

REIT Line of Credit Pricing & The Backyard Effect: Is the Grass Really Greener?

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Submitted to the Department of Urban Studies and Planning and Department of Architecture
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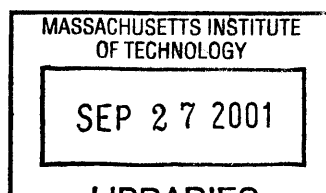
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ABSTRACT

For many reasons outlined in this thesis, line of credit facilities have become an integral part of a REITs capital structure. During this evolution, a possible pricing discrepancy for REIT lines of credit has emerged whereby certain REITs appear to obtain advantageous pricing (as indicated by LIBOR spread) on their lines of credit based on the location of their headquarters or the geographic focus of their operations. We have defined the potential existence of this phenomenon as the “Backyard Effect”. While there are several possible explanations for the existence of such an occurrence, it nonetheless represents a potential market effect that impacts REIT line of credit costs.

Through this thesis, we present market evidence supported by rigorous data and statistical analysis to conclude that the Backyard Effect is apparently present in the market for REIT lines of credit. In addition, we present the following line of credit market background and information: a historical perspective regarding the evolution of REITs and the LOC market, including current and past trends; basic contractual elements and terms as to how these LOC facilities function; and a discussion as to why REITs utilize LOCs and what are the main advantages and disadvantages of this form of financing.

We hope that through this thesis, the reader is provided with a much greater awareness and understanding of the market for REIT lines of credit. Further, and most importantly, by identifying and providing statistical evidence of the existence of a possible pricing effect in the market for REIT lines of credit, we hopefully uncover an issue that will be of value to the multiple market participants.

Thesis Supervisor: Timothy Riddiough

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CHAPTER 1 – INTRODUCTION

Real Estate Investment Trust (“REIT”) lines of credit (“LOCs”) or revolving credit facilities have become a vital component of the modern REIT’s capital structure. As a non-taxable, publicly traded entity, REITs are required by law to distribute 90% of their net income to shareholders. Thus, unlike their corporate, taxable counterparts, they are unable to retain much in the way of earnings for growth purposes. As such, REITs must rely almost solely on the public markets in order to obtain capital, either in the form of debt or equity issuances. Given the expense and timing issues associated with accessing capital in the public markets, REITs required a vehicle to provide them with significant financial flexibility. For this primary capital structure reason, coupled with a resurgence of interest among commercial banks to re-enter the real estate lending arena as the commercial real estate markets recovered during the 1990’s, line of credit facilities were extended to REITs. These LOCs function in a similar fashion to traditional corporate lines of credit, however, due to the capital constraints noted above, REITs are more reliant on these LOCs than most corporations. REITs utilize LOCs to acquire properties, fund development, repay debt and for other corporate purposes. Once a significant amount of the LOC has been drawn upon, the REIT will issue public debt or equity (the timing of which is discretionary and based on market conditions) to pay down the LOC. Through these LOCs, REITs have been able to achieve significant financial flexibility to counter their capital structure constraints.

The primary issuers of LOCs to REITs are commercial banks. Typically, a lead or agent bank will underwrite the LOC issuance and maintain control over its operation during the LOC term. However, for most lines, the agent bank will syndicate out portions of the financial commitment to other banks. The structuring, conditions and terms of LOC agreements are inherently complex with many associated fees and financial covenants. Nevertheless, the primary financial cost to REITs is the interest rate charged by the bank on the amounts drawn under the LOC, which is quoted as either a basis point spread over the London Interbank Offered Rate (“LIBOR”) or the bank’s Prime lending interest rate. It is this interest rate cost or pricing of the LOC, as specified by the LIBOR spread (it is the “spread” that will be considered due to the uniform application of

LIBOR as the underlying interest rate), for a REIT's use of its LOC that forms the main premise for the ensuing thesis.

The primary intention of this thesis is to present evidence supported by statistical analysis and conclusions regarding a possible geographical effect in the pricing of REIT LOCs. Other ancillary intentions of the thesis include providing a greater understanding of the REIT LOC marketplace and identifying current and historical trends through the analysis of collected data. Accordingly, the initial chapters of the thesis will present the following: a brief history of modern REITs; details regarding REIT capital structure; the events that led to the evolution of the LOC marketplace; how LOC facilities function; the main advantages and disadvantages of LOCs for REITs; and specifics regarding the basic contractual elements of REIT LOCs, including LOC types, pricing, financial covenants and line size.

With respect to the thesis LOC pricing effect hypothesis, we have observed some evidence in the LOC marketplace that certain comparable REITs appear to obtain advantageous pricing (as indicated by LIBOR spread) on their lines of credit based on the location of their headquarters or the geographic focus of their operations. We have coined the term "Backyard Effect" for the potential existence of this phenomenon. In order to examine this possible LOC market effect, data from various sources was assembled for 131 equity REITs for the years 1996 to 2000. The data contains key terms from LOC originations and renewals for the above referenced five-year period, providing a total of 308 observations. From this data, geography and agent bank competition variables were generated to test for REIT locational bias of their headquarters and asset (property) concentration, from both a city and regional perspective. In addition to the LOC data, relevant REIT characteristic variables were added to the data set to represent other considerations that agent banks utilize in determining LOC pricing. Substantial preliminary analysis and statistical regressions of the data were conducted in order to attempt to explain whether a geographical LOC pricing effect exists in the marketplace, and if so, why?

Summary Findings

After extensive statistical analysis of the data compiled, there is substantial quantitative evidence that REIT geographic location relative to agent bank location has an influence on line of credit pricing, as specified by LIBOR spread. More specifically, the analysis supports the significance of three main Backyard Effect test variables that were generated from the data set: whether the REIT's headquarters are located in the agent bank region; REIT asset concentration in the agent bank city; and the number of agent banks active in the agent bank region. In all three cases, the preliminary data and multiple regression analysis results demonstrated that if a) a REIT is located in the same region as its agent bank, or b) a REIT has in excess of \$50 million of assets in the agent bank city, or c) there is a greater number of agent banks competing in the agent bank region, its LIBOR spread will be lower than another REIT that does not possess or experience those possible outcomes. The strong statistical evidence of these three measures of REIT/LOC agent bank geography and competition lead us to contend that the Backyard Effect does, in fact, exist in the LOC marketplace.

CHAPTER 2 – MOTIVATION FOR REIT LINES OF CREDIT & MARKET GROWTH

In a sense, a line of credit is an over-sized credit card for commercial enterprises. For a relatively small fee, commercial banks provide companies with a predefined level of credit that can be borrowed and repaid as many times as needed during the term of the facility (subject to certain restrictions, of course). In the industrial world, for example, a line of credit could be used to produce and market a product. Proceeds from the sale of the product would be used to repay the line of credit allowing the process to begin anew.

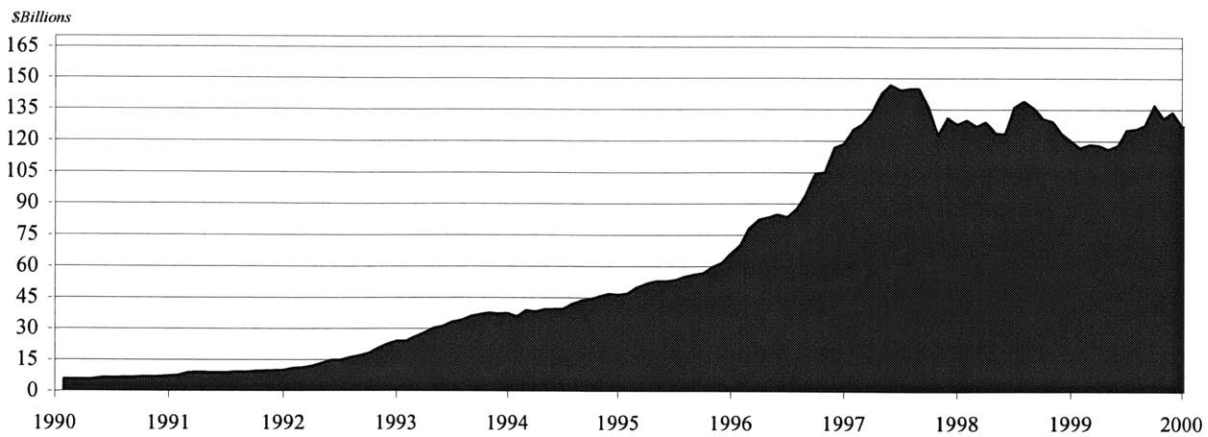
Lines of credit are common in many industries, but until recently they were less common in the real estate industry. During the 1990's, however, lines of credit were a major tool used to propel the REIT industry's growth. Today, most REITs have a line of credit that has become an important component of their overall capital structure. This evolution of the REIT line of credit market and the motivation behind it is the focus of this chapter. First, though, it is important to have a basic understanding of the REIT industry, its history and capital structure.

Short History of REITs

Congress created the REIT structure in 1960 with the stated purpose of enabling “small investors to secure advantages normally only available to those with large resources.”¹ But for many reasons not within the scope of this study, REITs did not fully achieve the desired results until the 1986 tax law change, which allowed internal management and disallowed many of the industry's previous accounting practices and tax advantages. A further refinement to the REIT structure came in the early 1990's when property owners were allowed to contribute properties to REITs without immediate capital gains tax consequences. This structure, known as the UPREIT, coupled with the 1986 tax law changes, led to the rapid expansion of the REIT sector in the early to mid-1990s. In addition, given the liquidity crisis of the private real estate market in the early 1990's, the REIT vehicle became a very attractive recapitalization tool for many struggling real estate companies. REIT equity market capitalization increased from \$6.6 billion in 1990 to a high of over \$144 billion in mid-1998. As of March 1, 2001, REIT equity market capitalization was \$132.7 billion.

¹ Congressional Report, 1960

Monthly Equity Market Capitalization November 1990 to November 2000

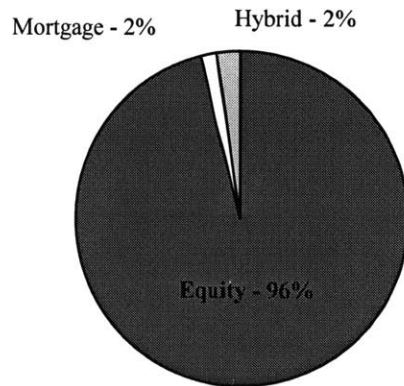


Source: NAREIT

Today there are approximately 300 REITs, although many are very small and/or private companies.² There are also three kinds of REITs – Equity, Mortgage, and Hybrid. Equity REITs primarily own real property and rents are their primary source of cash flow. Mortgage REITs own mortgages on real property or CMBS and receive cash flow based on interest and principal payments on mortgages held. Hybrid REITs are a combination of equity and mortgage REITs. The National Association of Real Estate Investment Trusts (“NAREIT”) maintains a widely used index of REIT equity performance known as the NAREIT Index. This index includes every public REIT, including equity, mortgage, and hybrid REITs. However, as the chart on the next page shows, equity REITs make up the vast majority of the equity market value of the NAREIT index. Public equity REITs are the primary users of the traditional type of lines of credit that are the topic of this thesis. Thus, the focus of this study will be on the lines of credit used by equity REITs that are included in the NAREIT Index.

² NAREIT, *Frequently Asked Questions about REITs*, 2001.

Equity REITs v. Mortgage REITs
Total Market Cap \$138.1 Billion
(As of March 30, 2001)



Source: NAREIT

REIT Capital Structure

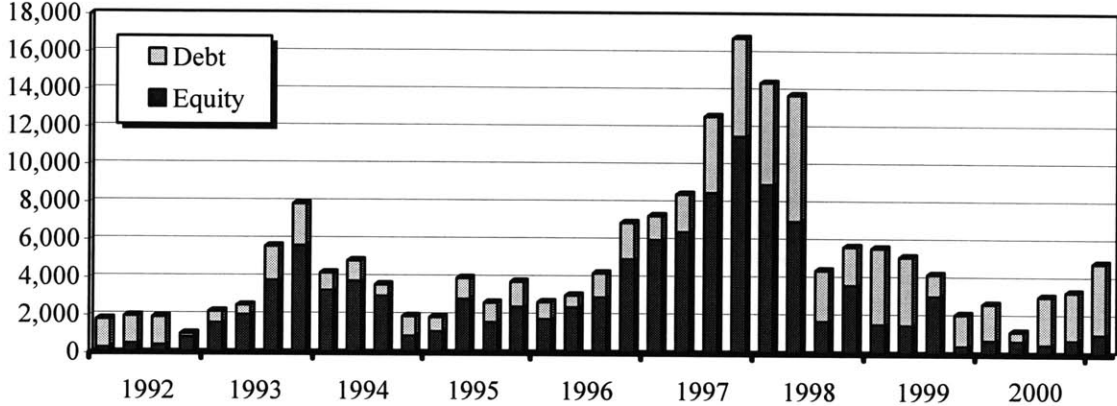
The primary distinction of the REIT structure from the typical C-corp is that REITs are not required to pay federal income taxes. Instead, REITs must distribute 90% of their taxable net income to shareholders (The REIT Modernization Act of 1999 reduced the dividend requirement to 90% of taxable net income from 95% beginning in 2001). The benefits of this structure are obvious, but the large dividend requirement also presents a major operating obstacle for REITs. Specifically, because they must pay out such a large portion of their cash flow, it is difficult for REITs to retain capital for future growth. Consequently, REITs are very dependent on access to the public and private equity and debt markets for their capital requirements. Due to the fact that it is expensive and time-consuming to tap the capital markets, it is more efficient to raise large sums with fewer offerings. As such, it is not practical (and probably would not be possible) for REITs to attempt to issue public equity or debt each time they require capital to acquire properties, repay maturing debt, or for other corporate purposes.

Evolution of the REIT Line of Credit Marketplace

A major issue for REITs in raising public capital for future investment purposes is that the money might have to lie idle until suitable investments can be identified. This was particularly the case in the early 1990s, when the US economy was recovering from a recession that had been

especially devastating to the real estate industry. Real estate assets were trading far below the values of just a few years earlier and private property owners were experiencing serious financial crises. Through REITs, Wall Street offered many of these private companies an opportunity to escape from their cash flow problems and to rapidly grow their companies, as well as substantially increase their founders' net worths. As a result, many private companies were taken public (see graph below), with investors willing to value the companies based on the company's projected cash flows, rather than the cumulative market value of their real estate assets. This prompted a boom in real estate acquisitions since the public companies were flush with offering proceeds and properties were worth more to the public markets than in private markets.

**REIT Quarterly Securities Offerings
(1992-2001 1st Qtr; millions of dollars)**



Source: NAREIT

The rush to acquire assets, along with a strong economy by the mid-1990s, rapidly changed the real estate outlook and the market value of real estate assets. Consequently, the discounted assets that had been very prevalent were no longer as abundantly available; this made it very difficult for REITs to line-up several acquisitions ahead of capital market offerings. In addition, due to the returns that must be paid to investors, it made little business sense to tap the public markets unless the REITs had somewhere to invest the money. It became apparent that REITs required a mechanism to provide more financial flexibility before issuing public capital.

Due in part to the REIT boom, commercial banks desired to get back into real estate lending. Commercial banks had been heavy lenders to the real estate industry in the 1980s and the real estate downturn in the late 1980s and early 1990s resulted in many commercial bank loan defaults.³ Due to this experience, many commercial banks had stopped lending to the industry entirely. The REIT boom presented commercial banks with an opportunity to re-enter the real estate lending business.

REITs were particularly appealing to the commercial banks because they could lend for real estate on more conservative loan structures than in the 1980s, and at higher loan interest rates. In addition, leverage levels were well below those common in the 1980s and borrower information was much more accessible (since REITs were subject to greater disclosure requirements associated with being public companies). Finally, the commercial banks had a full range of financial services besides loans to offer the newly large REITs, including cash management, shareholder services, and derivative products. In 1995, Ken Nelson, who was the then Managing Director of First Chicago/NBD's REIT group observed:

“Banks now realize that REITs, particularly equity REITs, represent the type of customer they seek in their corporate lending departments: a customer that needs many bank services and loan products, a customer whose capital needs are constantly changing, and a customer who values financial flexibility.”

Until the REIT boom, banks had traditionally offered only two types of loans to their real estate customers: secured term loans and secured construction financing. However, with the rapid growth in the REIT sector, the commercial banks saw an opportunity to offer a solution to the REIT capital flexibility problems presented earlier. Traditional secured property-level financing would allow REITs to buy or develop properties ahead of a capital issuance, but these loans were often expensive and cumbersome. As a solution, commercial lenders adopted a credit facility commonly used in other industries – the Line of Credit, or Revolving Credit Facility. The REIT line of credit was immediately successful. In 1990, banks provided fewer than 20 significant

³ Although commercial banks were heavy real estate lenders during the 1980s, they did not have large exposure to the fledgling REIT sector of the period.

credit facilities to REITs. By 1995, the number had grown to over 75 credit facilities.⁴ By the end of 1998, all 76 of the REITs rated by Standard and Poor's had access to a line of credit.⁵

Advantages & Disadvantages of REIT Lines of Credit

For the REIT industry, lines of credit provide working capital for general corporate purposes and for acquisitions and development until the company's next equity or debt issuance. The result is much more flexibility for the REIT in making its financial and operating decisions. For example, instead of trying to tie up potential acquisitions until a public offering or rushing to complete acquisitions after an offering, the REIT can buy assets over time under the LOC. Once a substantial dollar amount has accumulated under the line, the REIT will issue equity or debt, pay down the line of credit, and restart the process.

Lines of credit are advantageous over traditional real estate debt for several reasons. First, and most importantly, there are no pre-payment penalties. In fact, pay downs are often encouraged since the facilities are intended for short-term purposes only and low outstanding amounts are considered to add to company flexibility. Second, a LOC is truly revolving – it can be drawn and paid down numerous times during the life of the facility. Interest expense is only paid on the amount of the facility that is actually outstanding. Third, the collateral for lines of credit is often transferable (meaning assets can be rotated in or out of the collateral base as needed). In addition, lines of credit are available on an unsecured basis for larger and more financially secure REITs. Finally, REIT financial managers have a predefined level of debt readily available, which substantially increases their flexibility and nimbleness. With traditional real estate debt, REIT financial managers would be forced to move much more slowly since they would not know exactly how much debt was available to them. In addition, traditional debt would often take a significant amount of time to close. With LOCs, REITs can have very large sums available with notice as short as a few days.

There are also certain disadvantages to lines of credit. The greatest disadvantage is that lines of credit typically have a floating interest rate, as opposed to the fixed interest rates common with

⁴ Standard & Poor's. "S&P Says Outlook for U.S. REITs Stable but Cautious"

⁵ Ibid.

traditional real estate debt. Consequently, REITs that heavily use lines of credit are often very sensitive to interest rate fluctuations. Another potential disadvantage is that the REITs are subject to much more scrutiny from banks. Traditionally, a bank's collateral was tied to one property and that property's performance. Lines of credit are tied to the performance of the overall company. Thus, banks often require REITs to disclose much more information about the overall company's operations. Banks also consider LOCs as short-term debt. REITs are expected to use the line as needed, but then to reduce its outstanding balance. REITs that are unable to fund paydowns on their LOCs face considerable default risk due to the relatively short maturities of lines of credit. Due to these short-term maturities, it is difficult to "wait out" poor market conditions. Finally, less debt is usually available with lines of credit as compared to traditional debt. Typically, lines of credit limit debt to 50 to 65% of the collateral pool value. Traditional debt, on a property-by-property basis, typically has a much higher advance rate.

A summary table of the advantages and disadvantages of LOCs for REITs is presented below:

<i>Advantages</i>	<i>Disadvantages</i>
➤ Financial & operational flexibility; capital availability	➤ Floating interest rate (spread over LIBOR); interest rate risk
➤ No prepayment fees, can repay at any time	➤ REIT subject to financial and operating covenants
➤ Usually able to draw at any time (with reasonable notice)	➤ Facility structures often complex; time consuming to close
➤ Only pay interest on funds actually used	➤ Banks consider the debt short-term
➤ Line of Credit pricing competitive with traditional real estate financing alternatives	➤ Considerable risk if company unable to refinance or repay at maturity
➤ Lenders often have little control over properties, sometimes unsecured	➤ Most LOCs require fees, in addition to interest expense on outstanding debt
➤ Relatively easy to swap collateral	➤ Greater information disclosure requirements
➤ Terms of 3 years or more; company able to withstand volatility in long-term markets	➤ Less debt available

CHAPTER 3 – BASIC CONTRACTUAL ELEMENTS & TRENDS OF REIT LINES OF CREDIT

Due to federal banking laws and internal “house limits”, REIT lines of credit are usually too large for a single bank to underwrite. Typically, these facilities are underwritten by an “Agent Bank” who then either syndicates or participates smaller pieces of the facility to other banks.⁶ The agent bank can either syndicate the facility on a best efforts basis, where the agent bank does not guarantee that the facility will clear the market as structured and priced, or the agent may fully underwrite the facility and assume all the syndication risks. Each bank in the facility will typically commit anywhere from \$15 to \$65 million. With higher commitments, the other lenders are given titles such as Co-Agent, Documentation Agent, Syndication Agent and other titles.

Types of REIT Lines of Credit

There are two general types of REIT lines of credit – secured and unsecured. When banks began offering lines of credit to REITs, almost all were secured facilities. Soon thereafter, as the facilities evolved, banks began to offer unsecured lines to their stronger REIT customers. As Nelson explains, because real estate loan officers structured and administered the REIT LOCs, the early facilities were somewhat archaic.⁷ Real estate loan officers were adopting a primarily corporate product with which they had little experience. This, however, did not prove to be a major obstacle in the adoption of lines of credit as a source of financing for REITs since it was a new product to most REIT management as well. Consequently, the typical REIT LOC has substantially evolved, and continued to evolve, from the early examples.

Secured Lines of Credit

With secured lines of credit, REITs contribute a pool of properties, often called the Borrowing Base, which is the lender’s collateral and the lender records a mortgage on each property contributed to the Borrowing Base. Usually, the REIT does not contribute all of its properties, only enough to attain the desired amount of credit. In addition, only properties that are

⁶ Syndications are the most common means of selling pieces of a facility. Under this arrangement, the REIT signs a promissory note with each lender. The alternative, which is typically only used for small deals, is participation. In participation, there is only one promissory note, to the agent bank. The agent bank then participates the deal to the other banks.

⁷ Ken Nelson. “REITs and Commercial Lenders: The Evolving Relationship.”

unencumbered are eligible for contribution to the Borrowing Base. In almost all cases, these facilities are fully recourse to the REIT, but they are rarely, if ever, recourse to any of the REIT's management or principals.

Typically, lenders underwrite a line of credit amount that they are comfortable committing to the REIT. This amount is commonly referred to as the Commitment Amount or the Facility Amount. However, the "Advance Rate" on the Borrowing Base actually determines the maximum level of credit available to the REIT. For example, suppose a REIT has secured a line of credit with a \$200 million Commitment Amount and a Borrowing Base with a 50% Advance Rate. To realize the maximum commitment, the REIT would need to contribute properties to the Borrowing Base valued at \$400 million (the properties are often valued by third-party appraisals). If the REIT only contributes properties valued at \$100 million, its maximum availability under the facility is \$50 million, yet it still has the option of contributing more properties if additional availability is required.

One of the greatest benefits to REITs of secured LOCs is that, in most cases, REITs are allowed to add and remove properties from the Borrowing Base (with certain constraints). This flexibility enables the REIT to better take advantage of market opportunities.

Unsecured Lines of Credit

The unsecured line of credit is available to REITs with relatively strong financial conditions. This category is predominantly to REITs that have an investment grade unsecured debt rating from S&P and/or Moody's (better than BBB-/Baa3). Non-investment grade REITs may also have unsecured facilities, but this is less common and is often the result of an anticipated investment grade rating or, in a few cases, financially strong REITs that have decided not to pursue an investment grade rating (i.e. Boston Properties).

An unsecured facility is similar to the secured facility in most respects. The primary distinction is that the lender has no collateral, although the facility usually remains fully recourse to the REIT. The amount available under the facility is usually limited with an unencumbered leverage ratio and/or an unencumbered coverage ratio. With these ratios, called covenants, the REITs are

limited in the total amount of unsecured debt that they can incur relative to their unencumbered assets (typical covenants are discussed in detail below).

The obvious benefit of the unsecured facility is that the REIT completely controls its properties. No approval is required to admit or release a property from the Borrowing Base and the REIT no longer has to pay the costs associated with a secured facility such as recording and legal costs associated with mortgaging properties.

Line of Credit Pricing

The pricing of REIT lines of credit varies greatly, but it is usually the result of the six components shown below. Most facilities will have a combination of these pricing components, but few will have every component.

Line of Credit Pricing Components:

- LIBOR Spread on Outstanding Loan Balance
- Syndication or Agent Fee
- Upfront or Underwriting Fee Payable at Facility Closing
- Annual or Facility Fee
- Term Extension Fee
- Unused Fee or Usage Fee

The LIBOR spread on the outstanding loan balance is usually the largest expense of a line of credit, especially if the facility is heavily utilized. Spreads vary widely, but are usually between 60 and 250 basis points in the current market. For most facilities the base is 30, 60, or 90 day LIBOR, although some facilities allow longer LIBOR terms. Most facilities also have an “alternative base rate” that can be used if LIBOR quotes are not available or at the option of the REIT. The agent bank’s Prime lending rate is a common alternative base rate.

Lines of credit for investment grade rated REITs often have a feature known as a “Bid Line” or “Competitive Bid Option.” The bid line allows REITs to use an auction-like process to ensure that they get the lowest available LIBOR spread on a scheduled draw. The REIT starts the bid line process by informing the agent bank of its intention to draw under the bid facility. The agent

then invites each bank participating in the facility to bid for the outstandings with the lowest LIBOR spread that they are willing to accept and for what amount. The banks with the lowest spreads (and, theoretically, the most need) get the outstandings, while the REIT can get a substantially lower LIBOR spread. The bid line is usually available for outstandings up to certain percentage of the overall facility amount, usually 50% or less. Also, bid lines usually have a restriction on the minimum amount of the draw. Thus, the bid line is advantageous for large draws, but is usually not available for small draws such as those required for general corporate purposes.

The syndication or agent fee is paid to the agent bank to syndicate the line of credit facility. The syndication fee is often higher if the agent bank wholly underwrites the facility (discussed in detail below). The upfront fee is paid to all lenders at closing and is usually a percentage of each bank's commitment amount. Upfront fees are usually in the range of 10 to 35 basis points. Facility fees are also paid as a percentage of a bank's commitment amount. These fees are usually paid annually or quarterly and are in the range of 5 to 15 basis points annually. Often, lines of credit have an extension period of one to two years. The fee for this extension is often prenegotiated, although it is not paid until the extension option is executed.

The unused fee is based on the percentage of the commitment amount that is not used. This fee is often on a sliding scale where the fee (as a percentage) lessens as usage increases. For example, the unused fee might be 10 basis points if usage is less than 20%, but only 2.5 basis points if usage is more than 40%. The intent of this fee is to encourage use of the facility, which would increase the return to the banks. Theoretically, it also allows the lender to underwrite the deal with lower upfront fees, due to the anticipation of spread income from the outstanding balance of the line of credit. If no outstanding loan balance materializes, the unused fee helps the lender recoup some of this lost income. A similar fee, that is less common, is a usage fee. This is exactly the opposite of an unused fee, where the lender wants to encourage the REIT not to use the facility. Unused and usage fees are used less often than the other pricing components presented.

Financial Covenants

Financial covenants are promises and restrictions that are included in the credit agreement for a line of credit. In the underwriting process, a lender becomes comfortable with a REIT's financial capacity, management, strategy, and other characteristics of the company. Because LOCs often have terms of three years or longer, the underwritten REIT could change substantially during the term of the facility. The primary intention of covenants is to assure lenders that the REIT will remain substantially the same as when they underwrote its credit capacity. Financial covenants are the covenants most often discussed, but other common covenants restrict changes in management, insider ownership, and many other issues.

Financial covenants are the most discussed elements of LOCs because they can have the most effect on the company and may restrict certain business opportunities. Thus, for both the REITs and commercial banks, financial covenants are an important negotiating item when structuring a LOC. Obviously, REITs want the least restrictive financial covenants negotiable. The most commonly used financial covenants are discussed below.⁸

Minimum Net Worth - This covenant, which is included in most REIT lines of credit, helps to ensure that new equity is reinvested in the company and not distributed to shareholders or others. It is also important as a benchmark to measure the performance of the company. The Net Worth covenant is calculated differently for each REIT, but all have the stipulation that at least 70% to 100% of net cash proceeds of new equity offerings are added to the REIT's "base net worth" which is often the actual net worth at some previous date.

Consolidated Leverage Ratio - This covenant, which is included in most unsecured lines of credit, limits the REIT on the amount of debt that it can incur. Typically, this covenant is calculated by dividing total liabilities by total assets. In the calculation, total liabilities is usually defined as all GAAP liabilities plus all contingent and guaranteed liabilities. The assets definition may vary somewhat, but would usually include the current market value of assets (usually annualized prior quarter EBITDA capitalized at an appropriate rate) or the REIT's total equity

⁸ Steve Chester of AmSouth Bank and Jim Miller of SouthTrust Bank were interviewed on April 26, 2001. These interviews form the basis for the Financial Covenants discussion.

market value rather than total assets as defined on the REIT's balance sheet. The covenant usually limits the resulting leverage ratio to the 50% to 65% range, depending on property type.

Dividend Payout Ratio - The importance of this covenant is that it limits the amount of distributions the REIT can make to its shareholders. This helps to ensure that the company has sufficient funds to reinvest in the company for capital expenditures and other cash outlays. This covenant usually limits the amount of distributions the company can make to a certain percentage of the REIT's FFO. The percentage is usually 85% to 95%.

Debt Service or Interest Coverage Ratio - This is an overall company coverage ratio that is included in most REIT lines of credit, secured or unsecured. It gives the lender assurance that the company is easily meeting all of its obligations, not just the obligations tied to the Borrowing Base. Although there are many different calculations to this ratio, most include some variation of EBITDA as the numerator. The denominator will also vary from loan to loan and may include interest expense only, interest expense and scheduled principal payments excluding balloons, or an assumed debt service based on actual outstandings amortized over a 20 to 25 period at a specified interest rate. Some facilities also subtract capital expenditures (actual or implied) from EBITDA or add capital expenditures to debt service. The actual ratio required will vary, but is usually at least 1.50:1.00.

Permitted Investment Limitation - This covenant is used to limit the REIT's investment in certain property types, such as development properties or other asset types that the lenders consider more risky than other investments. It may also be used to require that the company be diversified by property type or geography. For example, the covenant usually requires that no more than *X* percentage of a REIT's asset value is invested in a certain city, single property type, or a single asset.

Unencumbered Assets Leverage Ratio - This covenant is included in most unsecured lines of credit. The covenant ensures the lender that there are adequate unencumbered assets to protect any unsecured loan amounts. The idea is that in a worst-case scenario, the unsecured lenders could place a mortgage on the previously unencumbered assets and still have adequate collateral

cushion. The ratio is usually calculated by dividing unsecured liabilities by the unencumbered asset pool value (usually calculated by capitalizing NOI). The typical ratio for this covenant is in the 40% to 67% range. Sometimes, the calculation of the covenant is reversed such that the unencumbered asset pool value is divided by unsecured liabilities to arrive at a ratio.

Unsecured Interest Coverage Ratio - This is another covenant that will be present in most unsecured lines of credit. The purpose of this ratio is to ensure that the borrower's unencumbered asset pool has sufficient cash flow in the event that the unsecured lender is forced to place mortgages on the properties and term out the debt. The ratio is usually calculated by dividing the net operating income of unencumbered properties by the company's unsecured debt interest expense. The typical requirement for this covenant is 1.75 to 2.25 times coverage.

Secured Debt to Asset Value Ratio - This covenant is often incorporated into secured facilities, but is most common in unsecured lines. The purpose of this ratio is to maintain an adequate amount of unencumbered properties should the unsecured lender need to collateralize the debt. The ratio is usually calculated by dividing secured liabilities (which can include mortgages, stock, and partnership interests) by asset value (usually determined by capitalizing property NOI). The ratio required is typically in the 25% to 50% range, but is always less than the overall leverage covenant.

Fixed Charge Ratio - The importance of this covenant is that helps ensure that there is adequate company cash flow after deducting all required fixed payments, including preferred dividends. This ratio is usually calculated by dividing EBITDA by the sum of interest expense, scheduled principal payments, and preferred dividends. The typical ratio requirement is 1.70-2.00 to 1.00.

Line of Credit Trends

Lending Community

According to Loan Pricing Corporation⁹, the leading agent bank for lines of credit is Bank of America, based in Charlotte. Other leading agent banks include Bank One (Chicago), First Union

⁹ Loan Pricing Corporation is a firm that compiles and sells syndicated loan data.

(Charlotte), Wells Fargo (San Francisco), JP Morgan Chase (New York), Wachovia (Winston-Salem), and Fleet (Boston).

Consolidation within the banking sector has had a strong influence on REIT banking in recent years with the acquisition of several leading REIT LOC agent banks. Since 1998, four leading REIT banks have been acquired, with another planned. NationsBank acquired Bank of America, Fleet acquired BankBoston, Bank One acquired First Chicago, Chase acquired JP Morgan, and First Union recently announced that it will acquire Wachovia. This consolidation raises many questions regarding REIT banking. Will these acquisitions cause the REIT market to become more efficient? Will REITs have adequate choices for their commercial banking requirements? It is still too early to answer these questions, but there will definitely be some effect from these mergers. It appears that REIT lines of credit will continue to evolve.

Line of Credit Size and Usage

The commitment amount of LOCs varies greatly with the size and credit strength of each REIT. However, the relative size of REIT lines of credit has grown substantially during the 1990's. According to S&P, of the REITs that it rates, the average size of the facilities grew from \$130 million in 1996 and \$225 million in 1997 to \$300 million in 1998.¹⁰ Some current facilities exceed \$1 billion.

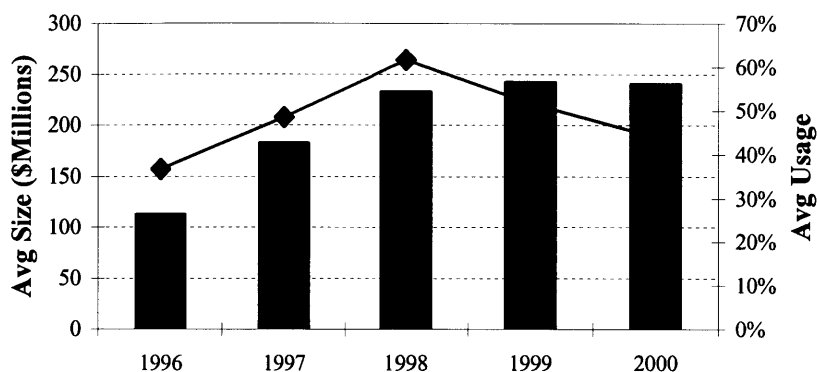
The data presented above pertains only to those REITs rated by S&P. In order to get a sense of trends in the broader market, data was compiled using SNL DataSource, an electronic database of REIT information. The following data from SNL tracks an average of 159 REITs from 1996 to 2000.

The table on the next page shows average REIT LOC size and usage. Average line size grew very rapidly from 1996 through 1998, from \$133 million to \$233 million, an increase of 75% in only two years. After 1998, growth in line size leveled off. At year-end 2000, the average line size was \$241 million.

¹⁰ Standard & Poor's. "S&P Says Outlook for U.S. REITs Stable but Cautious"

Line usage underwent a similar trend. Usage increased from 37% of total LOC commitments in 1996 to 62% at year-end 1998. Evidence suggests that the capital markets were closed to the REITs in late 1998, which forced the REITs to use their lines more or wait longer between capital offerings. Since 1998, however, average line usage has declined, from 52% at year-end 1999 to 44% in 2000.

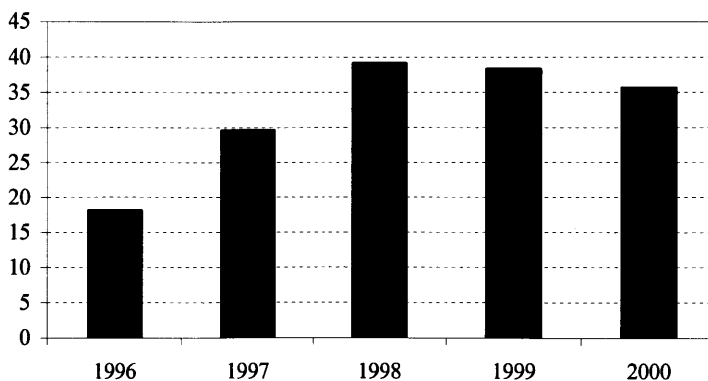
Average Line of Credit Size & Usage



Source: SNL DataSource

The next chart shows the growth in overall LOC commitments (the sum of all LOC commitment amounts). Again, growth was strong until 1998, increasing 116% from \$18.1 billion in 1996 to \$39.1 billion in 1998. After 1998, total commitments decreased, ending 2000 at \$35.6 billion.

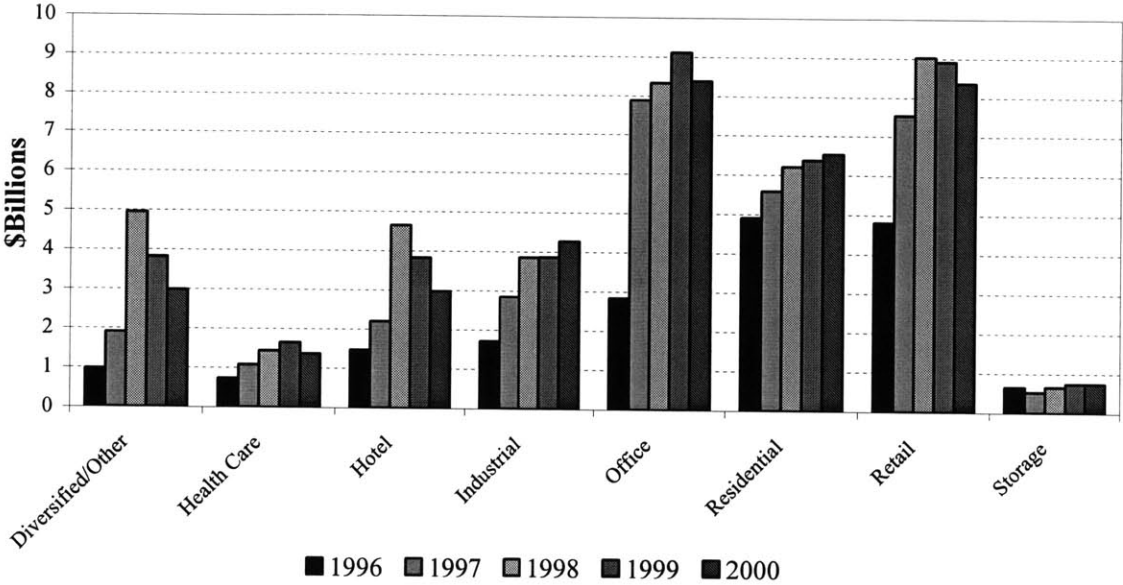
REIT LOC Commitments (\$Billions)



Source: SNL DataSource

The following chart tracks the trends in total line of credit commitments by property type and year. Generally, this data is consistent with the global data presented above. The most notable exceptions are the industrial and residential property sectors. Line of credit commitments in these sectors continued to grow after 1998, although the pace of growth slowed. It is also interested to note that the office and retail sectors have had the largest commitments, followed by residential.

Total REIT LOC Commitments by Property Type 1996 - 2000



Source: SNL DataSource

The above three charts clearly illustrate the dramatic growth and market acceptance of REIT lines of credit during the last five years. With total commitments now exceeding \$35 billion, it appears that lines of credit have become a permanent component of the REIT capital structure.

CHAPTER 4 – THE “BACKYARD EFFECT”

As stated in the thesis introduction, we have identified evidence in the LOC marketplace that certain comparable REITs appear to obtain advantageous pricing (as indicated by their LOC LIBOR spread) on their lines of credit based on the location of their headquarters or the geographic focus of their operations relative to the location of their LOC agent bank. The potential existence of this market effect has been termed the “Backyard Effect”. The impetus for this investigation arose from the observation of a REIT based in Charlotte with LOC pricing below “market” relative to similar REITs located in differing and more remote cities and regions. Three major providers of REIT LOCs (Bank of America, First Union, and Wachovia) are headquartered in North Carolina, two within a mile of the particular REIT’s headquarters. Is this agent bank/REIT locational factor when combined with the REIT’s relatively more favorable LOC pricing mere coincidence? Is this an isolated occurrence or is there some market persistence whereby REIT geography, either in terms of headquarter city and regional location or asset concentration relative to their agent bank, results in increased LOC spread differentials? If such a Backyard Effect does exist in the LOC marketplace, what are the possible explanations for this phenomenon? The remainder of this thesis will attempt to provide answers to the above questions through academic research, data analysis and statistical multiple regression modeling.

In this chapter, comparative studies will be presented as basic evidence of the presence of the potential Backyard Effect in the LOC marketplace. The second portion of the chapter will focus on identifying and discussing three possible theories as to why such a LOC pricing effect may exist in the market for REIT lines of credit.

Comparative Studies

The ensuing comparative studies introduce basic market evidence as an indication of the potential existence of the Backyard Effect. These comparisons consider only basic, easily identifiable comparison variables - the same variables that formed the initial premise for our hypothesis. We recognize and acknowledge that there are many other factors than those identified in these comparisons studies that impact LOC pricing. The statistical analysis presented in Chapter Five includes many other LOC and REIT variables that are considered

important in determining LOC pricing. As such, the analysis in Chapter Five supercedes the basic observations outlined below and attempts to prove in a comprehensive, statistical manner whether the Backyard Effect exists in the LOC marketplace.

The first comparison considers three multifamily REITs: Summit Properties (“Summit”), AMLI Residential Properties (“AMLI”) and Apartment and Investment Management Co. (“AIMCO”). Summit is an investment grade REIT based in Charlotte with a total market capitalization of \$1.7 billion, interest coverage of 4.1 times, and a total debt to market capitalization ratio of 45% at year-end 2000. Summit was issued a \$225 million LOC in September 2000 with a LIBOR spread of 80 basis points; the agent bank for this transaction was First Union, which is also located in Charlotte and literally “across the street” from Summit. AMLI has the same investment grade rating as Summit and is headquartered in Chicago with a total market capitalization of \$878 million, interest coverage of 4.6 times, and a total debt to market capitalization ratio of 42% at year-end 2000. In October 1999, AMLI was issued a \$250 million LOC with a LIBOR spread of 130 basis points; the agent bank for this transaction was Wachovia out of Atlanta. In contrast to the other two REITs, AIMCO is a below investment grade REIT headquartered in Denver with a total market capitalization of \$9.3 billion, interest coverage of 2.6 times, and a total debt to market capitalization ratio of 47% at year-end 2000. AIMCO was issued a \$300 million LOC in January 2000 with a LIBOR spread of 255 basis points; the agent bank for this transaction was Bank of America in San Francisco.

The table below provides a more direct comparison of the REITs’ LOC pricing spreads, various other relevant LOC variables, basic REIT characteristics, and locations of both the REITs’ and agent banks’ headquarters.

REIT	LIBOR Spread (bps)	LOC Date	LOC Amt (\$MM)	LOC Term (mos.)	Debt Rating	Market Cap. (\$MM)	Total Debt to Market Cap.	Interest Coverage	REIT HQ City	Agent Bank	Agent Bank City
Summit	80	9/15/2000	225	36	BBB-	1,701	44.90%	4.11	Charlotte	First Union	Charlotte
AMLI	130	10/12/1999	250	36	BBB-	878	42.08%	4.59	Chicago	Wachovia	Atlanta
AIMCO	255	1/16/2000	350	24	BB+	9,340	46.68%	2.62	Denver	Bank of America	San Francisco

Sources: LPC DealScan, SNL DataSource

Based on the basic comparison criteria detailed above, it is apparent that both AMLI and AIMCO have higher LOC pricing despite relatively the same financial characteristics (with the exception of AIMCO's debt rating, which would account for a portion of the increase in AIMCO's LIBOR spread over both Summit's and AMLI's) as Summit. From a purely financial standpoint, these increased LOC spreads for AMLI and AIMCO over Summit of 50 and 175 basis points, respectively, represent a significant cost disadvantage in utilizing their LOCs. The only glaring differing factor among these three REITs is the fact that AMLI's and AIMCO's headquarters are not located in the same city, or even same geographic region in AMLI's case, as their LOC agent bank. Thus, this leads to the conclusion that REIT and LOC agent bank locational or geographical factors played a role in establishing these significant LOC pricing discrepancies.

The second comparison study involves three comparable office REITs: Boston Properties, Glenborough Realty Trust, Inc. ("Glenborough") and Prime Group Realty Trust ("Prime"). None of these REITs have debt ratings. Boston Properties is based in Boston with a total market capitalization of \$6.2 billion, interest coverage of 2.7 times, and a total debt to market capitalization ratio of 50% at year-end 1998. Boston Properties was issued a \$250 million LOC in March 1998 with a LIBOR spread of 100 basis points; the agent bank for this transaction was BankBoston, which is also located in Boston. Glenborough is headquartered in San Francisco with a total market capitalization of \$1.9 billion, interest coverage of 2.9 times, and a total debt to market capitalization ratio of 48% at year-end 1998. In January 1998, Glenborough was issued a \$250 million LOC with a LIBOR spread of 130 basis points; the agent bank for this transaction was Wells Fargo, also out of San Francisco. In contrast to the other two REITs, Prime's headquarters are situated in Chicago while its agent bank is BankBoston located in Boston. At year-end 1998, Prime's total market capitalization was \$1.1 billion, interest coverage was 2.8 times, and its total debt to market capitalization ratio was 53%. Prime was issued a \$225 million LOC in April 1998 with a LIBOR spread of 150 basis points.

The table below provides a more direct comparison of the REITs' LOC pricing spreads, various other relevant LOC variables, basic REIT characteristics, and locations of both the REITs' and agent banks' headquarters.

REIT	LIBOR Spread (bps)	LOC Date	LOC Amt (\$MM)	LOC Term (mos.)	Debt Rating	Market Cap. (\$MM)	Total Debt to Market Cap.	Interest Coverage	REIT HQ City	Agent Bank	Agent Bank City
Boston Properties	100	3/31/1998	250	24	NR	6,146	50.26%	2.73	Boston	BankBoston	Boston
Glenborough Realty	130	1/13/1998	250	36	NR	1,931	47.76%	2.85	San Francisco	Wells Fargo	San Francisco
Prime Group Realty	150	4/1/1998	225	36	NR	1,113	53.29%	2.82	Chicago	BankBoston	Boston

Sources: LPC DealScan, SNL DataSource

While the LOC pricing spread differentials among these three REITs are not as pronounced as the previous comparative study, based on the very comparable basic parameters in the above table, the 30, 20 and 50 basis point differences do provide some indication of other variables affecting LOC pricing. In particular, BankBoston is the agent bank for both Boston Properties and Prime, yet a 50 basis point spread difference exists despite similar basic financial parameters. While the strength and market capitalization of Boston Properties would account for some of the spread difference, the other very similar factors beg the question as to whether Boston Properties' location in Boston influenced its LOC pricing. The same rationale is present with respect to Glenborough when compared to Prime, although the LIBOR spread difference is reduced to only 20 basis points.

As was previously acknowledged in the prelude to the comparative studies, there could be other more complex variables, both financial and non-financial, affecting these three REITs' LOC pricing. Nevertheless, this does not discount the surface observations that there is a discrepancy in pricing that, all else being equal, could be attributable to locational or geographical differences between the REITs and their LOC agent banks. The analysis contained in Chapter 5 will attempt to provide statistical and quantifiable proof as to whether the basic, observable Backyard Effect presented in the above comparative studies is supportable.

Theories for the Existence of the Backyard Effect

We have identified three primary theories as to why the Backyard Effect might exist in the LOC marketplace, namely: relationship banking causes and effects; LOC agent bank competitive factors; and general real estate and LOC market inefficiencies. The ensuing discussion addresses each one of these theories by presenting the rationale as to how and why each topic could potentially contribute to the Backyard Effect.

1) Relationship Banking

Relationship banking is an area that has been widely documented in terms of academic research and analysis. The basic premise of relationship banking is that by establishing close relationships firms and financial institutions can gain mutually beneficial financial results. For firms, the positive consequences of such relationships may include less expensive financing, access to multiple bank services, greater financial flexibility, and less stringent contract terms. For banks, the motivations and benefits of close relationships with firms may include a captive customer to utilize a host of other bank services, greater access to company information, and less monitoring and administration costs for debt obligations. The term “relationship banking” has many aspects. However, for the purposes of this thesis, the focus will be on the bank-borrower lending relationship as it relates to lines of credit, and more specifically, how it could contribute to the Backyard Effect.

At the most basic level, through lending and LOCs, banks become stakeholders in a REIT as a part of their capital structure. Thus, an inherent financial relationship exists from the outset. In addition, given the nature of LOCs (i.e. greater ongoing management/administration, etc.), they are more relationship based than other bank lending practices such as term loans, which typically are more transaction oriented. The main bank-borrower issue that relationship banking can potentially diminish is that of information asymmetries. More specifically, at the initial lending stage with a new borrower, the bank is faced with the problems of adverse selection and moral hazard regarding borrower credit quality and their ability to repay debt obligations. While information availability is much greater with REITs given their public status, there is still a certain degree of asymmetry (financial and non-financial information) that initially exists. In order to address this issue, banks will structure the pricing, commitment amount, covenants and

other terms of LOC agreements such that they are commensurate with the risks associated with a given REIT. Over time, as information asymmetries decrease and credit history is established, there is evidence that borrowers with longer banking relationships pay lower interest rates and are less likely to pledge collateral.¹¹ Thus, the initial information problems faced by banks diminish to the point where benefits eventually accrue to the borrower in the form of lower costs with less required security.

With respect to the potential Backyard Effect and relationship banking, if from the outset of a agent bank LOC issuance there is more awareness, knowledge and information regarding a REIT customer, the agent bank should have a better comfort level and risk position than otherwise. As such, there is a greater likelihood that the particular REIT will receive more favorable LOC terms, including pricing, than another REIT with whom the agent bank does not possess the same awareness and level of information. Where is such a scenario most likely to occur? It seems apparent that an agent bank would have an informational bias towards a REIT whose headquarters are located in the same city, or to a lesser extent, the same region, as itself. If this were the case, a REIT with headquarters based in another city or region could be at a disadvantage from a LOC terms standpoint, and specifically pricing, when dealing with an agent bank outside of its city or region.

Another area that potentially contributes to the relationship banking rationale for the Backyard Effect is the synergies associated with the agent bank providing an array of services to a REIT customer. As was stated in an earlier chapter of this thesis, REITs have become widely accepted and even sought after by banks for the multiple financial services they require due primarily to their capital structure. This is particularly the case at the local business level where pressures, both internal and external (i.e. political), exist for agent banks and REITs to conduct business together. Thus, there is an impetus for LOC agent banks to establish relationships with REITs located within the same city or region in order to provide additional banking services apart from their LOCs. It is probable that this area of agent bank motivation could result in more favorable pricing and LOC terms for REITs located in the same city or region as the agent bank. This

¹¹ Berger & Udell, *Journal of Business*, 1995, Pg. 352

essentially represents a tradeoff for gaining the financial benefits of providing other banking services to the REIT.

An extension of the local business pressures associated with relationship banking is the ego or hubris factor. This area is more of a social or psychological element that exists within the realm of relationship banking. Nevertheless, despite the immeasurable existence of such a factor, it is most likely present at the local level, and to some degree may have an impact on how aggressive an agent bank might be in pursuing a local REIT customer. In particular, if the REIT is sizable and is very active in the city and region, owning a significant number of assets, there may be a certain element of competitive ego for an agent bank to be the REIT's LOC provider. While it is not possible to quantify such a factor, depending on the competitiveness of the agent bank market, the REIT could receive lower LOC pricing from the local agent bank in order to secure their business. This ego element of relationship banking is by definition rather innocuous and difficult to support. However, if it truly manifests itself as proposed, then it could contribute to the existence of the Backyard Effect.

In general, relationship banking results in significant ongoing financial benefits for both banks and borrowers – this is no different in the market for REIT lines of credit. There are many facets of relationship banking that have distinct causal and effect outcomes, and through the above discussion, we have identified three main areas that could potentially contribute to the existence of the Backyard Effect in the LOC marketplace.

2) Competitive Factors

The market for REIT LOCs has substantially evolved during the 1990's. In the developing stages of the marketplace, LOC sizes were relatively manageable such that there was a proliferation of banks spread across the country that were willing to assume the financial risks associated with underwriting and issuing LOCs. From 1995 onwards, as the credit acceptance and the LOC size requirements of REITs increased, fewer agent banks were capable of undertaking the debt risks, resulting in a more concentrated LOC market, both in terms of the number of agent banks and geographic focus of their operations. Since 1998, the agent bank LOC concentration has been further exacerbated by significant consolidation among several of the major banks, as previously

noted in Chapter 3. From a competitive standpoint, the end result of this agent bank evolution is that from an initial, geographically dispersed and fairly competitive LOC market, the current environment is very concentrated with a handful of major banks controlling the majority of REIT LOCs. Specifically, there are currently only eight predominant LOC agent banks headquartered in six major cities (four of which are on the east coast); this level of concentration potentially has adverse competitive effects on REIT LOC pricing. For example, a REIT located in a city or region with multiple agent banks (i.e. Atlanta, Charlotte, New York) could experience significant competition for its LOC issuance, particularly if relationship banking forces exist or it has a significant presence in the given market. This level of competition could have the effect of driving the REITs LOC pricing downwards. Alternatively, if a REIT is headquartered in a relatively remote location and does not have a significant presence in one of the major agent bank's regions, there will likely not be significant competitive pressures for the REIT's LOC possibly resulting in a disadvantageous pricing spread. It seems apparent that the geographic and agent bank concentration level that has evolved in the LOC marketplace could theoretically contribute towards LOC pricing differentials, and hence the Backyard Effect, depending on the presence or absence of competitive situations at a LOC issuance.

A less discernable competitive factor potentially contributing to the Backyard Effect is that of agent bank reputation or image. Generally, from a competitive standpoint it is very important in the banking community for banks to capture business from their local companies, especially if the bank has a national focus or mandate. The significance of this occurrence displays itself in the form of bank credibility on a larger scale. The existence of such a competitive pressure could produce competitive results that require an agent bank in its own city or region to price a REIT LOC below "market" in order to ensure that it maintains its reputation to leverage into the broader marketplace.

There is little doubt that competitive banking pressures exist in the LOC marketplace. Two particular agent bank factors have been presented where competitive situations may necessitate LOC pricing discrepancies among REITs that are located in different cities or regions. If such competitive agent bank pressures do exemplify themselves in this fashion, they would be contributing to the proposed Backyard Effect.

3) General Real Estate Market Inefficiencies

Historically, the real estate marketplace has been relatively inefficient and non-transparent compared to other major industries. This was primarily due to a general lack of information flow and availability. This was largely the result of a predominantly private based marketplace where information is considered much more proprietary. During the 1990's, real estate made a very significant surge into the public capital markets via real estate investment trusts on the equity side, and commercial mortgage backed securities on the debt side. This movement from private to public interests was borne out of an opportunistic recapitalization of the real estate market after the collapse in the early 1990's. Given the information disclosure requirements and analyst coverage associated with the public markets, the real estate transformation to the public format has had a dramatic effect on information availability. Accordingly, many facets of the industry have become more efficient, and perhaps nowhere is this more apparent than in the pricing of capital, both in terms of debt and equity.

Nevertheless, despite the market efficiency and discipline advances that the public markets have brought, the proportion of the market in the public form still only represents a relatively small fraction of the overall real estate market. This being the case, an argument can be made that, while it may be more efficient than in the past, the real estate market is not a transparent marketplace. As such, the LOC pricing market could undoubtedly be subject to pre-existing real estate market inefficiencies that could be contributing to the existence of the Backyard Effect.

CHAPTER 5 – DATA, PRELIMINARY & STATISTICAL ANALYSIS

This chapter focuses on presenting the data and subsequent analysis that was utilized in order to assess the possible existence of the Backyard Effect in the LOC marketplace. There are three main components to the chapter that will be covered, as follows: data selection, compilation and generation; preliminary data analysis; and statistical regression analysis.

Data Selection, Compilation & Generation

In order to assess and quantify our hypothesis that “geography matters” in REIT LOC pricing, it was determined that the data should comprise a representative, large sample of the main factors or variables that REIT LOC agent banks consider in pricing these facilities. In addition, it was also deemed critical to assemble data over a broad cross-section of the equity REIT industry, and over a significant time period so that outliers would have only a minimal effect on the overall outcome of the analysis. From this sample, it would then be possible to generate the REIT and agent bank locational considerations (“geography variables”) to test the existence of the Backyard Effect in the LOC marketplace.

In accordance with the above, data was selected, compiled and generated for three primary components of the line of credit marketplace as it relates to the Backyard Effect. Firstly, data was compiled on line of credit closings (originations and renewals) for the years 1996 to 2000. Adequate data was available for 308 facilities during this period across all equity REIT property types. Secondly, relevant data was compiled on the specific REITs involved in the 308 line of credit facilities that closed during the five-year period. Lastly, data was generated which was designed to represent geographic and asset concentration between the sample REITs and their respective agent banks.

Data Sources

Very little publicly available information exists with regards to REIT lines of credit. Further complicating the data generation for this thesis, no relevant academic research has been completed on REIT lines of credit. In addition, REIT press releases and SEC documents usually

only contain summary line of credit data such as the amount, agent bank and LIBOR spread. Rarely are covenants, fees, or other information discussed.

After interviewing many individuals from both the banking and REIT industries, it was determined that the most complete data source available for line of credit pricing, covenant and other information was an electronic database published by Loan Pricing Corporation (“LPC”) called DealScan. DealScan provides information on syndicated loans from all industries, including hundreds of syndicated loan facilities involving REITs. This data is accumulated from a number of sources, including league tables direct from the lenders.

Information on REIT characteristics was much more readily available. SNL Securities’ DataSource electronic database was used for most REIT data. Information on outstanding lines of credit was also available via SNL (as opposed to line of credit closings from LPC).

The data obtained from LPC and SNL was supplemented with information from Thomson Financial’s SDC Platinum database, NAREIT, company press releases, and SEC documents as required.

Limiting Factors

Data Limitations

Line of credit fees and covenants are not included in the analysis. Although LPC DealScan is the best source available for syndicated loan terms, the data obtained from facility to facility was very inconsistent. This was especially true in regards to fees and covenants. In the case of fees, the annual fees were available for only about two-thirds of the observations. Upfront fees were available for relatively few facilities.

Likewise, covenants are a major consideration for both the lender and the REIT when negotiating a line of credit. The basic covenants were included in DealScan for most observations, but definitions of the covenants were not provided. It is our opinion that the definitions are absolutely necessary to understand the limitations of the covenants.

We acknowledge that fees and covenants are important determinants in the pricing and negotiating process for lines of credit. It is further acknowledged that these factors could have a substantial effect on the findings of this study. However, this data was either not available or, in our opinion, flawed. Even so, we believe that the findings presented here have significant value and merit.

Another limitation of the data is that there is evidence of a substantial time lag for reporting of line of credit data to LPC. Lines of credit reported in DealScan were only 44 and 23 for 1999 and 2000, respectively, as compared to 91 in 1998. Although it is likely that the number of closings for these years was less than 1998, it is clear that a large number of deals are absent.

Agent Bank Locations

Agent banks may have regional REIT lending offices. However, through interviews with market participants, we determined that the majority of REIT banking is completed through a primary office, usually at the bank's headquarters. Further, facilities originated in regional offices usually must have the approval of senior personnel in the primary REIT banking office. Therefore, for the purposes of this study, we assumed that all REIT banking is completed through the agent bank's primary REIT banking office.

One notable exception to this rule is the result of the Bank of America and NationsBank merger that occurred in 1998. Bank of America was a large REIT lender and a large amount of REIT lending is still done out of their San Francisco office. Thus, we assumed that REIT lending in the western U.S. was completed in the San Francisco office, not the merged bank's headquarters in Charlotte. We also learned that the majority of BankBoston's (Fleet after the merger) REIT banking was completed in Atlanta. We have assumed that all lines of credit from BankBoston were originated in Atlanta. However, if the REIT was based in the Boston area, we assumed the banking was completed in Boston, BankBoston's headquarters. We made this conclusion based upon the assumption that there would be internal and external pressures (the "Backyard Effect") to undertake this "local" business. Lastly, it was also assumed that Wachovia's REIT lending was completed in Atlanta.

Data Variables

The many data variables that were assembled can be divided into two main areas: the primary variables; and the control variables. Within each area, there are multiple variables that were considered relevant to the analysis, the details and set-ups of which are outlined below.

Primary Variables

- i. LIBOR Spread: (Dependent Variable) represented in basis points over the LIBOR rate.
- ii. Geography Variables: Six geography variables were generated from the LOC data information. These variables were intended to capture the varying locational attributes that could potentially contribute to the existence of the Backyard Effect. These attributes were broken down into three areas of consideration: REIT headquarters location with respect to agent bank city and region; REIT asset concentration in relation to agent bank city and region; and two measures of agent bank competition. More specifically:

- REIT Headquarters in Agent Bank City (0/1 variable*)
- REIT Headquarters in Agent Bank Region (0/1 variable)
- REIT Assets in excess of \$50 million in Agent Bank City (0/1 variable)
- REIT Assets in excess of \$100 million in Agent Bank Region (0/1 variable)
- Number of Agent Banks Active in REIT Headquarters Region (by year)
- Total Agent Banks Active in Agent Bank Region (by year)

*for all 0/1 variables, 0 = “no” and 1 = “yes”

In terms of the regional location parameters to determine the above noted geography variables, the country was divided into six geographic regions, as follows:

<u>Region</u>	<u>Region Name</u>	<u>Included States</u>
1	Mid-Atlantic	DC, DE, MD, NJ, NY, PA
2	Mid-West	IL, IN, IA, KS, KY, MI, MN, MO, NE, ND, OH, SD, WI
3	New England	CT, ME, MA, NH, RI, VT
4	Southeast	AL, AR, FL, GA, MS, NC, SC, TN, VA, WV
5	Southwest	CO, NM, OK, TX, UT, LA
6	West	AK, AZ, CA, HI, ID, MT, NV, OR, WA, WY

Control Variables

There are two broad categories of control variables: line of credit terms; and relevant REIT characteristic variables. The specific variables, including generated ratios, within each category are detailed below.

- i. Line of Credit Variables:
 - Facility Amount: The total amount of the line of credit.
 - S&P and/or Moody's Rating: Is the REIT rated? (0/1 variable).
 - Term: The term of the facility in months.
 - Closing Date: Used to capture differences over time.
 - Secured or Unsecured: Is the LOC secured? (0/1 variable).
 - Competitive Bid Option: Does the LOC have a bid option? (0/1 variable).

- ii. REIT Characteristic Variables:
 - Property Type: Dummy variables for nine property types, as follows: office, retail, multifamily, hotel, industrial, mixed (both office and industrial properties), diversified (REIT owns several property types), specialty (any property type that does not fit other categories, including prison and self-storage), healthcare.
 - Total Market Capitalization: The sum of equity market capitalization, preferred stock, and total debt.
 - Total Debt
 - Total Debt to Total Market Capitalization Ratio: This variable measures the REIT's leverage ratio. Total Debt to Gross Asset Value would have been a more telling ratio, but GAV estimates were unavailable. This variable was considered more valuable than balance sheet leverage.
 - Secured Debt: The purpose of this variable, along with Secured Debt ratios below, is to discover information regarding the REIT's financing strategy and its capacity for unsecured debt.
 - Secured Debt to Total Debt Ratio
 - Secured Debt to Total Market Capitalization ratio

- Interest Coverage Ratio: EBITDA divided by Total Interest Expense.
- FFO to Stock Price Multiple: The intent of this variable is to introduce a relative equity market performance measurement into the analysis. Since REITs are dependent on the public capital markets, a variable is necessary that measures the REIT's acceptance by the public markets. A better measure would have been NAV per share to Stock Price, but consistent NAV estimates for all of the REITs included were not available and would have been extremely difficult and time-consuming to accurately estimate.
- Asset Growth: Balance sheet asset growth.
- Line of Credit Usage: What were the outstandings (as a percentage) of the REIT's line of credit at year-end? This is a point-in-time measurement, as opposed to an average. An average would have been more meaningful, but would have been impossible to calculate without consulting each REIT individually.
- Line of Credit Amount to Total Market Capitalization Ratio: Introduced as a measure to determine the relative size of a REIT's LOC as compared to the size of other REIT LOCs.
- Development Activity: Has the REIT had significant development activity over the five-year period (average of \$50 million plus per year)? (0/1 variable).

Data Summary Tables

The following two tables provide a summary of the relevant REIT line of credit characteristics data that was assembled for the ensuing analysis. This synopsis is presented for the data time series (1996 to 2000) and by property type.

REIT Line of Credit Characteristics by Year (1996-2000)

	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>Totals</i>
# of Observations	58	92	91	44	23	308
Total LOC Volume (MM)	8,914	21,818	25,557	10,742	6,943	73,973
Average LOC Amount (MM)	154	237	281	244	302	240
Median LOC Amount (MM)	138	175	200	200	200	175
LIBOR Spread Range (bps)	40 – 300	40 – 200	40 – 275	57.5 – 255	60 – 275	40 – 300
Average LIBOR Spread (bps)	150.0	122.4	121.9	140.6	157.1	132.6
Median LIBOR Spread (bps)	150	125	125	125	155	130.0
Average Term (mos)	26.8	28.5	32.6	27.6	26.0	29.1
# of Observations Rated	18	42	43	27	13	143
% of Observations Rated	31.0%	45.7%	47.3%	61.4%	56.5%	46.4%
# of LOCs Secured	33	39	31	19	8	130
% of LOCs Secured	56.9%	42.4%	34.1%	43.2%	34.8%	42.2%
# of LOCs Unsecured	25	53	60	25	15	178
% of LOCs Unsecured	43.1%	57.6%	65.9%	56.8%	65.2%	57.8%
# of LOCs w/ Competitive Bid Option	5	22	18	11	3	59
% of LOCs w/ Competitive Bid Option	8.6%	23.9%	19.8%	25.0%	13.0%	19.2%

Source: LPC DealScan

REIT Line of Credit Characteristics by Property Type (1996-2000)

	<i>Office</i>	<i>Multifamily</i>	<i>Hotel</i>	<i>Retail</i>	<i>Industrial</i>	<i>Diversified</i>	<i>Specialty</i>	<i>Mixed</i>	<i>Healthcare</i>	<i>Totals</i>
# of Observations	46	48	30	75	16	24	37	20	12	308
Total LOC Volume (\$MM)	13,972.5	10,260.0	7,684.5	16,945.8	4,188.0	8,480.0	5,720.0	4,965.0	1,757.0	73,972.8
Average LOC Amount (\$MM)	303.8	213.8	256.2	225.9	261.8	353.3	154.6	248.3	146.4	240.2
Median LOC Amount (\$MM)	250.0	175.0	209.8	160.0	275.0	187.5	150.0	250.0	112.5	175.0
LIBOR Spread Range (bps)	50 - 250	42.5 - 255	110 - 250	40 - 300	75 - 200	65 - 250	40 - 225	80 - 200	40 - 275	40 - 300
Average LIBOR Spread (bps)	134.1	117.3	173.8	123.1	120.9	135.8	141.6	127.8	115.0	131.9
Median LIBOR Spread (bps)	137.5	112.5	175.0	120.0	117.5	137.5	150.0	120.0	91.3	130.0
Average Term (mos)	30.0	28.4	30.6	26.7	28.4	30.7	30.6	26.6	36.7	29.1
# of Observations Rated	11	29	14	41	11	10	16	5	6	143
% of Observations Rated	23.9%	60.4%	46.7%	54.7%	68.8%	41.7%	43.2%	25.0%	50.0%	46.4%
# of LOCs Secured	20	17	18	30	6	12	10	11	6	130
% of LOCs Secured	43.5%	35.4%	60.0%	40.0%	37.5%	50.0%	27.0%	55.0%	50.0%	42.2%
# of LOCs Unsecured	26	31	12	45	10	12	27	9	6	178
% of LOCs Unsecured	56.5%	64.6%	40.0%	60.0%	62.5%	50.0%	73.0%	45.0%	50.0%	57.8%
# of LOCs w/ Comp. Bid Option	3	18	1	15	5	5	6	4	2	59
% of LOCs w/ Comp. Bid Option	6.5%	37.5%	3.3%	20.0%	31.3%	20.8%	16.2%	20.0%	16.7%	19.2%

Source: LPC DealScan

Preliminary Data Analysis

The purpose of this section is to present the preliminary analysis performed on the data compiled. This analysis clearly illustrates the possible existence of the Backyard Effect.

The table below shows the effects of three primary line of credit variables on the average LIBOR spread. The average spread for the 308 line of credit observations was 131.9 bps. If the facility is unsecured, the average decreases to 115 bps, 41 bps less than secured facilities. Similarly, facilities that are to REITs that are rated or have Competitive Bid Options (“CBO”) have less expensive pricing. Facilities that were not to rated REITs or did not have a CBO were 36 bps and 42 bps more expensive, respectively.

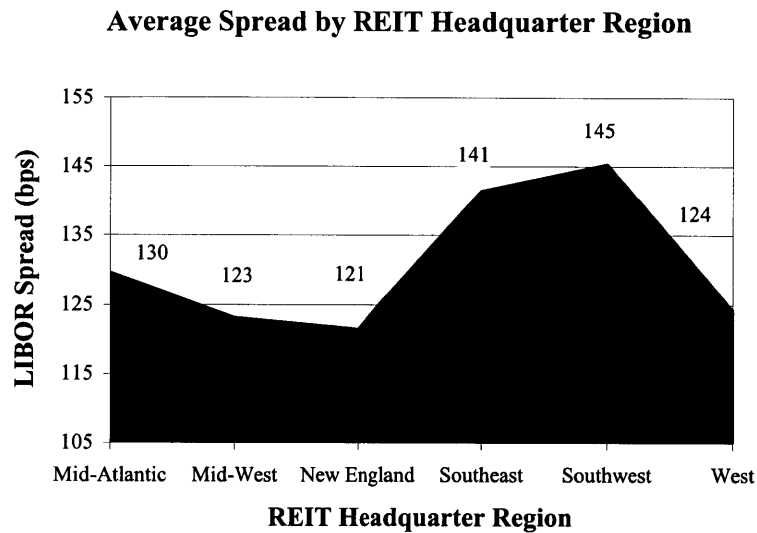
<i>Effect of Main LOC Variables on Average LIBOR Spreads</i>		
# of Observations	308	308 LOCs involving 131 REITs.
Avg Spread - All	131.9	
# of Unsecured Observations	178	Unsecured facilities have lower pricing than those that are secured. This was expected because, generally, only the more financially secure REITs with long and successful operating histories obtain unsecured LOCs.
% Unsecured	57.8%	
Avg Spread - Unsecured	114.7	
Avg Spread - Secured	155.4	
Difference - bps	(40.7)	
# Rated	143	As was expected, REITs with ratings from either S&P or Moody’s had lower spreads. The fact that several REITs have not pursued debt ratings, even though they would likely be rated (i.e. Boston Properties), lessens this effect.
% Rated	46.4%	
% Unrated	53.6%	
Avg Spread - Rated	112.6	
Avg Spread - Unrated	148.6	
Difference - bps	(36.0)	
# w/ Competitive Bid Option	59	This pricing difference was expected since Competitive Bid Options are typically only available to REITs with investment grade ratings (greater than BBB-/Baa3).
% w/ Competitive Bid Option	19.2%	
Avg Spread w/ Competitive Bid Option	97.8	
Avg Spread w/o Competitive Bid Option	139.9	
Difference - bps	(42.1)	

The next table summarizes the results of the analysis on the effects that the geography variables have on average LIBOR spreads. The results of this analysis clearly illustrate the possible existence of the Backyard Effect. Each of the geography variables analyzed had a negative impact on the average spread. We predicted the Backyard Effect to be largest when the REIT’s

headquarters were located in the Agent Bank's city. Surprisingly, assets in the agent bank city and region seemed to have more of an effect on spreads than the REIT's headquarters.

<i>Effect of Geography Variables on Average LIBOR Spreads</i>		
# w/ HQ in AB City	68	Of the 308 LOCs observed, 68 were to REITs HQ'd in the same city as the Agent Bank. The average spread for these REITs was 21.7 bps less than those not HQ's in the same city as the Agent Bank.
% w/ HQ in AB City	22.1%	
Avg Spread w/ HQ in AB City	115.0	
Avg Spread w/o HQ in AB City	136.7	
Difference - bps	(21.7)	
# w/ HQ in AB Region	184	60% of the LOCs were to REITs with HQ's in the same region as their Agent Bank. These REITs had an 8.1 bps pricing advantage.
% w/ HQ in AB Region	59.7%	
Avg Spread w/ HQ in AB Region	128.6	
Avg Spread w/o HQ in AB Region	136.7	
Difference - bps	(8.1)	
# w/ Assets in AB City	173	56% of the LOCs observed were to REITs with over \$50 million in properties located in the Agent Bank city. These REITs had a 26.8 bps pricing advantage.
% w/ Assets in AB City	56.2%	
Avg Spread w/ Assets in AB City	120.1	
Avg Spread w/o Assets in AB City	146.9	
Difference - bps	(26.8)	
# w/ Assets in AB Region	261	85% of the LOCs observed were to REITs with over \$100 million in properties located in the Agent Bank region. These REITs had a 29.8 bps pricing advantage.
% w/ Assets in AB Region	84.7%	
Avg Spread w/ Assets in AB Region	127.3	
Avg Spread w/o Assets in AB Region	157.1	
Difference - bps	(29.8)	
# w/ HQ and Assets in AB City	65	65 LOCs were to REITs that were HQ'd in and had over \$50 million in properties in the same city as their Agent Bank. These REITs had an 18.7 bps pricing advantage.
% w/ HQ and Assets in AB City	21.1%	
Avg Spread w/ HQ & Assets in AB City	117.1	
Avg Spread w/o HQ & Assets in AB City	135.8	
Difference - bps	(18.7)	
# w/ HQ and Assets in AB Region	172	56% of the LOCs were to REITs that were HQ'd in and had over \$50 million in properties in the same city as their Agent Bank. These REITs had an 18.7 bps pricing advantage.
% w/ HQ and Assets in AB Region	55.8%	
Avg Spread w/ HQ & Assets in AB Region	127.1	
Avg Spread w/o HQ & Assets in AB Region	137.9	
Difference - bps	(10.8)	

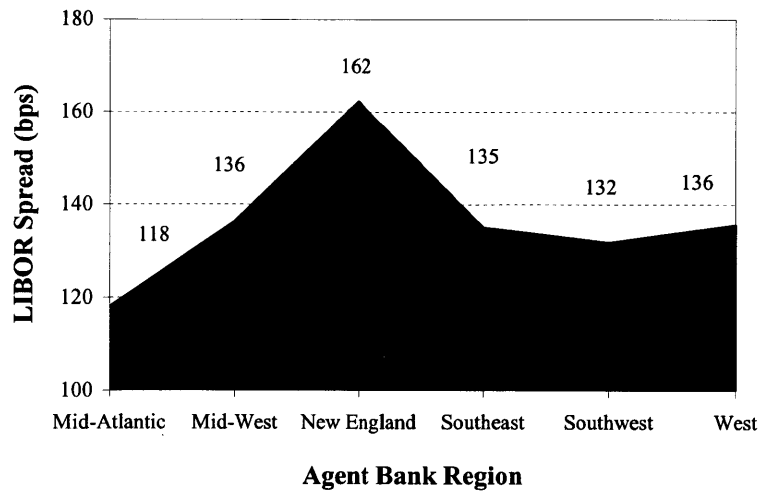
The following two charts illustrate the average LIBOR spread by region with respect to the REIT and Agent Bank. The first chart shows that the average spread between REIT headquarter regions had a difference of up to 14 bps. The Backyard Effect would predict, correctly, that the Southwest region would have the highest pricing since there are fewer agent banks in that region. It is rather surprising, however, that the Southeast region had the second highest average spread since the largest concentration of agent banks is in that region.



Source: LPC DealScan

The next chart depicts the average spread by Agent Bank region, without regard to the REIT's location. We predicted correctly that New England would have the largest spreads and that the Mid-Atlantic would have the lowest. This is due to the fact that BankBoston (and the post-merger Fleet to a lesser extent) appears to target REITs with a higher risk profile, such as those in a specialty property type. In addition, the data points to the fact that BankBoston tends to agent facilities outside of its home region more often than the other banks. The Mid-Atlantic region was expected to have the lowest spreads due to the presence of the Wall Street firms such as JP Morgan and Merrill Lynch, which tend to have lower overall pricing.

Average Spread by Agent Bank Region



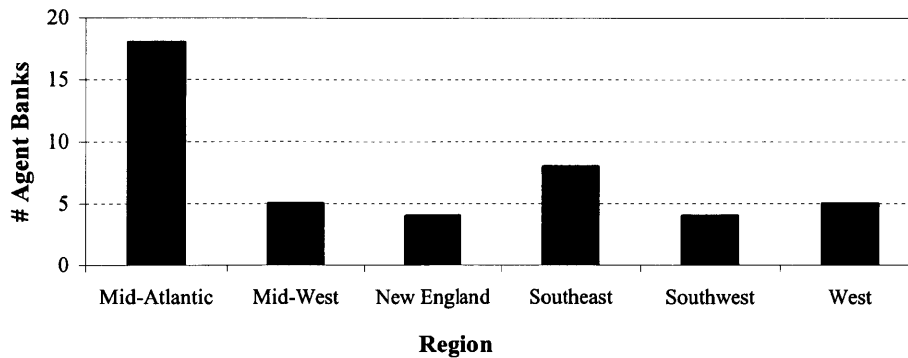
Source: LPC DealScan

The preliminary data analysis with respect to LIBOR spreads detailed in the above tables and charts presents strong evidence as to the existence of the Backyard Effect in the LOC marketplace.

Agent Bank Activity By Region & Consolidation

The chart below presents the number of agent banks by region that were active from 1996 to 2000 in issuing or renewing REIT LOCs.

Number of Active Agent Banks 1996-2000 By Region



Source: LPC DealScan

As the above chart depicts, the region with the most number of agent banks over the five year time period is the Mid-Atlantic. From an agent bank competition standpoint and the potential affect on LIBOR spread, this result is consistent with the previous analysis which demonstrated that the Mid-Atlantic had the lowest LOC pricing spreads among the six regions.

There have been four major agent bank consolidations in the past three years, namely: Bank of America and NationsBank; First Chicago and Bank One; BankBoston and Fleet; and Chase Manhattan and JP Morgan. The table below identifies the major REIT LOC agent banks by region for 1996 to 2000.

<i>Region</i>	<i>Major Agent Banks 1996 - 2000</i>
Mid-Atlantic	Chase Manhattan Bank Bank of New York Union Bank of Switzerland General Motors Acceptance Corp. Donaldson Lufkin & Jenrette Lehman Brothers Deutsche Banc JP Morgan
Mid-West	First Chicago Bank One National City Bank
New England	BankBoston Fleet Bank
Southeast	Wachovia NationsBank First Union
Southwest	Comerica Texas Commerce Bank
West	Bank of America Wells Fargo

The above table demonstrates that, with the exception of the Mid-Atlantic region (the main distinction between this region and the others is the inclusion of the investment banks), there are relatively few major banks that agent REIT LOCs. Further, with the consolidation that has occurred, today the total number of major LOC providers is approximately eight. As discussed earlier in this thesis, the existence of so few major agent banks could reduce LOC competitive pressures for REITs with respect to city or regional locations and potentially contribute to the Backyard Effect.

Statistical Data Analysis

In this section of the chapter, we present and interpret the results of the multiple regression analysis conducted for the previously discussed data set. The initial portion of this section will detail the regression model set-up, variables, define the terms, indicate why they were considered relevant to the analysis, and project the expected coefficient sign results for the regressions. The second half of the section will present the actual results for the three best explanatory regression models, justify omitted variables, identify statistically significant variables, and provide explanations as to how and why the coefficients match (or do not match) the expected results. Most importantly, the regression results will be analyzed in terms of the explanatory significance of the existence of the Backyard Effect.

Regression Model Set-Up

The basic set-up for the regression model consists of LOC pricing as the dependent variable (for “j” observations over “t” time periods) with all the previously defined variables as the independent considerations affecting LOC LIBOR spread. More specifically, the regression model is represented by the following broadly defined formula:

$$\text{LOC LIBOR Spread} = f(\text{REIT/Agent Bank Geography \& Competition, LOC Terms, REIT Characteristics})$$

The ensuing table identifies and defines the regression symbols for each of the independent variables, indicates the relevance of each as it relates to the potential effect on the dependent variable, and provides an expected coefficient sign for each variable in the regression model.

Regression Variables Summary

<i>Variable</i>	<i>Definition</i>	<i>LOC LIBOR Spread Relevance / Measure</i>	<i>Expected Sign</i>
REITHQABCITY	REIT headquarters located in agent bank city	Geography variable; backyard effect test	(-)
REITHQABREGION	REIT headquarters located in agent bank region	Geography variable; backyard effect test	(-)
ASSETSABCITY	REIT assets located in agent bank city	Geography variable; backyard effect test	(-)
ASSETSABREGION	REIT assets located in agent bank region	Geography variable; backyard effect test	(-)
ABSHQREGION	# of agent banks located in REIT headquarter region	Competition variable; backyard effect test	(-)
ABSABREGION	# of agent banks active in agent bank region	Competition variable; backyard effect test	(-)
AMT	LOC amount	LOC credit risk & REIT quality measure	(?)
RATING	Whether REIT has a debt rating or not	LOC credit risk & REIT quality measure	(-)
TERM	LOC term	LOC credit risk & REIT quality measure	(?)
SU	Whether LOC is secured or unsecured	LOC credit risk & REIT quality measure	(+)
BO	Whether REIT has LOC pricing bid option or not	REIT credit quality measure	(-)
OFF	Office property type	Property type / sector performance measure	(?)
MF	Multifamily property type	Property type / sector performance measure	(-)
HOT	Hotel property type	Property type / sector performance measure	(+)
RET	Retail property type	Property type / sector performance measure	(+)
IND	Industrial property type	Property type / sector performance measure	(-)
DIV	Diversified property type	Property type / sector performance measure	(+)
SPEC	Specialty property type	Property type / sector performance measure	(+)
MIX	Mixed property type	Property type / sector performance measure	(-)
HLCR	Healthcare property type	Property type / sector performance measure	(+)
MC	Total REIT market capitalization	REIT size / scale measure	(-)
TD	Total REIT debt	REIT capital structure measure	(+)
TDMC	Total REIT debt to market capitalization ratio	REIT capital structure measure	(+)
SD	REIT secured debt	REIT capital structure measure	(+)
SDTD	REIT secured debt to total debt ratio	REIT capital structure measure	(+)
SDMC	REIT secured debt to total market capitalization ratio	REIT capital structure measure	(+)
ICR	REIT interest coverage ratio	REIT credit risk measure	(-)
FFOMUL	REIT FFO multiple	REIT credit risk / quality measure	(-)
AG	REIT asset growth	REIT performance / risk measure	(-)
LOCUSG	REIT LOC usage	REIT LOC reliance measure	(+)
LOCMC	REIT LOC to total market capitalization ratio	REIT relative credit risk measure	(+)
DA	REIT development activity	REIT credit risk measure	(+)

Omitted Variables

Over 30 multiple regressions were conducted with the above referenced variables. In assessing the results, it was apparent that there were some overlapping variable effects which were adversely affecting the significance of some of the variables. To account for these effects, certain variables, in differing combinations, were omitted from the regression runs. A total of ten variables were omitted from the above regressions. These variables are identified below along with explanations as to why they were removed from the regression model.

<i>Omitted Variable</i>	<i>Rationale for Omission</i>
YR1	Year 1 (1996) dummy variable; with exclusion, statistical significance of other year variables was stronger.
RET	Retail property type dummy variable; with exclusion, more property types became statistically significant; difficult to determine explanation for this occurrence.
TD	Total REIT debt; probable overlapping effect with total debt to market capitalization ratio variable.
SD	REIT secured debt; probable overlapping effect with secured debt to market capitalization and to total debt ratio variables.
LOCUSG	REIT line of credit usage; usage fairly consistent among sample REITs, thus not an overly material effect in regressions.
AG	Asset growth; probable overlapping effect with FFO multiple variable.
AMT	LOC amount; probably not as relevant a consideration in LOC pricing as amount relative to market capitalization ratio.
REITHQABCITY	REIT headquarter location in agent bank city; overlapping effect with REIT headquarter in agent bank region variable (i.e. if REIT is in agent bank city, it is also in region).
ASSETSABREGION	REIT assets in agent bank region; consistently not as significant as REIT assets in agent bank city variable; overlapping effect also present (i.e. assets in agent bank city included in region).
ABSHQREGION	Number of agent banks in REIT's headquarter region; probable overlapping effect with REIT headquarters in agent bank region variable; number of agent banks active in agent bank region variable a more significant competition measure.

Multiple Regression Model Results

Through the many regression runs, three regressions were determined to have the variables with the greatest representation and significance in determining LOC pricing or LIBOR spread. A comparison of these three regressions is presented on the next page:

Variable	Regression 1		Regression 2		Regression 3	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
C	163.9381	12.0966	160.2871	11.77247	160.2724	11.90839
1997	-14.39998	-2.413493	-13.26004	-2.206168	-14.32207	-2.390566
1998	-14.91489	-2.285473	-15.69076	-2.382781	-14.92768	-2.277974
1999	-1.766159	-0.216803	-1.463612	-0.177882	-1.931366	-0.236116
2000	11.86812	1.223924	10.36978	1.060576	12.49384	1.283925
RATING	-10.99317	-2.2383	-10.97964	-2.213148	-10.3561	-2.105177
TERM	-0.32892	-2.00094	-0.295833	-1.787025	-0.335219	-2.031275
SU	18.06253	3.96203	18.07948	3.926016	18.41408	4.026022
BO	-14.9439	-2.735765	-14.72292	-2.668629	-16.10611	-2.956443
REITHQABREGION	-11.37716	-2.591734	--	--	-13.22902	-3.084449
ASSETSABCITY	-8.394381	-1.827286	-11.1431	-2.467992	--	--
ABSABREGION	-1.788271	-2.280124	-1.551985	-1.972393	-1.567628	-2.014547
OFF	13.36223	1.93124	11.62208	1.67079	13.52307	1.94656
MF	10.61265	1.552428	7.864085	1.152794	8.359089	1.23803
HOT	40.50619	5.01114	36.86747	4.584971	42.89085	5.354451
IND	1.513302	0.156888	1.151711	0.118216	0.47569	0.049197
DIV	21.74552	2.587201	19.72887	2.333769	21.34433	2.529828
SPEC	24.1173	3.130874	22.55436	2.907561	24.01901	3.105294
MIX	11.17649	1.191699	9.508028	1.006013	11.64147	1.236599
HLCR	-8.110276	-0.717407	-10.00437	-0.877921	-6.270643	-0.554589
MC	-0.002796	-3.14895	-0.002401	-2.716681	-0.003192	-3.691623
TDMC	-11.63984	-0.935049	-13.60548	-1.084014	-12.20337	-0.976563
SDTD	-1.349146	-0.364427	-1.54047	-0.41202	-1.39221	-0.374512
SDMC	70.24505	3.882459	70.92052	3.880919	72.55876	4.003568
ICR	-0.483295	-3.001696	-0.50126	-3.084941	-0.497999	-3.084083
FFOMUL	-0.321556	-0.498779	-0.560522	-0.869678	-0.35338	-0.546075
LOCMC	1.490048	0.132098	3.934494	0.346525	1.387619	0.12251
DA	-9.694952	-1.881252	-10.52536	-2.025842	-9.819925	-1.897788
# of Observations	308		308		308	
Adjusted R-Squared	0.501134		0.490985		0.496982	

As the above results indicate, of the 27 independent variables included in the regression model, there are consistently 13 (48%) and 14 (52%) variables that are statistically significant (t-statistic greater than two), and thus can be considered determinants of LOC LIBOR spread, the dependent variable. In addition, two or three other variables are consistently very close to being statistically significant. These independent variable results provide strong statistical evidence of

a significant relationship between these variables and LOC pricing. This is further supported by the adjusted R-squared result for the regressions of approximately .50.

The table below details the statistically significant independent variables and provides interpretations and explanations of the results as it relates to coefficient sign versus what was expected (as previously indicated) and how/why the variable affects LOC LIBOR spread.

<i>Significant Variable</i>	<i>Interpretation / Explanation</i>
Geography & Competition:	
REITHQABREGION ASSETSABCITY ABSABREGION	As expected, these three variables have a negative influence on LIBOR spreads. The largest coefficient is generated if the REIT's headquarter is located in the same region as the agent bank. Along with the headquarter, assets in the agent bank city increase awareness of the REIT. The number of agent banks in the region increases competition among those banks, which, theoretically, would reduce spreads. These geography and competition factors measure different occurrences, yet build on one another. These variables are the basis for the Backyard Effect and their statistical significance supports its existence.
LOC Terms:	
RATING	As expected, this variable had a negative effect on spreads since REITs with ratings typically have stronger balance sheets than those without.
TERM	Although statistically significant with a negative impact on spreads, the coefficient is very small. Thus, the overall effect on spreads is minimal.
SU	There is a large positive effect on spreads if the facility is secured. This was expected since only stronger REITs receive unsecured financing.
BO	There is a large negative effect on spreads if the facility has a competitive bid option. This was expected since typically only REITs with investment grade ratings have CBOs.
REIT Characteristics:	
HOT	The hotel property type has a positive impact on spreads. This was expected, but the severity of this impact was surprising.
DIV	As expected, the diversified property type has a large positive impact on spreads. This was expected because diversified REITs are often considered to lack focus and expertise.
SPEC	These property types are more difficult to understand and underwrite, so the positive effect on spreads was expected.
MC	Market capitalization has very little effect on spreads. This is surprising. It was expected that the REITs with higher market caps would be able to negotiate lower spreads.
SDMC	Higher secured debt to market capitalization has a large positive impact on spreads. This was expected since higher secured debt lessens the bank's ability to take unsecured assets as additional collateral if needed.
ICR	Interest coverage ratio has a small negative impact on spreads. We expected this impact to be much more significant.
DA	Significant development activity has a negative impact on spreads, which is contrary to expectations. It is assumed that the growth prospects of REITs with a development capacity led to this price differential. Possibly, only REITs considered stronger develop.

In terms of supporting our contention of the existence of the Backyard Effect, the statistical significance of the three geography and competition variables are very convincing and confirm that, at least with respect to these three measures, the Backyard Effect exists. More specifically, if a) a REIT is located in the same region as its agent bank, or b) a REIT has in excess of \$50 million of assets in the agent bank city, or c) there is a greater number of agent banks competing in the agent bank region, its LIBOR spread will be lower than another REIT that does not possess or experience those possible outcomes.

CHAPTER 6 – CONCLUSION

For many reasons outlined in this thesis, line of credit facilities have become an integral part of a REITs capital structure. During this evolution, a possible pricing discrepancy for REIT lines of credit has emerged whereby certain REITs appear to obtain advantageous pricing (as indicated by LIBOR spread) on their lines of credit based on the location of their headquarters or the geographic focus of their operations. We defined the existence of this phenomenon as the “Backyard Effect”. While there are several possible explanations for the existence of such an occurrence, it nonetheless represents a potential market effect that impacts REIT LOC costs.

Through this thesis, we presented market evidence supported by rigorous data and statistical analysis to conclude that the Backyard Effect is apparently present in the market for REIT lines of credit. More specifically, if a) a REIT is located in the same region as its agent bank, or b) a REIT has in excess of \$50 million of assets in the agent bank city, or c) there is a greater the number of agent banks competing in the agent bank region, its LIBOR spread will be lower than another REIT that does not possess or experience those possible outcomes.

In addition to our primary hypothesis, we presented the following line of credit market background and information: a historical perspective regarding the evolution of REITs and the LOC market, including current and past trends; basic contractual elements and terms as to how these LOC facilities function; and a discussion as to why REITs utilize LOCs and what are the main advantages and disadvantages of this form of financing.

We hope that through this thesis, the reader has been provided with a much greater awareness and understanding of the market for REIT lines of credit. Further, and most importantly, by identifying and providing statistical evidence of the existence of a possible pricing effect in the market for REIT lines of credit, we have hopefully uncovered an issue that will be of value to the multiple market participants.

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