Underwriting Costs and Market Value Effects of Raising Bank Capital

by James W. Wansley, University of Tennessee, Stokely Management Center, Department of Finance, Knoxville, and Upinder S. Dhillon, SUNY-Binghamton, School of Management, Binghamton.

Abstract

This study examines the direct (out-of-pocket) flotation costs of new capital issues by bank holding companies between 1980 and 1986 and the total costs including any market effects of security issuance. A regression model is developed that relates the direct selling costs to the type of security being issued, the exchange on which the parent bank holding company is traded, information specific to the issue, and information specific to the firm. The model is highly significant, explaining over 80 percent of the variation in issuing costs. These direct costs, however, are small for equity issues when compared to information effects (stock price responses). When these costs are included, the costs to bank holding companies of issuing equity increase substantially and the direct costs of issuing preferred and debt are, generally, more than offset by positive stock price effects.

Introduction

Recent work by Fama (1985), Campbell and Kracaw (1980), and others has identified distinct differences between banks and other organizational forms. These papers focus on the role of banks in information production and transmittal. For example, Fama (1985) concludes that banks are special since bank borrowers bear the costs of reserve requirements. James (1987) extends the work of Fama and presents evidence that banks provide some special service with their lending activities. Banks also appear to be different in their capital raising efforts. Booth and Smith (1986) develop a model of underwriter compensation and find that banks and other regulated firms appear different from industrial companies.

This paper expands on the Booth and Smith (1986) model and examines the direct (out-of-pocket) expenses associated with new capital issues sold by bank holding companies (BHCs) between 1980 and 1986. A regression model is estimated which relates the direct costs to the type of security being issued, the exchange on which the BHC is traded, information specific to the issue and information specific to the BHC. The model is highly significant and explains over 80 percent of the variation in direct selling costs. Out-of-pocket costs for equity are small when compared to the dollar magnitude of the change (decline) in the market value of common stock of the BHC selling the equity. Failure to recognize the market effects of capital issues seriously underestimates the total costs to BHCs of selling equity. In contrast to the stock price reductions around the announcement of equity sales, BHC stock prices experience either a small increase or no effect around the announcement of preferred stock or debt sales.

For debt the gain in market value of equity appears to more than offset the out-of-pocket expenses associated with underwriters' fees and selling expenses.

The process of raising capital has come under increased scrutiny in recent years. As noted by Jurin (1988) and Cornell and Shapiro (1988), a critical component of the cost of raising capital (for all firms) is any effect caused by 'informational asymmetries'. Cornell and Shapiro refer to these as *key* costs associated with issuing new securities. These costs arise if corporate managers have inside information regarding the firm's prospects or the 'true' value of their firm and use this information to exploit potential investors by issuing overpriced securities. Thus, a complete measure of the total costs of raising capital should include both the out-of-pocket expenses associated with underwriters' fees and selling expenses as well as any stock price effects associated directly with the announcement of the issue.

Background

Announcement effects of BHC capital security issues

Myers and Majluf (1984) and others have recognized that insiders have an informational advantage that allows them to exploit outsiders in new security issuances. The Myers and Majluf model implies that the type of security being issued is an important determinant of the magnitude of the announcement effect. Booth and Smith (1986) argue that the incentive to issue new securities stems, in part, from an opportunity to effect a wealth transfer from outsiders. They indicate that underwriters play a role in certifying that risky issue prices reflect potentially adverse information, and they find evidence consistent with the hypothesis that the level of underwriter compensation is a function of firm-specific information.

Recent empirical evidence in the investment banking literature indicates that stock market effects may exist, especially for equity sales, around the announcement of a firm's intention to sell capital securities. See, for example, Smith (1986) for a review of the capital acquisition process. Wansley and Dhillon (1989) report a two-day abnormal return of 1.51 percent, while Polonchek et al. (1989) find a three-day abnormal return to be 1.39 percent. Both papers find very small announcement effects for subordinated debt. Wansley and Dhillon find the preferred stock announcement effect significantly positive with a t-statistic of 1.9, while Polonchek et al. find the preferred stock effect insignificantly different from zero. In contrast, when sales of preferred stock or subordinated debt are announced, the market effects are very small. Both Wansley and Dhillon and Polonchek et al. suggest that these effects are consistent with the information hypothesis of security issuance.

BHC Underwriting Costs

No recent studies examine underwriting costs for BHCs by class of securities. However, Smith (1977) measures common stock underwriting costs for exchange listed firms. He reports that underwriting costs as a percent of proceeds from the sale range from 13.7 percent for the very smallest offerings (less than $1 million) to approximately 4 percent for the largest offerings (greater than $100 million). Bhagat and Frost (1986) find, for negotiated offers, that the mean equity underwriting costs

for 552 utilities to be 3.62 percent, ranging from 7.8 percent for very small issues ($2.3 million) to 3.42 percent for the larger issues (over $100 million). The focus of the Bhagat and Frost paper is whether differences exist in costs incurred by public utilities depending on whether they issue new equity through a negotiated or competitive underwriting. They conclude that the expected cost for a competitive offer is less than the expected cost for a negotiated offer, but they find a substantially larger variance with competitive offers. Booth and Smith (1986) develop a model in which underwriter compensation is a function of issue size, systematic risk and the ratio of systematic to nonsystematic risk. For banking firms, only the issue size variable is significant, and Booth and Smith explain these results by saying regulation of banking (and public utility) firms limits the certification role of the investment banker. The Booth and Smith results are consistent with the findings reported for BHCs by Wansley and Dhillon (1989) and Polonchek, Slovin and Sushka (1989). Both of these latter papers attribute the smaller equity announcement effects by BHCs (compared with those for industrial firms) to a regulation effect. Mikkelson and Partch (1986), Asquith and Mullins (1986), and Masulis and Korwar (1986) find the effects for industrials to be approximately -3.5 percent.

Masulis (1988) points out that relative issuing cost across classes of securities may be an important feature of the capital structure decision. Knowledge of the relative flotation costs and information costs will be important as banks and bank holding companies adjust their capital structure to conform to changing capital standards. In August 1988, the Board of Governors of the Federal Reserve System adopted new capital guidelines that required the capital equivalent of 8 percent of assets, weighted by risk. This international accord, called the Basel Agreement, was phased in through the end of 1992.[1]

Sample and Analysis

Sample

An initial sample of 359 capital security offerings including subordinated debt, non-convertible preferred stock and common stock was developed from *Capital Securities Issued: Commercial Banking*, a publication of the Irving Trust Co., Advisory Services Division. This quarterly publication contains a description of each issue which includes but is not limited to the amount, type of security, underwriters' fees, other expenses associated with the offering and the issue date of the offering. The source of information for each issue contained in *Capital Securities Issued* is that issue's prospectus. The amount of each issue and other information is cross-checked with *Institutional Investor*.

Direct Underwriting Costs by Exchange

Table 1 presents a comparison of the BHC's total direct (out-of-pocket) costs of underwriting capital securities by exchange[2] and by type of security. T-statistics for differences are also presented. The t-statistics in Table 1 should be interpreted with caution since, in general, the populations violate the normality assumption. The t-statistics test the null hypothesis that the difference between the mean value of listed issues and OTC issues is equal to zero. For common stock the average face value of

securities issued is \$70.8 million for listed BHCs and \$20.0 million for OTC issues. Total direct selling expenses for listed (OTC) issues is \$2.3 million (\$1.1 million), and the weighted average total direct selling costs for all common stock issues is \$1.42 million.[3] The average total selling expenses as a percent of the face value issued is 5.22 (7.76) percent for listed (OTC) issuers. These two mean values are significantly different with an associated t-statistic of 3.52.

For preferred stock issues, underwriters' fees and other selling expenses as a percent of the face value of securities issued are not significantly different between exchanges. The t-statistic for the difference between exchanges is 1.19. Total selling expenses as a percent of the face value of securities issued is 2.55 percent for listed issuers and 2.83 percent for OTC issuers.

The most significant difference in total direct cost relative to the amount issued occurs with subordinated debt issues. In panel C of Table 1 the mean value of TEXP/AMT (total selling expenses/face amount of securities issues) is 0.80 percent for listed issues and 1.56 percent for OTC issues. The difference in these two means is significant, with a t-statistic of 3.55.

Although the total direct costs of underwriting capital securities is larger for OTC-listed issuers, it is apparent that appreciable differences also exist in the average size of the offerings between exchanges. For example, listed issuers of subordinated debt sell, on average, \$134.9 million compared to \$66.7 million for OTC issuers. This approximately two-to-one ratio for subordinated debt is even larger for preferred stock and common stock issues.

Determinants of Direct Selling Costs

The following cross-sectional regression is estimated to examine the determinants of direct selling costs (underwriting costs and selling expenses) of capital securities by bank holding companies.

$$TFEE/AMT_t = \beta_0 + \beta_1(EXCH_t) + \beta_2(CSDUM_t) + \beta_3(PSDUM_t) + \beta_4(LAMT_t) + \beta_5(LAMT2_t) + \beta_6(LASSET_t) + \beta_7(CAPTA_t) + \beta_8(RISK_t) + e_t \qquad (1)$$

where TFEE/AMT is the ratio of total direct selling expenses to the face value of securities issued and is comprised of an underwriter commission plus issuer expenses such as selling fees and listing fees.[4] EXCH is a dummy variable which equals 1 if the issuer trades on the NYSE or AMEX and 0 otherwise. Table 1 shows that banks face higher underwriting costs if they trade on the OTC. If this remains true when other variables are taken into account, then the expected sign on EXCH is negative. A negative sign on EXCH is also consistent with the 'listing effect' literature that finds increases in firm value associated with a firm's announcement to list on the NYSE. For example, Sanger and McConnell (1986) attribute market value increases to superior liquidity services offered on the NYSE.

CSDUM is a dummy variable which equals 1 if the security type is common stock and 0 otherwise. PSDUM is a dummy variable for preferred stock. Since the omitted security type is debt, then the coefficients on CSDUM and PSDUM should

Table 1. A Comparison of the Total Direct Costs of Underwriting Capital Securities for NYSE, AMEX and OTC Bank Holding Companies

Type of Security	Sample Size and Exchange	Average Underwriting Expenses ($000s)	Average Other Selling Expenses (000s)	Total Selling Expense (000s)	Average UFEE/AMT (%)	Average OFEE/AMT (%)	Average TEXP/AMT (%)	Average Face Value of Securities Issues (000s)
A. Common Stock								
	Listed(26)	$2,165.42	$182.54	$2,347.96	4.46	0.76	5.22	$ 70,748.69
	OTC(75)	$ 919.85	$181.89	$1,101.74	5.97	1.79	7.76	$ 19,976.76
t-statistic for differences in means		-3.58*	-0.03	-3.48*	3.23*	3.07*	3.52*	-3.17*
B. Preferred Stock								
	Listed(38)	$2,728.13	$198.85	$2,926.98	2.33	0.22	2.55	$123,770.18
	OTC(13)	$ 871.08	$161.77	$1,032.85	2.34	0.49	2.83	$ 39,035.31
t-statistic for differences in means		-5.86*	-1.87	-5.85*	0.64	3.22*	1.19	-5.50*
C. Subordinated Debt								
	Listed(135)	$ 798.62	$148.31	$946.94	0.66	0.15	0.80	$134,891.00
	OTC(72)	$ 495.71	$186.83	$682.54	1.11	0.45	1.56	$ 66,665.00
t-statistic for differences in means		-5.87*	2.51*	-4.86*	2.89*	4.25*	3.55*	-8.24*

UFEE/AMT = underwriting expenses/face value of securities issued.
OEXP/AMT = other selling expenses/face value of securities issued.
TEXP/AMT = total selling expenses/face value of securities issued.
*Significant at the .05 level.

be interpreted relative to the cost of issuing debt. Since common stock and preferred stocks are inherently riskier securities than debt, the expected sign on both PSDUM and CSDUM is positive. Additionally, the coefficient on CSDUM should be larger than that for PSDUM, reflecting the additional risk of underwriting common stock.

LAMT is the natural logarithm of the face amount of the security issued, and LAMT2 is the square of LAMT. These independent variables are included to test for economies of scale. If such economies exist and are significant, then the coefficient on LAMT should be negative. LAMT2 tests for nonlinearities, and the expected sign on LAMT2 is positive. Smith (1977) reports evidence on economies of scale for equity offerings by listed firms, and Ederington (1975) finds economies of scale for bond offerings. Neither of these papers, however, examine capital offerings of bank holding companies.

LASSET is the natural logarithm of the book value of total assets in the last quarter prior to the issue, and is taken from *Capital Securities Issued*. The coefficient on LASSET should be negative since placement of securities being issued by large firms should be easier. A measure of the firm's current capital position, CAPTA, is included since thinly capitalized BHCs should have a harder time placing any capital securities. In addition, Dahl and Shrieves (1990) find that regulatory capital constraints influence the issuance decision of banks. CAPTA is defined as the level of BHC capital (equity + preferred stock) divided by total assets. A negative coefficient is expected on CAPTA. RISK is defined as the variance of equity returns. Booth and Smith include a similar variable in their test of underwriter certification and find that it is significant for industrials but not for utilities or banks. Underwriting costs should be positively related to RISK. A number of alternative specifications were attempted for RISK including nonsystematic risk to systematic risk and nonsystematic risk to total risk. Booth and Smith (1986) include nonsystematic risk to systematic risk in their test of the 'certification hypothesis'. They find this variable is significant for industrial firms, but not for utilities or banks.

Regression Results

Table 2 reports regression results of the determinants of underwriting costs (TFEE/AMT). Regression (1) in Table 2 reports the results when all 359 observations are included and when RISK is excluded from the regression equation. The regression is significant with an F-statistic of 445.2 and an adjusted R^2 of 89.5 percent. Each of the explanatory variables is significant and possesses the anticipated sign. The coefficient on EXCH, -.0426, is significant at the .01 level, which indicates that issuing costs are higher for OTC-traded BHCs, even after accounting for the other variables in the regression model.

Since the omitted dummy variable in the regression is a dummy for debt, then the coefficients on CSDUM and PSDUM should be interpreted relative to debt. Both the coefficients are positive and significant. On average, if the security being issued is preferred stock (common stock), then the percentage underwriting costs increase by 1.39 (2.85) percent. The negative coefficient on LAMT reinforces previous findings of economies of scale in underwriting, while the positive coefficient on LAMT2 provides evidence that this relationship is convex. Thus underwriter fees

Table 2. Regression Results of Determinants of Underwriting Costs as a Percent of Amount Issued*

$$TFEE/AMT = \beta_0 + \beta_1(EXCH) + \beta_2(CSDUM) + \beta_3(PSDUM) + \beta_4(LAMT) + \beta_5(LAMT2) + \beta_6(LASSET) + \beta_7(CAPTA) + \beta_8(RISK)$$

INDEPENDENT VARIABLES

REG. No.	INTERCEPT	(-) EXCH	(+) CSDUM	(+) PSDUM	(-) LAMT	(+) LAMT2	(-) LASSET	(-) CAPTA	(+) RISK	Adjusted R^2	F-Statistic	Sample Size
(1)	0.8552 (9.330)	-0.0426 (-4.629)	0.0285 (12.752)	0.0139 (13.564)	-0.1258 (-7.121)	0.0055 (7.197)	-0.0069 (-4.903)	-0.2396 (-7.892)	---	89.5%	445.2	359
(2)	0.7948 (5.204)	-0.0316 (-2.956)	0.0285 (8.646)	0.0155 (12.695)	-0.1209 (-4.369)	0.0052 (4.297)	-0.0049 (-3.100)	-0.0856 (-0.927)	6.2844 (1.360)	80.3%	131.5	225
(3)	0.7966 (5.196)	-0.0276 (-3.032)	0.0285 (8.608)	0.0158 (12.622)	-0.1236 (-4.503)	0.0053 (4.416)	-0.0044 (-3.200)	---	7.2596 (2.381)	86.5%	206.3	225

*The null hypothesis of homoskedasticity is rejected at the .01 level of confidence. The t-statistics in parentheses are adjusted for heteroskedasticity. See White (1980).

Regression variables are defined as follows:

TFEE/AMT = total underwriting expenses/face amount of securities issued,
EXCH = 1 if the security trades on the NYSE or AMEX, 0 otherwise,
CSDUM = 1 if the security type is common stock, 0 otherwise,
PSDUM = 1 if the security type is preferred stock, 0 otherwise,
LAMT = log of the face amount of the security issued,
LAMT2 = LAMT squared,
LASSET = log of the total assets of the BHC prior to the issue,
CAPTA = level of bank capital (equity + preferred stock)/total assets,
RISK = variance of the stock returns.

increase at an increasing rate as the size of the issue decreases. The larger the size of the issue, the less influence issue size has on total underwriting costs.

Larger BHCs experience lower underwriting costs, as the coefficient on LASSET is negative and highly significant, with a t-statistic of -4.903. The capital position of the bank prior to the issue, as measured by CAPTA, also affects the underwriting costs. Lower levels of capital are associated with higher levels of underwriting costs.

When RISK is included as an explanatory variable in regression (2), it has the anticipated positive sign but is not significant.[5] RISK and CAPTA, however, are highly correlated,[6] and when CAPTA is eliminated in regression (3), RISK is significant with a t-statistic of 2.38. Thus, systematic risk may be proxying for the level of capital of the BHC, given the higher R^2 of regression (1) in Table 2.

Market Value Effects

Abnormal Returns

To examine the total costs of issuing capital securities for bank holding companies, stock market announcement effects are measured using a standard event study framework. The original sample of 359 issues is screened for a *Wall Street Journal* announcement date and for sufficient available daily returns in the Center for Research in Security Prices NYSE/AMEX or NASDAQ files. Table 3 displays the distribution of capital issues in the original sample of 359 (called the 'issue sample') and the reduced sample for which announcement information was available (called the 'announcement sample') by year of issue and type of security.

Table 3. Distribution of Issue Sample and Announcement Sample By year of Issue and Type of Security

Year of Issue	Common Stock		Preferred Stock		Subordinated Debt	
	Issue Sample	Announcement Sample	Issue Sample	Announcement Sample	Issue Sample	Announcement Sample
1980	3	3	2	2	2	2
1981	2	1	0	0	2	1
1982	3	0	13	10	25	9
1983	13	8	18	12	30	14
1984	19	8	6	4	51	12
1985	29	9	6	5	60	13
1986	32	20	6	0	37	12
TOTAL	101	49	51	33	207	63

The requirement that the BHC issuing the security have available returns in the CRSP files from t-250 through the issue date eliminates 134 observations, and the constraint that the announcement of the issue appear in the *Wall Street Journal* eliminates an additional 80 observations. The final announcement effect sample is 145 observations, of which 49 are common stock issues, 33 are preferred stock issues and 63 are subordinated debt issues. The market model is applied to all banks in the sample, and excess returns are calculated for each day relative to the announcement day.[7] Daily average excess returns (AER$_t$) and cumulative average excess return (CAER$_t$) are determined over two distinct intervals of time. The first is the two-day period (AD-1,AD=0) surrounding the date the announcement of the issue appeared in the *Wall Street Journal;* the other interval is longer and includes the actual issue date (AD-20, SD+20) where SD is the sale date, taken from *Capital Securities Issued.*

Over the two trading-days surrounding the original announcement of the issue of common stock, BHCs experience, on average, an abnormal loss of -2.19 percent. This loss is statistically significant, at the .01 level, with an associated z-statistic of -3.199.[8] The announcement of an impending debt issue is associated with an excess return of 1.49 percent, and this excess return is significantly positive at the .10 level, with a z-statistic of 1.76. The two-day excess return associated with preferred stock issues is also positive (.701 percent), but insignificantly different from zero. Over the longer interval of time from AD-20 through SD+20, the abnormal market value effects of equity issues increase to -4.52 percent, although the z-statistic declines to -1.48. For preferred stock and debt, the effect is not significant over this longer interval. The CAER for debt is 1.46 percent (z-statistic = 0.91), and the CAER for preferred stock is 0.218 percent (z-statistic = 0.25).

These announcement effects for BHCs are similar in magnitude to those reported in earlier works. For example, Polonchek, Slovin and Sushka (1989) find a three-day excess return around common stock offerings to be -1.38 percent, and Wansley and Dhillon (1989) find the two-day effect to be -1.51 percent. These studies find similar results for debt and preferred stock, although Wansley and Dhillon find the preferred stock effect to be significant[9] and neither study reports the debt announcement to be significant. None of the prior studies include OTC issues.

Market Value Changes

Based on the calculations of daily abnormal returns and cumulative excess results, it is clear that BHCs incur costs in the form of reduced market value when they announce an issue of common stock. Bank holding companies may actually gain in market value around the announcement of debt offerings, and the effect for preferred stock offerings is negligible.

Table 4 presents abnormal market value changes for BHCs around security offerings. Each BHC's market value of equity is measured by multiplying its market price at AD-20 times the number of common shares outstanding on that day. Changes in market value are measured using each BHCs excess return over both time intervals. As shown in Table 4, announcements of common stock issues cause a decline in market value of equity for BHC of approximately $6.5 million. This 'indirect' effect is approximately 4 and one-half times the weighted average direct costs of $1.42

million, calculated from Table 1 and shown in footnote 3. Thus, issuance costs for common stock may be on the order of magnitude of five times larger than previously estimated when only direct out-of-pocket costs are considered. Depending upon the interval of time used to measure the effect of the security issue and the measure of the change of market value, BHCs, on average, may lose as much as $13.3 million in indirect costs.

Table 4. Abnormal Change in Market Value of Equity Associated with Security Issues By Bank Holding Companies Around Various Intervals of Time in $000s

Category	Common Stock	Preferred Stock	Subordinated Debt
Average Market value of equity at AD-20	$294,348	$559,679	$523,834
Change in Market Value			
Δ MV1 (AD-1,AD=0)	$ -6,591	$ 3,076	$ 2,458
Δ MV2 (AD-1,AD=0)	$ -6,434	$ 3,923	$ 9,198
Δ MV1 (AD-20,SD+20)	$ -5,860	$ 339	$ 3,427
Δ MV2 (AD-20,SD+20)	$-13,307	$ -1,741	$ 7,637

$$\Delta MV1 = \sum_{i=1}^{N} (MV_i * AR_{it})/N, \text{ where } MV_i \text{ is the market value of equity for BHC } i \text{ at AD-20.}$$

$$\Delta MV2 = (\overline{MV}_s * \overline{AR}_s) , \text{ where } \overline{MV}_s \text{ is the average market value of equity for security}$$

group s and $\overline{AR}_s$ is the average abnormal return of that group. For example, in Table 5 the average market value of equity for bank holding companies that issue equity is $294.3 million and the two day announcement abnormal return is -2.186 percent. The product of these two numbers results in ΔMV2.

The market value effects for preferred stock and debt issues are less clear. If the two-day announcement period is the most accurate measure of the impact of the security issue, then BHCs gain approximately $3.5 million with preferred issues and from $2.5 to $9.2 million around debt issues. These gains more than offset the weighted average out-of-pocket underwriting and selling costs of $2.44 million for preferred stock and $0.85 million for debt.

Over the longer interval of time (AD-20, SD+20), BHCs again appear to gain market value around subordinated debt issues. This gain ranges from $3.4 million to $7.6 million. The effect around preferred stock issues is very small and ranges from $ -1.7 million to $0.3 million.
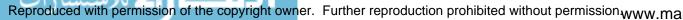
Summary and Conclusions

This paper examines the total costs to bank holding companies around the issuance of capital securities, including common stock, preferred stock and subordinated debt. In a departure from earlier work, total costs are viewed as the combination of direct, out-of-pocket underwriting costs and selling expenses as well as any stock market

announcement effects. Consistent with prior work on underwriting costs in other industries, underwriting and selling costs are substantially larger for common stock issues than for preferred stock or debt issues. BHCs pay, on average, 7.11 percent of the face value of the securities when issuing common stock. This is compared to 2.62 percent for preferred stock issues and 1.06 percent for subordinated debt issues.

A model is developed that relates the percentage underwriting and selling costs to the type of security being issued, the exchange on which the BHC trades, information specific to the issue and information specific to the issuer. The model is highly significant and explains approximately 85 percent of the variation in the selling costs. Signs on the explanatory variables are consistent with predictions.

Standard event study methodology is used to estimate announcement effects and changes in market value to BHCs around the public declaration of capital security issues. The magnitude of the announcement effects is similar to those reported in prior literature, although earlier work did not estimate market value changes. Announcements of common stock issuance are associated with dramatic declines in market values of existing shares for bank holding companies. These declines range from $5 to $13 million. If these costs are considered part of the total issuance costs, then issuing equity is much more expensive than previously estimated. The average direct selling costs for common equity is only $1.4 million. The market value effects of issuing debt or preferred stock are less dramatic. Generally, the market value effects of issuing debt are positive, and these effects are larger than the out of pocket costs of debt issuance. Effects for preferred stock around the announcement date are also positive, although they are very small when longer periods of time are considered.

Notes

1. For information on the Capital guidelines and risk-based capital, see Federal Reserve Press Release, Capital: Risk-Based Capital Guidelines, (Washington: Board of Governors of Federal Reserve System, January 19, 1989), 1-25, and Shrieves and Dahl (1992).

2. BHC issues are categorized based on whether they are listed (trade on the NYSE or AMEX) or trade OTC.

3. $1.42 million = ($2.347*26) + ($1.101*75)/101.

4. For a detailed description of issuer expenses, see Bhagat and Frost (1986).

5. Including RISK in the regression equation reduces the sample size to 225 from 359 observations because of the additional requirement that sufficient returns be available on the CRSP tapes.

6. The Pearson correlation coefficient between RISK and CAPTA is -0.2788, which is significant at confidence levels smaller than .001.

7. Market model parameters are estimated from t-250 through t-21, where t=0 is the *Wall Street Journal* announcement day.

8. Z-statistics are calculated, using standardized prediction errors. See Mikkelson and Partch (1986) for details on calculations.

9. Wansley and Dhillon (1989) report that only 51 percent of the preferred stock residuals are positive and that the significance of the preferred stock results may be driven by outliers. Wall and Peterson (1989) find common stock effects similar to other studies.

References

Asquith, P. and Mullins, D. 1986. "Equity Issues and Offering Dilution," *Journal of Financial Economics* 15: 61-90.

Bhagat, S. and Frost, P. 1986. "Issuing Costs to Existing Shareholders in Competitive and Negotiated Underwritten Public Utility Equity Offerings," *Journal of Financial Economics* 15: 233-260.

Booth, J. and Smith, R. 1986. "Capital Raising, Underwriting and the Certification Hypothesis," *Journal of Financial Economics* 15: 261-280.

Campbell, T. and Kracaw, W. 1980. "Information Production, Market Signaling, and the Theory of Intermediation," *Journal of Finance* 35: 863-882.

Capital: Risk Based Capital Guidelines, Washington: Board of Governors of Federal Reserve System, January 19, 1989.

Cornell, B. and Shapiro, A. 1988. "Financing Corporate Growth," The Continental Bank *Journal of Applied Corporate Finance* 1: 6-22.

Dahl, D. and Shrieves, R. 1990. "The Impact of Capital Regulation on Bank Equity Infusions," *Journal of Banking and Finance* 14: 1209-1228.

Ederington, L. 1975. "Uncertainty, Competition, and Costs in Corporate Bond Underwriting," Journal of Financial Economics 2: 71-94.

Fama, E. 1985. "What's Different About Banks?," *Journal of Monetary Economics* 15: 29-36.

Horvitz, P., Lee, I. and Robertson K. 1991 "Valuation Effects of New Securities Issuance By Bank Holding Companies: New Evidence." *The Financial Review* 26 (February 1991):91-104.

James, C. 1987. "Some Evidence on the Uniqueness of Bank Loans," *Journal of Financial Economics* 19: 217-235.

Jurin, B. 1988. "Raising Capital in an Efficient Market," *Midlands Corporate Finance Journal* 1: 53-60.

Masulis, R. W. 1988. "The Debt/Equity Choice," Cambridge, Ballinger Publishing Co.

Masulis, R. and Korwar, A. 1986. "Seasoned Equity Offerings: An Empirical Analysis," *Journal of Financial Economics* 15: 61-90.

Mikkelson, W. and Partch, M. 1986. "Valuation Effects of Security Offerings and the Issuance Process," *Journal of Financial Economics* 15: 31-60.

Myers, S. and Majluf, N. 1984. "Corporate Financing and Investment Decisions When Firms Have Information Investors Do Not," *Journal of Financial Economics* 13: 187-221.

Polonchek, J., Slovin, M. and Sushka, M. 1989. "Valuation Effects of Commercial Bank Securities Offerings," *Journal of Banking and Finance* 13: 443-462.

Sanger, G. and McConnell, J. 1986. "Stock Exchange Listings, Firm Value and Security Market Efficiency: The Impact of NASDAQ," *Journal of Financial and Quantitative Analysis* 21: 1-25.

Shrieves, R. E., and Dahl, D. 1992. "The Relationship Between Risk and Capital in Commercial Banks," *Journal of Banking and Finance* 16: 439-458.

Smith, C. W. 1977. "Alternative Methods for Raising Capital: Rights Versus Under-written Offerings," *Journal of Financial Economics* 5 (1977): 273-307.

_____. 1986. "Investment Banking and the Capital Acquisition Process," *Journal of Financial Economics* 15: 3-29.

Wall, L., and Peterson, P. 1991. "Valuation Effects of New Capital Issues by Large Bank Holding Comoanies." *Journal of Financial Services Research* 5:77-87.

Wansley, J. and Dhillon, U. 1989. "Determinants of Valuation Effects for Security Offerings of Commercial Bank Holding Companies," *Journal of Financial Research* 12: 217-233.

White, H. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," *Econometrica* 48: 817-838.