

## **Acquisitions and Regulatory Arbitrage by Captive Finance Companies**

**Deborah Drummond Smith**  
**Cleveland State University**

**Mina Glamboosky**  
**Brooklyn College**

**Kimberly C. Gleason**  
**University of Pittsburgh**

**K. Bryan Menk**  
**Duquesne University**

*Captive finance firms play an important role as financial intermediaries. Yet, they receive little attention in financial research. Recently, finance companies have grown by engaging in acquisition activities. Given their unique characteristics, finance companies may be more capable of extracting gains from acquisitions than other firms. We explain their advantages, and assess the market response and long-term valuation of finance companies that engage in acquisitions. Our results indicate that acquisitions by captive finance firms are wealth enhancing in the short term and the long term. However, the market reacts negatively when flexible captive financing firms acquire highly regulated depository institutions.*

### **INTRODUCTION**

Captive finance companies compete with depository financial institutions in the market for loans. The unique characteristics of captive firms affect their ability to compete in the loan market. Since captive finance companies cannot offer insured checkable or savings deposits, they are forced to obtain funding in other ways, which are more expensive than deposits. This may restrict them from channeling their funds to the most credit worthy borrowers, because the spread over their cost may be too narrow.

On the favorable side, finance companies are not subject to the regulations that are imposed on depository institutions. Therefore, they avoid explicit and implicit costs associated with complying with FDIC regulations. This advantage may be especially acute when they attempt to expand, because they have more flexibility to grow the business without being required to boost capital. Conversely, depository institutions are more restricted because of their capital requirements, and must maintain higher capital levels as they grow. Depository institutions are less able to leverage their growth, because they normally raise their capital proportionately in line with their growth in assets. Furthermore, depository institutions may be forced to increase their capital requirement percentage if their new assets are viewed as more risky than their existing assets. In addition, finance companies are more capable of leveraging their

growth to achieve a higher return on equity, which may translate into higher valuations. Thus, finance companies may be rivals to depository institutions for acquisition targets.

Our objective is to estimate valuation effects of acquisitions by finance companies, and also to assess their performance following acquisitions. We find a favorable stock price response to acquisitions by captive finance companies. In addition, parent companies whose captive finance subsidiaries participate in an acquisition experience positive and significant long run returns. The long run returns are more favorable following the acquisition of targets that are not subject to bank regulations.

## **Background**

Captive finance companies are linked with many types of firms, including automobile, financial, and retail companies. They were originally intended to function as the lending arm of their parent companies, and focused on equipment financing or personal loans. In recent years, they have begun to take active roles in the capital markets. Their business focus has branched out from customer financing to commercial real estate, business loan portfolios, and finance receivables. The captive finance company segment is one of the fastest growing in today's financial markets. As captive finance companies continue to grow, they become more attractive to targets as potential acquirers or partners. For example, in 2002, Newbridge Capital acquired Shenzhen Development Bank of China. There was concern by Shenzhen that being acquired by a commercial bank would create a situation where they would be considered an extension of existing operations or just another branch. They actively sought to sell to a non-banking institution thereby avoiding this situation (WorldSources, Inc., 2002).

Captive finance companies have increasingly employed an acquisition strategy to increase their market penetration and scope. For instance, in the case of Textron Financial Corporation, a subsidiary of Textron Inc., the captive firm acquired approximately \$400 million in assets from STI Credit Corporation, a subsidiary of SunTrust Credit. Stephen A. Giliotti, chairman, president and CEO of Textron Financial made the following remarks:

"This strategic acquisition gives us an excellent opportunity to diversify and leverage our existing small business group products using SunTrust Credit's proven origination and service platform. This will allow us to expand our market reach, gain new customers more cost effectively, and achieve 10 to 15 percent growth per year in this business (Business Wire, 2001)."

Finance companies are similar to commercial banks and savings institutions in that they serve the market for loans, equipment leasing, and credit card financing. However, finance companies tend to focus on consumer or small business finance and equipment leasing, while commercial banks traditionally focus on business loans and services, and savings institutions focus on mortgages. As a wholly owned subsidiary of their parent company, the captive finance company can utilize the full backing and financial power of their parent (Remolana and Wulfekuhler, 1992). As a subsidiary of a larger company, the management of a captive finance company is under scrutiny by upper management as well as board members; they experience evaluation of their operations to a greater degree (Subrahmanyam, Ranjan and Rosenstein, 1997). This may constrain their merger and acquisition activity to those that truly maximize shareholder value, rather than growth for its own sake. Captive finance companies have special knowledge of their particular industry when determining the value of a target (Haynes, 1996). They seek targets that will allow them to capitalize on their best business practices leading to profitable expansion.

In addition, there are important regulatory differences between finance companies and depository institutions. While depository institutions can rely on relatively low-cost deposits, finance companies must rely on the issuance of securities, such as commercial paper (Remolana and Wulfekuhler, 1992). This regulatory difference places finance companies at a disadvantage. However, this difference also means that finance companies are not subject to the scrutiny that depository institutions must face as a result of using federally insured depositor funds. Finance companies are subject to oversight by state agencies, but there are no national regulations governing acquisitions by finance companies (Carey, Post,

and Sharpe, 1998). Conversely, depository institutions such as banks and savings institutions are subject to more stringent national regulations when pursuing an acquisition. Bank regulators such as the FDIC must consider the needs of the community (Berger, Demsetz, and Stichtan, 1999). Second, the FDIC cannot approve a bank acquisition that will lessen competition; hence, the application process requires that a potential bank acquirer show evidence that competition will not be reduced (Berger, Demsetz, and Stichtan, 1999). Third, depository institutions are subject to capital requirements, and must ensure that they will satisfy capital guidelines when completing an acquisition (Berger, Demsetz, and Stichtan, 1999). The capital adequacy guidelines are also important because they can affect the market's perception of an acquisition. Even if a depository institution satisfies national regulations regarding its capital adequacy, it may be subject to market concerns that it will have to raise capital in the future to support the integration of the merged companies. The market may penalize an acquirer that will likely need to raise more capital after an acquisition, because its return on equity may be reduced as a result. Unlike depository institutions, captive finance companies can pursue acquisitions without being required to meet specific capital requirements. Thus, finance companies have more financial flexibility when pursuing acquisitions.

## **LITERATURE REVIEW**

### **Research on Captive Finance Companies**

Research on finance companies has been limited. Studies, such as Remolona and Wulfekuhler (1992) have focused on the characteristics of captive finance firms and finance companies. Others, such as Carey, Post, and Sharpe (1998) and Barron, Chong, and Staten (2004) investigate the lending characteristics of captive finance firms. Roberts and Viscione (1981) find that captive firms permit the parent company to take on more debt. Bodnaruk, O'Brien and Simonov (2016) show that parent firms achieve greater market share and profitability by establishing a captive finance subsidiary, although approximately four years is required for benefits to be achieved.

The literature indicates that captive finance subsidiaries improve efficiency within an organization by restructuring the method in which financing functions are handled. They improve upon the internal monitoring and vetting of borrowers, and this facilitates their lending practices. While they sometimes target the market for relatively high-risk borrowers they also compete with other lending institutions in markets for all forms of borrowers (Haynes, 1996).

### **Research on Bank Acquisitions**

The closest research related to acquisitions by finance companies is the large set of studies on acquisitions by commercial banks. Due to deregulation in the banking industry, there has been a surge in the merger and acquisition activity in the bank sector. The approval of interstate banking and the removal of restrictions on in-state branching have resulted in numerous acquisitions by banks and bank holding companies (see Jayaratne and Strahan, (1998) and Calem (1994)). The allowance, by the Federal Reserve, for banks to participate in underwriting activities through "Section 20" affiliates resulted in many banking mergers and acquisitions (see Saunders (1999)). The motives behind banking acquisitions have been examined in several studies. Some evidence exists that the mergers and acquisitions are an attempt to become "too big to fail", and increase access to the Federal Reserve safety net has been documented by Saunders and Wilson (1999). Traditionally only banks or bank holding companies were able to acquire banking targets.

There is evidence that banking acquirers overpay for targets when the interest of management are not properly aligned with those of the firm (Subrahmanyam, Rangan and Rosenstein, 1997). In general, research suggests that commercial banks experienced negative or neutral valuation effects in response to acquisition announcements and weak performance following their acquisitions. However, the results from these studies cannot be used to make inferences about finance company acquisitions, because the structure and operations of finance companies differ from that of a typical commercial bank.

## **HYPOTHESES**

### **Hypothesis Regarding Impact on Wealth**

When captive finance companies acquire non-financial businesses, they can offer financing to the customer base of the target. Thus, they not only generate business, but can enhance the cash flows of a business that they acquire by offering financing to target customers. Captive finance firms may add expertise due to their niche knowledge (Haynes, 1996), and may use this knowledge in the target selection and negotiation of the acquisition. Consequently, we hypothesize that acquisition announcements by finance companies will elicit a favorable market response.

*Hypothesis 1: Captive finance acquisitions will have positive abnormal returns.*

### **Hypothesis Regarding Impact of Acquiring Banking Targets**

A significant portion of captive finance company acquisitions has been focused on depository institutions. When captive finance companies pursue depository institutions, they enter a more regulated environment (Berger, Demsetz, and Strahan, 1999) and cannot capitalize on regulatory arbitrage. Furthermore, the costs of regulatory compliance may be especially high for a parent company that does not have experience with such compliance. Therefore, finance companies are expected to experience less favorable valuation effects when acquiring depository institutions.

*Hypothesis 2: Captive finance acquisitions will have lower abnormal returns if the target firm is a depository institution.*

## **DATA**

The sample of captive finance acquisitions was taken from the Securities Data Corporation (SDC) mergers and acquisitions database. The mergers and acquisitions included ranged from 1980 through 2003. The captive finance firms included are subsidiaries of parent companies listed on the New York Stock Exchange, American Stock Exchange, or NASDAQ. The original dataset was reduced from 1019 to 525 after excluding stock repurchases, self-tender offers, withdrawn offers and firms whose return data was unavailable from CRSP.

Table 1 shows the distribution of captive finance acquisitions by year and SIC code. There is an obvious acceleration in acquisition between 1997 and 2000. This period coincides with a booming economy and the ultimate passage of the Financial Modernization Act. The majority of captive finance companies fall into the 9000 SIC code. The second most prevalent SIC codes are the 6000's representing financial services companies.

**TABLE 1**  
**ANNOUNCEMENTS OF ACQUISITIONS<sup>AB</sup>**

<b>Panel A by Year</b>		
Year of Announcement	Number of Announcements	Percent of Total
1980	1	0.19%
1981	3	0.57%
1982	4	0.76%
1983	8	1.52%
1984	2	0.38%
1985	11	2.10%
1986	11	2.10%
1987	13	2.48%
1988	14	2.67%
1989	17	3.24%
1990	19	3.62%
1991	12	2.29%
1992	13	2.48%
1993	23	4.38%
1994	20	3.81%
1995	29	5.52%
1996	32	6.10%
1997	71	13.52%
1998	69	13.14%
1999	49	9.33%
2000	25	4.76%
2001	29	5.52%
2002	28	5.33%
2003	22	4.19%
<i>Total</i>	525	100%
<i>Announcements</i>		

<sup>A</sup> This panel provides the distribution of announcements by year of acquisition.

<b>Panel B by SIC Code</b>		
SIC Code	Number of Announcements	Percent of Total
1000-1999	1	0.19%
2000-2999	2	0.38%
3000-3999	48	9.14%
4000-4999	18	3.43%
5000-5999	6	1.14%
6000-6999	214	40.76%
7000-7999	11	2.10%
9000-9999	225	42.86%
<i>Total</i>	525	100%
<i>Announcements</i>		

<sup>B</sup> This panel provides the distribution of announcements by SIC code of Target's Primary SIC code.

Descriptive statistics of the operational factors of the acquiring companies are documented in Table 2. The results show that acquirers are large companies that are highly profitable. The mean (median) value of Total Assets is \$201 billion (\$192 billion), with an ROE of 17.89% (20.30%). The firms hold a mean (median) leverage value of 41.38% (47.70%).

**TABLE 2**  
**FIRM CHARACTERISTICS**

This table documents the mean and median values for the acquiring firm in the year prior to the acquisition.

Variable	Mean (Median)
Assets (\$millions)	201,321.27 (192,876.00)
Market Value (\$millions)	118,782.40 (66,105.34)
ROA	2.37 (2.61)
ROE	17.89 (20.30)
Debt to Total Assets	41.38 (47.70)
Cash and Cash Equivalents to Total Assets	0.05 (0.03)

## METHODOLOGY

### Estimating the Impact on Wealth

Event study methodology was used to test the impact of the acquisition announcement on the returns of the acquirer. The event day, designated as day 0, is the original announcement day of the acquisition. Standard event study methodology is used to measure the average abnormal stock returns on the t-days surrounding the event, the ordinary least squares market model is used. A 110-day estimation period was chosen to reflect normal returns in a period where an acquisition did not occur. Abnormal returns for the (0,+1), (-1, +1), (0, 0) and (-1,0) windows are estimated and examined. The CRSP equally weighted index is used as the market proxy; the study was done using Eventus (Cowan, 1999).

### Estimating the Impact on Wealth in the Long-Run

The impact of the acquisition announcement on long-run returns of the acquirer is measured using traditional event study methodology and a buy and hold strategy. The long run abnormal returns are calculated for the six month, one year, eighteen month, two and three year periods.

$$R_T = \prod [1 + R_{it}/n_t] - 1 \quad (1)$$

Where  $R_T$  is the return over the event period of six, twelve, eighteen months etc.  $R_{it}$  is the return on stock I in month t and  $n_t$  is the number of companies that are included in each month (Lyon, Barber, and Tsai, 1999). To evaluate the significance of long-run returns, two control samples were constructed. The first was matched on ultimate parent SIC code, where the matched sample did not participate in an

acquisition over the same time period. The second consists of large banks that may have been affected by the captive finance acquisitions over the same time period.

### **Cross-Sectional Regressions to Determine Characteristics that Effect Wealth**

To explain the variation in wealth effects surrounding the announcement, cross-sectional regression models are used. The cross-sectional models include the hypothesized variables, along with the following control variables. The cross-sectional model is specified as:

$$\text{CAR} = \beta_0 + \beta_1 \text{LNMVL} + \beta_2 \text{CASH} + \beta_3 \text{DEBT} + \beta_4 \text{BANK} + \beta_5 \text{PRE-1999} + \beta_6 \text{EBITDA} + \beta_7 \text{DIVERSE} + \varepsilon_i \quad (2)$$

Where CAR is the cumulative abnormal return over 1 day window, (0,0), LNMVL is the log of market value of acquirer, CASH is cash and cash equivalents divided by total assets of the firm, DEBT is the ratio of total debt to total assets, BANK is a dummy variable equal to 1 if the firm is a banking target, PRE-1999 is a dummy variable equal to 1 if the acquisition occurred prior to passage of the Gramm-Leach-Bliley Act in 1999 (US Senate Committee, 1999), EBITDA is earnings before interest, taxes, depreciation and amortization scaled by total assets, and DIVERSE is a dummy variable equal to 1 if the observation represents an acquisition in another SIC code.

### **Cross-Sectional Analysis of Long-Run Returns**

To explain the variation in wealth effects in the long-run event windows, buy-and-hold returns for 12 months are modeled to be a function of the same variables that are used to explain variation in valuation effects among acquisitions. The cross-sectional model is specified as:

$$\text{BHAR} = \beta_0 + \beta_1 \text{LNMVL} + \beta_2 \text{CASH} + \beta_3 \text{DEBT} + \beta_4 \text{BANK} + \beta_5 \text{PRE-1999} + \beta_6 \text{EBITDA} + \beta_7 \text{DIVERSE} + \varepsilon_i \quad (3)$$

Where BHAR is the buy and hold abnormal return over the 12 month window, and the remaining variables were defined previously.

## **RESULTS**

### **Impact on Wealth**

The effect of the acquisition on the value of the companies in the sample and sub-samples is documented in Table 3.

The cumulative abnormal return for the (0,0) event window is 0.37%, representing a gain of \$44 million for firms with the average market capitalization of \$119 billion. Overall, the captive finance subsidiaries that participated in an acquisition earned significant positive abnormal returns in the event windows surrounding the announcements. The number of positive returns were significantly larger than the number of negative returns at the 5% level. These results support Hypothesis 1 that the acquisition announcement will create significant positive abnormal returns for the captive finance acquirer.

These results support the reasoning that captive finance subsidiaries have access to low cost capital through their parent companies and operate under strict corporate control. The access to available funds allows them to participate in a greater number of acquisitions and the strict corporate control results in a better valuation of the target. There are some differences in the wealth effects on the parent in the event windows; this could indicate a distinction in perception by the market of the targets that are acquired. Next, we explore variation in the abnormal return.

**TABLE 3**  
**CUMULATIVE ABNORMAL RETURNS**

This table provides the mean, median and t-statistics for the cumulative abnormal returns.

Sample Type	No.	CAR EVENT WINDOW				
		(0,+1)	(-1, +1)	(0, 0)	(-1,0)	+/-
Total sample	524	0.44 (0.11) 1.829*	0.38 (-0.06) 0.588	0.37 (0.05) 2.066**	0.31 (-0.09) 0.339	271/253 (1.983)**
Bank Target	54	-0.42 (-0.47) -1.272	-0.48 (-0.22) -1.642	-0.47 (-0.31) -2.077**	-0.52 (-0.27) -2.051**	23/31 (0.687)
Non-Bank Target	470	0.57 (0.16) 2.375**	0.53 (-0.02) 1.192	0.48 (0.09) 2.874***	0.44 (-0.05) 1.130	249/221 (2.376)**
Same 3 Digit SIC Code Target	57	0.10 (0.31) 0.700	0.12 (-0.09) -0.239	0.07 (0.26) 0.317	0.09 (-0.06) -0.553	31/26 (0.981)
Different 3 Digit SIC Code Target	467	0.51 (0.11) 1.845*	0.46 (-0.04) 0.828	0.42 (0.04) 2.178**	0.37 (-0.10) 0.691	241/226 (1.807)*

The symbols \*,\*\*,\*\*\*, and \*\*\*\* denote statistical significance at the 10%, 5%, 1% and 0.1% levels, respectively, using a 2-tail test.

#### **Impact on Wealth by Sub-Sample: Bank vs. Non-Bank**

The majority of targets acquired by captive finance subsidiaries are non-bank targets. When the sample is divided into bank vs. non-bank target, the results show that captive finance subsidiaries that acquired banking targets experience significant negative abnormal returns at the 5% level. For the (0,0) one-day event window mean cumulative abnormal returns were a significant negative abnormal return of 0.47%. This result is consistent with previous research on bank acquisitions, which find negative or insignificant abnormal returns. Conversely, when the captive finance subsidiaries acquired non-banking targets, they experienced significant positive abnormal returns at the 10% level. In the (0,0) one-day event window the return achieved was a significant positive abnormal return of 0.48%.

These results support Hypothesis 2, which states that the acquisition of a banking target will create significant negative abnormal returns. What the results show is that, although captive finance companies are a hybrid of a bank and non-bank company that competes well with banks on some levels, they do not perform well when acquiring banking assets. This may be attributable to the higher degree of complexity or the regulatory constraints in the banking industry.

#### **Impact on Wealth by Sub-Sample: Same vs. Different Industry**

To examine the effect of industry diversification, the sample was divided into targets in the same versus different SIC codes than the acquirer. The majority of targets acquired by captive finance subsidiaries were in a different SIC code. The results show that the parent companies whose captive finance subsidiaries acquired targets that created industrial diversification experienced significant positive abnormal returns at the 5% level. In the (0,0) one-day event window the return achieved was a significant positive abnormal return of 0.42%. The sub-sample of targets in the same SIC code was positive but insignificant.

### Impact on Long-Run Wealth

The effect of the acquisition on the long-run value of the companies in the sample is documented in Table 4.

**TABLE 4**  
**LONG-RUN ABNORMAL RETURNS**

This table provides the mean, t-test statistics (one sample and paired sample), and p-values for the long-run abnormal returns.

<b>LONG-RUN RETURNS EVENT WINDOW</b>						
Sample Type	No.	(1,6)	(1,12)	(1, 18)	(1,24)	(1,36)
Total sample	489	0.080	0.181	0.250	0.372	0.559
		12.335	12.798	14.728	15.948	8.072
		0.000****	0.000****	0.000****	0.000****	0.000****
SIC Matched Control Sample	489	-0.006	-0.041	-0.030	0.049	0.014
		-0.294	-0.994	-0.663	1.132	0.223
		0.769	0.321	0.508	0.258	0.824
Bank Control Sample	489	-0.004	0.010	-0.011	0.047	0.053
		-0.304	0.602	-0.496	1.679	1.394
		0.761	0.547	0.620	0.090*	0.164
Total Sample vs. SIC Code Match Sample	489	0.083	0.223	0.323	0.286	0.532
		4.393	5.685	6.627	8.720	9.923
		0.000****	0.000****	0.000****	0.000****	0.000****
Total Sample vs. Bank Match Sample	489	0.086	0.176	0.263	0.327	0.518
		9.276	12.955	14.748	14.888	17.572
		0.000****	0.000****	0.000****	0.000****	0.000****

The symbols \*, \*\*, \*\*\*, and \*\*\*\* denote statistical significance at the 10%, 5%, 1% and 0.1% levels, respectively, using a 2-tail test.

The results show significant positive abnormal returns for the parents of the captive finance subsidiaries in a long-run time period. The returns are significant at the 0.01% level. The acquisitions created a mean return of 0.372% over the two-year time period with similar results overall. Two matched samples were created with which to compare these results. The first consisted of firms in the same SIC code as the acquirer parent, and the second consisted of banks chosen on the basis of comparable size to the captive finance unit. Neither the SIC matched sample nor the Banking matched sample experienced acquisitions by captive finance subsidiaries over the event periods. While the SIC matched sample showed insignificant abnormal returns overall, the Banking matched sample, which experienced small positive returns at the 10% level of significance in the two-year time period.

The results of the captive finance sample and the control samples were compared to determine if they differed significantly from each other. The captive finance long run returns were significantly different from both the SIC and Banking matched samples in all time periods at the 0.01% level of significance. These results may be credited to the high level of corporate control that captive finance subsidiaries experience. The environment they operate under prevents them from taking part in acquisitions that are motivated by “empire building” or the “hubris hypothesis.”

### Cross-Sectional Analysis of Cumulative Abnormal Return

The results of the multivariate regression on the CARs are displayed in Table 5.

**TABLE 5**  
**CROSS-SECTIONAL REGRESSIONS ON (0,0) CUMULATIVE ABNORMAL RETURNS**

This table provides the results of multivariate regression where CAR, Cumulative abnormal return over 1 day window, (0,0), is the dependent variable. LNMVL = log of market value of acquirer; CASH = ratio of cash and cash equivalents to total assets; DEBT = ratio of debt to total assets; BANK = dummy variable equal to 1 if the target is a bank; DIVERSE = dummy variable equal to 1 if the target from another SIC code; PRE-1999 = dummy variable equal to 1 if the acquisition occurred prior to 1999; EBITDA = earnings before interest, taxes, depreciation, and amortization.

	Model 1	Model 2	Model 3	Model 4
<b>CONSTANT</b>	0.050 (3.647)****	0.409 (3.372)***	0.044 (2.775)***	0.028 (1.787)*
<b>LNMVL</b>	-0.291 (3.975)****	-0.312 (-4.164)****	-0.309 (-4.103)****	-0.258 (-3.431)***
<b>CASH</b>	0.190 (3.007)***	0.167 (2.442)**	0.170 (2.485)**	0.184 (2.640)**
<b>DEBT</b>	0.009 (0.136)	-0.041 (-0.547)	-0.037 (-0.498)	-0.002 (-0.023)
<b>BANK</b>	-0.214 (-3.345)***	-0.238 (-3.665)****	-0.221 (-3.265)***	
<b>DIVERSE</b>			0.055 (0.837)	0.117 (1.816)*
<b>PRE-1999</b>	-0.151 (-2.109)**	-0.156 (-2.146)**	-0.159 (-2.180)**	-0.164 (-2.198)**
<b>EBITDA</b>		0.129 (1.672)*	0.127 (1.644)	0.110 (1.403)
Adj Rsq	12.70%	15.70%	15.60%	11.70%
F-statistic	7.498****	7.635****	6.635***	5.698****
N	226	215	215	215

The symbols \*, \*\*, \*\*\*, and \*\*\*\* denote statistical significance at the 10%, 5%, 1% and 0.1% levels, respectively, using a 2-tail test.

Several models were used to explain the variation in CARs for the captive finance acquisition sample. For all models, the log of market values is negative and significant at the 1% level. The level of liquidity as measured by the ratio of cash and cash equivalents to total assets is positive and significant in each of the four models. This variable is significant at the 5% level or higher, indicating that access to cash increases the positive returns to the acquirer. This is one of the advantages of captive finance subsidiaries discussed earlier. Access to low cost capital through the parent company is a decided advantage. The BANK dummy representing a banking target is included in three of the four models, and it is negative and significant at the 1% level in all three. This is in support of Hypothesis 2 and coincides with the sub-sample univariate results, which indicate that captive finance companies are not able to integrate banking assets successfully. The DIVERSE dummy, representing acquisitions of targets from another industry is insignificant and positive in the presence of the BANK dummy, but significant and positive at the 10% level with the removal of the BANK dummy. These results would seem to support Hypothesis 2, which says that acquiring a banking target creates poor results for the captive finance subsidiary. A variable representing profitability, EBITDA, is positive in the models when it is included.

### Cross-Sectional Regression: Long-Run Abnormal Returns

The results of the multivariate regression on the long-run abnormal returns are displayed in Table 6.

**TABLE 6**  
**CROSS-SECTIONAL REGRESSIONS ON (1,12) LONG-RUN ABNORMAL RETURNS**

This table provides the results of multivariate regression where C112, Long-run abnormal return over 1 year window, (1,12), is the dependent variable. LNMVL = log of market value of acquirer; CASH = ratio of cash and cash equivalents to total assets; DEBT = ratio of debt to total assets; BANK = dummy variable equal to 1 if the target is a bank; DIVERSE = dummy variable equal to 1 if the target from another SIC code; PRE-1999 = dummy variable equal to 1 if the acquisition occurred prior to 1999; EBITDA = earnings before interest, taxes, depreciation, and amortization.

	Model 1	Model 2
CONSTANT	-0.492 (-5.217)****	-0.474 (-5.197)***
LNMVL	0.342 (7.036)****	0.352 (6.995)****
CASH	-0.135 (-2.889)***	-0.135 (-2.893)***
DEBT	-0.095 (-2.106)**	-0.089 (-1.976)**
BANK		0.025 (0.587)
DIVERSE	0.038 (0.935)	
PRE-1999	0.491 (10.816)****	0.493 (10.864)****
EBITDA	0.070 (1.474)	0.165 (1.365)
Adjusted R-squared	24.70%	24.60%
F-statistic	26.12****	26.003****
N	461	461

The symbols \*, \*\*, \*\*\*, and \*\*\*\* denote statistical significance at the 10%, 5%, 1% and 0.1% levels, respectively, using a 2-tail test.

For all models, the log of market value is positive and significant at the 1% level or higher. This coincides with the previous results, which indicate that a larger size is an advantage for the acquirer. The level of liquidity as measured by the ratio of cash and equivalents to total assets is negative and significant in each of the models. This variable is significant at the 1% level or higher; contrary to earlier results liquidity has a negative impact on the long run returns to the acquirer. This could be a penalty for having excess cash available on the parent company level that could be abused by management. The debt to total asset ratio is negative and significant at the 5% level. The obligations when a firm holds debt may be the cause of the negative relationship between debt and long-run returns. The other variables are not significant.

## CONCLUSION

Our objective is to shed light on the performance of captive finance companies in response to their acquisitions. We find that finance companies experience positive and significant abnormal returns upon announcement and post-acquisition. We explain these results with the particular circumstances of the captive finance subsidiary. The subsidiary is accountable to their parent company for the actions that they take and have access to funding through their parent company. The accountability helps to ensure that the acquisitions are value adding. Access to funding lowers the cost of acquiring a target, which benefits the acquirer. This is supported by the cross-sectional analysis showing that the liquidity variable was positive and significant. Finally we see that the market response at the time of the announcement is positive when finance companies acquire non-banking targets. These results indicate that while captive finance companies can succeed in creating positive returns through acquisitions they are negatively impacted when acquiring assets that fall under the strict regulations of the banking industry. This paper was motivated by the unique characteristics of captive finance firms and the benefits they receive from operating without the compliance requirements and regulations of the banking industry. The results of this paper support the decision of firms to establish captive finance subsidiaries.

## REFERENCES

- Barron, J. M., Chong, A. B., & Staten, M. E. (2004). The Emergence of Captive Finance Companies and Risk Segmentation of the Consumer Loan Market: Theory and Evidence. *Journal of Money, Banking and Credit*, 40(1), 173-192.
- Berger, A. N., Demsetz, R. S., & Strahan, P. E. (1999). The consolidation of the financial services industry: Causes, consequences, and implications for the future. *Journal of Banking & Finance*, 23(2), 135-194.
- Bodnaruk, A., O'Brien, W., & Simonov, A. (2016). Captive Finance and Firm's Competitiveness. *Journal of Corporate Finance*, 37(1), 210-228.
- Business Wire, Inc. (2001). Textron Financial Expands Presence in Small Business Market with Acquisition of Assets of STI Credit Corporation. *News Release*, 5 June. [On-line]. Available from <http://www.lexisnexis.com>.
- Calem, P. S. (1994). The impact of geographic deregulation on small banks. *Business Review*, (Nov), 17-31.
- Carey, M., Post, M., & Sharpe, S. A. (1998). Does corporate lending by banks and finance companies differ? Evidence on specialization in private debt contracting. *The Journal of Finance*, 53(3), 845-878.
- Cowan, A. (1999). *Eventus Version 6.3 User's Guide*, Ames, Iowa.
- Haynes, G., & Watts, M. (1996). Finance companies and small business borrowers: an empirical investigation. *Journal of Entrepreneurial and Small Business Finance*, 5(1), 17-42.
- Jayaratne, J. and P.E. Strahan. (1998). Entry Restrictions, Industry Evolution and Dynamic Efficiency: Evidence from Commercial Banking. *Journal of Law and Economics*, 49, 239-274.
- Lyon, J. D., Barber, B. M., & Tsai, C. L. (1999). Improved methods for tests of long-run abnormal stock returns. *The Journal of Finance*, 54(1), 165-201.
- Remolona, E. M., & Wulfekuhler, K. C. (1992). Finance companies, bank competition, and niche markets. *Federal Reserve Bank of New York Quarterly Review*, 17(2), 25-38.
- Roberts, G. S., & Viscione, J. A. (1981). Captive Finance Subsidiaries: The Manager's View. *Financial Management*, 10(1), 36-42.
- Saunders, A. (1999). Consolidation and universal banking. *Journal of Banking & Finance*, 23(2), 693-695.
- Saunders, A. & Wilson, B. (1999). The impact of consolidation and safety-net support on Canadian, US and UK banks: 1893-1992. *Journal of Banking & Finance*, 23(2), 537-571.

- Subrahmanyam, V., Rangan, N., & Rosenstein, S. (1997). The role of outside directors in bank acquisitions. *Financial Management*, 26(3), 23-36.
- US Senate Committee on Banking, Housing and Urban Affairs (1999). Gramm-Leach-Bliley -- Summary of Provisions. Released November 1, 1999. [On-line]. Available from <http://banking.senate.gov/conf/>
- WorldSources, Inc (2002). US control set at Shenzhen bank. News Release, 17 October. [On-line]. Available from <http://www.lexisnexis.com>