THE ECONOMIC, FINANCIAL ACCOUNTING AND GOVERNANCE DETERMINANTS OF SYNTHETIC LEASE FINANCING

A Thesis in Business Administration

by

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The Economic, Financial Accounting and Governance Determinants of Synthetic Lease Financing

Abstract

The synthetic lease is a hybrid financing structure that allows a company to have many of the benefits of asset ownership, including capital lease treatment for tax purposes, while treating lease payments as operating expenses on the firm’s income statement. Proponents of these transactions argue that the complexity of these structures is necessary to provide economic benefits to the firm and its shareholders. Critics argue that these transactions are severely lacking in transparency, and the benefits that derive from these transactions are the result of short-sighted opportunistic behavior by managers that lead to wealth extraction from other groups of stakeholders. I jointly examine (1) whether the structure of the synthetic lease does, as supporters argue, provide favorable financing terms for firms that choose this type of transaction, (2) the economic and financial accounting incentives that influence the manager’s financing choice and (3) the role of the board of directors in the decision making process. I find evidence that supports both economic benefits associated with the lease, as well as managers using synthetic lease financing for opportunistic gains. The results also show that, all else equal, the probability of choosing synthetic lease financing is increasing in the strength of a firm’s board of directors, consistent with strong boards being able to understand the complexity of the transaction and the associated benefits. However, I also find that if managers have incentives to use the synthetic lease to engage in opportunistic behavior, the presence of strong monitors prevents managers’ use of synthetic leases for this purpose.
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1. Introduction

In light of recent financial accounting scandals, complex off-balance sheet accounting transactions have received a great deal of attention from practitioners, regulators, and investors. Proponents of these transactions argue that the complexity of these structures is necessary to provide economic benefits to shareholders. Critics argue that these transactions are severely lacking in transparency, and the benefits that derive from these transactions are the result of short-sighted opportunistic behavior by managers that lead to wealth extraction from other groups of stakeholders. Recognizing managers’ incentives to engage in these complex transactions, as well as gaining a better understanding of the role of the board of directors as monitors of management when managers are faced with these types of financing decisions, has become increasingly important to regulators and investors.

To investigate the economic and financial accounting incentives of these complex off-balance sheet financing decisions and the role of the board of directors in the process, I examine the determinants of a firm’s decision to engage in synthetic lease financing, and the board’s ability to influence that decision. The synthetic lease is a hybrid financing structure that allows a company to have many of the benefits of asset ownership, including capital lease treatment for tax purposes, while treating lease payments as operating expenses on the firm’s income statement. Supporters of synthetic lease financing argue that the structure and terms of the transaction are such that it is possible to obtain lower financing costs than a firm might if they used a mortgage to buy an asset [Graebner (2001)]. While certain aspects of the synthetic lease may provide an economic benefit to the firm, the transaction is opaque and it allows the firm to be viewed by
financial statement users as being “better” than it might be considered if the firm had used a different financing method. The synthetic lease is often viewed by investors, regulators, and the financial press as an example of non-transparent financial accounting.¹

I jointly examine (1) whether the structure of the synthetic lease does, as supporters argue, provide favorable financing terms for firms that choose this type of transaction, (2) the economic and financial accounting incentives that influence the manager’s financing choice and (3) the role of the board of directors in the decision making process. The results of this study provide evidence that the structure of the synthetic lease does provide an economic benefit to the firm in the form of lower financing costs, and that this economic benefit is a determinant of the financing decision. I also find that firms that have incentives to exploit the opacity of a synthetic lease transaction are more likely to choose this type of financing. The results show that, all else equal, the probability of choosing synthetic lease financing is increasing in the strength of a firm’s board of directors, consistent with strong boards being able to understand the complexity of the transaction and the associated benefits. However, I find that if managers have incentives to use the synthetic lease to engage in opportunistic behavior, the presence of strong monitors inhibits managers’ use of synthetic leases for this purpose. In a supplemental analysis, I examine the determinants of firms’ synthetic lease disclosures, and find that both economic and financial accounting and reporting incentives are determinants of the synthetic lease disclosure choice, and that a strong

¹On February 5, 2002, a story in Forbes magazine accused Krispy Kreme Donuts of using a $30 million synthetic lease as an off-balance sheet trick. One week later, the Company announced that they were going to employ “traditional” balance sheet financing for the mixing plant in the form of a 5-year mortgage with a balloon payment. The Company CEO stated that the change was made in “deference to investor perceptions.” Similar situations also occurred at Dollar General and Cisco Systems, where scrutiny into their respective leasing policies led to changes in asset financing.
board of directors attempts to mitigate the use of these leases for opportunistic gains for managers by requiring more extensive disclosures.

This study enhances several streams of research, including the relationships between accounting complexity, accounting transparency, and board quality. Several recent studies examine the attributes of earnings and financial reporting in an attempt to provide some insight into the qualities of transparent financial accounting. These studies focus predominantly on aggregate accounting measures. However, the study of specific transactions or accounting choices does provide benefits beyond those provided by these “aggregation” type studies. Explicit financing and accounting transactions encourage more directed action on the part of the board of directors. The structure and characteristics of individual transactions provide economic benefits to firms that require managers and monitors to consider trade-offs between those benefits and accounting transparency.

This study also extends the body of research that examines the lease-type decision, specifically the differences between capital and operating lease choices. However, this setting is different from previously published research for several reasons. While an argument is often made that operating leases can be “capitalized” onto the balance sheet, pro-forma capitalization may not be the appropriate treatment for all

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2 Ball, Kothari, and Robin (2000), Francis et al (2003) and Beekes, Pope and Young (2003) follow Basu(1997) to develop models of timeliness and conservatism to measure the transparency of accounting earnings. Beekes, Pope and Young (2003) find that the proportion of outside directors is positively associated with increased earnings timeliness in the reporting of bad news. However the authors find no relationship between board composition and the conservative reporting of good news. Bhattacharya, Daouk, and Welker (2003) aggregate measures of accruals, loss avoidance, and income smoothing to examine the opacity of earnings across several nations.

3 See Lipe (2001) and Ryan et al (2001) for a survey of recent lease accounting research. With respect to synthetic leases, Morsfield (2001) does expand the examination of lease-type choices, but her study deals primarily with the differential tax treatment given to each lease type. While she does consider the effect of financial distress and closeness to debt covenant violation on the lease-type decision, she does not address the potential economic or financial reporting benefits, or the influences of corporate governance associated with a firm’s decision to engage in synthetic lease financing.
operating leases (i.e. retail space in a shopping mall, sales offices in a corporate complex, etc…). Synthetic leases represent a group that, if sufficient information was provided, would appropriately be “capitalized” by financial statement users, due to their treatment for tax purposes as capital leases, but for which management has purposefully structured the transaction to secure off-balance sheet treatment. Synthetic lease transactions were designed by the lending community to (1) provide firms with a financing structure that offers potential cost savings and (2) exploit differences in lease accounting rules for financial reporting and tax purposes, allowing borrowers to receive preferable accounting treatment. The dual nature of the transaction provides me with a setting to examine the role of both economic and accounting influences on managers’ financing decisions, especially when managers are faced with incentives to behave opportunistically. The study of this decision-making process should be of interest to regulators, as they attempt to provide accounting guidelines to managers who are faced with increasingly complex business problems, and to investors who must navigate complicated financial reports while attempting to understand how managers’ incentives influence financing and accounting choices.

The remainder of this paper is organized as follows: section 2 provides background information about the structure and design of synthetic lease financing, the perceived costs and benefits associated with the transaction, and the development of my hypotheses. The sample is discussed in section 3 and the research design is provided in section 4. The results and supplemental analysis are discussed in section 5, and I conclude the study in section 6.
2. Background and Hypothesis Development

The synthetic lease is a form of structured financing developed by the banking and leasing industries to offer their customers the tax benefits of asset ownership, while treating the asset as an operating lease for financial reporting purposes. This type of transaction was originally used in the heavy machinery and railroad industries, but lending professionals identified opportunities to market synthetic leases to customers in other industries, particularly those for which heavy investment in fixed assets may not be advantageous.

The structure and institutional characteristics of the synthetic lease have several potential benefits to the lessee when compared to traditional real estate loans. I choose to compare synthetic leases to secured real estate loans, such as mortgages, for several reasons. Synthetic leases and real estate loans both meet the requirements of asset ownership for tax purposes, allowing the firms to deduct interest expense and accelerated depreciation to arrive at taxable income. Controlling for tax consequences in this fashion allows me to focus on the economic and financial reporting determinants of the decision. Additionally, anecdotal evidence shows that firms that decide against using a synthetic lease (Krispy Kreme) or choose to terminate the lease (Cisco Systems) choose short-term mortgages with balloon payments as their alternative financing methods. These mortgages most closely resemble the former payment structure of the synthetic lease. This alternative financing decision supports the comparison of synthetic leases to loans in that these firms chose financing structures that gave them ownership rights to the asset. Consequently, the benefits and costs of synthetic lease financing discussed below are
relative to those associated with a real estate loan with the related assets and liabilities reflected on the firm’s balance sheet.

2.1. Benefits to end-users of synthetic lease financing

One of the most common economic benefits to lessees using synthetic lease financing, cited often by lenders and end-users, is the ability to finance 100% of the construction and/or acquisition costs of the property, without providing cash or securities as a down payment. Under a secured real estate loan, a down payment is traditionally required, which reduces the percentage of the acquisition price that can be financed. The ability to finance 100% of the costs associated with the asset under the synthetic lease may be attractive to those firms with alternative uses for their cash\(^4\). Even when residual value guarantees are required by the terms of the lease, firms are able to purchase residual guarantee insurance or invest restricted cash amounts and generate interest income, both of which provide greater investment opportunities for the firm than a down payment on a traditional real estate loan.

The structure and tenor of the synthetic lease transaction are designed to provide favorable financing rates. The borrowing rate associated with the transaction is assessed at the end user’s corporate borrowing rate [Hodge (1998), Gosfield (2001)]. The credit worthiness of the firm and its financial strength may be easier for the lender to assess, and not subject to the volatility of the real estate market. The borrowing rate under a corporate real estate loan is usually based on the value of the real estate [Gosfield (2001), Jamason (1998)]. These attributes may enable end-users with good corporate credit to obtain better financing rates on a synthetic lease than on a mortgage.

\(^4\) Upon entering into the first of several synthetic leases in the mid-1990s, Cisco treasurer David Rogan cited the ability to keep cash available for investments such as acquisitions and research and development as one of the driving forces behind Cisco’s financing decision. [Graebner (2000)]
The synthetic lease is designed to provide bankruptcy protection to lenders that exceeds the protection associated with a secured real estate loan. These provisions could translate into better interest rates for synthetic lessees than if they had used traditional debt financing. Under a synthetic lease, the asset to be leased is purchased on behalf of the end-user by an unrelated third party. This entity, previously known as a special-purpose entity (SPE) and now commonly referred to as a variable interest entity (VIE), is specifically designed so that the likelihood of the entity to declare bankruptcy or default on the loan associated with the asset is remote. If the end-user declares bankruptcy, and the asset is deemed essential to the client’s business by the bankruptcy court, then the lessee can continue to make payments to the SPE and continue to use the asset. The end-user’s other secured creditors must wait until the bankruptcy process is complete before receiving a settlement. If the lessee is unable to make payments, the lender does not have to “wait in line” with other secured creditors because the asset is owned by the SPE, not the lessee.  

Additionally, the residual value guarantee associated with a synthetic lease helps to ensure that the lender receives 89% of the original value of the asset in cash, rather than an asset that is subject to potential fluctuations in market value, as is possible with a mortgage foreclosure. The SPE/VIE structure, along with the cash-secured residual value guarantee, provide greater security to lenders which in turn enables the lender to pass more favorable borrowing rates on to the lessee.

The years to maturity associated with a synthetic lease may also provide the borrower with lower interest rates. Synthetic leases are typically structured between

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5 The Ninth Circuit Court of Appeals in the case of Unocal v. Union Oil of California (Nos. 97-53324 et seq., May 18, 1999) recognizes synthetic leases as a valid form of real estate financing and has ruled that the terms of the transaction should not be recharacterized as an asset purchase. To date, this ruling has not been overturned or challenged.
three to ten years, while a mortgage term can be anywhere from three to thirty years. Prior research [Booth (1992), Blackwell et al (1998), Beatty et al (2002)] provides evidence that the basis points spread over the London Inter Bank Offer Rate (LIBOR) is positively associated with the duration of the loan, as lower interest rates are offered to compensate for the liquidity risks associated with short-term debt.

Firms that engage in synthetic leases may also be able to share some of the risks and responsibilities associated with environmental liabilities. Emerging Issues Task Force (EITF) 97-1 stipulates that if a tenant is required to bear environmental risks, then the tenant is too closely related to the property and must consolidate. Consequently, synthetic lease transactions are structured such that environmental responsibilities are shared between the SPE and the tenant. This arrangement could enable the firm using the asset to decrease their environmental liabilities on the face of the balance sheet. However, the sharing of environmental exposures with the lender could also make the transaction more costly, as discussed in greater detail below.

While the structure and institutional characteristics of the synthetic lease may improve the economic position of the firm (better cash flows, higher net income related to lower interest expenses, ability to invest in positive NPV projects, etc...), the accounting treatment for synthetic leases may generate financial reporting benefits for both the income statement and balance sheet of the firm. As the synthetic lease is an off-balance sheet transaction, neither the asset nor the related liabilities are reported on the face of the financial statements. Because the asset is not reported on the balance sheet, the firm does not record depreciation expense associated with the asset under synthetic lease and shows higher net income than the firm would if they purchased the asset.
Managers and lenders discuss the improvements in financial ratios associated with off-balance sheet financing as a financial reporting benefit to the firm. The accounting treatment associated with the leases leads to improved return on assets (ROA), return on equity (ROE), debt to equity, and asset turnover measures, when compared to traditional balance sheet financing. This benefit is often subject to debate, as quite often all leases are “capitalized” by equity and credit analysts. However, executives that have engaged in synthetic lease financing in the past continue to claim that improved ratios resulting from synthetic lease financing have lowered their costs of capital for other projects and that shareholders and analysts tend to look less favorably on investments in real estate assets than on assets that support the core business [Watters (2003)]. Therefore, it would appear that managers assign some value to the off-balance sheet accounting treatment associated with synthetic leases.

2.2 Benefits to lenders of synthetic lease financing

Lenders also derive economic benefits from the structure of the synthetic lease transaction. Compared to a traditional real estate loan, the bank or leasing company has greater security in the transaction, minimizing bankruptcy risks. The ability to continue receiving payments during the bankruptcy proceedings and the cash or marketable securities serving as a guarantee of the residual value of the asset provides for better cash flows for the lender than a secured loan with the underlying asset as collateral. The residual value guarantee also protects the lender because even though a greater amount is being borrowed by the lessee with a synthetic lease, a smaller amount of the borrowing is at risk. This increased borrowing also enables the lender to charge higher interest rates, because a greater portion of the asset is being financed.
2.3. Costs to end-users of synthetic lease financing

The synthetic lease has the potential to provide economic and financial reporting benefits that are not attainable through the use of a real estate loan, but the transaction also has many associated costs. The institutional characteristics described above and in Appendix B provide evidence that the development, initiation, and maintenance of a synthetic lease transaction can be very time consuming and costly for the lender, and these transactions costs are passed down to the end-user of the asset. Managers must take the time to understand the complexities of the transaction so they can assess the potential benefits and be able to communicate the details of the transaction to the board of directors and other monitors of the firm.

The residual value guarantee associated with the synthetic lease can lead to higher opportunity costs and financial reporting costs for the firm. The amount needed to provide the guarantee, either through guarantee insurance or restricted assets, could potentially be greater than the down payment amount associated with a traditional real estate loan. These restrictions or cash outflows could actually reduce a firm’s ability to invest in other positive NPV projects. Additionally, if the residual value guarantee and associated restricted assets are material to the financial position of the firm, managers are required to disclose restricted amounts, potentially influencing key profitability and growth ratios.

While the ability to borrow 100% of the asset funding provides benefits to the synthetic lessee, the benefits are offset by increased borrowing costs. Financing 100% of the transaction puts more of the lender’s money at risk, which can lead to higher interest
costs. The increased leverage associated with the synthetic lease may also make obtaining bank financing for other projects more difficult or more expensive.\(^6\)

As previously noted, EITF 97-1 dictates that those legally responsible for environmental liabilities must consolidate the entity, or the assets responsible for the generation of the liability. Consequently, the SPE that owns the asset and the end-user of the asset must share the liability in such a way as to avoid violation of the standard. The SPE will increase the financing costs of the asset if it is required to take on substantial environmental liability risks, resulting in higher interest rates and transaction costs.

The off-balance sheet treatment associated with the lease, as well as the increase in net income related to the structure of the lease, have the potential to provide benefits to the firm, but those benefits can be offset by costs imposed by the market associated with the complexity of the transaction. The transaction was not designed by the lending community to be transparent to the market, as evidenced by the differential treatment for financial reporting and tax purposes. The opacity of the transaction and its related disclosures, when compared to those of traditional real estate loans, may actually lead to increases in cost of capital [Botosan(1997), Sengupta (1998)] as a result of information asymmetries between managers and financial statement users.

2.4 Costs to lenders of synthetic lease financing

The structure of the synthetic lease transaction also imposes costs on the lender not found with traditional real estate loan financing. The higher leverage associated with lease puts more of the lender’s funds at risk, which leads to a greater investment of time and resources by the lender in monitoring the financial health of the firm. The lender would also need to invest additional time and expertise assessing any potential

\(^6\) This cost is likely to be imposed only when other lenders are aware of the synthetic lease transaction.
environmental liabilities, as sharing of environmental risks to avoid consolidation is not a condition associated with mortgage financing.

2.5 Economic Benefit Hypothesis

Critics of synthetic lease financing contend that the structure and the complexity of the transaction is intended to keep substantial financing off of the balance sheet to improve the financial appearance of the firm and mislead investors, and may be more costly to the firm than traditional real estate loans. Proponents of the financing choice respond that the elements of the transaction that lead to the off-balance sheet accounting treatment provide an economic benefit to the firm in the form of lower financing costs. As outlined above, the structure, terms and conditions of synthetic lease financing incorporate elements that could lead to either higher or lower interest costs for the borrower. Therefore, the existence of economic benefits associated with synthetic lease financing is an empirical question.

2.6 Financial Accounting and Transparency Hypothesis

The opacity and complexity of off-balance sheet transactions may be influential in managers’ financing decisions, especially if the manager is faced with contracting scenarios that allow a group of stakeholders to benefit from non-transparent accounting choices. The synthetic lease is an example of a transaction that could affect financial performance measurement and influence other contracts between managers and shareholders, or among other classes of stakeholders, as the balance sheet and income statement treatment of this transaction enables a firm to present itself more favorably than it could if the manager had chosen mortgage financing. As the financial accounting treatment given to synthetic leases is opaque, the ability of financial statement users to
obtain and process information related to synthetic leases is difficult and costly. The information asymmetries generated by the transaction could exacerbate the agency conflicts between managers and stakeholders and among various stakeholder groups. Managers could choose a synthetic lease for the opportunity to improve their compensation (i.e., bonuses based on net income [Healy(1985)]), or they may also choose the improved financial picture that comes with a synthetic lease prior to a public debt or equity offering [Teoh et al (1998)] to get a lower cost of capital than the firm may have gotten using a real estate loan. This opportunistic behavior has the potential to provide short-term benefits to the manager or to current shareholders at the expense of future shareholders or debt holders.

While financial accounting opacity can provide benefits to opportunistic managers, these managers also face incentives to be more transparent in their transaction choices. Greater transparency can lead to lower costs of capital due to less uncertainty about the firm’s financial position, lower bid/ask spreads and greater liquidity as more investors are willing and able to trade due to a reduction in information asymmetry. Managers who choose synthetic lease financing as a method of wealth extraction, either by increasing their bonus payouts or by generating higher proceeds from a debt or equity offering, could also experience long-term costs associated with this myopic behavior.

When a particular group of stakeholders has been the target of wealth extraction

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7 I focus this discussion on public, versus private, debt holders for two reasons. First, prior research shows that debt covenants serve as a mechanism to protect the interests of debt holders vis à vis management and shareholders. However, public debt is traditionally not subject to covenant restrictions. Therefore, holders of public debt are not afforded the protection associated with restrictive financial covenants. Second, due to the size and complexity of the synthetic lease transaction, these leases are often financed by the firm through large commercial banks. As firms traditionally concentrate their financing activity among a few banks, I would expect the private debt market to be more aware of a firm’s synthetic lease activity than the public debt market. I include several variables associated with private debt to examine the implications of banking relationships in the financing choice.
behavior, it will charge a premium on all future contracts or transactions with the firm, or refuse to engage in any future contracts. Therefore, I hypothesize that the financial accounting effects of synthetic lease financing are significant determinants of the financing decision, particularly when the firm is faced with contracting scenarios where the transparency of accounting information is important to the contracting process.

The collapse of Enron and several other highly publicized accounting scandals generated a shock to the financial accounting system that caused investors and regulators to question the credibility and reliability of financial statements. Financial statement users have demanded increased transparency so they may better understand management’s actions and decision-making processes. I expect that the financial accounting shock associated with accounting scandals of 2001 serves as a proxy for the increased importance placed on transparent accounting choices and will serve as a deterrent to managers using synthetic leases for opportunistic gains that do not serve the best interest of shareholders.

2.7. Role of the board of directors in the synthetic lease decision

If the role of the board of directors is to monitor management’s decisions on behalf of shareholders, then I expect that the board would approve or support transactions that are in the best interest of those shareholders. All things equal, I expect the use of synthetic lease financing to be increasing in the strength of the board of directors in the presence of economic benefits to the firm. While the synthetic lease has components that can provide these benefits to the firm, the complexity of the financial accounting treatment is also likely to be a driver in the manager’s financing decision. If the manager’s decision to engage in synthetic lease financing is driven by opportunistic
incentives, I would expect a strong board to effectively monitor managers and prevent them from using synthetic leases to benefit one group of stakeholders at the expense of another, as this type of myopic decision-making is likely to lead to wealth destruction, rather than wealth creation.

3. Sample

The data source for my study is the Loan Pricing Corporation’s (LPC) DealScan database, which provides information about the types and characteristics of loans provided by banks to public and private companies. Data are provided to LPC directly from the lending institution or from SEC filings, and includes the nature, amount, and business purpose of the transaction, and details about financial covenants associated with the transaction. I use the DealScan database to find firms that have financed assets using both synthetic leases and mortgages. This data source has many advantages. The choice to disclose the transaction in DealScan is made by the lender, thereby reducing the disclosure bias that may exist when the sample is drawn from a population of voluntary disclosures at the firm level, such as newswire searches or searches of SEC filings. Additionally, the classification of the transaction as a synthetic lease or a mortgage is made by the database administrator, based on the details of the transaction provided by the lender. This classification process helps mitigate any firm level incentives to avoid discussing the presence of synthetic leases in the company financial statements. DealScan identified 150 transactions coded as synthetic leases from June, 1998 through December,

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8 According to LPC personnel, the DealScan data is used to provide valuable industry information, including benchmark reports, to participating institutions. Only those institutions that provide LPC with lending data are able to access this information. When asked if lending institutions ever refuse to provide information as a result of borrower influence, LPC personnel were unaware of such an issue, but this does not mean that such an issue does not exist. Consequently, while I believe the use of LPC data mitigates disclosure bias by borrowers, I cannot say that some form of disclosure bias does not potentially exist.
2003 and 100 secured loan transactions from the same time period. This period provides me with data in the periods both before and after the financial accounting shock in the market and the perceived increase in investor scrutiny. Due to the complexity of the transaction, synthetic leases are traditionally not offered for assets less than $10 million in size. Consequently, I require that all mortgage transactions in the sample be greater than that amount. After eliminating those 75 firms for which either financial information was not available via COMPUSTAT or CRSP, proxy information was not available via Lexis/Nexis, and transaction data (associated interest rates, tenor, debt rating, related covenants) were missing from DealScan, I have a sample of 101 synthetic lease firms and 64 firms that purchased a building using a secured loan, such as a mortgage.

4. Research Design

4.1 Model Specification

Prior research [Booth (1992), Guedes and Opler (1996), Blackwell et al (1998), Beatty et al (2002) and Asquith et al (2003)] shows that the structure and terms of a debt contract are likely determinants of the interest rate associated with the loan. I also hypothesize that the related financing costs are a determinant of the financing decision. Consequently, estimating the determinants of the spread and the determinants of the financing decision separately will result in inconsistent parameters due to correlation of each equation’s errors with the endogenous variables. Therefore, I examine these decisions simultaneously.

9Consistent with prior work examining determinants of interest rate spreads {Guedes and Opler (1996), Blackwell et al (1998), Beatty et al (2002) and Asquith et al (2003)} I considered examining the determinants of the interest rate spread using a selectivity correction to control for systematic differences between firms that choose synthetic leases and those that choose mortgages. However, I believe that in this setting, the financing method and related interest costs are jointly determined, therefore a model that measures these factors simultaneously is appropriate.
Supporters of synthetic lease financing advocate the financing method because they claim that the structure and terms of the transaction provide economic benefits to the firm. Critics of synthetic leases argue that the primary purpose of the transaction is to receive preferable treatment for tax purposes, while keeping the related assets and liabilities off the balance sheet and potentially misleading investors and other stakeholders. To examine these arguments, I jointly model the determinants of the interest rate spread above LIBOR and the economic, financial accounting, and governance influences on the decision to employ a synthetic lease using a two-stage system of equations. I replace the endogenous variables (the basis points associated with the loan and a synthetic lease indicator variable) with predicted values from reduced form regressions.

4.2 Determinants of the interest rate spread

I use the following multivariate regression to study the effect of synthetic lease financing, and other determinants, on the asset financing costs:

\[
\text{BasisPoints} = \beta_0 + \beta_1 \text{S Lease} + \beta_2 \text{Board} + \beta_3 \text{RetVol}_{t-1} + \beta_4 \text{Debt Equity}_{t-1} + \beta_5 \text{Environment}_{t-1} + \beta_6 [\text{S Lease} \times \text{Environment}_{t-1}] + \beta_7 \text{Shock} + \beta_8 \text{Size}_{t-1} + \beta_9 \text{Amount} + \beta_{10} \text{Other Debt} + \beta_{11} \text{Tenor} + \beta_{12} \text{Rated} + \beta_{13} \text{SP Rating} + e
\] (1)

\text{BasisPoints} represents the interest rate on the synthetic lease or mortgage stated as the number of basis points above the LIBOR rate. The \text{S Lease} variable is the predicted value of a dichotomous variable that equals one if the firm has chosen a synthetic lease to finance their asset and zero if they chose a mortgage.

I include several variables that are specific to the research questions in my study. To capture the potential effects of governance on debt costs [Ashbaugh \textit{et al} (2004)], I include a comprehensive measure of the strength of the firm’s board of directors.
Bushman, Chen, Engel and Smith (2000) employ a relative ranking method of the average percentile ranks of many corporate governance measures, including certain board of directors’ characteristics such as percentage of outsiders on the board, percentage of outsiders classified as industry experts, and the percentage of board shareholdings held by outsiders. My proxy for the Board is the average of the within-sample percentile rankings for the three measures described above. As my study focuses on the monitoring capabilities of the system, I have chosen those facets of the system that represent explicit influence over managerial decision making.

As one of the benefits cited by supporters of synthetic leases is the bankruptcy-remote nature of the transaction, I include a measure of return volatility as a proxy for potential changes in credit quality and the probability of default. RetVol is the log of the standard deviation of monthly stock returns for a 24-month period prior to the financing choice. I also include Debt_Equity, the firm’s debt to equity ratio in the year prior to the financing choice, to capture leverage effects on the financing costs. To capture the possible effects of EITF 97-1 on the costs of synthetic lease financing, I include an indicator variable Environment that equals one if the firm discloses environmental liabilities in the financial statements or footnotes in the year of the financing decision, zero otherwise, and examine the interaction between Environment and S_Lease. To control for changes in the lending environment as a result of the financial accounting shocks of 2001, I include an indicator variable (Shock) that equals one if the active date of the transaction occurs after December 31, 2001, and zero otherwise.
Consistent with prior research\textsuperscript{10}, I include variables to control for the size of the firm and the financing amount (\textit{Size and Amount}), and the number of months between the start and stated termination dates of the transaction (\textit{Tenor}). I include an indicator variable that equals one if the firm was rated by a credit agency at the time of the transaction, zero otherwise (\textit{Rated}), and the natural log of the numeric conversion of the S&P credit rating associated with the borrower (\textit{SP\_Rating})\textsuperscript{11}. This variable measures the effect of having higher quality debt, conditional on having rated debt. I include an indicator variable \textit{Other\_Debt} which takes a value of one if the borrower had another ongoing lending transaction with the primary lender at the time of the mortgage or synthetic lease transaction, and zero otherwise. Research by Berlin and Mester (1999) provides evidence that prior banking relationships result in favorable lending rates and terms.

\textbf{4.3. Determinants of synthetic lease financing choice}

To examine the economic, financial accounting, and governance influences on the decision to finance an asset using synthetic lease financing, I employ the following multivariate logistic regression:

\begin{equation}
\text{Prob (Synthetic Lease)} = \beta_0 + \beta_1 \text{BasisPts} + \beta_2 \text{RetVol}_{t-n} + \beta_3 \text{Debt\_Equity}_{t-1} + \\
\beta_4 \text{FreeCash}_{t-1} + \beta_5 \text{Growth}_{t-1} + \beta_6 \text{Environment} + \beta_7 \text{Covenant}_{t-n} + \beta_8 \text{Bonus}_{t-1} + \\
\beta_9 \text{NewIssues}_{t+n} + \beta_{10} \text{Shock} + \beta_{11} \text{FIN46} + \beta_{12} \text{Board}_{t-1} + \beta_{13} \left[ \text{Board}_{t-1} * \text{Bonus}_{t-1} \right] \\
+ \beta_{14} \left[ \text{Board}_{t-1} * \text{NewIssues}_{t+n} \right] + \beta_{15} \left[ \text{Board}_{t-1} * \text{Shock} \right] + \beta_{16} \text{Size}_{t-1} + \beta_{17} \text{Amount} + \\
\beta_{18} \text{FA\_Asset}_{t-1} + \beta_{19} \text{HighTech} + \beta_{20} \text{Regulate} + \epsilon
\end{equation}


\textsuperscript{11} Consistent with Beatty \textit{et al} (2002), I set the variable equal to zero for borrowers without rated debt, and assign a value of 1 to debt rated A+, a value of 2 to debt rated A, etc…
4.3.1. Economic Benefits and Costs

I include several variables to capture the economic benefits and costs associated with choosing synthetic lease financing. **BasisPts**, as described above, represents the predicted value of interest costs above LIBOR associated with the financing transaction. If interest costs are decreasing in the use of synthetic leases in equation (1), I expect that interest rates are negatively associated with the synthetic lease financing decision. Consistent with the arguments in equation (1), I expect the use of synthetic leases to be increasing in the **RetVol** and **Debt_Equity** measures. I also include an indicator variable **Covenant** that equals one if the firm has other debt with financial covenants at the time of the transaction, zero otherwise. If other lenders are unaware of the synthetic lease, or have not adjusted the leverage covenant to include leases, then a synthetic lease will provide a better leverage ratio for the firm than a mortgage. Conversely, if other debt does include provisions for leasing adjustments, a mortgage might provide a more advantageous leverage position because a smaller percentage of the asset value is being borrowed than if the firm used a synthetic lease.

Proponents of synthetic lease financing contend that the structure and terms of the transaction enable firms to obtain the benefits of fixed asset ownership, but preserve cash for other positive NPV projects. Therefore, I include two variables, **FreeCash** and **Growth**, to measure the opportunity and need for other types of investments in the year prior to the financing decision. The **FreeCash** measure is constructed as net cash from operating activities less capital expenditures, scaled by total assets, while the market to book ratio is used as a proxy for firm growth as it is representative of the firm’s investment opportunity set.
To examine the potential costs and benefits associated with environmental risks, I include an indicator variable $\text{Environment}$ that equals one if the firm discloses environmental liabilities in the financial statements or footnotes in the year of the financing decision, zero otherwise.

### 4.3.2. Financial Accounting and Transparency

The complexity and the opacity of the financial accounting treatment associated with synthetic lease financing has implications for several contracting scenarios between managers and shareholders, and among classes of shareholders. To represent conditions where the transparency of the firm’s transactions will have an effect on contracting, and where the transactions will be subject to increased scrutiny due to a change in the financing accounting environment, I include several variables to measure the relationship between contracting incentives and the decision to engage in synthetic lease financing.

The **Bonus** variable is an indicator variable which equals one if the firm provides executives with bonuses based on net income after interest, and zero otherwise. As the synthetic lease generates higher net income in the early years of the transaction, I expect the probability of selecting synthetic lease financing to be increasing in the presence of a managerial bonus plan. **NewIssues** is an indicator variable that equals one if the firm has issued new public debt or equity in the two-year period following the financing choice, and zero otherwise. Information about public offerings is drawn from the SDC database. As prior research shows that both improving appearance of financial performance [Teoh et al (1998)] and providing higher levels of transparent accounting information [Botosan (1997), Frankel, McNichols and Wilson (1995)] are positively related to external public financing decisions, I do not predict a sign on this relationship.
The **Shock** variable is an indicator variable that is one if the financing decision was initiated after December 31, 2001, and zero otherwise. I expect that the probability of choosing synthetic lease financing will be decreasing in the post-shock period.

Accounting rules governing off-balance sheet financing changed as a result of the aforementioned accounting scandals. This regression also incorporates an indicator variable **FIN46** that is one if the transaction was completed after the release of FASB Interpretation No. 46, and zero otherwise. As this FASB Interpretation severely restricts a firm’s ability to maintain off-balance sheet accounting for its synthetic lease transactions, I would expect the coefficient on this variable to be less than zero. The existence of this regulation, first presented as an exposure draft in July 2002, generates a very short window over which to measure the effects of my **Shock** variable.

### 4.3.3. Role of board of directors

To provide evidence on whether the strength of a firm’s corporate governance system influences a manager’s decision to engage in synthetic lease financing, I include the **Board** variable as defined in equation (1) above. If synthetic lease financing provides economic benefits to the firm and increases shareholder value, I would expect the probability of synthetic lease financing to be increasing in the strength of the board of directors, because a better board is able to understand the complexities of synthetic leasing and support the transaction for its benefits to shareholders. If the synthetic lease does not increase shareholder value, I would expect a strong board of directors to oppose the transaction.

I also examine the role of the board of directors in synthetic lease financing when the manager has contracting incentives to engage in opportunistic behavior. To measure

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12 See discussion of FIN 46 and its implications on synthetic lease financing in Appendix A.
this relationship, I multiply the Board measure by the Bonus and NewIssue indicator variables. I expect that the board enforces transparent accounting transactions that do not allow current stakeholders to obtain rents from future investors. I also examine the response of the board of directors to a change in the financial accounting environment and increased demand for transparency. I expect the probability of synthetic lease financing to be decreasing in the post-shock period in the presence of a strong board of directors. I make the following predictions related to the variables of interest in the regression above:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient B</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonus&lt;sub&gt;t-1&lt;/sub&gt;</td>
<td>B&lt;sub&gt;8&lt;/sub&gt;</td>
<td>B&lt;sub&gt;8&lt;/sub&gt; &gt; 0</td>
</tr>
<tr>
<td>NewIssues&lt;sub&gt;t+n&lt;/sub&gt;</td>
<td>B&lt;sub&gt;9&lt;/sub&gt;</td>
<td>B&lt;sub&gt;9&lt;/sub&gt; ≠ 0</td>
</tr>
<tr>
<td>Shock</td>
<td>B&lt;sub&gt;10&lt;/sub&gt;</td>
<td>B&lt;sub&gt;10&lt;/sub&gt; &lt; 0</td>
</tr>
<tr>
<td>FIN46</td>
<td>B&lt;sub&gt;11&lt;/sub&gt;</td>
<td>B&lt;sub&gt;11&lt;/sub&gt; ≤ 0</td>
</tr>
<tr>
<td>Board&lt;sub&gt;t-1&lt;/sub&gt;</td>
<td>B&lt;sub&gt;12&lt;/sub&gt;</td>
<td>B&lt;sub&gt;12&lt;/sub&gt; ≠ 0</td>
</tr>
<tr>
<td>Board&lt;sub&gt;t-1&lt;/sub&gt;*Bonus&lt;sub&gt;t-1&lt;/sub&gt;</td>
<td>B&lt;sub&gt;13&lt;/sub&gt;</td>
<td>B&lt;sub&gt;13&lt;/sub&gt; &lt; 0</td>
</tr>
<tr>
<td>Board&lt;sub&gt;t-1&lt;/sub&gt;*NewIssues&lt;sub&gt;t+n&lt;/sub&gt;</td>
<td>B&lt;sub&gt;14&lt;/sub&gt;</td>
<td>B&lt;sub&gt;14&lt;/sub&gt; ≤ 0</td>
</tr>
<tr>
<td>Board&lt;sub&gt;t-1&lt;/sub&gt;*Shock</td>
<td>B&lt;sub&gt;15&lt;/sub&gt;</td>
<td>B&lt;sub&gt;15&lt;/sub&gt; &lt; 0</td>
</tr>
</tbody>
</table>

As noted in Core (2001), accounting theory predicts an endogenous relationship between corporate governance, managerial incentives, and managerial decision-making. Consequently, it is possible that the same factors that determine the strength of a firm’s corporate governance system are also the ones that determine the manager’s decision-making process with respect to accounting transparency. I attempt to mitigate this problem by using lagged measurements for the board of directors’ quality variables, but the potential contemporaneous determination of the governance structure and management’s decision-making behavior may make inferences about causality based on the results of my study difficult to render.
4.3.4. Control Variables

I include the control variables Size, the log of the market value of equity and Amount, the log of the amount of the transaction. Industry classification and industry practice may also play a role in the financing decision. Many of the firms that first engaged in synthetic leases were in high tech industries, so I include an indicator variable HighTech that equals one if the firm operates in a high tech industry, and zero otherwise. I include controls for firms that operate in regulated industries (Regulate) and for fixed asset intensity (FA_Asset), measured as the percentage of fixed assets included in total assets in the year prior to the financing choice.

5. Results and Supplemental Analysis

5.1 Descriptive Statistics

Table 1 provides descriptive statistics about the borrower, lender, and loan characteristics of the 101 synthetic lease firms, 64 mortgage firms, and the entire 165 firm sample. The average basis point spread over LIBOR for synthetic lease firms is 116.34 points, approximately 82 points lower than the mortgage group average. Synthetic lease firms, on average, have significantly stronger boards of directors, have higher levels of free cash flow, and are more likely to have bonus plans based on net income, consistent with both the economic and opportunistic arguments for synthetic lease financing. On average, synthetic lease firms appear to be larger, be more likely to have rated debt, less likely to have debt with covenants, finance larger assets, and have a smaller concentration of fixed assets. These differences are examined in more detail in Tables 2 and 3.
5.2 Determinants of Spread

Table 2 provides the results of a second-stage regression of the basis points above LIBOR on the dichotomous variable measuring whether the transaction is a synthetic lease or mortgage and other control variables. The results of this analysis provide evidence about whether the structure of synthetic lease financing provides benefits, or increases costs, for firms that choose this type of financing. After controlling for other interest rate determinants, I find evidence that the spread on synthetic lease transactions is 46 basis points lower than the mortgage loans in the sample. This evidence is consistent with arguments made by proponents of synthetic lease financing that the structure and terms of synthetic leases provide favorable financing rates. These favorable rates provide firms with an economic benefit to synthetic lease financing.

Consistent with prior research, I find that higher leverage, return volatility, and time to maturity are positively associated with credit spreads, while larger firms, on average, have lower financing rates. I also find that Rated and S&Prating, variables that measure credit rating attributes, are significant in the predicted direction; indicating that firms that are not rated or that have a poor credit rating will pay higher prices for their financing transactions. I find that transactions initiated in the period after the accounting scandals, measured with the Shock variable, face an average basis point increase of 29 points. This result is consistent with the economic downturn associated with that time period. I do not find a significant relationship between financing rates and the amount of the loan, prior banking relationships, or the presence of environmental liabilities. Unlike Ashbaugh et al (2004), I find no evidence that my measure of governance, Board, is a significant determinant of the loan financing cost.
5.3 Determinants of Financing Choice

The results in Table 3 address the determinants of the synthetic lease financing decision. I find that the decision to engage in synthetic lease financing is significantly decreasing (at the 10% level) in the basis points associated with the financing transaction. This evidence is consistent with the argument that the economic benefit, in the form of lower interest costs, provided by the structure of the synthetic lease is a determinant of the financing choice. I also find that firms with more volatile returns and higher leverage ratios are more likely to choose synthetic lease financing, consistent with the bankruptcy-remote structure of the transaction\textsuperscript{13}. Firms with higher levels of free cash flow are more likely to choose synthetic leases, evidence that the ability to finance 100\% of the costs associated with the asset under the synthetic lease may be attractive to those firms with alternative uses for their cash. However, growth firms are less likely to choose synthetic leases. Taken together, these results provide limited evidence that the economic structure, and associated benefits, are influential in managers’ decisions regarding synthetic lease financing.

I also find evidence that the financial accounting implications of synthetic lease financing are significant determinants of the financing decision. Firms with synthetic leases are more likely to have bonuses tied to net income, as synthetic leases provide higher net income for compensation evaluations in the early years of the transaction. While I predict that the probability of choosing a synthetic lease would be decreasing in

\begin{footnote}
\textsuperscript{13} Morsefield (2001) includes a measure of financial distress, the Altman-Z score, as a control variable in her study of synthetic lease financing. As an untabulated sensitivity analysis, I replace the return volatility and leverage measures in my study with a z-score calculated for each firm in the year prior to the financing choice. This variable is not significant, but is highly correlated with several other variables in my study, including growth and free cash flow. As the characteristics of synthetic lease financing lead to specific cross-sectional predictions about differences in growth potential and free cash flow, I choose to examine these variables in my study, and not employ an aggregate measure of financial distress.
\end{footnote}
the post-shock period, my findings suggest that synthetic lease financing activity is increasing in this period. Two potential explanations for this finding are that (1) the transaction was initiated and substantially complete prior to 2002, with renegotiation of the contract being cost prohibitive, or (2) firms anticipated that accounting regulations were going to follow that would potentially eliminate future synthetic lease financing transactions, or reduce the financial accounting benefits. I do find that firms were less likely to engage in synthetic lease financing after the issuance of FIN46. This result is consistent with explanation (2) above and with the argument made by opponents of synthetic leases that the primary benefit of the transaction was the off-balance sheet treatment, as FIN46 made this type of treatment exceedingly difficult for synthetic lease transactions. Overall, these results provide some support for the hypothesis that, all else equal, firms will engage in synthetic lease financing when managers can use certain attributes of the synthetic lease to engage in opportunistic behavior.

I find evidence that the board of directors plays a role in the synthetic lease/mortgage financing decision. Firms in my sample with strong boards of directors in place are significantly more likely to choose synthetic lease financing, as better boards are able to understand the complexities of the transaction and the related economic benefits from lower interest costs. However, as I find a significant negative relationship between the decision to engage in synthetic lease financing and Board*Bonus and Board*NewIssue (both at the 5% level), it appears the presence of a strong board may restrict the ability of managers to obtain rents from current and future investors. This analysis indicates that while on average, firms with strong boards are more likely to engage in synthetic lease financing, the results suggest that strong boards are less likely
to allow these transactions when they may result in wealth transfer from one group of stakeholders to another.

5.4 Supplemental Analysis

As noted above, both economic and opportunistic incentives appear to be influential in manager’s decisions regarding synthetic lease financing, and that strong boards of directors, while supporting the transaction, seem to mitigate the opportunistic use of synthetic leases. Another way to mitigate opportunistic behavior and communicate the economic reasons for the synthetic lease is to provide transparent disclosures about the transaction. Based on the financial statement disclosures from ten synthetic lease firms not in my sample, I develop three disclosure measures, and examine the determinants of the disclosure decision for the 105 synthetic lease firms in my sample. I employ the following logistic regression:

\[
\text{Prob (Disc)} = \beta_1 \text{BasisPts} + \beta_2 \text{RetVol}_{t-n} + \beta_3 \text{Debt_Equity}_{t-1} + \beta_4 \text{FreeCash}_{t-1} + \beta_5 \text{Growth}_{t-1} + \beta_6 \text{Environment} + \beta_7 \text{Covenant}_{t-n} + \beta_8 \text{Bonus}_{t-1} + \beta_9 \text{NewIssues}_{t+n} + \beta_{10} \text{Shock} + \beta_{11} \text{FIN46} + \beta_{12} \text{Board}_{t-1} + \beta_{13} \text{Size}_{t-1} + \beta_{14} \text{Amount} + \beta_{15} \text{FA_Asset}_{t-1} + \beta_{16} \text{HighTech} + \beta_{17} \text{Regulate} + e
\] (3)

Where:

- **SL_Disc** is an indicator variable that equals 1 if the firm disclosed the presence of a synthetic lease in its financial statements in the year of the transaction, zero otherwise.

- **ResVal** is an indicator variable that equals 1 if the firm disclosed the presence of a residual value guarantee associated with its leasing transactions in its financial statements in the year of the transaction, zero otherwise.

- **Tot_Disc** is a count from zero (least disclosure) to six (most disclosure) of the synthetic lease characteristics disclosed in the company financial statements in the year of the financing decision (“Synthetic lease,” “off-balance sheet,” “residual value guarantee,” amount of synthetic lease, amount of residual value guarantee, and terms and conditions of transaction).

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14 This regression is similar to equation (2), but due to the severe reduction in my sample size, I have removed all interactive variables.
The results of these regressions are presented in Table 4. For all three of my disclosure measures, I find that firms with stronger boards of directors are more likely to disclose information about their synthetic leases, with disclosures about residual value guarantees being the most significant. This evidence is consistent with strong boards mitigating the opportunistic use of synthetic leases and suggests that firms that choose synthetic leases for economic reasons will be encouraged by the board of directors to convey this information to shareholders. I also find that firms with bonus plans and environmental liabilities are less likely to disclose the presence of a synthetic lease, consistent with the opportunistic use of these leases by management. The \textit{ResVal} disclosure is positively associated with higher growth ratios and firms with a higher level of fixed asset intensity, and negatively associated with firms going to the public debt or equity market. The \textit{Tot_Disc} variable is positively associated with a firm’s free cash flow position, fixed asset intensity, and its leverage ratio, consistent with economic incentives for synthetic lease financing. However, the total disclosure measure is also positively associated with the release of FIN46 and negatively associated with bonus plans, consistent with the opportunistic synthetic lease argument.

Overall, the results of this analysis are consistent with the primary analysis, that both economic and financial accounting and reporting incentives are determinants of the synthetic lease disclosure choice, and that a strong board of directors attempts to mitigate the use of these leases for opportunistic gains for managers. In this case, strong boards of directors support disclosures to improve the transparency of the transaction and enable investors and regulators to see the economic reasons for the use of synthetic lease financing.
6. Conclusion

The economic structure and the related accounting treatment have made synthetic leases the subject of much scrutiny and debate by investors, regulators, and the business community. Supporters of synthetic lease financing argue that the structure and terms of the transaction provide economic benefits to the firm in the form of lower financing costs which increase firm value. Opponents of synthetic leases argue that the benefit associated with synthetic leases comes from the off-balance sheet accounting treatment which enables managers to use the transaction to engage in opportunistic behavior that decreases shareholder value. This paper investigates these two arguments, and the role of the board of directors in the financing decision process. I find evidence consistent with both of these arguments. The structure of the synthetic lease transaction, after controlling for other determinants of the spread above LIBOR, does appear to provide an economic benefit in the form of lower financing costs, on average 46 basis points lower than mortgage financing. With respect to opportunistic contracting incentives, I find that managers with bonus plans based on net income are more likely to choose synthetic lease financing, consistent with the argument that the accounting treatment associated with the lease does provide managers the ability to behave opportunistically.

To help further distinguish between these two motives for synthetic lease financing, I examine the role of the board of directors in the financing decision. I find evidence that firms that choose synthetic lease financing are more likely to have strong boards of directors, consistent with strong boards being able to understand the complexities of the transaction and support the transaction to obtain the lower financing costs. However, when managers have opportunities to use synthetic leases to extract rents
from other stakeholders, a strong board of directors restrains managers from engaging in this type of wealth extraction behavior. A supplemental analysis of the disclosure choices made by the firms in my sample is consistent with these findings.

This study increases our understanding of the incentives that drive the decision to engage in synthetic lease financing, and the role of the board of directors in the financing decision. The results of this study should be useful to regulators in trying to determine the relevance of the accounting treatment for off-balance sheet transactions, and how the accounting treatment effects the decisions managers make when faced with contracting incentives. This paper also provides information about the role of the board of directors when firms make decisions about substantial transactions, and the ability of the board to keep managers from using opaque transactions to engage in opportunistic behavior.
References


Beekes, W., P. Pope and S. Young. 2003. The Link Between Earnings Timeliness, Earnings Conservatism and Board Composition: Evidence from the UK. *Corporate Governance: An International Review, Forthcoming*


Appendix A: Tables

Table 1 – Descriptive Statistics

Panel A

Mean and (median) of borrower, lender, and loan characteristics for the entire 165-firm sample, and for a sample of 101 synthetic lease firms and 64 mortgage with t-statistics (z-statistics) for the difference of means (medians) between the two subsamples

<table>
<thead>
<tr>
<th></th>
<th>Entire Sample (n=165)</th>
<th>Synthetic Lease (n=101)</th>
<th>Mortgage (n=64)</th>
<th>T-Statistic</th>
<th>Z-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_Lease</td>
<td>0.64 (1.00)</td>
<td>1.00</td>
<td>0.00</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Basis Points</td>
<td>146.68 (125.00)</td>
<td>116.34 (100.00)</td>
<td>198.41 (175.00)</td>
<td>-5.22***</td>
<td>(-5.15)***</td>
</tr>
<tr>
<td>Board</td>
<td>0.50 (0.16)</td>
<td>0.53 (0.55)</td>
<td>0.43 (0.45)</td>
<td>3.65***</td>
<td>(2.35)***</td>
</tr>
<tr>
<td>Ret_Vol</td>
<td>-1.96 (-1.96)</td>
<td>-2.01 (-2.00)</td>
<td>-1.90 (-1.92)</td>
<td>-1.33</td>
<td>(-0.54)</td>
</tr>
<tr>
<td>Debt_Equity</td>
<td>2.41 (1.35)</td>
<td>2.21 (1.29)</td>
<td>2.75 (1.58)</td>
<td>-1.22</td>
<td>(-1.18)</td>
</tr>
<tr>
<td>Environment</td>
<td>0.32 (0.00)</td>
<td>0.34 (0.00)</td>
<td>0.30 (0.00)</td>
<td>0.55 (0.55)</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>0.23 (0.00)</td>
<td>0.24 (0.00)</td>
<td>0.21 (0.00)</td>
<td>0.40 (0.88)</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>7.64 (7.71)</td>
<td>8.33 (8.40)</td>
<td>6.47 (6.46)</td>
<td>6.74***</td>
<td>(5.24)***</td>
</tr>
<tr>
<td>Amount</td>
<td>4.49 (4.58)</td>
<td>4.69 (4.61)</td>
<td>4.16 (4.32)</td>
<td>3.18***</td>
<td>(1.71)**</td>
</tr>
<tr>
<td>Other_Debt</td>
<td>0.42 (0.00)</td>
<td>0.38 (0.00)</td>
<td>0.49 (0.00)</td>
<td>-1.46</td>
<td>(-1.46)</td>
</tr>
<tr>
<td>Tenor</td>
<td>56.98 (22.81)</td>
<td>58.27 (20.06)</td>
<td>54.77 (26.91)</td>
<td>0.88 (0.68)</td>
<td></td>
</tr>
<tr>
<td>Rated</td>
<td>0.63 (1.00)</td>
<td>0.69 (1.00)</td>
<td>0.52 (1.00)</td>
<td>2.13**</td>
<td>(2.15)***</td>
</tr>
<tr>
<td>S&amp;Prating</td>
<td>1.52 (2.08)</td>
<td>1.63 (2.07)</td>
<td>1.35 (1.79)</td>
<td>1.40 (0.36)</td>
<td></td>
</tr>
<tr>
<td>FreeCash</td>
<td>0.00 (0.01)</td>
<td>0.03 (0.02)</td>
<td>-0.04 (-0.01)</td>
<td>4.13***</td>
<td>(2.99)***</td>
</tr>
<tr>
<td>Growth</td>
<td>10.56 (3.06)</td>
<td>5.26 (3.39)</td>
<td>19.59 (2.98)</td>
<td>-1.03</td>
<td>(-0.53)</td>
</tr>
<tr>
<td>Covenant</td>
<td>0.76 (1.00)</td>
<td>0.69 (1.00)</td>
<td>0.90 (1.00)</td>
<td>-3.52***</td>
<td>(-3.07)***</td>
</tr>
<tr>
<td>Bonus</td>
<td>0.73 (1.00)</td>
<td>0.79 (1.00)</td>
<td>0.64 (1.00)</td>
<td>2.02**</td>
<td>(2.08)***</td>
</tr>
<tr>
<td>NewIssues</td>
<td>0.63 (1.00)</td>
<td>0.65 (1.00)</td>
<td>0.61 (1.00)</td>
<td>0.61 (0.60)</td>
<td></td>
</tr>
<tr>
<td>FIN46</td>
<td>0.13 (0.00)</td>
<td>0.12 (0.00)</td>
<td>0.16 (0.00)</td>
<td>-0.85</td>
<td>(0.88)</td>
</tr>
<tr>
<td>FA_Asset</td>
<td>0.31 (0.29)</td>
<td>0.28 (0.23)</td>
<td>0.36 (0.31)</td>
<td>-1.88*</td>
<td>(-1.51)*</td>
</tr>
<tr>
<td>HighTech</td>
<td>0.27 (0.00)</td>
<td>0.31 (0.00)</td>
<td>0.21 (0.00)</td>
<td>1.36 (1.31)</td>
<td></td>
</tr>
<tr>
<td>Regulate</td>
<td>0.10 (0.00)</td>
<td>0.10 (0.00)</td>
<td>0.11 (0.00)</td>
<td>-0.38</td>
<td>(-0.37)</td>
</tr>
</tbody>
</table>
Table 1 – Descriptive Statistics
Panel B
Variable Definitions:

S_Lease - A dichotomous variable that equals one if the firm has chosen a synthetic lease to finance their asset and zero if they chose a mortgage;

BasisPoints - Number of basis points added to the LIBOR rate to arrive at applicable interest rate for the synthetic lease/mortgage;

Board - Average ranking of the quality of the firm’s board of directors among the firms in the sample along three dimensions: percentage of directors that are outsiders, percentage of outside directors that are industry experts, and percentage of board shareholding held by outsiders;

RetVol – Log of the standard deviation of monthly stock returns for a 24 month period prior to the financing choice;

Debt to Equity - Ratio of the firm’s total liabilities to total stockholders’ equity in the period prior to the financing decision;

Environment - Dichotomous variable that equals one if the firm discloses environmental liabilities in the financial statements or footnotes in the year of the financing decision, zero otherwise;

Shock - Dichotomous variable that equals one if the active date of the transaction occurs after December 31, 2001, zero otherwise;

Size - Log of total market value of equity in the year prior to the financing choice;

Amount – Log of the amount of the loan/lease;

Other_Debt - An indicator variable that equals one if the lead lender on the synthetic lease/mortgage is the lead lender for other debt held by the firm prior to the financing choice, zero otherwise;

Tenor - The number of months between the start and stated termination dates of the transaction;

Rated - Dichotomous variable equal to one if the borrower has rated debt at the time the contract was written, zero otherwise;

S&P_rating - the natural log of the numeric conversion of the S&P credit rating (defined as 1 for A+, 2 for A, etc…) at the time the contract was written for borrowers with rated debt, zero otherwise;

Bonus - Indicator variable that equals one if the firm has a cash bonus plan based on earnings, and zero otherwise;

NewIssues - Indicator variable that equals one if the firm has issued new public debt or equity in the two years following its financing decision, zero otherwise;

FreeCash - The firm’s free cash flow in the period prior to the financing decision. Measured as net cash from operating activities less capital expenditures, scaled by total assets;

Growth - Ratio of the firm’s market value of equity to book value in the period prior to the financing decision;

Covenant - Indicator variable that equals one if the firm has debt with financial covenants, zero otherwise;

FA_Asset - the percentage of fixed assets included in total assets in the year prior to the financing choice;

Fin46 - Indicator variable that equals one if the financing transaction was completed after the exposure draft for FASB Interpretation No. 46 (June 28, 2002) and zero otherwise;

HighTech - Indicator variable that equals one if the firm operates in a high tech industry, zero otherwise;

Regulate - Indicator variable that equals one if the firm operates in a regulated industry, zero otherwise.
Table 2 – Determinants of Interest Rate Spread

Coefficients and t-statistics from a second-stage regression of the basis points above LIBOR on the predicted value of a dichotomous variable measuring whether the transaction is a synthetic lease or a mortgage and other determinants of the basis points spread. The sample consists of 101 synthetic lease transactions and 64 mortgage transactions. *** (**) indicates significance at the 1% (5%) level using either one or two-tailed test, as appropriate.

\[
\text{BasisPoints} = \beta_0 + \beta_1 \text{S\_Lease} + \beta_2 \text{Board} + \beta_3 \text{RetVol}_{t-1} + \beta_4 \text{Debt\_Equity}_{t-1} + \beta_5 \text{Environment}_{t-1} + \beta_6 \text{S\_Lease*Environment}_{t-1} + \beta_7 \text{Shock} + \beta_8 \text{Size}_{t-1} + \beta_9 \text{Amount} + \beta_{10} \text{Other\_Debt} + \beta_{11} \text{Tenor} + \beta_{12} \text{Rated} + \beta_{13} \text{S&P\_Rating} + e
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Prediction</th>
<th>Coefficient</th>
<th>T-Statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>+/-</td>
<td>305.05</td>
<td>5.29</td>
<td>***</td>
</tr>
<tr>
<td>S_Lease</td>
<td>+/-</td>
<td>-45.90</td>
<td>-2.11</td>
<td>**</td>
</tr>
<tr>
<td>Board</td>
<td>-</td>
<td>21.98</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>RetVol</td>
<td>+</td>
<td>38.58</td>
<td>2.82</td>
<td>***</td>
</tr>
<tr>
<td>Debt_Equity</td>
<td>+</td>
<td>4.52</td>
<td>1.98</td>
<td>**</td>
</tr>
<tr>
<td>Environment</td>
<td>+/-</td>
<td>-20.85</td>
<td>-0.92</td>
<td></td>
</tr>
<tr>
<td>S_Lease*Environment</td>
<td>+</td>
<td>18.49</td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>+/-</td>
<td>29.13</td>
<td>2.08</td>
<td>**</td>
</tr>
<tr>
<td>Size</td>
<td>-</td>
<td>-23.96</td>
<td>-5.59</td>
<td>***</td>
</tr>
<tr>
<td>Amount</td>
<td>-</td>
<td>2.86</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Other_Debt</td>
<td>-</td>
<td>-1.06</td>
<td>-0.09</td>
<td></td>
</tr>
<tr>
<td>Tenor</td>
<td>+</td>
<td>0.50</td>
<td>2.04</td>
<td>**</td>
</tr>
<tr>
<td>Rated</td>
<td>-</td>
<td>-188.39</td>
<td>-2.41</td>
<td>**</td>
</tr>
<tr>
<td>S&amp;P_Rating</td>
<td>+</td>
<td>88.89</td>
<td>3.01</td>
<td>***</td>
</tr>
<tr>
<td>No. of Observations</td>
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<td>165</td>
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<td></td>
</tr>
<tr>
<td>Adj R-squared</td>
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<td>57%</td>
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</tr>
</tbody>
</table>

See Variable Definitions in Table 1, Panel B. S\_Lease*Environment represents the interaction of the indicator variable S\_Lease with the indicator variable Environment.
Table 3 – Determinants of Financing Choice

Coefficients and t-statistics from a second-stage logistic regression model to examine the economic, financial accounting, and governance influences on the decision to finance an asset using synthetic lease financing. The model includes the predicted value of the basis points above LIBOR from a first-stage regression. The sample includes 101 synthetic lease firms and 64 mortgage firms.

*, **, *** indicates significance of t-statistics at 10%, 5% and 1%, respectively, using a one or two-tailed test, where appropriate.

\[
\text{Prob (Synthetic Lease)} = \beta_0 + \beta_1 \text{BasisPts} + \beta_2 \text{RetVol}_{t-n} + \beta_3 \text{Debt}_\text{Equity}_{t-1} + \\
\beta_4 \text{FreeCash}_{t-1} + \beta_5 \text{Growth}_{t-1} + \beta_6 \text{Environment} + \beta_7 \text{Covenant}_{t-n} + \beta_8 \text{Bonus}_{t-n} + \\
\beta_9 \text{NewIssues}_{t+n} + \beta_{10} \text{Shock} + \beta_{11} \text{FIN46} + \beta_{12} \text{Board}_{t-1} + \beta_{13} [\text{Board}_{t-1} \times \text{Bonus}_{t-1}] + \\
\beta_{14} [\text{Board}_{t-1} \times \text{NewIssues}_{t+n}] + \beta_{15} [\text{Board}_{t-1} \times \text{Shock}] + \beta_{16} \text{Size}_{t-1} + \beta_{17} \text{Amount} + \\
\beta_{18} \text{FA_Asset}_{t-1} + \beta_{19} \text{HighTech} + \beta_{20} \text{Regulate} + \epsilon
\]

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<th>Variable</th>
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<th>Chi-Squared Statistic</th>
<th>Significance</th>
</tr>
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<td>INTERCEPT</td>
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<td>0.77</td>
<td></td>
</tr>
<tr>
<td>BasisPoints</td>
<td>-</td>
<td>-0.01</td>
<td>-2.40</td>
<td>*</td>
</tr>
<tr>
<td>RetVol</td>
<td>+</td>
<td>0.63</td>
<td>2.82</td>
<td>**</td>
</tr>
<tr>
<td>Debt_Equity</td>
<td>+</td>
<td>0.10</td>
<td>2.25</td>
<td>*</td>
</tr>
<tr>
<td>FreeCash</td>
<td>+</td>
<td>2.23</td>
<td>1.68</td>
<td>*</td>
</tr>
<tr>
<td>Growth</td>
<td>+/-</td>
<td>-0.05</td>
<td>-3.73</td>
<td>*</td>
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<tr>
<td>Environment</td>
<td>+/-</td>
<td>-0.18</td>
<td>-0.31</td>
<td></td>
</tr>
<tr>
<td>Covenant</td>
<td>+/-</td>
<td>-0.55</td>
<td>-2.31</td>
<td></td>
</tr>
<tr>
<td>Bonus</td>
<td>+</td>
<td>1.92</td>
<td>3.65</td>
<td>***</td>
</tr>
<tr>
<td>NewIssues</td>
<td>+/-</td>
<td>1.37</td>
<td>2.02</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>-</td>
<td>2.54</td>
<td>3.97</td>
<td></td>
</tr>
<tr>
<td>FIN46</td>
<td>-</td>
<td>-1.33</td>
<td>-3.79</td>
<td>***</td>
</tr>
<tr>
<td>Board</td>
<td>+/-</td>
<td>6.54</td>
<td>7.20</td>
<td>***</td>
</tr>
<tr>
<td>Board*Bonus</td>
<td>-</td>
<td>-3.56</td>
<td>-3.12</td>
<td>**</td>
</tr>
<tr>
<td>Board*NewIssues</td>
<td>-</td>
<td>-3.42</td>
<td>-6.41</td>
<td>**</td>
</tr>
<tr>
<td>Board*Shock</td>
<td>-</td>
<td>-1.87</td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>+/-</td>
<td>0.16</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td>+/-</td>
<td>0.22</td>
<td>2.24</td>
<td></td>
</tr>
<tr>
<td>FA_Asset</td>
<td>+/-</td>
<td>0.76</td>
<td>1.52</td>
<td></td>
</tr>
<tr>
<td>HighTech</td>
<td>+/-</td>
<td>0.42</td>
<td>1.13</td>
<td></td>
</tr>
<tr>
<td>Regulate</td>
<td>+/-</td>
<td>-1.38</td>
<td>-3.81</td>
<td>**</td>
</tr>
<tr>
<td>Percent Correctly Predicted</td>
<td>85%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo R^2</td>
<td></td>
<td>0.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Variable Definitions in Table 1, Panel B. BOARD*VAR represents an interaction between the board quality measure and the named indicator variable.
Table 4 – Supplemental Disclosure Analysis

Coefficients and t-statistics from the following logistic regression model to examine the economic, financial accounting, and governance influences on the decision to disclose information about a synthetic lease transaction. The sample includes 105 synthetic lease firms. *, **, *** indicates significance of t-statistics at 10%, 5% and 1%, respectively, using a one or two-tailed test, where appropriate.

\[
\text{Prob (Disc)} = \beta_1 \text{BasisPts} + \beta_2 \text{RetVol_{-1}} + \beta_3 \text{Debt}_\text{Equity}_{-1} + \beta_4 \text{FreeCash}_{-1} + \beta_5 \text{Growth}_{-1} + \beta_6 \text{Environment} + \beta_7 \text{Covenant}_{-1} + \beta_8 \text{Bonus}_{-1} + \beta_9 \text{NewIssues}_{-1} + \beta_{10} \text{Shock} + \beta_{11} \text{FIN46} + \beta_{12} \text{Board}_{-1} + \beta_{13} \text{Size}_{-1} + \beta_{14} \text{Amount} + \beta_{15} \text{FA}_\text{Asset}_{-1} + \beta_{16} \text{HighTech} + \beta_{17} \text{Regulate} + e
\]

<table>
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<tr>
<th>Variable</th>
<th>Prediction</th>
<th>Disc=SL_Disc Coefficient (Chi-Sq Stat)</th>
<th>Disc=ResVal Coefficient (Chi-Sq Stat)</th>
<th>Disc=Tot_Disc Coefficient (Chi-Sq Stat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BasisPoints</td>
<td>-</td>
<td>0.00 (0.45)</td>
<td>0.00 (0.19)</td>
<td>-0.00 (-0.03)</td>
</tr>
<tr>
<td>RetVol</td>
<td>+/-</td>
<td>-0.99 (-0.96)</td>
<td>-0.13 (-0.04)</td>
<td>0.46 (0.91)</td>
</tr>
<tr>
<td>Debt_Equity</td>
<td>+/-</td>
<td>0.00 (0.03)</td>
<td>0.01 (0.98)</td>
<td>0.01 (5.63)**</td>
</tr>
<tr>
<td>FreeCash</td>
<td>+</td>
<td>0.11 (0.00)</td>
<td>4.28 (1.00)</td>
<td>7.44 (7.50)**</td>
</tr>
<tr>
<td>Growth</td>
<td>+/-</td>
<td>-0.16 (-1.88)</td>
<td>0.17 (2.87)*</td>
<td>0.02 (0.55)</td>
</tr>
<tr>
<td>Environment</td>
<td>-</td>
<td>-1.25 (-2.94)**</td>
<td>-0.37 (0.42)</td>
<td>-0.44 (-1.09)</td>
</tr>
<tr>
<td>Covenant</td>
<td>+/-</td>
<td>0.60 (0.40)</td>
<td>-0.05 (-0.00)</td>
<td>0.30 (0.49)</td>
</tr>
<tr>
<td>Bonus</td>
<td>-</td>
<td>-3.20 (-13.95)**</td>
<td>0.40 (0.45)</td>
<td>-1.35 (-8.16)**</td>
</tr>
<tr>
<td>NewIssues</td>
<td>+/-</td>
<td>-0.81 (-1.22)</td>
<td>-0.97 (-2.61)*</td>
<td>-0.39 (-0.78)</td>
</tr>
<tr>
<td>Shock</td>
<td>+</td>
<td>-0.26 (-0.07)</td>
<td>0.38 (0.21)</td>
<td>0.66 (1.19)</td>
</tr>
<tr>
<td>FIN46</td>
<td>+</td>
<td>1.62 (2.10)*</td>
<td>0.24 (0.04)</td>
<td>1.71 (4.74)**</td>
</tr>
<tr>
<td>Board</td>
<td>+</td>
<td>3.45 (2.04)*</td>
<td>4.33 (5.79)**</td>
<td>1.66 (1.68)*</td>
</tr>
<tr>
<td>Size</td>
<td>+/-</td>
<td>-0.08 (-0.08)</td>
<td>-0.09 (-0.18)</td>
<td>-0.09 (-0.36)</td>
</tr>
<tr>
<td>Amount</td>
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<td>0.15 (0.44)</td>
</tr>
<tr>
<td>FA_Asset</td>
<td>+/-</td>
<td>1.62 (1.19)</td>
<td>3.44 (6.02)**</td>
<td>1.64 (2.99)*</td>
</tr>
<tr>
<td>HighTech</td>
<td>+/-</td>
<td>1.50 (2.20)</td>
<td>0.26 (0.13)</td>
<td>0.04 (0.00)</td>
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<tr>
<td>Regulate</td>
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<td>-13.64 (-0.00)</td>
<td>-0.61 (-0.51)</td>
<td>-0.22 (-0.10)</td>
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<td>Percent Correctly Predicted</td>
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<td>74.4%</td>
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<tr>
<td>Pseudo-R²</td>
<td></td>
<td>0.56</td>
<td>0.26</td>
<td>0.13</td>
</tr>
</tbody>
</table>
Variable Descriptions:

SL_Disc is an indicator variable that equals 1 if the firm disclosed the presence of a synthetic lease in its financial statements in the year of the transaction, zero otherwise.

ResVal is an indicator variable that equals 1 if the firm disclosed the presence of residual value guarantee associated with its leasing transactions in its financial statements in the year of the transaction, zero otherwise.

Tot_Disc is a count from zero (least disclosure) to six (most disclosure) of the synthetic lease characteristics disclosed in the company financial statements in the year of the financing decision ("Synthetic lease," "off-balance sheet," "residual value guarantee," amount of synthetic lease, amount of residual value guarantee, and terms and conditions of transaction).

See Table 1, Panel B for description of other variables.
Appendix B: Background Information

Institutional Characteristics of Synthetic Lease Transactions

A. Synthetic Leases – Overview

Also known as a Master Lease, Off-Balance Sheet Lease, or Off-Balance Sheet Loan, synthetic leasing is a financing structure that enables a company to finance 100% of the cost of the acquisition of property at a favorable amount, while receiving operating lease treatment for financial reporting purposes and capital lease treatment for tax purposes. This type of lease has many of the advantages of structured financing, including

- Real estate assets that are separated from the bankruptcy risks of the owner or former owner of the asset
- Lowered cost of financing, sometimes between 200-300 basis points
- 100% of the costs of the project may be financed
- Traditionally the lease payments are equal to the interest-only payments on the amount financed

The deal sizes for synthetic leases are generally large, in excess of $10 million, and may be structured for a number of different properties under the same facility. Synthetic leases gained popularity during the late 1980’s and early 1990’s when a real estate recession made lenders more wary about engaging in transactions with long amortization periods and non-recourse financing, which were typical characteristics of real-estate loans. The structure of the synthetic lease was borrowed from the equipment leasing industry and enabled lenders to decrease the operational risks and the potential loss of value of the building at the end of the financing term.

B. Structure of the Transaction

The lender, usually commercial banks who often fund the debt and equity through their subsidiaries, will form a special purpose entity (SPE) whose sole purpose is to acquire and develop the property and lease it to the end-user, or lessee. Its only capital is an equity contribution by the lender and borrowed funds. The SPE is designed so that the likelihood of bankruptcy is remote. This helps protect the lender in the case of the
financial failure of the end-user. The lender makes and equity investment in the SPE equal to 3% of the capital needed to complete the deal. This threshold is established by EITF 90-15, the accounting ruling that governs SPE accounting. The SPE and the end-user sign a non-cancelable lease, under which the SPE agrees to develop the property according to the specifications of the lessee. Lease payments from the end-user to the SPE usually begin when the project is completed. The SPE uses rent payments to pay debt service costs.

During the term of the lease, The end-user may (1) extend the terms, with permission from the lender and appropriate credit approval, (2) purchase the asset for the unamortized portion of the funded cost and all other amounts due, or (3) refinance the property with a third party by assigning the lessee’s purchase option to the new lender. At the end of the lease term, the end-user may extend the terms as noted above, with permission from the lender and appropriate credit approval, or the lessee may purchase the asset for the unamortized portion of the funded cost and all other amounts due. For accounting purposes, this purchase cannot be at a bargain price, and the property is usually appraised at the beginning of the project to ensure a fair market price. If the end-user does not choose either of the above options, it must leave the property and oversee its sale to an unaffiliated third party. The end-user is obligated to pay the lessor 85 to 89 percent of the funded costs. If the sale of the property exceeds this amount, the end-user gets the excess, if the sale of the property is less than this amount; the end-user is required to make up the difference. Residual value insurance is available to cover this risk. The end-user takes the risk of decrease in value, but gets the benefit of any increase in the value of the property from the beginning of the project until the termination of the lease.

C. Relevant Accounting Standards and Pronouncements

There are several accounting standards and pronouncements that govern the accounting treatment for synthetic leases. Financial Accounting Standards Board (FASB) Statement 13 holds that a synthetic lease can be treated as an operating lease for financial reporting purposes as long as it does not meet any of the four capital lease qualification criteria. Lenders and firm managers specifically design synthetic leases to avoid having to report the asset and the related liabilities on the firm’s balance sheet. The Emerging
Issues Task Force (EITF) 90-15 and 97-1 also provide rules about the consolidation of special purpose entities (SPE).\textsuperscript{15}

As all three of the established criteria must be met in order for consolidation to be required, most synthetic lease transactions are structured so that the owner of record of the SPE makes a capital investment that is less than the established threshold. Based on the established rules governing leases, including those of sale/leaseback transactions, synthetic leases are used for new construction, expansion, and new equipment purposes when the firm has not had previous ownership of the asset under lease.

In January, 2003, The FASB issued Interpretation No. 46, “Consolidation of Variable Interest Entities.” Variable Interest Entities (VIEs) are broader in scope than SPEs, and include synthetic lease SPEs among other types of legal entities. FIN 46 states that if an entity is a VIE, the enterprise and its related parties need to determine if they — or another investor — are exposed to a majority of the entity’s “expected losses.” If so, that party is required to consolidate the VIE. This ruling will cause most firms that use synthetic leases to reflect the related assets and liabilities on their balance sheets, unless the synthetic-lease lessors are bank leasing companies that are generally voting interest entities or if management can show that expected losses associated with the VIE are less than the amount of equity invested in the entity. This pronouncement applies to all VIEs created after January 31, 2003 and is in effect for the first fiscal year or period after June 15, 2003 for all VIEs that were in place prior to February 1, 2003. The interpretation may be applied with a cumulative effect adjustment as of the application date or be restating previously issued financial statements. The board stated it objective with respect to this pronouncement was “not to restrict the use of variable interest entities but to improve financial reporting by enterprises involved in variable interest entities.”\textsuperscript{16} The effect of this pronouncement on synthetic leases may largely depend on the lender’s and

\textsuperscript{15} The SPE that holds title to the property must be consolidated if it is shown to lack legal substance by meeting all three of the following criteria: (1) Substantially all activities of SPE involve assets leased to one tenant, (2) Residual risks and rewards of leased assets and SPE funded debt pass to the tenant, and (3) Owner of record of the SPE has not made a substantial equity capital investment in the SPE – previous guidelines set this as greater than 3%, however this investment threshold is currently being re-negotiated but the FASB.

\textsuperscript{16} FIN No. 46 page ii
management’s abilities to design a transaction where the equity investment by an outside third party exceeds the expected losses.
Jennifer L.M. Altamuro

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___________________________________________________________________

Education and Professional Certification

Graduate: Pennsylvania State University  
University Park, PA  
Ph.D., Business Administration  
May 2005

Undergraduate: Saint Joseph’s University  
Philadelphia, PA  
B.S. (Accounting) - June 1994

Certification: Certified Public Accountant (Pennsylvania)

Dissertation  
“The Economic, Financial Accounting and Governance Determinants of Synthetic Lease Financing” Chaired by Anne Beatty and Charles Smith

Research and Teaching Interests

My primary research interests are in financial accounting and reporting and my teaching interests are auditing and financial accounting. Besides my thesis, my primary research interests relate to the role of accounting information in corporate finance decisions, earnings management, and voluntary disclosures by management.

Published Research


Professional Experience

Pennsylvania State University  
Teaching Assistant (Fall 1999 – Spring 2000)  
Research Assistant (Fall 2000 – Spring 2004)

PricewaterhouseCoopers, Philadelphia PA  
Audit and Business Advisory Services (September, 1994 – August, 1999)

Awards and Honors

American Accounting Association Doctoral Consortium Fellow (Summer, 2002)  
Big Ten Doctoral Consortium Fellow (Summer, 2001)  
Cleghorn Graduate Accounting Scholarship (PICPA) (2000,2001)