

Owning

Abstract. In this article, rationales for the widespread existence of commercial real estate leasing are examined. Given the tendency of tenants to abuse property to their own advantage, there must be powerful incentives on the other side to encourage landlords and property managers to participate in the widespread practice of leasing. We suggest that common leasing practices are the consequence of many rationales, including the ability of the landlord to solve free-rider problems in maintaining property desirability and informational asymmetries that exist between landlords and tenants.

A lessor's natural response to tenants' tendency to abuse or overuse rental property (see Henderson and Ioannides, 1983; Miceli, 1989; and Kanemoto, 1990; and Benjamin, de la Torre and Musumeci, 1995) is to raise the rent. If would-be tenants can buy property, however, the result may be failure of the leasing market (Benjamin et al. 1995). Yet since World War II we have witnessed a virtual explosion in the prevalence of commercial real estate leasing.¹ This prevalence suggests that some market imperfections cause both landlords and tenants to gain significant value (*i.e.*, more than enough to offset the losses due to asset abuse) from a lease rather than an outright sale.

This article examines a number of potential rationales for leasing rather than owning commercial property and suggests that the primary factors in favor of leasing are the abilities of landlords and property managers to eliminate free-rider problems, to exploit economies of scale, and to specialize in valuation, maintenance and disposal of commercial property. Given the abilities of landlords and property managers in these areas, tenants are willing to pay higher lease rates in return for additional expertise, service and reduction of risk. In addition, landlords and property managers can use their knowledge to enhance their performance as intermediaries. Not only can they provide better service if they know specifically what qualities have caused lessees to lease rather than buy (and create efficiencies to deliver more and better service), they will also be better prepared for any problems that are likely to arise (*e.g.*, those resulting from lessee's credit risk).

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In the first section, we describe the asset abuse problem and its implications for the decision to lease or buy. The second section lists and briefly describes some of the possible reasons for the existence of commercial real estate leasing in the presence of these abuse problems. The third section discusses in detail one of these reasons, the consequences of an informational advantage of the lessor. The final section is the conclusion.

The Asset-Abuse Problem

A number of articles (see Lewellen, Long and McConnell, 1976; Miller and Upton, 1976; and Myers, Dill and Bautista, 1976) have used an argument similar to Modigliani and Miller's (1958) capital-structure irrelevance proposition to suggest that property users will be indifferent to leasing or purchasing the property. One common assumption of these models is analogous to fixed investment, namely that the tenant would make the same choices with the property that the owner would. Just as violation of the fixed investment assumption in the Modigliani and Miller framework leads to agency problems, so does allowing the tenant to choose behaviors suggest the existence of an analogous asset abuse problem.²

Consider a commercial property owner who is choosing among three uses for a property. We shall order the possible uses so that each generates larger operating cash flows than the previously specified one, but also leaves a reduced property value. The first use generates net operating cashflows of \$50,000 and leaves the property with a \$300,000 value at the end of the period. The second generates net operating cashflows of \$80,000 and leaves the property with a \$280,000 value at the end of the period. Finally, the third generates net operating cashflows of \$100,000 and leaves the property with a \$240,000 value at the end of the period. Without loss of generality and assuming that the effect of time value of money is negligible, the owner finds the second use to be best: its \$360,000 total value is higher than the \$350,000 of the first project or the \$340,000 of the third one.

Tenants, however, earn only net operating cashflows from their businesses and do not have a stake in the value of the property at the end of the period. Thus, if the owner rents a property to a tenant who has the same three uses from which to choose, the tenant will not have the same incentives and in general will not make the same choice. In our example, instead of choosing the second project, he will find the third one most attractive since it generates the largest cashflow. This misalignment of incentives is referred to as the asset abuse problem (*i.e.*, the tenant's property use or abuse incentives differ from the landlord's).

Benjamin, de la Torre and Musumeci (1995) suggest several possible solutions to the problem. The most obvious, that the lessor charges a lease rate sufficiently high to compensate for the loss of salvage value, will lead to market failure. The lessor, wanting to net the same \$360,000 as if the second use was chosen but expecting the tenant to choose the third, could charge \$120,000 rent so the net benefits would be \$360,000 (= \$120,000 rent plus \$240,000 residual property value). The lessee, however, finding none of the uses sufficiently attractive to merit a \$120,000 lease

payment, will choose not to lease, and the market for leasing will dry up. Although there exist some mechanisms to avoid these incentive problems (*e.g.*, rents tied to the level of abuse), the measurement of variables needed to implement these mechanisms may be problematic. Thus, the question remains as to why lease markets have flourished to the extent that they have.³

Rationales for the Existence of Leasing Markets

There are a number of possible rationales for the existence of leased property, even in the presence of asset abuse problems. These rationales include:

- Taxes;
- Differential access to credit markets;
- Transactions costs;
- Risk shifting;
- Comparative advantage in asset disposal;
- Asymmetric information;
- Economies of scale; and
- Other agency problems.

Taxes

Perhaps the most common reason cited for the existence of leasing markets is avoiding or reducing taxes (see Lewellen, Long and McConnell, 1976; Myers, Dill and Bautista, 1976; Brealey and Young, 1980; Lewis and Schallheim, 1992; Barclay and Smith, 1995; and Sharpe and Nguyen, 1995). For example, Myers et al. find that different tax rates for the lessor and lessee are an important reason for the existence of leasing. They argue, “saving taxes seems to be the only motive that is both obvious and substantial.”⁴ Lewellen et al. also find taxes to be an important consideration, but conclude that the preference for leasing versus owning could go either way, depending on specific tax conditions. Sharpe and Nguyen also find tax considerations to be a significant motivation in the lease-purchase decision, with firms subject to a lower tax rate being more inclined to lease.

Prior academic research has focused primarily on the economics of capital leases, while many real estate leases are operating leases. Although taxes might be a factor in any leasing decision, Smith and Wakeman (1985) point out that there are other non-tax rationales or determinants for leasing. Since the tax arguments are well analyzed, we focus on these other factors.

Differential Access to Credit Markets

A second possible reason property users lease rather than buy the property they use arises from differential access to credit markets. Sharpe and Nguyen (1995), for example, find that firms subject to high capital costs engage in significantly more leasing (of all types) than other firms. For consumer leasing, the existence of rent-to-buy plans (typically at higher rates than an ordinary purchase on credit) is also an

indication of limited access to credit.⁵ As Smith and Wakeman (1985) and Barclay and Smith (1995) point out, in the event of default it is generally easier for a lessor to reacquire a leased asset⁶ than for even a secured creditor to acquire the pledged asset.⁷ While this may be an important consideration for commercial real estate, it is probably more germane for other types of assets, if for no other reason than that, unlike other assets, real estate is immobile and readily identifiable. In addition, the fact that large retailing chains (such as Wal-Mart and Sears), many with greater access to capital markets than their lessors, choose to lease rather than buy their store space indicates that some other factors are at play.⁸

On the other hand, if lessees generally lack access to capital because of credit risk, then property managers' optimal behavior will most likely assess and incorporate this risk into the lease terms. Perhaps lessors or property managers assess those credit risks, possibly pegging lease rates (or other lease terms) to them.

Transactions Costs

A third rationale proposed in the literature develops from transactions costs. Flath (1980), for example, discusses a number of components of transactions costs, generally in the context of short-term operating leases. One such cost is that of transferring title to the asset. The fact that many large commercial lessors (*e.g.*, supermarkets and industrial space users) intend to stay at the leased site indefinitely suggests this cost may not be a significant factor in commercial leasing. On the other hand, real estate, like any other asset, is always most valuable when it is put to its best use. In a relatively stable environment, such best use is likely to remain constant over time. When the environment is subject to constant changes and shocks, however, the best use will likely also change. An example cited by Brueggeman, Fisher and Porter (1990) is the transformation into retail space of warehouses along Baltimore's waterfront and the transfer of "back-office" operations of Sears, Citicorp and other large firms from costly urban center buildings to less expensive suburban locations. Since professional developers are more likely to be alert to such possibilities and to know exactly which users might find the property more valuable, the function of finding such users in a rapidly changing environment has been transferred to them. Likewise, these same developers are also more likely to find suitable tenants for the vacated properties in a manner that minimizes search costs. These search costs are often classified as a type of transactions cost and are an important reason for the current predominance of leasing over ownership.⁹ Other costs Flath classifies as types of transactions costs may also be relevant to long-term leases of commercial property and are included in the subsequent discussion.

Risk Shifting

Risk shifting has also been cited as a potential reason for commercial leasing. Miller and Upton (1976) use a CAPM framework to show the irrelevance of the lease/purchase decision. However, as Flath (1980) points out, use of the Capital Asset Pricing Model (CAPM) assumes that the risk characteristics are exogenous and are not affected by the existence of the lease. A lessee, like a buyer, is purchasing use of

property, but the owner/buyer is subject to the risk of deterioration of value,¹⁰ while the lessee has the option of not renewing the lease if the desirability of the property declines. This type of risk shifting may be relevant because the lessor of a strip mall or shopping center may be in a better position to control such risk. Further, when informational asymmetries exist,¹¹ as they likely do in commercial property markets, the CAPM assumption of homogenous beliefs is inappropriate.

Comparative Advantage in Asset Disposal

The existence of comparative advantage in asset disposal, a fifth rationale, has been suggested by Lewellen, Long and McConnell (1976), who cite several reasons for such a comparative advantage. The main reason, one that is applicable to commercial real estate, is the reduction in search and information costs. On the other hand, what may to an uninformed investor seem to be a comparative advantage in asset disposal, may in reality indicate that the property is more valuable than the uninformed investor realizes; that is, the lessor may own, in general, a more valuable property due to his informational advantage employed at the time of purchase and development.

Asymmetric Information

A comparative advantage in asset disposal is one of many potential rationales for leasing that results from asymmetric information. There are at least two different forms of asymmetry that might lead to such an advantage. The first is a knowing the identity of potential future users of the property. This minimizes the costs of searching for tenants who could put the property to its best use. A second type of informational asymmetry regards the future value of the property. In the next section, we present a model that suggests that this informational asymmetry helps explain the prevalence of leasing. In addition, asymmetric information has a number of other implications. In a sense, since such asymmetric information can generally be equalized at some cost by the informationally disadvantaged party, it can be viewed as a type of transactions cost.¹² Indeed, Bhattacharya and Thakor (1993) suggest, “informational asymmetries are the most basic form of transactions costs.” For example, if lessors have developed an expertise in knowing which areas will continue to thrive and which will deteriorate (due to such factors as zoning, crime patterns, etc.), then the fact that a property is offered for lease rather than sale brings with it a type of certification, namely, that the (presumably better informed) lessor thinks highly enough of the property’s potential that he wishes to keep it. Although on the surface it seems that a lessee can equalize the informational asymmetry by insisting on an option to buy,¹³ the fact that the lessor would offer such an option (while presumably charging a higher rent to compensate himself for what the lessee perceives to be the fair value of the option) signals similar implications about the lessor’s perception about the future value of the property.¹⁴

The property user could, of course, eliminate this asymmetry by incurring the expense of becoming as knowledgeable as the commercial lessor, but this is exactly the sort of “transactions cost” to which Bhattacharya and Thakor refer. Since real estate is not the main focus of a property user’s business and because such an expense of time

and money is a distraction from the main line of business, outsourcing becomes a cheaper way to handle the problem.¹⁵

Economies of Scale

We believe economies of scale exist in the owning and management of commercial real estate properties that would, in a competitive market, translate into lower lease rates for tenants. As the number of real estate properties or units increases (via acquisition, consolidation or development), so would the economies of scale due to the fixed-cost nature of many ownership and management expenses. If the leasing market is competitive, these reduced average ownership and management expenses would, *ceteris paribus*, be passed on to tenants in the form of lower lease rates. If economies of scale in operating commercial real estate do exist, then the largest companies that own or manage real estate should be growing fastest due to their competitive position.¹⁶ Exhibit 1 summarizes National Multifamily Housing Council data representing the fifty largest of each of apartment owners and managers. The data do indeed suggest that the largest of these companies are expanding at a faster rate than the smaller ones. For example, while the number of units owned by the entire fifty largest apartment owners has increased at a rate of 2.0% between 1990 and 1995, the top five have increased by 7.7% and the top ten by 4.9% during the same period. In contrast, the smallest ten (of the top fifty) have experienced negative growth, an average of -0.4% during the five-year period. Similar results hold for the fifty largest management companies. For example, while the number of units managed by the entire 50 largest apartment managers grew at a rate of 4.4% between 1990 and 1995, the top five grew by 8.7% and the top ten by 5.0%. On the other hand, the smallest ten have grown by an average of only 3.1% during the five-year period. Further, excluding 1991 (when the real estate recession was greatest) results in even more pronounced differences between the largest and smallest of the set. While some

Exhibit 1
Economies of Scale in Apartment Ownership and Management

Change	1991	1992	1993	1994	1995	1990-95
Total Units Managed (%)	6.2	0.9	7.0	1.9	6.0	4.4
Total Units with Ownership (%)	0.2	0.1	-1.8	9.4	2.3	2.0
Top Five Units Managed (%)	-6.4	10.8	9.7	12.4	18.5	8.7
Top Five Units with Ownership (%)	6.3	5.8	1.6	16.7	8.8	7.7
Top Ten Units Managed (%)	-1.8	2.8	7.6	7.2	14.9	6.0
Top Ten Units with Ownership (%)	0.7	3.0	1.7	14.3	5.4	4.9
Top Twenty Units Managed (%)	3.1	0.6	8.2	2.7	10.6	5.0
Top Twenty Units With Ownership (%)	-1.2	1.3	0.3	11.3	4.6	3.2
Bottom Ten Units Managed (%)	11.1	1.7	4.6	-1.5	-0.1	3.1
Bottom Ten Units with Ownership (%)	9.1	-4.8	-6.1	4.0	5.7	-0.4

Note: Data from the National Multi-Family Housing Council for the 50 largest apartment owners and managers. Data not available for 1990.

of these effects may be due to a type of survivorship bias, it seems likely that economies of scale account for some of the differences.

Other Agency Problems

Finally, the prevalence of malls and strip shopping centers suggests that leasing is a solution to another problem, namely a free-rider problem. Property values are determined in large part by traffic patterns, crime and the general desirability of the neighborhood. Since these characteristics are influenced primarily by zoning laws, law enforcement and the types of businesses in nearby locations, a concerted effort by contiguous property owners to lobby for or ensure favorable conditions for the area would be desirable. If, for example, owners in an area engage in no lobbying, hire no private security monitoring or make no general attempts to maintain the area's appearance or desirability, all the owners will be worse off by, say, \$10,000 each. On the other hand, suppose that if each of the local businesses donates two hours and \$50 per month to such activities, property values would remain at their current level. Under ordinary wage and time value of money conditions, it is clear that such behavior makes each property owner better off. Yet, such activities might not be undertaken because their benefits would accrue not just to owners making the expenditures, but to owners of adjacent properties as well. Thus, any individual owner has little incentive to make such expenditures: if the neighbors are doing it, individual actions will be unnecessary, while if they are not, the efforts will be insufficient. The businesses might attempt to form an equivalent of a homeowner's association, but it is difficult to enforce the collection of dues or to control dropouts.¹⁷ Although the application of the Coase (1960) Theorem illustrates that socially optimal cooperation occurs in the absence of market imperfections, Coase (1988) points out that the imperfections themselves often make simplistic economic models inapplicable in practice.

In this context, market imperfections take the form of the costs of getting other owners to contribute. In other words, there is a free-rider problem, with each owner earning virtually no marginal return on expenditure. When one lessor owns much of the property in one area, such a problem is solved because the lessor is a main beneficiary of maintaining the value of the neighborhood and because such maintenance depends largely the lessor. The lessor either makes the expenditure and earns the benefits or does not; there is no free-rider problem. Given that it is optimal to make the appropriate expenditures to maximize property value, the expense of such activity can be passed on to tenants as higher lease payments. Thus he serves as the equivalent of a "homeowner's association" with the power to collect "dues."

The advantages of centralizing the responsibility for lobbying, security and maintaining an attractive appearance has an analogy in the banking literature. James (1987) finds that the stock market reacts positively to announcements of a firm's commercial bank loans but shows no response to public debt. Since the lender in the first case is a single entity exposed to all the risk of default, there is a greater incentive to investigate and monitor the firm than there is in the second case, where the risk is split up among many bondholders. Thus the bank, in assuming the entire risk of a

loan, certifies that the loan is likely to be repaid, just as the lessor, in assuming the entire risk of a neighborhood decline, centralizes the incentive to thwart such a decline.

The Consequences of Informational Asymmetry

Early financial models assumed equal access to all information and found that capital structure and dividend policy were irrelevant to firm valuation. Because such results were not realistic to practitioners, the assumption of identical information was a natural one for academics to relax. More recently, models of asymmetric information have been used to explain not only capital structure and dividend policy decisions, but also the existence of such intermediaries as investment bankers and banks. In many cases, these intermediaries offer certification of creditworthiness or a reduction in some type of transaction cost for their clients.

Williamson (1988) argues that leasing exists in part arising from efficiencies in transacting (*i.e.*, in certain situations a lease provides the least costly alternative). Flath (1980), along with Smith and Wakeman (1985), detail several non-tax expositions for leasing, including the degree of asset specialization as well as the extent to which the lessor holds an advantage in asset disposal. Because most equipment is leased for a term less than its economic life, part of the value of the asset is derived from its resale or liquidation. If property is too specialized, then the residual uses of the property will be limited. It can be argued that the more specialized a real estate property, the less likely the existence of highly developed secondary markets.¹⁸ To compensate for the non-liquidity in the secondary market, landlords could demand higher lease payments; but doing this in turn would diminish the initial cost advantage associated with leasing the asset, mitigating the selection of very specialized assets in lease contracts.

It follows that with the development of secondary markets for the residual real estate assets, landlords would have a better understanding of the values range for the leased assets simply because the lessor would accumulate, if only by trial and error, a comparably larger set of information about the leased assets than would other market participants.¹⁹ Further, it appears that a lessor holding a diversified portfolio of real property assets would have many more transactions than the tenant.²⁰

Even if developers and less informed investors have the same estimate of the average future property value and the correlation between property value and the stock market, traditional asset pricing models may lead developers with better information to place a higher value on commercial property. For example, suppose that the CAPM holds and that both developers and potential users of the property believe its expected value to be \$2 million. Suppose also that, based on past data, both parties believe the correlation between the growth rate of property value and the stock market to be .5. Moreover, both parties observe a riskless rate of 5% and expect the market return to be 15% and to have a standard deviation of 20%. Suppose, however, that the property user believes the standard deviation of the capital appreciation rate on the property to be 50%, while the developer, based on a better knowledge of the neighborhood,

believes it to be only 30%. In this case, the property user will estimate a beta²¹ of $\beta = .5(.50)/.20 = 1.25$, while the developer will estimate a beta of $\beta = .5(.30)/.20 = .75$. Accordingly, the property user will require a return of $E(R) = .05 + 1.25[.15 - .05] = 17.5\%$, while the developer will require a return of only $E(R) = .05 + .75[.15 - .05] = 12.5\%$.

Thus, the user will value the property at only $\$2,000,000/1.175 = \$1,702,128$, while the developer will value it at $\$2,000,000/1.125 = \$1,777,778$. (For simplicity and without loss of generality, we ignore any operating cash flow the property may generate over the course of the year.) This effect is exacerbated if the number of periods is large. For example, if both parties believe the property will, on average, be worth \$5 million in ten years, the user will value it at $\$5,000,000/1.175^{10} = \$996,762$, while the developer will value it at $\$5,000,000/1.125^{10} = \$1,539,731$. Similar results hold for more general pricing models (e.g., Arbitrage Pricing Theory). The results presented here are also roughly analogous to models with a mean-preserving spread, suggested by MacMinn (1989).

Many economic models allow uninformed investors to become informed by observing market prices and the behavior of informed investors. For example, Kihlstrom and Mirman (1975) find that, in a single period, uninformed investors can infer the information they lack when there is a one-to-one correspondence between market prices and the useful component of the missing observation. Moreover, even in the absence of such correspondence, an uninformed investor can infer the equilibrium value of an asset if a series of transactions can be observed over time. In this latter case, the price will converge to the equilibrium price even though the observer never learns the actual information that determines values.

A paradox arises in an economy such as that proposed by Kihlstrom and Mirman, since it suggests that the returns to undertaking analysis of an asset's value are insignificant. If there are no returns to such analysis, security analysts will serve no purpose and will cease their activities; but if security analysts are not present to identify underpriced and overpriced securities, there will be positive gains to such opportunistic analysis. One response to this dilemma has been to assume the existence of noise (or liquidity) traders, *i.e.*, traders who engage in transactions for reasons having little to do with their estimation of the values of these assets (e.g., Glosten and Milgrom, 1985). Such noisy trading makes inferences about underlying information substantially more difficult to draw.

Drawing such inferences is probably even more difficult in commercial real estate, since the market for leases has characteristics different from those of the security-market models suggested earlier. For one thing, market prices are not always available for all commercial property. Since the Kihlstrom and Mirman result depends on a regular sequence of transactions, convergence to the "correct" price will be very slow when transactions of a specified asset take place not daily, but only once every several years. The shortage of empirical work on leasing issues is another indication of the difficulty in obtaining data. A related problem is the fact that commercial property is not fungible. For proximate property that seems identical in all other respects,

knowledge of the exact path of a planned expressway may have different implications for future values.²² On the other hand, in noise-trading models the identities of the parties are unknown, while in a real-estate framework, the identities of the buyers and sellers (and, very likely, something about their motivations) are typically known, a difference that suggests the noise-trading models may not be appropriate in a commercial real estate setting.

A more serious problem, however, is the potential for market failure. Consider a real estate market that has a variety of properties with intrinsic values ranging from \$1 million to \$5 million, and suppose that this range is known to all investors. These intrinsic values depend not only on the current cash flows these properties can generate, but also on future cash flows. These future cash flows will, in turn, depend on whether the neighborhood appreciates or depreciates in value.²³ Suppose that informed investors (which we may assume to mean developers) are much less uncertain about the future of the neighborhood; without loss of generality, we may assume they know the exact property value.

A problem arises when an informed investor wishes to sell a property to an uninformed investor. Since the uninformed investor only observes the range of values, the investor will not be willing to pay more than the average value.²⁴ If the prices are uniformly distributed between \$1 million and \$5 million, this means the investor will be willing to pay only \$3 million ($= [\$1,000,000 + \$5,000,000]/2$).

Since the developer knows the intrinsic value of the property, the only developers who will be willing to sell under such conditions are those who know their property is in the lower end of the range of values, namely, between one million dollars and three million dollars; those who know their property is worth more will choose to lease rather than sell. Once the set of properties offered for sale is restricted in such a fashion, however, the mean drops to \$2 million ($= [\$1,000,000 + \$3,000,000]/2$). Once potential buyers revise their offers, half the sellers will once again drop out of the market. This process continues, until the only properties offered for sale are those worth only \$1 million.

The market presented is an application of Akerlof's (1970) market-for-lemons principle. When the seller of an asset has better information about the value of an asset than does the buyer, it is difficult to avoid market failure. Other models reach the same conclusion. For example, Cornell and Roll (1981) assume there are multiple classes of participants in the market with different comparative advantages at production. They show in a game theory context that when an individual is matched with another who is more productive, the less productive individual will find failure to compete to be a stable strategy.²⁵

In the present context, the developer has a comparative advantage at estimating the future desirability, and hence the future value of the property. Therefore, the potential buyer has a comparative disadvantage and will refuse to compete (*i.e.*, will not buy the property). However, if a leasing arrangement is available, the lessor can produce positive rents that would otherwise be lost. Leasing provides the uninformed investor

a rational alternative to purchase; in a way, leasing completes the market by allowing uninformed investors to use property without suffering permanent disadvantage from their lack of information.

Conclusion

Given the existence of tenant asset abuse or overuse in leasing commercial real estate, this article examines rationales for the existence of leasing by focusing on cash flow concerns for both the landlord and the tenant. The landlord's benefits include not only the lease payment and depreciation, but also the expected residual value of the leased asset. The analysis shows that in maximizing the expected value of the cashflows for a given investment, the landlord's and tenant's optimal level of property abuse will not be the same. By entering into a lease contract, the tenant would stand to gain because wealth can be appropriated from the landlord by over-utilizing and under-maintaining the property.

Recognizing that lessees have little incentive to control their level of abuse, why does leasing exist? A number of reasons have been proposed, including taxes, differential access to credit markets, risk shifting, transactions costs, comparative advantage in asset disposal, economies of scale, asymmetric information and other agency problems. Knowing the reason for the existence of leasing is important to property managers, since they can use this knowledge to enhance their property's performance. For example, if credit risk is the main force causing lessees to lease rather than purchase, perhaps property managers and landlords should make efforts to assess this risk and charge differential rental rates. Our analysis emphasizes the lessor's: (1) ability to exploit economies of scale in property management; (2) ability to solve free-rider problems; and (3) greater understanding of the predicted residual asset values. This last advantage suggests that accumulated information and expertise can provide property managers with a residual value greater than the loss arising from the tenant's asset abuse. This analysis does not imply that better information on the part of the lessor is the sole reason for leasing. Rather, the analysis qualifies and extends Smith and Wakeman's (1985) assertions about the non-tax determinants for leasing so as to benefit property managers and owners.

Notes

¹The International Council of Shopping Centers' statistics show that the square footage of leased retail space exceeds the square footage of owner-occupied retail space. Further, recent U.S. Census survey data shows that thirty-five million households rent homes or apartments.

²In the corporate finance arena, Brennan (1995) observes that over the last twenty-five years, corporate finance has come to recognize that contracts fail to constrain future decisions of contractual participants. This failure to constrain, with the resulting agency problems, has led to a shift in the research focus of corporate finance from what behaviors lenders (landlords) would allow to asking what roles decision-makers (tenants) are likely to follow, given their incentives.

³Goldstein and Richards (1995) point out another deterrent to leasing, namely, "the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), which provides for strict liability for a current or past landlord's business operations. If, for

example, a landlord of a local storage operation happened to have a tenant who stored toxic materials, unknown to the lessor, and if the toxic material leaked, thereby contaminating the surrounding area, the landlord would be jointly liable for the cleanup. Unfortunately neither ignorance nor due diligence is a legitimate defense against liability. Furthermore, past owners may be liable if the contamination occurred during their ownership.”

⁴Lease payments for tenants are considered tax-deductible expenses by the IRS. Barclay and Smith (1995) comment that there exists great flexibility in allocating depreciation tax shields in a lease so that the lessee, lessor, or both can benefit from the depreciation tax shield, depending on which party values them more highly.

⁵The extreme example of this consumer phenomenon in reverse is the existence of pawnshops, where the owner gives up use of an asset for a length of time in exchange for a high interest-rate loan.

⁶Barclay and Smith (1995) note that leases generally have the highest priority (along with the landlord’s right to repossess the leased asset) when bankruptcy occurs. However, courts have restrained the landlord from repossessing the leased property or space when the tenant has successfully argued that the asset is necessary to the ongoing operation of the business. The authors note, however, that the courts require the tenant to continue making the required lease payments until the end of the bankruptcy process. In contrast, other creditors (such as debtholders) are not paid until the bankruptcy process is finished.

⁷For one thing, legal title remains with the lessor. Absent any protective municipal statutes, recovery under a lease is generally an enforceable contract remedy that is much less expensive than foreclosure on a mortgage. Nevertheless, a type of default can occur in leasing as well. For example, in *The Death of Common Sense*, Philip Howard reports, “Recently, posters were spotted on the Upper West Side in Manhattan seeking a creditworthy person to share an apartment rent-free. The plan, detailed on the poster, was to sign a lease, move in, and then refuse to pay rent. Under New York City procedures, the poster explained, a minimum of eighteen months is required for the landlord to get an order of eviction. So, thanks to the costs of process, you can live free and move on.”

⁸Other less credit worthy businesses are unable to borrow funds because default risk premiums are too high and thus they find leasing their only access to credit.

⁹One empirical prediction of this conjecture is that ownership is more likely to be found where property attributes are stable (*e.g.*, rural areas) while leasing is more likely to be prevalent where conditions are constantly changing (*e.g.*, modern urban areas).

¹⁰The buyer can, of course, default if the property value falls below the mortgage balance, but such a dramatic fall may not be likely if the business has much equity. Moreover, such a default has considerable reputational effects that failing to renew a lease does not.

¹¹In addition, the parties’ actions and therefore the distribution (and risk) of the cash flows are not likely to be invariant to ownership of the property (*e.g.*, the asset abuse problem).

¹²This return on information, or transactions cost, is not unique to leasing. In many respects the lessor’s return is analogous to a bid-asked spread associated with the stock markets. In this case, the specialist or dealer takes the difference between what is paid for a security and the price at which it will be sold. The transaction difference is warranted in part by the dealer or specialist’s difficulty in obtaining good information, much like that of a developer/property owner in a commercial real estate setting.

¹³In fact, under some conditions such options have been shown to reduce the asset abuse problem (see Benjamin, de la Torre and Musumeci, 1995).

¹⁴Sale with an imbedded put option for the purchaser (*i.e.*, an option for the purchaser to return the property to the seller) would solve this problem. Such puts are implicit guarantees and have been initiated in the new-car market, but such options in real estate are not yet widely used.

Another imbedded option already present in a lease is that of the tenant to simply pay the remaining rent and walk away, but this is extreme and is presumably rarely used.

¹⁵Similarly, firms could, in theory, sell their own securities without using an investment banker, but they rarely do so since the expenditure of time and effort is not worth the benefit of eliminating flotation costs.

¹⁶There may, of course, be some diseconomy of scale as firms become “too big.” If a significant diseconomy of scale exists, however, we would be less likely to find larger firms growing faster than smaller ones, as the subsequent data suggests.

¹⁷Cooperative associations do exist for business proprietors (*e.g.*, downtown business associations). However, these function primarily as a combined marketing tool that may or may not permanently affect property value.

¹⁸The issue of specialization also affects the lessor’s obsolescence risk. At the inception of a lease contract, a significant level of uncertainty concerning the residual value of the asset and the degree of obsolescence is inevitable. By retaining the residual claim on the asset, the lessor assumes the obsolescence risk and provides a type of insurance function. According to Clark (1989), lessees are willing to allow the lessor to charge a rental (insurance) premium for this risk-taking because it lessens their risk associated with obsolescence. In aggregate, the lessor receives from each lessee a rental payment which yields a sufficient premium to compensate the lessor for the potential lost value associated with the residual assets.

¹⁹A *Business Week* (May 1, 1989) article reported that Guinness Peat Aviation (GPA) completed the largest plane leasing order in history—about \$17 billion. GPA subsequently planned to “farm out” the planes through operating leases, charging top dollar in return for financing the planes and for assuming the risk of disposing the planes at the termination of the contract. In addition to leasing planes to airlines, GPA has also provided lenders (banks and other intermediaries) that deal directly with the airlines default insurance obligating GPA to buy a plane should an airline default on its loan with a bank. The bank reduces its risk exposure while GPA could expect an opportunity of reselling the repossessed plane at a profit. All of this is possible since GPA has arguably the best database (*i.e.*, *information* on used aircraft values).

²⁰Comdisco, Inc. is an international concern that specializes in marketing, among other things, used computer equipment—especially mainframe configurations. Comdisco has leased new as well as used computers. In their 1988 annual report, Comdisco reported that they “re-marketed” 550 medium- to large-scale mainframes, 8,500 disk and tape drives, and 21,500 terminals amounting to \$259.9 million. In addition, Comdisco has initiated an aggressive leasing program in the telecommunications area, which as of the end of fiscal 1988 totaled to \$290 million. It may be safe to say that given the volume of the leasing transactions, Comdisco has developed a growing expertise in the asset portfolio they manage.

²¹ $\beta = \sigma_{IM}/(\sigma_m)^2 = \rho_{IM}\sigma_I\sigma_M/(\sigma_m)^2 = \rho_{IM}\sigma_I/\sigma_m$, where ρ_{IM} denotes the correlation between the asset *I* and the market.

²²Similarly, some cities (*e.g.*, Washington, DC and Berkeley, CA) have high-crime areas adjacent to low-crime areas, with very little leakage. Needless to say, purchasing property only a block or two from that offered by the lessor could be disastrous under such conditions.

²³Since the salvage value of the property at the end of the period depends on these future cash flows, models that focus on such values are special cases.

²⁴If the investor is risk averse, the investor will not be willing to pay that much; we will, again without loss of generality, assume the investor is risk-neutral, that is, will pay what is viewed as the average value of the property.

²⁵In that context, a stable strategy is one that survives evolutionary pressure (*i.e.*, natural selection). Thus, it is not assumed that the participants know the exact payoffs and calculate the appropriate strategies, just that participants with inefficient strategies will be ultimately

driven from the market. A straightforward introduction to such evolutionary stable strategies and to other aspects of game theory is presented in Straffin (1993).

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