

Changing Leases into Investment-Grade Bonds: Financial Alchemy and Cost Reduction in Real Estate Finance

Executive Summary. *Ownership of economic benefits from current leases of real property can be separated from ownership of economic benefits from future leases. The ownership interests can be securitized into assets that are independent of each other for investment purposes. Ownership of benefits from current leases can be regarded as a fixed-income asset. In the case of single-tenant property with a bondable-net lease and investment-grade tenant, the fixed-income asset is ratable based on the tenant credit rating and lease default provisions. In the case of general properties and leases, the fixed-income assets are ratable provided additional financial structure is superimposed. The fixed-income assets can be sold as corporate bond-equivalents in the private placement market to create low-cost leverage for real estate investments.*

by Richard A. Graff*

Introduction

The 1990s have witnessed a significant effort on the part of investment banks to promote securitization of commercial real estate debt, most notably through the introduction of Commercial-Mortgage-Backed Securities (CMBS). The concept behind the CMBS is the same as that underlying the Collateralized Mortgage Obligation (CMO) developed a decade earlier: assemble a large pool of mortgages, divide the right to receive cash flows from the pool into tranches, and sell shares in each tranche to investors interested in the risk and reward characteristics of that particular tranche.

The fundamental problem with this finance technology is that investment risk for the tranches, and most significantly for the riskier tranches, depends on investment risk for the entire pool. Risk for the pool in turn is determined by investment risk for individual mortgages and how individual mortgage risk aggregates mathematically when pooled. It follows that accurate pricing of CMBS tranches depends on precise knowledge of the mathematical characteristics of investment risk for individual mortgages.¹ Although the degree of dependence may only be marginal in the case of investment-grade tranches, the dependence is critical in the case of high-risk tranches.²

The need for a precise mathematical description of mortgage investment risk can be reduced to a need for routine information about credit ratings and default protection if individual financings are securitized instead of pooled.³ This also eliminates

*Electrum Partners, Chicago, IL 60611.

exposure of the financial intermediary to interest rate risk while mortgage pools are being assembled, reducing any need for the intermediary to maintain a capital reserve.⁴ Reduction in required return on the capital reserve offsets to some extent incremental costs associated with securitizing individual financings.

An additional advantage to be gained from securitizing individual financings instead of pooled financings is that the critical cost control element becomes the structure of each financing rather than exposure of financial intermediaries to interest rate risk. In other words, securitization of individual financings encourages intermediaries to focus on each financing to obtain the lowest possible cost of capital at the targeted level of leverage rather than on reduction of elapsed time from mortgage placement to tranche sale.⁵

In order to design the lowest-cost real estate finance, it is necessary to take into account the basic investment characteristics of commercial real estate. Accordingly, the next section is devoted to real estate investment characteristics and their implications for securitization of individual real estate assets. Subsequent sections examine the structure and investment characteristics of the securities.

The Economics of Real Estate Finance

A tenet of basic economics is that asset investment value equals the present value of future net cash flows expected from the asset. This general characterization applies regardless of investment risk and return characteristics.

In the case of real estate, expected net cash flows can be classified by type: expected net cash flows from current leases and expected net cash flows from future leases. The two types of cash flows have quite different investment characteristics, which implies that financings of the cash flows have correspondingly different costs of capital.

Expected net cash flows from current leases are payments specified by lease covenants that tenants are required legally to remit to the asset owner at

times specified in the covenants. Uncertainty in the sequence of net cash flows is a consequence of tenant credit risk together with any uncertainty created by provisions in the lease covenants.⁶ Absent lease cancellation provisions, these cash flows are independent of the dynamics of the real estate rental market subsequent to the signing of the leases.⁷ Assuming that tenants are creditworthy, amounts and timing of the cash flows can be viewed as reasonably certain, and in many cases as very certain.

By contrast, amounts and timing of net cash flows from future leases are relatively uncertain, to be defined more precisely in the future by lease negotiation dynamics together with supply and demand in the spot rental market at such time as the leases are negotiated. No default risk can be attached to any of the expected cash flows, since identities—and consequently credit ratings—of any future tenants are too uncertain.⁸

In short, expected net cash flows from current leases usually are regarded as lower risk investments, whereas expected net cash flows from future leases are regarded as higher risk investments. It follows that mortgage lenders prefer to finance expected cash flows from current leases rather than expected cash flows from future leases. It also follows that financing expected cash flows from current leases usually costs less (*i.e.*, lower interest rate) than corresponding leverage financed by expected cash flows from future leases.

Efficient Finance of Current Leases

This study is concerned with improving the efficiency of low-cost real estate finance. Accordingly, the rest of the study focuses exclusively on financings that pass through net cash flows from current leases (*i.e.*, leases that have already commenced when the financing is created). It is assumed that each financing is totally amortized by the pass-through cash flows. It is also assumed that all net cash flows from current leases are applied to debt service until the financing is retired, since owners are likely to want the largest possible amount of low-cost financing available from the rent. Finally, in order to simplify the discussion, it is assumed

that the terms of all future leases and the option terms of all current leases are expected to commence after the pass-through financing has been retired.⁹

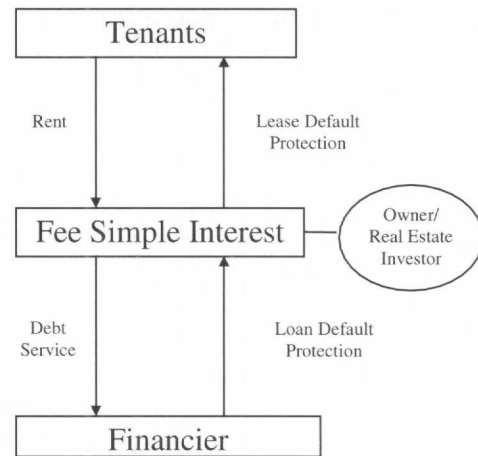
In financings of current leases, most financiers look exclusively to default provisions in the lease covenants for loss protection in event of tenant default. However, this form of loss protection has a shortcoming: financiers cannot enforce lease default provisions against tenants in event of tenant default. Financiers merely have a contingent non-recourse claim against title to the real estate. Until such time (if any) as the owner relinquishes title to the financiers, enforcement of lease default provisions against defaulting tenants is the sole prerogative of the equity investor. It follows that mortgage default protection is inefficient from the financier perspective in the case of low-risk finance.

Real estate finance is replete with patchwork structures designed to mitigate the inefficiency. For example, sometimes a special purpose entity (SPE) is created to hold property title until the financing is retired. In addition, lease payments pre-designated for debt service can be sent directly to lockbox bank accounts, from which funds are released only with joint consent of the real estate owner and the financiers.

Such structures provide financiers with supplemental loss protection in event a mortgage default causes the financial interests of financiers and real estate owner to diverge. In particular, they provide assurance for the financiers that at least a portion of any lease payment deposited into the lockbox while foreclosure on the real estate is in progress will belong eventually to the financiers. However, the financiers are denied time use of funds in the lockbox during foreclosure and lose any interest that otherwise would have accrued had the funds been available to the financiers.

Exhibit 1 diagrams the flow of funds between tenants, owner and financier, and the corresponding default claims. In light of the preceding discussion, the diagram reveals another inefficiency: although financiers would prefer loan default protection that provides them with financial claims on current

Exhibit 1
The Relation Between Tenants, Owner and Financier in Conventional Pass-Through Finance



tenants, collateral for the financing includes ownership rights to income from future leases that most financiers regard as having marginal utility for fixed-income investors such as themselves. In other words, it appears as if loan collateral includes ownership rights of marginal utility to financiers as compensation for poorly designed claims on the ownership right of primary interest to financiers—namely, the contingent right to assert financial claims against current tenants that default protection provisions in the current leases bestow on the real estate owner.

This suggests a way to improve the equity position of real estate investors with only marginal reduction in default protection for financiers: remove ownership rights to income from future leases from the collateral for pass-through debt service. Real estate investments would be much less risky under this arrangement, since owners would in effect be guaranteed when pass-through financings are created that eventually they will own the real estate free and clear, regardless of whether current tenants meet the performance requirements of their leases.

Such a modification in loan collateralization can be structured by replacing the deed to each mortgaged property with two deeds: a deed to a *term of years interest* that expires when the pass-through



financing is scheduled to be retired, and a deed to a *remainder interest* that matures into fee simple interest when the term of years interest expires.

Separations of fee simple interest into two or more specialized fee interests are fixtures of Anglo-Saxon common law that predate the United States Constitution.¹⁰ Although little used previously in commercial real estate, archaic fee interests have played a role in estate planning for centuries.¹¹ Such real property interests are conveyed by deeds that are recordable in every U.S. state.¹²

The modified relationship between tenants, owner and financier is diagrammed in Exhibit 2. This structure replaces a single real estate owner with two owners: a nominal owner such as a SPE for the term of years interest, and the real estate investor for the remainder interest. Although more efficient than Exhibit 1 from the perspective of loan collateral, the structure is impractical for two reasons: the financier would be required to surrender collateral of some (albeit marginal) utility without any compensating increase in loss protection, and resale value of the remaining collateral could be much lower in the commercial market than the resale value of a fee simple interest. Under these circumstances, the financier only would agree to the modification in return for an increase in the loan interest rate. This result is opposite to

the desired objective, which is a lower interest rate.

Although the structure diagrammed in Exhibit 2 will not result in lower interest rates, the diagram reveals another inefficiency. The term of years owner is superfluous, since the financier receives all economic benefits generated by the term of years interest. It follows that the financier is the de facto owner of the term of years interest.

This suggests a modification to Exhibit 2 to eliminate the inefficiency: remove the legal distinction between the term of years owner and the financier. In other words, let the financier purchase the term of years interest outright instead of financing it.¹³

The resulting relationship between current tenants, real estate investor and financier is shown in Exhibit 3. Although the difference between the relationships diagrammed in Exhibits 2 and 3 may appear minor, the relationship in Exhibit 3 provides the financier with significantly greater loss protection in event of tenant default.

There is no need for a lengthy foreclosure process if a lease default interrupts the flow of payments that service the financing, since the financier already owns the term of years interest. Nor is there any question about whether the term of years owner will enforce lease default provisions in such a way as to minimize loss risk for the financier,

Exhibit 2
A Modified Relationship to Unencumber
Less-Important Loan Collateral

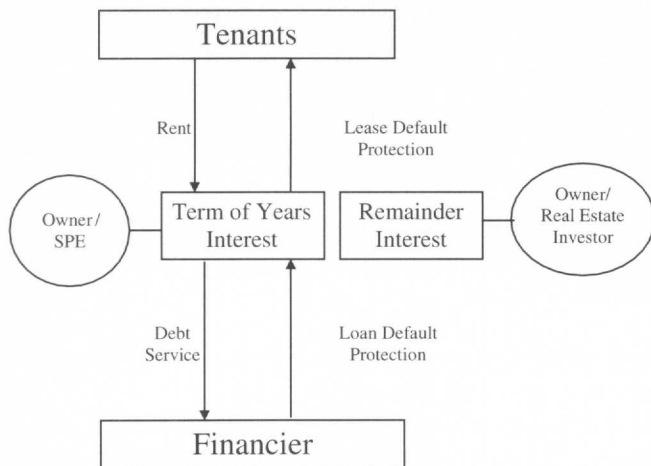
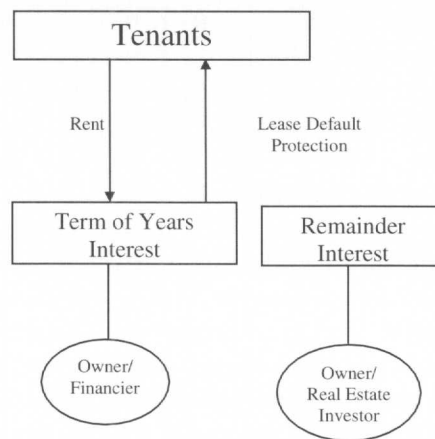


Exhibit 3
An Additional Modification to Improve Loss
Protection for the Financier



since the financier and the term of years owner are the same entity. The position of the financier also improves if one or more tenants seek bankruptcy protection, since bankruptcy law assigns higher priority to timely resolution of lessor claims than to resolution of mortgagee or unsecured creditor claims.

Thus, the structure in Exhibit 3 represents greater protection in tenant default for both the financier and the equity investor. The structure gives the financier improved control over enforcement of lease default provisions that most mortgage lenders indicate they would like to have, and accelerated claims resolution in event of tenant bankruptcy. For the equity investor, the structure generates leverage without the loss risk due to tenant default that accompanies debt.

Finally, the structure has no unfavorable implications for tenants. In the case of performing tenants, the only change is that rent will be mailed/wired to a different address after expiration of the term of years interest. In the case of tenant default, the only difference is that the lessor is likely to respond with more flexibility, since the tenant will deal with a lessor who owns the term of years interest free and clear rather than a lessor who faces the possibility of involuntary loan default.

New Real Estate Risk Sources

Although the structure in Exhibit 3 reduces loss risk from tenant default for both financier and equity investor, two new investment risks are introduced that must be eliminated if the term of years interest is to be ratable and freely tradable as a fixed-income asset.

First, the financier in Exhibit 3 is the owner of a real property interest rather than a creditor as in Exhibit 2. This exposes the financier to risks associated with real estate property ownership, such as any personal injury or environmental liability not assumed by tenants and not covered by insurance.

Second, any owner of an archaic real property interest confronting the possibility of shouldering a

disproportionate share of economic loss due to ownership of an archaic fee interest rather than fee simple interest has the right to petition in court for liquidation of the property. If the petition is granted, the sale proceeds are divided among owners of the archaic fee interests according to a formula to be determined as part of the court proceedings. It follows that any such petition necessarily compels participation in the proceedings by all owners of the archaic fee interests in order to protect their investments, at a concomitant cost of both time and money.

Although it is far from certain that such a petition would be successful, the mere possibility of success introduces uncertainty for the equity investor about whether the remainder interest will survive to mature into fee simple ownership when the term of years interest is scheduled to expire.¹⁴

The financier also faces the possibility of such petitions by the equity investor and/or lawsuits over failure to conserve the real estate, motivated either by real concerns that develop as future economic events unfold or by hopes of leveraging the nuisance value of petitions into real economic concessions.

Incremental investment risk due to the possibility of future petitions to liquidate the term/remainder separation prematurely or lawsuits over asset wastage lowers the initial investment value of both the term of years and remainder interests.¹⁵ In fact, this is quite likely the main reason term/remainder separation has not spread previously beyond estate planning into commercial real estate investment and finance.

Financial Alchemy

Financiers do not have any problem with investments in fixed-income assets that are not debt instruments. As discussed, the problem with the equity position suggested for the financier in Exhibit 3 is that term of years ownership usually entails investment risk exposure not associated with fixed-income investments.

In the case of the liability exposure discussed in the previous section, the standard way to reduce

risk exposure to an insignificant level is to ensure that the owner is a passive investor (*i.e.*, to structure the ownership position so that the owner does not exert any control over operational or financial real estate management and does not have any right to exert such control).

On the other hand, incremental loss protection from the structure in Exhibit 3 is the result of direct and immediate control by the financier in event of tenant default. This protection must not be eliminated if the interest rate reduction associated with the structure is to be preserved.

Liability reduction can be reconciled with default control by modifying the structure in Exhibit 3 slightly as shown in Exhibit 4. Title to the term of years interest is placed in a SPE with the financier as beneficial owner. As long as tenants comply with their leases, the SPE acts as nominal caretaker and passes net income through to the financier.

The SPE is also provided with instructions for a routine to be followed in event of tenant default. However, the instructions include providing the beneficial owner (*i.e.*, the financier) with an option to renounce passive investor status, take direct

control of default protection enforcement, and deal directly with defaulting tenants as deemed appropriate by the financier.

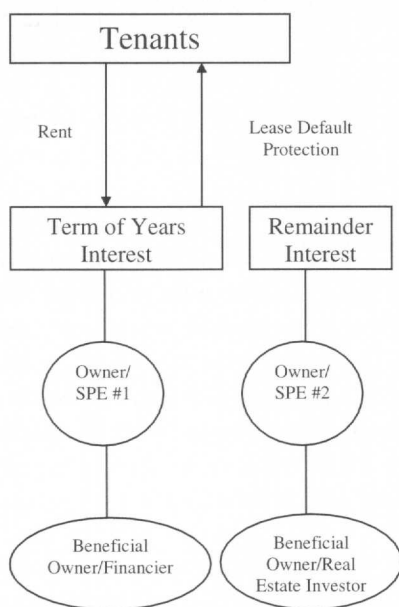
The financing diagrammed in Exhibit 4 is analogous to the conventional financing diagrammed in Exhibit 1. In both cases, the financier has the protection of passive investor status while tenants are in compliance with their leases, and has the option (but not the requirement) to renounce the protection provided by passive investor status and take direct control in event of tenant default. However, there is a profound difference in how efficiently the financier can exercise the option to transition from passive to controlling investor. In Exhibit 1, foreclosure can be quick if the equity investor cooperates with the financier, but can take several months if the investor behaves passively and one or more years if the investor actively objects. By contrast, the transition of the financier in Exhibit 4 from passive to active investor occurs within a few days.

The SPE also provides a partial solution to the problem of court petitions to collapse and liquidate the term/remainder separation prematurely. The document that establishes the SPE can include provisions that direct the SPE owner to conserve the term of years interest and act within behavioral parameters established in the document to maximize the value of the term of years interest.

The rest of the solution to the problem of court petitions and lawsuits over real estate wastage is provided by establishment of a corresponding SPE to hold legal title to the remainder interest, with the equity investor as beneficial owner. The document that establishes this SPE can also include provisions directing the legal owner to conserve the remainder interest and act within behavioral parameters established in the document to maximize the value of the remainder interest. This additional modification to the structure in Exhibit 3 is included in Exhibit 4.

It is desirable for the SPEs to be invisible for tax and accounting purposes. This can be accomplished by restricting the SPEs to trustee-like activity. It follows that the SPE for the term of years interest should not actively manage the

Exhibit 4
A Final Modification to Eliminate Non-Financial Risk for the Financier and Real Estate Investor



property. Since no decisions about leases need be made by the term of years owner unless a current tenant defaults during the term of years, only routine day-to-day operational and financial management is required. This can be accomplished within the indicated activity constraint by contracting with a bonded property management firm for management of the real estate for the duration of the term/remainder separation, subject to routine performance reviews by the legal SPE owner.¹⁶

Several alternatives for SPE holding entities are available that provide satisfactory assurance of fulfilling intended functions at reasonable cost, including most notably unincorporated entities such as grantor trusts, limited liability companies and limited partnerships. Of these, greatest assurance is provided by suitably structured grantor trusts, although limited liability companies provide almost as much assurance at slightly lower cost. Real estate investment trusts (REITs) that incorporate suitable restrictions on REIT manager behavior are also possibilities in the case of remainder interests.

Beneficial ownership interests of the term of years and remainder interests are referred to as ABBE® and LURE® interests respectively.¹⁷ Certificates evidencing shares in the beneficial ownership of the term of years interest are securities and are referred to as ABBE® certificates. Similarly, certificates evidencing shares in the beneficial ownership of the remainder interest are securities and are referred to as LURE® certificates.

Although ABBE® and LURE® interests appear superficially similar to financially engineered products such as swaps and derivatives, two significant differences exist between real estate components and synthetic securities. First, financial engineering is used to synthesize arbitrary realizations of asset risk and reward characteristics. By contrast, components with different investment characteristics already exist within individual real estate assets; the technology discussed here simply allows them to be separated along natural boundaries. Second, financial engineering is based primarily on contract law. By contrast, ABBE®/LURE® separation is based primarily on real property law, with a deeded real property interest

forming the legal basis of each component. This results in significant incremental protection for investors if any interest holder declares bankruptcy, and enables the component structure and investment characteristics to continue unaffected.

ABBR® Investment Characteristics

Assume for the moment that the real estate is a single-tenant property and that the lease is bondable net. Then the lease assigns all property-related risk to the tenant. It follows that the ABBE® interest is a fixed-income asset with the same default risk as senior unsecured tenant debt. In addition, the ABBE® interest provides loss protection in event of tenant default that is comparable to and frequently better than loss protection provided by senior unsecured tenant debt.¹⁸ It follows that the ABBE® interest is a ratable fixed-income asset that can generally be expected to receive a credit rating equal to or slightly higher than the tenant credit rating.

In case of a single-tenant property with a triple-net lease that is not bondable, a noncancellable insurance policy can be purchased from a property and casualty insurer that protects the ABBE® owner during the ABBE® term from all property-related risk not assigned by the lease to the tenant.¹⁹ If the insurer has an insurance rating at least as high as the tenant credit rating, then this insurance policy wraps the lease to produce the equivalent of an ABBE® interest with a bondable net lease.²⁰ It follows that the ABBE® interest together with the wrap insurance is ratable, and that it can be expected to receive a credit rating equal to or slightly higher than the tenant credit rating.

In case of a single-tenant property with a bondable net lease and a tenant with a below investment-grade credit rating, credit wrap insurance can be purchased to elevate the ABBE® credit rating to the rating of the insurer. If the lease is triple net rather than bondable net, then additional insurance can be purchased to wrap all property-related risk not assigned by the lease to the tenant.

Similarly, in case of multitenant property with triple net leases that together cover all management,

maintenance and insurance expenses, insurance can be purchased to elevate the ABBE® credit rating to the rating of the insurer and to wrap any property-related risk not assigned by the lease to the tenant. If in addition all tenants are credit-worthy (e.g., investment-grade), then cost for the credit wrap portion of wrap insurance is marginal. The only reason for even bothering with a credit wrap in this case is that rating agencies refuse to rate a fixed-income asset unless a single entity assumes primary responsibility for the stream of cash flows generated by the asset.

Finally, if the property leases (or lease, in the case of single-tenant property) are not triple net, then wrap insurance can be purchased to convert the rent to a net cash flow stream. Clearly, the cost of such insurance increases directly with the amount of operational risk that the wrap insurer is expected to absorb. In fact, one of the ancillary benefits of term/remainder separation technology is that it encourages real estate investors to obtain a market price for the portion of operational property-related risk not transferred to tenants by the leases.

In every case, the end result of the transformation is a ratable fixed-income asset that can be priced precisely in the fixed-income market, and whose certificates of beneficial ownership can be regarded as functionally equivalent to private placement bonds for investment and trading purposes.

Implications for Tenants and Real Estate Finance

Separation of fee simple ownership into ABBE® and LURE® interests is implemented by superimposing appropriate legal structure between tenants and investors. The structure is invisible from the perspective of tenants. The only effect tenants will ever experience as a result of term/remainder separation is receipt of a notice to send rent to a different address after the LURE® interest matures into fee simple interest.

Term/remainder separation as a process is independent of tenant leases, except for selection of an

expiration date for the term of years interest and determination of whether any wrap insurance policies are needed. Furthermore, tenant permission is not needed in order to implement separation of the fee simple interest into ABBE® and LURE® interests. Thus, it is not necessary to restrict term/remainder separation to leases that are written to facilitate the separation process. It follows that term/remainder separation can be implemented at any time during the economic life of the property, and at any time during the life of current leases. This implies that it is feasible to purchase commercial property and create de facto financing for equity investors by separating fee simple interests into ABBE® and LURE® interests. In these transactions, prospective equity investors purchase the LURE® interests and the ABBE® interests are sold to institutional fixed-income investors.

The first commercial property separated by Elettum® technology into ABBE® and LURE® interests was a single-tenant office building with an existing bondable net lease that was purchased and financed in precisely this fashion.²¹ In order to generate the maximum possible low-cost leverage, the term of the ABBE® interest was set to coincide with the remaining lease term. Since the building was in the seventh year of a twenty-year lease, this implied an ABBE® term of approximately 13½ years.

Wrap insurance was not needed for the transaction, since the lease was bondable net and the tenant was investment-grade. The ABBE® interest received an investment-grade rating slightly higher than the concurrent rating for senior unsecured tenant debt.

Although the leverage created for equity investors increases with the length of the ABBE® term, it is not necessary to restrict the use of ABBE®/LURE® separation to long-term financings. Elettum Partners has created ABBE® financing with a term of only five years. Phantom income is not a consideration for LURE® investors in short-term ABBE® finance, since LURE® investors have no ownership rights with regard to any income generated by the ABBE® interest.

The private placement fixed-income market is more efficient than the commercial mortgage market, so before contacting potential financiers the cost of ABBE® finance (*i.e.*, the sale price of the ABBE® interest) can be estimated with greater precision than the cost of conventional mortgage finance.²²

Prospective LURE® investors seeking ABBE® finance can have much greater confidence that the financing will be placed successfully than prospective equity investors seeking conventional mortgage finance, provided any needed wrap insurance is available. It is likely that increasingly sophisticated varieties of efficiently priced wrap insurance will become routinely available as ABBE®/LURE® separation becomes more visible as a financing alternative.

Finally, if equity investors desire more leverage than is available from ABBE® finance, then the LURE® interest can be mortgaged for additional leverage or a fixed-income preferred partnership interest can be carved out of the LURE® interest. As long as the amount of leverage to be generated in this fashion is restricted to a relatively small percentage of LURE® value, the cost of the additional finance will usually be much lower than the cost of conventional mortgage finance.

LURE® Investment Characteristics

The value of the ABBE® interest amortizes to zero as the ABBE® term approaches expiration. Accordingly, the value of the LURE® interest can usually be expected to increase over the ABBE® term as a percentage of property value until it matures into fee simple interest at the expiration of the ABBE® term.

A major result of ABBE®/LURE® separation is to lower the interest rate on real estate finance. The other major result is to reduce tenant credit risk as a real estate investment risk factor, and to eliminate it entirely if the ABBE® term includes the remaining portions of the primary terms of the financed leases. Thus LURE® investors have the best of both worlds from a financial perspective:

real estate leveraged at the lowest possible cost and unencumbered by financial claims.

Another risk factor eliminated for LURE® investors by ABBE® finance is property-related liability exposure. The existence of a SPE to hold legal title to the remainder interest together with restriction of the LURE® investor to passive investor status absent tenant default reduces the possibility of LURE® investor liability exposure to insignificant levels.

Since LURE® investors own the real estate free and clear at the end of the ABBE® term, the investors have more flexibility in negotiating lease renewals and new leases than investors in debt-encumbered real estate. Although LURE® investors do not take possession of the real estate until the end of the ABBE® term, the investors need not wait until that time to negotiate and execute leases that will commence once they take possession. Binding negotiations can even be completed without any need for LURE® investors to surrender their passive investor status.

Conclusion

The investment value of commercial real estate equals the present value of expected net cash flows from current leases plus the present value of expected net cash flows from future leases. The present value of expected net cash flows from current leases has the risk and return characteristics of a portfolio of bonds, while the present value of expected net cash flows from future leases has the risk and return characteristics of unleased real property. Thus, commercial real estate can be regarded as a portfolio of fixed-income assets and equity real estate analogous from an investment perspective to a mixed portfolio of stocks and bonds.

In the case of an equity investor contemplating a leveraged investment in a portfolio of stocks and bonds, two distinct financing options are immediately apparent: pledging the entire portfolio as collateral for the loan, and arranging with a fixed-income investor to purchase the bond portion of the portfolio at the same time that the equity in-

vestor purchases the stocks. Two analogous financing alternatives are available in the case of an equity real estate investor contemplating a leveraged commercial real estate investment, provided the real estate can be separated into fixed-income and equity components and the fixed-income component transformed into an investment-grade bond-equivalent. Financial technology examined in this study makes the second alternative a realistic possibility by separating real estate into ABBE® and LURE® interests that are independent of each other for investment purposes and such that the ABBE® interest is an investment-grade fixed-income asset.

Investment in ABBE® interests in lieu of pass-through mortgages provides financiers with improved loss protection, in the form of control over enforcement of lease default provisions and accelerated claims resolution in event of tenant bankruptcy. Investment in LURE® interests in lieu of debt-encumbered property provides real estate equity investors with leverage unaccompanied by risk of investment loss in event of tenant default.

Improved loss protection implies that ABBE® interests can be expected to trade at lower interest rates than corresponding pass-through mortgages. This translates into greater leverage for equity investors from each rental dollar directed to financiers.

An additional benefit of ABBE® finance is that it forces investors to price real estate more precisely on a risk-adjusted basis by separately pricing different types of real estate investment risk.²³ In particular, real estate investment risk factors can be grouped into three general classes: credit and interest rate risk, property-related operational risk and property-related investment risk. In general, ABBE® finance assigns credit and interest rate risk to the ABBE® interest, property-related investment risk to the LURE® interest and property-related operational risk to tenants and insurers. Thus, credit and interest rate risk is priced in the private placement market, property-related risk is priced in the equity real estate market and the portion of property-related risk not assumed by tenants is priced in the insurance market.

By separately pricing each class of investment risk in a market with institutional expertise in pricing that type of risk, real estate investors improve the odds of avoiding participation in future investment debacles of the sort experienced periodically by the real estate market.

Securitization of individual financings rather than pooled financings eliminates exposure of financial intermediaries to interest rate risk due to mortgage warehousing. This implies elimination of an agency cost for real estate investors by avoiding required return on equity capital needed to protect intermediaries against financial risk from warehoused mortgages.

The financial technology examined in this study was developed to implement a new form of low-cost finance for institutional-grade real estate with high quality leases and investment-grade tenants. The creation of low-cost leverage for commercial real estate by separating the fee simple into ABBE® and LURE® interests represents an attractive alternative to commercial mortgages, particularly if the financial markets conclude that the riskiest CMBS tranches are being overpriced by financial intermediaries.

Thus, the bottom line for this technology is that it represents an alternative approach to commercial real estate finance based more directly on tenant credit ratings than conventional mortgage finance and with less risk and cost to financial intermediaries than CMBS.

The technology to implement ABBE® finance and distribute the ABBE® interests in the private placement market has been demonstrated successfully by Electrum Partners. Electrum Partners has exclusive rights to implement patented financial technology relating to the generation of documents necessary for the creation of ABBE® and LURE® securities and maintenance of investment positions in the securities.²⁴

Notes

1. Empirical research strongly suggests that fixed-income investment risk is better described mathematically by fat-tailed stable distributions than by normal distributions (see

- Roll, 1970; and McCulloch, 1975). If so, diversification across a mortgage portfolio is less effective at reducing investment risk than suggested by standard risk models of Modern Portfolio Theory (e.g., Young and Graff, 1995; or Graff, Harrington and Young, 1997). This suggests in turn that CMBS tranches have been overpriced on a risk-adjusted basis.
2. In particular, accurate pricing depends on precise knowledge of the likelihood of extreme investment outcomes, since these events can terminate the game for investors neutralized with respect to yield curve risk by putting them into default on their loan covenants. The bankruptcy of Criimi Mae Inc., which prior to its collapse represented over 40% of the market for the riskiest CMBS tranches, is a case in point (see Kirkpatrick, 1998a-c). Note that questioning whether risky CMBS tranches are overpriced is equivalent to questioning the economic viability of the strategy of securitizing commercial real estate debt by tranching mortgage pools.
 3. Routine information about default protection includes comparison of lease rents with current market rents, general information about current real estate market conditions and analysis of any strategic position occupied by the leased property in tenant business plans.
 4. The exposure of CMBS issuers to interest rate risk is significant. For example, Nomura Holding America Inc., whose Capital America unit was a major issuer of CMBS, lost several hundred million dollars in 1998 on warehoused commercial mortgages (see Kirkpatrick, 1998a,d; and Siconolfi, 1998).
 5. The amount of financial risk assumed by financial intermediaries due to mortgage warehousing is proportional to the average amount of elapsed time from mortgage purchase to CMBS sale. Accordingly, reduction of the average elapsed time is a high-priority item for intermediaries engaged in securitization of pooled financings.
 6. For example, leases that specify gross rent create uncertainty about net cash flows due to uncertainty about the amount and timing of maintenance expenses and capital outlays. Uncertainty also is created by lease cancellation provisions and some renewal options.
 7. Conditions in the spot market subsequent to the signing of the lease may affect rent during lease option periods, depending on provisions in lease renewal clauses for determining rent during the option terms. However, net cash flows during primary lease terms are unaffected.
 8. An infrequent exception can occur when a lease has one or more renewal options at rental rates substantially below current spot market rates. In this case, it is reasonable to expect that the tenant will exercise the renewal options. However, tenant identity during the option terms is not sufficiently certain to support the low-cost finance that is the focus of this study until the renewal options actually have been exercised.
 9. For example, this includes pass-through financings of fully leased property such that the primary terms of all current leases are scheduled to expire after the pass-through financing has been paid off.
 10. A real property interest of this type is known technically as a fee subject to a condition determinable.
 11. For example, archaic fee interests figure prominently in the plots of two early nineteenth century Jane Austin novels: *Pride and Prejudice*, and *Sense and Sensibility*.
 12. Slight modifications are necessary in the case of Louisiana, where civil law is based on the Napoleonic Code rather than English common law.
 13. This modification actually is contained in Exhibit 2 for most practical purposes. All economic benefits received by the term of years owner in Exhibit 2 flow through to the financier, so the financier would be identified as the term of years owner for tax and liability purposes.
 14. For example, the financier could petition for a dissolution of the structure based on expected loss from tenant default or something as frivolous as a rise in interest rates.
 15. This is an example of the incongruity that occurs when investors in a market are extended the right to expand their investment options by engaging in portfolio strategies that deal away investment options belonging to other market participants. If only one market participant were to receive the extension, the result would be an increase in the value of that individual's portfolio and a reduction in the value of all other investor portfolios. When the extension is made to all participants, the result is an immediate decrease in the value of all portfolios.
 16. Procedures for management reviews can be specified in the document that defines the SPE, along with directions for engagement of a replacement manager if management is determined to be inadequate. This level of trustee-like activity does not affect the SPE tax status.
 17. ABBE® and LURE® are registered trademarks of Graff/Ross Holdings.
 18. In the case of tenants rated below investment-grade, loss protection provided by the ABBE® interest usually will be greater than loss protection provided by senior unsecured tenant debt.
 19. For example, structural risk and any financial risk due to lease cancellation following condemnation or property damage.
 20. Fixed-income rating agencies proceed from the premise that a chain is only as strong as its weakest link. In order for an ABBE® credit rating to be determined by the tenant credit rating, it follows that it is necessary for the insurance rating of any wrap insurer to be at least as high as the tenant credit rating.
 21. Electrum® is a registered trademark of Graff/Ross Holdings.
 22. For more on ABBE® and LURE® pricing see Graff (1992, 1998).
 23. Evidence of both overpricing and underpricing has been observed in return series of private and publicly traded real estate by several recent studies (see Young and Graff, 1996; Graff and Webb, 1997; Graff and Young, 1997; and Graff, Harrington and Young, 1999). The evidence is strongest in the case of the private U.S. office market, where there is little evidence of underpricing but compelling evidence of overpricing. Overpricing is particularly harmful to investors in the case of low-risk investments, since there is little possibility of unexpected incremental returns to compensate for the penalty imposed by paying too much for expected returns. It is widely accepted that institutional-grade real estate is a low-risk investment.
 24. Patented products include wrap insurance for ABBE® and LURE® interests (see Graff, 1998). Additional patents are pending on extensions of the financial technology and on

expansion of intellectual property rights to the basic technology.

References

Graff, R. A., Perspectives on Debt-and-Equity Decomposition for Investors and Issuers of Real Estate Securities, *Journal of Real Estate Research*, 1992, 7:4, 449-67.

—, *System and Methods for Computing to Support Decomposing Property into Separately Valued Components*, U.S. Patent 5,802,501, September 1, 1998.

Graff, R. A., A. Harrington and M. S. Young, The Shape of Australian Real Estate Return Distributions and Comparisons to the United States, *Journal of Real Estate Research*, 1997, 14:3, 291-308.

—, Serial Persistence in Disaggregated Australian Real Estate Returns, *Journal of Real Estate Portfolio Management*, 1999, 5:2, 113-27.

Graff, R. A. and J. R. Webb, Agency Costs and Inefficiency in Commercial Real Estate, *Journal of Real Estate Portfolio Management*, 1997, 3:1, 19-36.

Graff, R. A. and M. S. Young, Serial Persistence in Equity REIT Returns, *Journal of Real Estate Research*, 1997, 14:3, 183-214.

Kirkpatrick, D. D., Property Prices Fall Victim to Sell-Off in Mortgage Debt, *The Wall Street Journal*, October 7, 1998a, A19.

—, In Commercial-Mortgage Issues, Players are Locked in a Freeze, *The Wall Street Journal*, October 23, 1998b, C1, C16.

—, Amid Mortgage Debt Tumult, 2 Credit Giants are Stepping In, *The Wall Street Journal*, November 3, 1998c, C1, C18.

—, Nomura Holding Says It Plans to Leave Commercial Real-Estate Loan Business, *The Wall Street Journal*, December 14, 1998d, B7.

McCulloch, J. H., An Estimate of the Liquidity Premium, *Journal of Political Economy*, 1975, 83:1, 95-119.

Roll, R., *The Behavior of Interest Rates: The Application of the Efficient Market Model to U.S. Treasury Bills*, New York: Basic Books, 1970.

Siconolfi, M., Nomura Hit by U.S. Loss of \$1 Billion, *The Wall Street Journal*, October 20, 1998, C1, C20.

Young, M. S. and R. A. Graff, Real Estate is Not Normal: A Fresh Look at Real Estate Return Distributions, *Journal of Real Estate Finance and Economics*, 1995, 10:3, 225-59.

—, Systematic Behavior in Real Estate Investment Risk: Performance Persistence in NCREIF Returns, *Journal of Real Estate Research*, 1996, 12:3, 369-81.