering of industry observations in calendar time. For each security offering, I constructed an equally weighted portfolio consisting of the announcing firm's industry counterparts and performed event tests on the returns to the industry portfolios.

IV. Empirical Results

A. Test Results for Offerings of Common Stock, Convertible Debt, and Straight Debt

Table II reports the announcing firms' and industry counterparts' share price response to announcements of public offerings. Announcing firms' average abnormal returns are negative and statistically significant for both offerings of common stock (-3.09% , z -statistic = -11.64) and convertible debt (-1.63% , z -statistic = -4.51). The AAR associated with straight debt offerings is negative (-0.19%) but not significantly different from zero at the 0.05 level (z -statistic = -1.61). These results are comparable to those reported in previous studies by Dann and Mikkelsen (1984), Masulis and Korwar (1986), Asquith and Mullins (1986), Eckbo (1986), and Mikkelsen and Partch (1986).

The industry portfolios all show small but statistically significant negative average abnormal returns. At the announcement of common stock offerings, non-announcing firms earn an AAR of -0.64% , which is statistically significant at the 0.01 level (z -statistic = -3.70). The AAR attributed to announcements of convertible debt offerings is -0.50% and is significant at the 0.05 level (z -statistic = -2.18). Announcements of straight debt offerings are associated with a negative AAR of -0.33% , which is significant at the 0.01

Table II
Abnormal Returns for Announcing Firms and
Non-Announcing Industry Counterparts

This table presents average and median 2-day announcement period abnormal returns at the announcement of 128 common stock, 54 convertible debt, and 302 straight debt public offerings. Abnormal returns are for firms announcing the offerings and equally weighted portfolios consisting of non-announcing industry counterparts. Announcing firms and their industry counterparts are from industry groups consisting of the five firms with the largest average dollar volume of sales over the period 1970–1983 in each of the 4-digit SIC industries on the CRSP tape. Public utilities, financial institutions, and SIC codes designated “miscellaneous” or “not elsewhere classified” are excluded from the sample. Abnormal returns are measured over the trading day before and the day of the first announcement of the offerings identified in the *Wall Street Journal Index*. z -Stat. = test statistic on the average abnormal returns; Percent Negative = the percent of abnormal returns having negative values.

Type of Financing	Announcing Firms				Industry Counterparts			
	Abnormal Return			Percent	Abnormal Return			Percent
	Average	Median	z -Stat.	Negative	Average	Median	z -Stat.	Negative
Common stock	-3.09	-3.05	-11.64**	84.4	-0.64	-0.52	-3.70**	60.9
Convertible debt	-1.63	-1.94	-4.51**	75.9	-0.50	-0.28	-2.18*	59.3
Straight debt	-0.19	-0.15	-1.61	53.6	-0.33	-0.35	-3.33**	58.3

* Test statistic is significant at the 0.05 level.

** Test statistic is significant at the 0.01 level.

level (z -statistic = -3.33). Across all three types of securities, approximately 60% of the industry portfolios reported negative abnormal returns.

The distribution of the two-day announcement period abnormal returns shown in Table III indicates that these average abnormal returns cannot be attributed to a few firms reporting extraordinarily poor performance. Instead, more than three-quarters of the negative abnormal returns experienced by the announcing firms have values lying between 0% and -6% . Among the industry portfolios, over 90% of the negative abnormal returns reported fall between 0% and -4% . No abnormal return reported by an industry portfolio is worse than -8% .

The evidence presented in Tables II and III documents a systematic market response to security offering announcements that extends beyond the announcing firms. Announcements of corporate security offerings appear to convey, on average, unfavorable information concerning common stock values

Table III
Distribution of Announcement Period Abnormal Returns for
Announcing Firms and Non-Announcing Industry
Counterparts

This table presents the distribution of 2-day announcement period abnormal returns at the announcement of 128 common stock, 54 convertible debt, and 302 straight debt public offerings. Abnormal returns are measured over the trading day before and the day of the first announcement of the offerings identified in the *Wall Street Journal Index*. Abnormal returns are for firms announcing the offerings and equally weighted portfolios consisting of non-announcing industry counterparts. Announcing firms and their industry counterparts are from industry groups consisting of the five firms with the largest average dollar volume of sales over the period 1970–1983 in each of the 4-digit SIC industries on the CRSP tape. Public utilities, financial institutions, and SIC codes designated “miscellaneous” or “not elsewhere classified” are excluded from the sample.

Abnormal Return	Announcing Firms			Industry Counterparts		
	Common Stock	Convertible Debt	Straight Debt	Common Stock	Convertible Debt	Straight Debt
AR > 8%	1	0	1	0	0	1
8% ≥ AR > 6%	3	1	2	0	0	2
6% ≥ AR > 4%	1	2	17	0	0	2
4% ≥ AR > 2%	4	2	32	7	2	21
2% ≥ AR > 0%	11	8	88	43	20	100
	20	13	140	50	22	126
$-2\% < AR \leq 0\%$	26	15	101	57	23	123
$-4\% < AR \leq -2\%$	30	19	39	14	8	42
$-6\% < AR \leq -4\%$	27	5	13	4	1	10
$-8\% < AR \leq -6\%$	15	1	8	3	0	1
AR < -8%	10	1	1	0	0	0
	108	41	162	78	32	176
	128	54	302	128	54	302

within the industry groups. However, the information may not be uniformly negative, as a considerable subset of announcing firms and industry portfolios record positive abnormal returns.⁶ Moreover, the abnormal returns of the industry counterparts and the announcing firm need not have the same sign. The direction of the share price response of industry counterparts depends on the nature of the information affecting industry values.

The information affecting industry share prices may reflect on the general prospects of the industry as a whole or signal a change in the announcing firm's competitive position vis-à-vis its industry rivals. If the information leads to a reassessment of the industry's prospects, one expects a positive correlation between the abnormal returns of announcing firms and the abnormal returns of their industry counterparts. If, on the other hand, an offering announcement signals a change in the announcing firm's competitive advantage within the industry, a negative correlation would be expected.

I performed Pearson correlation tests and Spearman rank correlation tests on paired announcing firm/industry portfolio abnormal returns. As shown in Table IV, the Pearson and Spearman rank correlation coefficients are positive for the entire sample of financing events and also for the samples classified by type of security. With the exception of the Pearson test of the straight debt samples, the positive relationships are statistically significant at the 0.10 level or lower. These results suggest the share price for the non-announcing industry firms predominately reflect new information regarding general conditions within the industry group, rather than a reassessment of competitive positions.

B. Test Results for Offerings Classified by Intended Purpose

The asymmetric information theories of Miller and Rock (1985) and Myers and Majluf (1984) pertain to security sales that finance new investment. The leverage-signaling theory of Ross (1977) predicts a negative price response to new issues of common stock and convertible debt since they decrease leverage. Straight debt offerings that refinance existing debt are neutral events with respect to both new investment and leverage, and thus would be expected to convey no inside information. The intra-industry information transfer hypothesis suggests that the share prices of firms in the same industry as the announcing firm may react significantly to issues of common stock, convertible debt, and issues of straight debt providing new financing but not to straight debt offerings whose proceeds are used to refinance existing debt.

Table V presents the results of event tests performed on offering announcements classified as either "new financing" or "refinance debt." The *Wall*

⁶ If the firm's current earnings and dividend payout are known to the market, an unanticipated offering announcement may signal a higher than expected level of capital expenditures. In such cases, the announcing firm share prices may react favorably to the offering announcement. McConnell and Muscarella (1985) show that announcements of increases in capital spending are met with positive stock price reactions.

Table IV
Results of Pearson Correlation Tests and Spearman Rank
Correlation Tests

The Pearson correlation tests and Spearman rank correlation tests (p -values in parentheses) examine the relationship between matched announcement period abnormal returns for announcing firms and equally weighted portfolios consisting of non-announcing industry counterparts. N is the number of offerings in each sample. Announcing firms and their industry counterparts are from industry groups consisting of the five firms with the largest average dollar volume of sales over the period 1970–1983 in each of the 4-digit SIC industries on the CRSP tape. Public utilities, financial institutions, and SIC codes designated “miscellaneous” or “not elsewhere classified” are excluded from the sample. Abnormal returns are measured over the trading day before and the day of the first announcement of the offerings identified in the *Wall Street Journal Index*.

Type of Finance	N	Pearson Correlation Coefficient	Spearman Correlation Coefficient
All offerings	484	0.143 (0.002)	0.145 (0.002)
Common stock	128	0.185 (0.037)	0.176 (0.047)
Convertible debt	54	0.245 (0.077)	0.236 (0.089)
Straight debt	302	0.074 (0.204)	0.123 (0.036)

Street Journal articles supplying the initial announcements and the descriptions of the offerings in the *Moody's Manuals* were examined for statements of the intended use of the offerings' proceeds. Statements of the intended use of proceeds were found for 450 offerings. Offerings whose only stated purpose is to refinance existing debt were classified as refinancing debt. All other intended uses, including multiple uses of the proceeds, classified the offering as new financing. As predicted, the AARs for straight debt offerings used to refinance debt are not significantly different from zero for either announcing firms or their industry counterparts. Firms announcing stock and convertible offerings, both new financing and refinancing debt, experience significantly negative AARs. Non-announcing industry counterparts report significantly negative AARs for all security offerings providing new financing and for common stock offerings refinancing debt.

For straight debt offerings providing new financing, non-announcing industry counterparts record a statistically significant average abnormal return; announcing firms do not. A possible explanation is that the information conveyed by the announcements is fairly similar for all firms in the industry, but, because the industry effect is measured using portfolio returns, the industry reaction to the new information is estimated more precisely. As the point estimates for the firm effect and industry effect are not that far apart, one cannot exclude that the two effects are equal.

Table V

Abnormal Returns for Offering Announcements Classified by the Purpose of the Offering

This table presents average and median 2-day announcement period abnormal returns at the announcement of common stock, convertible debt, and straight debt public offerings for announcing firms and equally weighted portfolios consisting of non-announcing industry counterparts. Abnormal returns are measured over the trading day before and the day of the first announcement of the offerings identified in the *Wall Street Journal Index*. Announcing firms and their industry counterparts are from industry groups consisting of the five firms with the largest average dollar volume of sales over the period 1970–1983 in each of the 4-digit SIC industries on the CRSP tape. Public utilities, financial institutions, and SIC codes designated “miscellaneous” or “not elsewhere classified” are excluded from the sample. N = number of offerings in the sample; z -Stat. = test statistic on the average abnormal returns; Percent Negative = the percent of abnormal returns having negative values. The purpose of the offerings are established using information found in the *Wall Street Journal* articles announcing the offerings and in the *Moody's Manuals*. Offerings whose only stated purpose is to refinance existing debt are classified as “refinance debt.” All other stated uses of the offering’s proceeds classified the offering as “new financing.”

	N	Announcing Firms				Industry Counterparts			
		Abnormal Return			Percent Negative	Abnormal Return			Percent Negative
		Average	Median	z -Stat.		Average	Median	z -Stat.	
Common stock									
New financing	71	-3.40	-3.24	-8.30**	67.0	-0.71	-0.52	-2.81**	60.6
Refinance debt	40	-2.42	-2.90	-4.89**	75.0	-0.59	-0.52	-2.46**	62.5
Convertible debt									
New financing	39	-1.62	-1.89	-3.66**	71.8	-0.66	-0.84	-2.52**	61.5
Refinance debt	12	-1.73	-2.52	-2.48**	83.3	-0.04	-0.07	0.16	50.0
Straight debt									
New financing	172	-0.21	-0.16	-1.33	54.1	-0.42	-0.28	-2.84**	59.5
Refinance debt	116	-0.26	-0.15	-0.75	54.3	-0.15	-0.33	-1.48	54.3

** Test statistic is significant at the 0.01 level.

C. Cross-Sectional Regression Results

Both offering size and security type could influence the intra-industry effect associated with security offering announcements. A relatively large offering might convey more information than smaller offerings and so elicit larger price reactions. Myers and Majluf (1984) suggest that the market reacts more strongly to offerings consisting of riskier securities such as common stock and securities convertible into common stock. Mikkelsen and Partch (1986) find that share prices of announcing firms are especially sensitive to offering announcements of common stock and convertible debt.

Table VI presents the results of regressions relating the abnormal returns of the announcing firms (regression 1) and the non-announcing firms (regression 2) to two index variables set equal to 1 if the offering consists of common stock (I_{CS}) or convertible debt (I_{CD}), and 0 otherwise. The regressions include a control variable measuring the size of the offerings relative to the firm’s

Table VI
Cross-Sectional Regression Results

Estimates of ordinary least squares regressions of 2-day announcement period abnormal returns on the relative size of the offerings and index variables for the type of security offered (*t*-statistics in parentheses). The dependent variable for regression (1) is the 2-day announcement period abnormal return for the announcing firm. The dependent variable for regression (2) is the 2-day announcement period abnormal return for an equally weighted portfolio consisting of the non-announcing industry counterparts of the announcing firm. Abnormal returns are measured over the trading day before and the day of the first announcement of the offering identified in the *Wall Street Journal Index*. Independent variables are defined as follows:

AMT = dollar amount of the offering.

MVCS = market value of announcing firm's common stock at the end of the month immediately prior to the announcement date. Information on the number of shares outstanding and the month's closing stock price are taken from Standard and Poor's *Stock Guide*.

I_{CS} = index variable for offering of common stock.

I_{CD} = index variable for offering of convertible debt.

	Independent Variables				<i>R</i> ²
	Intercept	AMT/MVCS	I _{CS}	I _{CD}	
(1)	-0.378 (-1.62)	0.810 (1.09)	-1.904 (-5.42)	-0.990 (-2.00)	0.060
(2)	-0.290 (-2.08)	-0.128 (-0.29)	-0.308 (-1.46)	-0.089 (-0.30)	0.005

market value (AMT/MVCS). Regression 1 confirms the results documented by Mikkelsen and Partch (1986) and Table II for announcing firms. The coefficients on the index variables identifying the offerings as common stock and convertible debt are negative and statistically significant at the 0.01 and 0.05 level, respectively. No significant relationship is found between the abnormal returns of the announcing firms and the relative size of the offerings. For non-announcing firms, the coefficient associated with common stock offerings is also negative but only marginally significant at the 0.10 level (regression 2). The coefficients associated with the convertible debt index variable and with the relative size of the offering are statistically insignificant. At best, these results provide weak evidence that industry share prices are especially sensitive to common stock offerings announced by industry members.

V. Conclusion

This study investigates whether announcements of public offerings of common stock, convertible debt, and straight debt elicit abnormal share price reactions among firms in an industry group. The tests document systematic abnormal price performance in the shares of both announcing and non-announcing firms following the offering announcements. For announcing

firms, average abnormal returns are negative and statistically significant for offerings of common stock and convertible debt. The average abnormal returns to the non-announcing firms are negative and statistically significant for all three types of security offerings. In addition, the abnormal returns of the announcing firms and the industry portfolios are positively correlated. This suggests that investors draw inferences about the general prospects of the industry as a whole rather than shifts in competitive advantage between the announcing firm and its industry competitors. To a lesser extent, the evidence also indicates that industry share prices are especially sensitive to announcements of common stock offerings.

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