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The Wealth Effects of Bank Financing Announcements in Highly Leveraged Transactions

WILLIAM A. KRACAW and MARC ZENNER*

ABSTRACT

We analyze the effect of financing announcements of highly leveraged transactions (HLTs) on the stock prices of the banks that lead HLT-lending syndicates. For our sample of 41 HLTs, we document that the first HLT and bank financing announcements result in positive wealth effects for the lending banks. We also find that these wealth effects are lower in 1985, for smaller HLTs, and for banks with a high loan loss reserve to total asset ratio. Finally, we report that Leveraged Buyout (LBO) targets gain about 2 percent, whereas leveraged recap targets lose about 2 percent, when the first bank financing agreement is announced.

HIGHLY LEVERAGED TRANSACTIONS (HLTs) are among the most interesting and controversial corporate transactions of the 1980s. One source of controversy surrounding HLTs results from the substantial involvement of commercial banks in financing HLTs and the public concern that HLT loans undermine the financial stability of lending banks. Bank participation in HLT lending has been criticized by many as a new venture by banks into yet another area that is too risky.[1] This criticism culminated with guidelines for bank examiners on highly leveraged transactions in December 1988.[2]

Others argue, however, that HLT lending is fundamentally more sound than the previous forays by banks into real estate investments and lending to Less

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[1] See "Bankers cautious on buyouts" by Daniel F. Cuff in *The New York Times* (June 9, 1984). This article states "In a banking industry already made anxious by third-world loans and the rescue of Continental Illinois, the fast pace of leveraged buyouts. . .is adding to bankers' anxiety." In the same article, an unnamed banker mentioned that the "risk profile" had risen for leveraged buyouts and that banks are now studying how to manage their exposure more carefully. Finally, another banker says "there is new scrutiny from boards of directors, Wall Street analysts, and regulatory authorities. Undoubtedly, the bank examiners will begin to look at these just based on the negative amount of publicity." These statements are corroborated in, among others, *Financial World* (December 11, 1984), *The American Banker* (April 25, 1985), and *U.S. News* (May 13, 1985).

[2] See "Regulators welcome the chill in the LBO market" in *The American Banker* (October 17, 1989) with a special report on the fallout from the UAL deal.

Developed Countries (LDCs) because it is a highly syndicated process that leads to diversified loan portfolios.[3] To date, however, there has been little academic research that analyzes the effects of HLT lending on participating banks.

In this article, we examine the effect of HLT-related announcements on the wealth of shareholders of banks that lead HLT-lending syndicates. Our sample of HLTs consists of Leveraged Buyouts (LBOs), i.e., highly leveraged transactions in which a publicly traded firm is taken private, and leveraged recapitalizations (recaps), i.e., transactions in which a publicly traded firm substantially increases the debt component in its capital structure without going private.

We examine the first announcement of the HLT and the bank financing announcement for 41 HLTs representing 76 bank financing announcements between 1983 and 1989. For a sample of HLTs that end in financial distress, we examine the first announcement of distress. We also analyze which characteristics of the transaction and the lending bank explain the announcement returns.

Our main results are: (i) The shareholders of banks playing a major role in the HLT-lending syndicate gain about 0.5 percent at the first announcement of the HLT and about 0.4 percent at the announcement that bank financing has been agreed upon; (ii) Announcement returns are lower for 1985 HLTs, for smaller transactions and for banks with a higher loan loss reserves to bank assets ratio; (iii) Bank announcement returns are not different for HLTs that become financially distressed within five years following the transaction, and bank stocks do not react to the announcement that a HLT is financially distressed. Overall, our results cast doubt on the conjecture that HLT lending undermined the interests of bank shareholders.

Furthermore, the gains to bank stockholders rule out the possibility that a wealth transfer from lending bank shareholders to HLT target shareholders has been a source of the previously documented target shareholder gains in HLTs.[4] The lower abnormal returns for 1985 HLTs are consistent with Opler (1992), Kaplan and Stein (1993), and Long and Ravenscraft (1993), who report a deterioration in LBO quality beginning in 1985.

An additional contribution of this article is our analysis of the bank financing announcement effects on the target firms' stock prices. The existing literature has focused on the impact of the first HLT announcements on the target firm and its stakeholders. We examine whether, in addition to the well-

[3] See "Bankers cautious on buyouts" by Daniel F. Cuff in *The New York Times* (June 9, 1984).

[4] Several studies document that LBO target shareholders reap substantial gains when LBOs are announced and propose various hypotheses to explain these gains (see DeAngelo, DeAngelo, and Rice (1984), Lehn and Poulsen (1988, 1989, 1991), Kaplan (1989a, 1989b), Hite and Vetsuypens (1989), Lichtenberg and Siegel (1990), Muscarella and Vetsuypens (1990), and Smith (1990)). The bondholder expropriation hypothesis, for instance, states that debtholder claims can be expropriated by existing equity holders if the financial restructuring increases the firm's financial risk (see Marais, Schipper, and Smith (1989), Asquith and Wizman (1990), Gupta and Rosenthal (1991), Cook, Easterwood, and Martin (1992), and Warga and Welch (1993)).

documented gains realized by target shareholders on the initial announcement of HLTs, gains occur at the announcement of bank financing arrangements. We document that, on average, the bank financing announcements do not add value to the HLT targets. But this average masks the fact that LBO targets gain about 2 percent, whereas targets of recaps lose about 2 percent, when bank financing is announced. Although recaps in our sample are more likely to be defensive than LBOs, this sample characteristic does not explain the difference in target abnormal returns between LBOs and recaps.

The remainder of this article is organized as follows. In Section I, we describe our data collection procedure and our methodology. In Section II, we present and interpret the results on lending bank announcement returns, and in Section III we examine target firm abnormal returns at the announcement of bank financing. We conclude the article in Section IV.

I. Data Collection and Methodology

To collect HLT bank financing announcements, we use *The Wall Street Journal* (WSJ) Full Text database of the Dow Jones News Retrieval Service to identify announcements of LBOs and leveraged recaps for the period between January 1983 and December 1989. We initiate the search with all possible combinations of Leveraged Buyout, Management Buyout, Leveraged Recapitalization, and Highly Leveraged Transaction (HLT) in conjunction with the terms financing, lending, loan, syndicate, and debt. Next, we use the names of all commercial banks listed on Center for Research in Security Prices (CRSP) in conjunction with the HLT-related names of the first search. We also search the *WSJ* for bank financing announcements related to the transactions identified in Denis (1990), Handa and Radhakrishnan (1991), Gupta and Rosenthal (1991), and Denis and Denis (1993).

Because there is no standard definition of what constitutes an HLT, we define an HLT as any transaction reported in the *WSJ* under the name HLT, LBO, MBO, or leveraged recapitalization. Furthermore, we define an LBO as an HLT in which a publicly traded firm is taken private, and a recap as an HLT in which a publicly-traded firm increases debt financing without going private.

While the number of HLTs occurring during the 1983–1989 period is high, our final sample consists of only 41 HLTs representing 76 bank financing announcements.[5] The reason for this small sample size is that most of the *WSJ* announcements do not contain any information on the name of the banks participating in the deal. When they contain information about the bank financing, the announcements usually consist of brief statements such as:

[5] Lichtenberg and Siegel (1990) report 1,334 LBOs between 1981 and 1986, collected from *Mergers and Acquisitions*. Because of data restrictions, most HLT studies examine small samples. Kaplan (1989b), Lehn and Poulsen (1989), Kaplan and Stein (1990), Muscarella and Vetsuypens (1990) and Opler (1992) examine 76, 263, 72, 12, and 42 LBOs respectively, whereas Kaplan and Stein (1990), Handa and Radhakrishnan (1991), Gupta and Rosenthal (1991), and Denis and Denis (1993), examine 31, 42, 27, and 39 leveraged recaps, respectively.

ARA said Chemical Bank and Morgan Guaranty Trust Co. agreed to participate in a bank syndicate to provide financing for the buy-out . . . (WSJ, 09/13/84).

or

Bankers Trust Co., leader of a bank lending group that includes Citibank and Manufacturers Hanover Trust Co., said yesterday that its group is still firmly committed to providing $3.5 billion in loans for the Beatrice buyout . . . (WSJ, 01/09/86)

The requirement that the *WSJ* identify at least one bank in the HLT bank financing syndicate causes our sample to be relatively small,[6] and most likely biases our sample toward larger deals (see our discussion on Panel C of Table I).[7]

In Panel A of Table I, we provide the distribution of the sample by year of the bank financing announcement. The 41 announcements are concentrated in 1985 and 1986, with more LBOs over 1984–1986 and more recaps over 1985–1987. We do not find HLT bank financing announcements for 1983 and 1989, and therefore do not include these years in Panel A.

If financial distress is defined to include bankruptcy filings as well as loan renegotiations, nine of the HLTs in our sample end in distress over the five years following the HLT. These announcements are identified from the *WSJ,* and verified with the Denis and Denis (1995) sample of distressed recaps. Two of the more visible bankruptcy filings in our sample are Revco's (filed on 7/29/88; see Wruck (1991)) and R. H. Macy & Co. (filed on 1/27/92)).

Panel B documents that our HLT bank financing sample consists of 29 LBOs and 12 recaps, and that 19 different banks are mentioned as lead banks for the financing of these HLTs. Although there are fewer recaps than LBOs in general, we have been more successful in finding bank financing announcements for recaps than for LBOs. The fact that recaps are larger, on average, than LBOs, and that bank financing is more important for recaps (see Panel C) may explain the greater information availability for recaps.

In Panel C of Table I, we document that the average (median) size of the HLTs (i.e., the estimated value of securities plus cash paid out) is $1.98 billion ($0.90 billion). The median LBO is smaller at $0.7 billion than the $1.7 billion for recaps (one LBO, the $25 billion RJR deal increases the average size in the

[6] A search of announcements in *The American Banker* did not yield additional observations.

[7] An alternative approach to collecting bank financing announcements from the *WSJ* is to use the SEC filings for the LBO tender offer. There are some disadvantages to this approach. First, the identity of the banks participating in the financing has usually been made public information prior to the SEC filing. In fact, for all but one of the LBOs in our sample, the *WSJ* announced the bank financing prior to the SEC filing date. Thus, informational effects of *WSJ* announcements are likely to dominate those of SEC filings (see Mikkelson and Ruback (1985)). Second, computing bank abnormal returns for a wide window preceding the SEC filing increases the signal to noise ratio because other news relevant to bank stock prices is likely to be made public over such longer windows. Third, recaps are typically not associated with a tender offer and their details not contained in SEC filings.

Table I

Descriptive Statistics

This table provides some descriptive statistics on our sample of 41 Highly Leveraged Transactions (HLTs) representing 76 bank financing announcements over 1984–1988. The sample is categorized by the year of the announcement (in Panel A), the number of banks involved (in Panel B), the size of the transaction, and the risk characteristics of the lending bank (in Panel C), and the specific structure of the financing (in Panel D). ***, **, * indicate a significant difference between the means (medians) of that variable for Leveraged Buyouts (LBOs) and Leveraged Recaps at the 1, 5, and 10 percent level, respectively, using a standard *t*-test (nonparametric medians test).

Panel A: Distribution of the Sample by Year of Announcement

Year of Announcement	Total Number of HLTs	LBOs	Recaps	In Financial Distress 5 Years After the HLT
1984	7	6	1	0
1985	11	8	3	4
1986	14	11	3	3
1987	6	2	4	1
1988	3	2	1	1
Total (1984–88)[1]	41	29	12	9

Panel B: Number of banks involved and type of transaction

	All HLTs	LBOs	Recaps
Number of HLTs	41	29	12
Number of bank announcements	76	59	17
Number of different banks involved	19	19	7

Panel C: General Descriptive Statistics About the Sample

	All HLTs		LBOs		Recaps	
	Mean	Median	Mean	Median	Mean	Median
Transaction size ($ billion) (n = 41; 29; 12)	1.98	0.90	1.95	0.73***	2.06	1.70
Bank loan size ($ billion) (n = 32; 20; 12)	1.63	0.85	1.58	0.55***	1.72	1.45
Proportion of the HLT financed through a bank loan (in %) (n = 32; 20; 12)	72.8	72.1	61.8***	58.3***	91.1	100.0
Lending bank exposure to HLTs over bank equity (in %) (n = 67; 51; 16)	115.0	123.0	120.0*	124.0	99.2	108.0
Loan loss reserve to assets (in %) (n = 73; 56; 17)	1.10	0.91	1.11	0.86	1.05	1.05

Panel D: Additional Information on the Structure of HLT Financing

	Mean	Median
Premium over Libor (n = 15)	2.27%	2.25%
Premium over the U.S. prime rate (n = 17)	1.46%	1.50%
Commitment fee (n = 7)	0.56%	0.50%
Origination fee (n = 5)	0.40%	0.29%
Maturity of the loan (n = 19)	6.93 years	7 years
Mezzanine portion of the financing (n = 16)	$0.733 billion	$0.303 billion
Mezzanine portion of the financing (% of total) (n = 16)	36.01%	35.50%
Investment banking fee (n = 11)	$7.18 million	$1.1 million

[1] We also search 1983 and 1989 for HLT bank financing announcements but do not include these years in the table because we could not find any HLT bank financing announcements in these years.

LBO sample). As expected, our sample consists of larger LBOs compared to other studies. Kaplan (1989b) has a mean (median) transaction value of $524 million ($254 million); and Muscarella and Vetsuypens (1990) have a mean (median) value of $450 million ($105 million).

Banks provide about 72 percent of the financing for the 32 deals for which both the amount of bank financing and the total size of the transaction are available. The proportion of the HLT sample financed through a bank loan is significantly higher for recaps than for LBOs with a mean (median) of 91 percent (100 percent) versus 62 percent (58 percent). The average (median) size of the bank loan in these transactions is $1.63 billion ($0.85 billion).

We construct two measures of a commercial bank's exposure to HLT lending risk: The first measure, the lending bank's exposure to HLTs divided by the bank's equity, is compiled by Bear Stearns as of September, 1990. While we would like to have HLT exposure data that are contemporaneous to the announcement of HLT loans, only six banks reported HLT exposure data in their 1990 annual reports, while other banks reported this information only as of 1991. Average (median) exposure to HLTs in 1990 is 115 percent (123 percent) of bank equity.

The second measure, the ratio of reserves for loan losses at the time of the individual loan announcements to bank assets, is collected from the annual reports and *Moody's Bank and Finance Manuals*. The "reserves for loan losses" show the accumulation of previous provisions for loan losses that are yet to be recognized as losses to equity. Mean (median) loan loss reserves as a percentage of bank assets are 1.1 percent (0.9 percent).

Additional information on the structure of the HLT-financing (partially collected from the *WSJ* articles and proxy statements, partially provided by Steven Kaplan) is presented in Panel D of Table I. HLT borrowers paid a premium of 2.27 percent over Libor and 1.46 percent over U.S. prime. Commitment fees on the unused portion of the lending facility are about 0.5 percent, and origination fees are 0.3 to 0.4 percent. The mezzanine portion of the financing (i.e., junk bonds) constitutes about 35 percent of total financing for the 16 transactions for which we have data. This portion amounts to a mean (median) per transaction of $0.7 billion ($0.3 billion). Finally, investment banks earned an average (median) $7.2 million ($1.1 million) fee per transaction. The figures in Panel D are for LBOs only, because this information is not available for recaps.

Announcement abnormal returns are computed over the two-day period including the day preceding the *WSJ* article and the day of the *WSJ* article using standard event study methodology. Market model parameters are estimated over the 200-day period, from day 250 to day 51 preceding the first HLT announcement. Only the lead lending banks (if any) are typically mentioned in the *WSJ,* whereas several other banks still participate to the HLT financing. Hence it is possible that the market also adjusts the prices of the banks that are most likely to participate to the HLT financing. To examine this possibility, we compute the abnormal returns for a sample of 15 banks that have led HLT syndicates for any of our 41 HLTs and are listed on CRSP. For the abnormal

returns of these 15 banks, we compute the abnormal returns of the 15-bank portfolio instead of the average abnormal returns of the individual banks in the portfolio (see Lamy, Marr, and Thompson (1986) and Smirlock and Kaufold (1987)). Additionally, we eliminate three observations from our tests because of confounding announcements about major layoffs and the rejection of an offer for control (BankAmerica), and a court verdict (MCorp).

II. Wealth Effects of Bank Financing Announcements for Participating Banks

A. Wealth Effects of the First Announcement of the HLT

In Panel A of Table II, we present the wealth effects of the initial HLT announcement for the lead banks of the HLT financing syndicate. Banks gain about 0.5% when the first HLT related announcement is made in the WSJ.[8] Furthermore, the market's reaction is not significantly different between LBOs and leveraged recaps.

To examine whether the market adjusts the prices of all banks that are likely to be involved in HLT financing, we also compute the abnormal returns of a portfolio composed of the 15 banks that are involved in the financing of at least one of the 41 HLTs in our sample and are listed on CRSP.[9] Although market participants do not know with certainty which banks will participate in HLTs, it is possible that they anticipate which banks are the most likely participants in the financing of an HLT. We find that the portfolio of HLT lending banks neither gains nor loses around the first announcement of the HLT.

B. Wealth Effects of the Bank Financing Announcement

In Panel B of Table II, we examine the wealth effects of the announcement that financing for the HLT has been arranged. When the bank financing is announced, the mean abnormal returns for banks leading the HLT syndicate are marginally positive at 0.37 percent. The median abnormal returns are also positive, but not significant. The announcement returns for LBOs and recaps separately are insignificant and not different from each other. In the second row of Panel B, we show that the average announcement returns of a portfolio of 15 banks active in HLT loan syndication are marginally significant at 0.27 percent, while the median returns are insignificant. For the announcements of LBO financing only, the abnormal portfolio returns are 0.41 percent.

[8] This result is surprising because the names of the participating banks are mentioned in the *WSJ* for only eight of the 41 HLTs at the time of the first HLT announcement. It is possible that sophisticated investors know about the identity of the participating banks even though it is not provided in the *WSJ,* or that these investors assess the probability that these banks will be involved in the announced HLT.

[9] Nineteen banks are involved in at least one of the HLTs in our sample. We cannot compute abnormal returns for four of these banks because their returns are not listed on the CRSP tapes (they are foreign banks).

Table II

Wealth Effects of HLT-Related Announcements for Lending Banks

This table describes the wealth effects for commercial banks playing a major role in the lending syndicate (i.e., Highly Leveraged Transaction (HLT) lending banks). Results are reported for (i) the first announcement related to the HLT (in Panel A), (ii) the HLT financing announcement (in Panel B), and (iii) the announcement that an HLT is in financial distress in the five years following the transaction (in Panel C). Financial distress announcements are available for nine of the 41 HLTs in our sample. The sample consists of 76 HLT financing announcements for 41 HLTs over 1984–1988. In the second row of each panel, we report the abnormal returns of a portfolio of the 15 banks (Banks portfolio) that are the lead bank for at least one of the HLTs in our sample *and* are listed on Center for Research in Security Prices (CRSP). Abnormal returns are reported in percent. The *p*-values of a standard *t*-test (nonparametric signs test) that the mean (median) is different from zero are reported in parentheses under the mean (median). ***, **, * indicate a significant difference between the means (medians) of Leveraged Buyout (LBOs) and Leveraged Recaps at the 1, 5, and 10 percent level, respectively, using a standard *t*-test (nonparametric medians test).

	All HLTs		LBOs		Recaps	
	Mean	Median	Mean	Median	Mean	Median
Panel A: First Announcement Abnormal Returns; (−1, 0) Window						
HLT lending banks[1] (n = 69; 52; 17)	0.53	0.46	0.55	0.58	0.45	0.46
	(0.03)	(0.03)	(0.09)	(0.07)	(0.31)	(0.33)
Banks portfolio (n = 41; 29; 12)	−0.11	−0.26	−0.04	−0.26	−0.28	−0.15
	(0.59)	(0.21)	(0.95)	(0.14)	(0.37)	(0.99)
Panel B: Bank Financing Announcement Abnormal Returns; (−1, 0) Window						
HLT lending banks[2] (n = 70; 54; 16)	0.37	0.06	0.43	0.13	0.16	−0.19
	(0.08)	(0.91)	(0.14)	(0.68)	(0.70)	(0.80)
Banks portfolio (n = 41; 29; 12)	0.27	0.06	0.41	0.15	−0.06	−0.17
	(0.08)	(0.75)	(0.02)	(0.71)	(0.85)	(0.99)
Panel C: Abnormal Returns at the Announcement of Financial Distress; (−1, 0) Window						
HLT lending banks (n = 17)	−0.02	−0.27				
	(0.86)	(0.80)				
Banks portfolio (n = 9)	0.40	0.42				
	(0.29)	(0.99)				

[1] Two bank announcements are not included in these summary figures. The Bank of America participation in the Levi Strauss LBO is not included because Bank of America announced the layoff of 1,500 to 2,500 staff of its world banking division the day of the first announcement of the LBO, i.e., 7/12/1985. The MCorp participation in the Squirt LBO is not included because a Texas court found an MCorp unit guilty of fraud on 6/24/1986, the day preceding the first announcement of the LBO.

[2] The Bank of America participation in the Anderson Clayton Leveraged Recap is not included because the Bank of America board of directors announced its rejection of a Sanford Weill offer for control of the Bank the day of the bank financing announcement (3/4/1986).

Overall, the results in Panel B are consistent with the results in Panel A. Bank shareholders gain at the first announcement of the HLT and the HLT bank financing announcement. Moreover, the cumulative abnormal returns over both event windows are about 0.9 percent for the banks leading the finance syndicate.

C. Financially Distressed HLTs

In Panel C, we report that, at the announcement that the HLT target firm is financially distressed, the abnormal returns for lending banks are not significantly different from zero. The financial distress announcements include the first indication that a firm might be financially distressed (e.g., a loan renegotiation or a bankruptcy filing). There are several plausible explanations for the lack of significance of these announcement returns. First, it is possible that by the time the HLT firm is financially distressed, the lead banks have reduced their exposure to the firm. Second, banks may be able to fully recover the loan in the case of distress (because of their seniority or collateral). Third, bank stock prices may already incorporate the distress information because of other announcements such as low earnings announcements or low forecast for the borrower or its industry.

D. Cross-Sectional Analysis of Wealth Effects

Our analysis thus far has focused on univariate comparisons of the HLT financing announcement returns. To evaluate which transaction characteristics affect those returns and to control for the interactions among transaction characteristics, we estimate the following multivariate model:[10]

$$\text{HLT financing announcement abnormal return} = f(\text{HLT exposure, LLR/TA, Ln(size), time of HLT}) \quad (1)$$

HLT exposure is the bank's exposure to HLTs as of September 1990 divided by bank equity. If a higher level of HLT exposure leads banks to have a portfolio that is too risky (i.e., less diversified), or if it increases the likelihood of regulatory interference, then HLT loan announcement returns should be more negative for banks that are more heavily engaged in risky lending. Alternatively, if market participants believe that banks more experienced in HLT lending make better loans, then HLT announcement returns should be more positive for banks with high exposure.

[10] The multivariate regressions reported in the article use the bank financing announcement returns as the dependent variable. In tests not reported in this article, we also estimate these regressions with the first HLT announcement return as a dependent variable. Our explanatory variables do not enter these regressions significantly.

LLR/TA is the reserve for loan losses divided by total assets.[11] Market participants may view banks with high loan loss reserves to total assets ratios as banks that are willing to undertake more risk, or that are not particularly adept at identifying "good" borrowers. This rationale predicts less positive bank returns to the announcement of HLT financing arrangements for banks with high LLR/TA ratios. An alternative interpretation of a higher LLR/TA ratio is that the bank is willing to recognize and deal with deteriorating loans. If a bank is willing to recognize potential losses at an earlier stage, some loan losses may be avoided. Thus, greater reserves could indicate a more conservative strategy in the face of eminent losses, and relate positively to bank announcement returns.

The size of the HLT loan is also included as an explanatory variable. All else equal, the larger the loan, the more concentrated are the fortunes of the bank in a smaller number of firms and the more exposed the firm is to a higher level of firm-specific risk. This interpretation suggests a negative relation between loan size and bank announcement returns. However, if (i) the high degree of syndication involved in HLT lending reduces the firm-specific risk associated with individual loans, and (ii) large loans are more likely to be heavily syndicated, and (iii) the benefits to the banks leading the syndicate are larger for large loans (because of syndication fees), then loan size can relate positively to the bank abnormal returns.[12]

In sum, there are competing predictions about the signs of the coefficients for HLT exposure, LLR/TA, and the loan size. The nature of these relations will be determined empirically.

We also account for the time at which the HLT took place. As discussed in the introduction, HLT lending received greater criticism in the press and in public policy debates in the second part of 1984 and in 1985, perhaps leading the market to scrutinize loan arrangements more carefully. In addition, Opler (1992), Kaplan and Stein (1993), and Long and Ravenscraft (1993) document that LBOs were priced more aggressively during the latter part of the 1980s. Kaplan and Stein (1993) show that premiums paid in LBO transactions increased from 1985 to 1989, with no commensurate increase in current or projected cash flows, or reduction in risk. They also note an increase in defaults on LBO financing over their sample period. Long and Ravenscraft (1993) identify operating improvements for 1981–1984 LBOs, but do not find such improvements for 1985–1989 LBOs. Thus, to account for the changes in HLT characteristics over time and the increased public scrutiny after 1984, we

[11] We also estimate the regressions with five additional measures of bank exposure. The loan loss reserve over equity, the provision for loan losses over assets and equity, and the bank's exposure to LDC lending over assets and equity, all measured at the time of the HLT announcement. The results with the first variable are qualitatively similar to the results with loan loss reserves to assets, and the next four variables fail to enter the regressions significantly.

[12] HLT loans are highly syndicated and the entire loan is not kept in the bank's portfolio, which this variable assumes. We do not, however, have data of the portion of the loan that will be kept in the portfolio of the leading bank.

Table III

Cross-Sectional Analysis of Two-Day Bank Financing Announcement Abnormal Returns

This table provides results from the regression in which the dependent variable is the two-day bank abnormal return to the Highly Leveraged Transaction (HLT) financing announcement. The sample consists of 76 HLT financing announcements for 41 HLTs over 1984–1988. The independent variables are: (i) the exposure of the bank to HLT lending, (ii) the ratio of loan loss reserves to assets for the lending bank, (iii) the natural logarithm of the bank loan, (iv) an indicator variable equal to one if the transaction takes place after 1984 (i.e. in 1985, 1986, 1987, and 1988), and equal to zero otherwise, (v) a dummy variable equal to one if the HLT is classified as an Leveraged Buyout (LBO), and equal to zero otherwise, (vi) a dummy variable equal to one if the HLT target was in financial distress in the five years following the transaction, and equal to zero otherwise. Regression *p*-values are in parentheses.

Independent Variables	(i)	(ii)
Intercept	0.022	0.023
	(0.01)	(0.01)
Exposure to HLT divided by bank equity	−0.001	−0.001
	(0.93)	(0.81)
Reserves for loan losses divided by total assets	−0.668	−0.860
	(0.17)	(0.09)
Natural logarithm of HLT bank loan[1]	0.004	0.004
	(0.07)	(0.08)
Post-1984 dummy variable	−0.013	−0.014
	(0.02)	(0.02)
LBO dummy variable	—	0.001
		(0.80)
Distressed HLT dummy variable	—	0.006
		(0.32)
Adjusted R-Square	0.09	0.08
Regression p-value	0.05	0.09
Sample Size[2]	65	65

[1] If the loan size is not available for a transaction, the natural logarithm of the transaction size is used instead.

[2] The Bank of America participation in the Anderson Clayton Leveraged Recap is not included because the Bank of America board of directors announced its rejection of a Sanford Weill offer for control of the Bank the day of the bank financing announcement, i.e., 3/4/1986.

include an indicator variable that is equal to one for HLTs occurring after 1984, and equal to zero otherwise.

We report our first regression results on bank abnormal returns at the announcement of the HLT financing in model (i) of Table III. The HLT exposure variable is not related to announcement returns. Thus, it appears that the market does not impose a "penalty" on banks announcing that they will lead HLT loans when they have a high exposure to such loans. This result should be interpreted with caution because our HLT exposure variable is an ex post measure that is only available as of 1990. Even if this measure were correlated to the exposure figure at the time of the transaction, market par-

ticipants may not have been aware of this exposure given that banks did not report exposure to HLTs prior to 1990/1991.

The loan loss reserves to total assets variable is also not related to the bank abnormal returns, although it has the predicted negative sign. The positive coefficient on the loan size suggests that bank abnormal returns are higher when the bank loan is larger. This result is consistent with the hypothesis that HLT lending is a highly syndicated process in which the lead bank benefits from greater fee income when the loan is large, and that larger loans have the potential to create greater wealth for bank shareholders.

The negative coefficient on the post-1984 dummy indicates that bank announcement returns are lower for HLTs announced after 1984. This result is consistent with the idea that HLTs became riskier during the latter part of the 1980s and with the findings of Kaplan and Stein (1993) that more failures of LBO firms occurred after 1984. It may also be the case that the transactions themselves were not riskier, but that the banks were more exposed to high risk credits after 1984 and that our two bank risk variables fail to capture this effect. Indeed, during the latter half of the 1980s, problems associated with real estate, foreign, and other high-risk loans became particularly acute. Thus, the market's less positive reaction to HLT loan announcements may have been due as much to the worsened financial condition of participating banks as to the deals themselves being more risky.

One caveat about the post-1984 dummy is in order. From Table I, it is clear that the pre-1985 period only includes 1984 transactions. Thus, it is possible that our results merely capture the fact that 1984 transactions are received more positively. In unreported tests, we replace the post-1984 variable with three dummies equal to one when the loan occurs in 1984, 1985, or 1986, respectively, and equal to zero otherwise. With these specifications, the intercept captures HLTs taking place in 1987 and 1988. We find that the 1984-dummy is marginally positive, the 1985-dummy is significantly negative, the 1986-dummy is insignificant, and the coefficients on other variables are qualitatively unchanged. This result is still consistent with a deterioration in HLT quality beginning in 1985, which is the year Opler (1992), Kaplan and Stein (1993), and Long and Ravenscraft (1993) also associate with a deterioration in LBO quality.

Our data in Table I indicate that recaps and distressed HLTs are more prevalent in the latter part of the 1980s. Thus, to evaluate whether the 1985 effect we report in model (i) is caused by these characteristics of the HLT, two explanatory variables are added in model (ii). The first one is a dummy variable equal to one if the HLT is an LBO and equal to zero otherwise. The second one is a dummy variable equal to one if the HLT target was in financial distress in the five years following the transaction and equal to zero otherwise. The insignificant coefficients on these two indicator variables (model (ii)) suggest that the market does not differentiate between LBOs and recaps and between HLTs that fail and HLTs that succeed in the five years following the transaction. If we define distress in a more conservative way, i.e., to be equal to one only for targets that filed for Chapter 11, and zero otherwise, the results

are similar. Thus, although the market reacted more negatively to announcements of HLT financing after 1984 and more HLTs failed after 1984, there is no evidence that the market penalized banks for participating in the financing of HLTs that eventually failed. This result suggests that the market could not distinguish between HLTs that eventually got into distress and those that did not, or that the market expected banks to fully recover from financial distress (because of their seniority or collateral). In model (ii), the other independent variables retain the coefficients and significance level of model (i). In fact, the reserves for loan losses to total assets variable becomes marginally significant in this regression.

If the fee structure drives the profitability of a deal for the bank, then a large spread over Libor or large upfront fees should increase bank abnormal returns. In unreported tests, we also include the spread over Libor (or over U.S. Prime) and the upfront fees as explanatory variables for the multivariate regressions on bank abnormal returns. These variables do not relate to abnormal returns. This result should be interpreted with caution because our sample size is reduced substantially when we require information on these variables.

III. Abnormal Returns to Target Firm Shareholders

There has been substantial research into the notion that, under asymmetric information, commercial banks provide some valuable information and monitoring services which are not replicated by competing intermediaries.[13] To gauge the impact of HLT bank financing announcements on target firm stock prices, we also examine target firm bank financing announcement returns. In Panel A of Table IV, we first present the target firm abnormal returns at the first HLT announcement. As expected, the target firms' abnormal returns are large and positive. The mean (median) abnormal returns are about 9 percent (7 percent) for all target firms. Of particular interest, however, are the abnormal returns at the announcement that bank financing for the HLT has been arranged (see Panel B of Table IV). To capture the incremental effect of the bank financing announcement on HLT targets, these results exclude eight HLTs for which the bank financing arrangement coincides with the first HLT announcement.

Several interesting results emerge. First, on average, the announcement of a bank financing arrangement does not have an effect on the borrowing firm's equity. This average masks, however, a substantial difference between targets of LBOs and recaps. Over the two-day interval $(-1, 0)$ at the financing announcement, LBO targets realize mean (median) abnormal returns of 1.94 percent (0.92 percent) whereas recap targets only realize a mean (median) abnormal return of -2.08 percent (-0.81 percent).[14]

[13] See Campbell and Kracaw (1980), Diamond (1984), Ramakrishnan and Thakor (1984), James (1987), and Lummer and McConnell (1989).

[14] In fact, for the recaps this announcement effect combined with the effect of the first announcement results in a total recap effect that is not significantly different from zero.

Table IV

Wealth Effects of HLT-Related Announcements for HLT Targets

This table examines the wealth effects on Highly Leveraged Transaction (HLT) target shareholders of (i) the first announcement related to the HLT (Panel A) and (ii) the HLT financing announcement (Panel B), for 41 HLTs occurring over 1984–1988. HLT target firms are firms that undertake a leveraged recapitalization or that are subject to a leveraged buyout offer. Abnormal returns are reported in percent. The *p*-values of a standard *t*-test (nonparametric signs test) that the mean (median) is different from zero are reported in parentheses under the mean (median). ***, **, * indicate a significant difference between the means (median) of Leveraged Buyouts (LBOs) and Leveraged Recap at the 1, 5, and 10 percent level, respectively, using a standard *t*-test (nonparametric medians test).

	All HLTs		LBOs		Recaps	
	Mean	Median	Mean	Median	Mean	Median
Panel A: First Announcement Abnormal Returns; (−1, 0) Window						
HLT target firms (n = 36; 24; 12)	8.95	7.05	11.59**	9.78**	3.67	0.83
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.99)
Panel B: Bank Financing Announcement Abnormal Returns; (−1, 0) Window						
HLT target firms (n = 28; 21; 7)	0.93	0.38	1.94***	0.92**	−2.08	−0.81
	(0.65)	(0.35)	(0.01)	(0.19)	(0.00)	(0.99)

Prior literature on the effects of bank financing announcements on borrower firm stock prices emphasizes the private information banks have about the borrower. Our results suggest that the bank financing announcements resolve the remaining uncertainty about the completion of the LBO or the recap. It is possible that for LBOs, the likely completion of the deal is well received because it typically results in a high tender offer for the LBO target's shares. In contrast, for recaps the bank financing announcement can signify that management will be successful in thwarting an actual or rumored hostile bid. It is also possible that, unlike voluntary recaps, defensive recaps do not lead to improvements in operational efficiency (see Palepu and Wruck (1992)).

To examine this possibility, we classify our sample into defensive and non defensive HLTs using two definitions of what constitutes a defensive HLT. First, we classify an HLT as defensive if the target firm had received a firm outside offer before the recap or LBO was announced. Using this definition, 50 percent of the LBOs and 58 percent of the recaps are defensive. Second, we classify an HLT as defensive if the target firm had received a firm outside offer before management made an offer, if the target firm was rumored to be a takeover target before the HLT, or if another party made a bid for the firm after the recap or LBO was announced. Using this broader definition, 70 percent of the LBOs and 75 percent of the recaps are defensive. Next, we estimate whether the target abnormal returns are related to the defensive nature of the recap or LBO using both definitions of a defensive HLT. Our results suggest, however, that the defensive nature of the HLT does not explain the target firm abnormal returns.

IV. Conclusion

We evaluate the wealth effects of the participation of commercial banks in HLT financing. We find that shares of lending banks gain about 0.5 percent when the HLT is first announced. In addition, at the announcement that financing for the HLT has been agreed upon, shares of participating banks gain another 0.4 percent, which is marginally different from zero. Cross-sectional analysis of the financing announcement abnormal returns to participating banks reveals that bank wealth effects are lower for loan announcements occurring in 1985, for smaller transactions, and for banks with high loan loss reserves to total assets ratios.

We also find that when the bank financing is announced, shareholders of LBO targets gain about 2 percent, whereas shareholders of leveraged recap targets lose about 2 percent. Although LBOs are less likely to be defensive than recaps in our sample, the defensive nature of the transaction does not explain this difference in returns to target shareholders. Our results suggest that HLT financing increased bank shareholder wealth and that gains to target shareholders are not due to a wealth transfer from banks involved in financing the HLT.

REFERENCES

Asquith, Paul, and Thierry A. Wizman, 1990, Event risk, covenants, and bondholder returns in leverage buyouts, *Journal of Financial Economics* 27, 195–214.

Campbell, Timothy, and William E. Kracaw, 1980, Information production, market signalling, and the theory of intermediation, *Journal of Finance* 35, 863–882.

Cook, Douglas O., John Easterwood, and John D. Martin, 1992, Bondholder wealth effects of management buyouts, *Financial Management* 21, 102–113.

DeAngelo, Harry, Linda DeAngelo, and Edward Rice, 1984, Going private: Minority freezeouts and stockholder wealth, *Journal of Law and Economics* 27, 367–401.

Denis, David J., 1990, Defensive changes in corporate payout policy: Share repurchases and special dividends, *Journal of Finance* 45, 1433–1456.

Denis, David J., and Diane K. Denis, 1993, Managerial discretion, organizational structure, and corporate performance, *Journal of Accounting and Economics* 16, 209–236.

Denis, David J., and Diane K. Denis, 1995, Causes of financial distress following leveraged recapitalizations, *Journal of Financial Economics* 37, 129–157.

Diamond, Douglas, 1984, Financial intermediation and delegated monitoring, *Review of Economic Studies* 51, 393–414.

Gupta, Atul, and Leonard Rosenthal, 1991, Ownership structure, leverage, and firm value: The case of leveraged recapitalizations, *Financial Management* 20, 69–83.

Handa, Puneet, and A. R. Radhakrishnan, 1991, An empirical investigation of leveraged recapitalizations with cash payout as takeover defense, *Financial Management* 20, 58–68.

Hite, Gailen L., and Michael R. Vetsuypens, 1989, Management buyouts of divisions and shareholder wealth, *Journal of Finance* 44, 953–970.

James, Christopher, 1987, Some evidence on the uniqueness of bank loans, *Journal of Financial Economics* 19, 217–235.

Kaplan, Steven N., 1989a, Management buyouts: Evidence on taxes as a source of value, *Journal of Finance* 44, 611–632.

Kaplan, Steven N., 1989b, The effects of management buyouts on operating performance and value, *Journal of Financial Economics* 24, 217–254.

Kaplan, Steven N., and Jeremy C. Stein, 1990, How risky is debt in highly leveraged transactions?, *Journal of Financial Economics* 27, 215–245.

Kaplan, Steven N., and Jeremy C. Stein, 1993, The evolution of buyout pricing and financial structure in the 1980s, *The Quarterly Journal of Economics* 108, 313–357.

Lamy, R. E., Wayne Marr, and G. Rodney Thompson, 1986, The Mexican debt crisis, the IMF, and the efficiency of bank share prices, *Studies in Banking and Finance* 3, 203–217.

Lehn, Kenneth, and Annette Poulsen, 1988, Leveraged buyouts: Wealth created or wealth redistributed?, in M. Wiedenbaum and K. Chilton, Eds.: *Public Policy toward corporate mergers* (Transition Books, New Brunswick, New Jersey).

Lehn, Kenneth, and Annette Poulsen, 1989, Free cash flow and stockholder gain in going private transactions, *Journal of Finance* 44, 771–787.

Lehn, Kenneth, and Annette Poulsen, 1991, Contractual resolution of bondholder-stockholder conflicts in leveraged buyouts, *Journal of Law and Economics* 34, 645–673.

Lichtenberg, Frank R., and Donald Siegel, 1990, The effects of leveraged buyouts on productivity and related aspects of firm behavior, *Journal of Financial Economics* 27, 165–194.

Long, William F., and David J. Ravenscraft, 1993, The financial performance of whole company LBOs, Unpublished paper, The University of North Carolina.

Lummer, Scott L., and John J. McConnell, 1989, Further evidence on the bank lending process and the capital market response to bank loan agreements, *Journal of Financial Economics* 25, 99–122.

Marais, Laurentius, Katherine Schipper, and Abbie Smith, 1989, Wealth effects of going private on senior securities, *Journal of Financial Economics* 23, 155–191.

Mikkelson, Wayne, and Richard S. Ruback, 1985, An empirical analysis of the interfirm equity investment process, *Journal of Financial Economics* 14, 523–53.

Muscarella, Chris J., and Michael R. Vetsuypens, 1990, Efficiency and organizational structure: A study of reverse LBOs, *Journal of Finance* 45, 1389–1413.

Opler, Tim C., 1992, Operating performance in leveraged buyouts: Evidence from 1985–1989, *Financial Management* 21, 27–34.

Palepu, Krishna G., and Karen H. Wruck, 1992, Consequences of leveraged shareholder payouts: Defensive versus voluntary recapitalizations, Unpublished paper, Harvard Business School.

Ramakrishnan, Ram, and Anjan Thakor, 1984, Information reliability and a theory of financial intermediation, *Review of Economic Studies* 51, 415–432.

Smirlock, Michael, and Howard Kaufold, 1987, Bank foreign lending, mandatory disclosure rules, and the reaction of bank stock prices to the Mexican debt crisis, *Journal of Business* 60, 347–364.

Smith, Abbie, 1990, Corporate ownership structure and performance: The case of management buyouts, *Journal of Financial Economics* 27, 143–164.

Warga, Arthur, and Ivo Welch, 1993, Bondholder losses in leveraged buyouts, *Review of Financial Studies* 6, 959–982.

Wruck, Karen H., 1991, What really went wrong at Revco?, *Journal of Applied Corporate Finance* 4, 79–92.