

# **“Financial Alchemy” or a Zero Sum Game? Real Estate Finance, Securitisation and the UK Property Market**

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## Abstract:

*Following the US model, the UK has seen considerable innovation in the funding, finance and procurement of real estate in the last decade. In the growing CMBS market asset backed securitisations have included \$2.25billion secured on the Broadgate office development and issues secured on Canary Wharf and the Trafford Centre regional mall. Major occupiers (retailer Sainsbury's, retail bank Abbey National) have engaged in innovative sale & leaseback and outsourcing schemes. Strong claims are made concerning the benefits of such schemes – e.g. British Land were reported to have reduced their weighted cost of debt by 150bp as a result of the Broadgate issue. The paper reports preliminary findings from a project funded by the Corporation of London and the RICS Research Foundation examining a number of innovative schemes to identify, within a formal finance framework, sources of added value and hidden costs. The analysis indicates that many of the gains claimed conceal costs – in terms of market value of debt or flexibility of management – while others result from unusual firm or market conditions (for example utilising the UK long lease and the unusual shape of the yield curve). Nonetheless, there are real gains resulting from the innovations, reflecting arbitrage and institutional constraints in the direct (private) real estate market.*

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**“Financial Alchemy” or a Zero Sum Game?**  
**Real Estate Finance, Securitisation and the UK Property Market**  
Colin Lizieri and Charles Ward

**1. Introduction**

It has been suggested that the UK property market has lagged behind North America in adopting innovative analytic models and financial vehicles. In the property market boom in the mid to late 1980s, innovative development finance and funding techniques were adopted in UK property markets (in particular, to finance office development in central London). The subsequent property market slump and general recession led to retrenchment, with more traditional techniques and valuation models dominating the market. This has been seen as a constraint on developers, landlords and occupiers, particularly in the light of the demand for more flexible business practices and the intense competition between countries and cities for market share.

Over the last few years there is growing evidence of more innovative approaches in property markets. Debt securitisation and asset-backed securitisation has become more common (the £1.5bn Broadgate securitisation providing one obvious, major example). The Private Finance Initiative has led to consideration of innovative funding techniques and new ways of procuring space and services. The domination of the long UK institutional lease has been eroded, while new forms of supply (for example, the rise of the serviced office sub-sector) and new forms of paying for space (the consideration of entry fees at Bluewater and turnover rents elsewhere as a complement or alternative to traditional retail rents) have evolved. There has been an active debate on the creation of securitised investment vehicles (despite Treasury reluctance to countenance tax transparency) and much interest in derivatives (notably swaps) and option pricing techniques.

Nonetheless, as research by the University of Reading and others has demonstrated, there is much resistance to innovation within the property industry. Research on the valuation of serviced offices, for example, reveals that traditional valuation techniques remain dominant and that those techniques act as a constraint to supply. In particular, loan valuations, based on vacant possession value, discount the potential additional income from the business. Similarly, research strongly suggests that traditional valuation methodology understates the investment worth of shorter or non-standard leases when compared to simulation-based cashflows or option pricing models. Since asset valuation is fundamental to the development of active securitised debt and derivative markets, this presents a constraint to innovation.

This paper presents findings drawn from a research project commissioned by the Corporation of London. The broad aim of the project was to analyse the potential for, and impact of, innovations in the financing, funding and procurement of property and to spread knowledge of innovative techniques to relevant parties with interests in the City of London.

The research involved a literature search covering academic and professional publications; collection of material relating to specific schemes and projects; and a series of semi-structured interviews with market participants in London and in New York. Those interviewed included staff from investment banks, rating agencies, corporations, institutional investors, property companies and property consultants and agents. These structured interviews were augmented by discussions with market participants. We were also able to draw upon unpublished research material from colleagues at the University of Reading and from the wider property research community.

In the research, we set out to review the types of schemes being undertaken, to assess their advantages and disadvantages and, in general, to provide a formal framework for evaluating new products. In particular, we sought to identify the sources of added value. What problems did the new product address? How successful were the new products at overcoming inflexibility and inefficiency in the market? Were there any hidden costs resulting from the new product? These questions shaped our analysis.

In the next section, we examine the structure of the UK property market and the traditional model of financing and funding the supply of space. It will be suggested that the traditional system creates inflexibility, hampering the efficient supply of space appropriate to business needs and contributes to the pronounced cyclicity of the market. We then outline attempts to introduce flexibility and innovation into the market. While we focus on recent UK initiatives, we point to earlier deals that suggest that there are antecedents for the changes seen since the mid 1990s. Major claims have been made (particularly in the property press) about the advantages of the new schemes. In section three, we provide a framework that can be used to evaluate the advantages and disadvantages of new initiatives. This framework is used in the fourth section to examine some of the new schemes. We suggest that some benefits are bought at the expense of costs and inflexibility elsewhere in the system; that some benefits result from a particular combination of market circumstances that is unlikely to be sustained in the future; but that some benefits result from the elimination of market inefficiencies and the closer integration of property and the other capital markets. Finally, we draw conclusions, pointing to possible extensions of the research.

## **2. The Traditional and the New in the UK Market**

In the UK market, the finance, funding and procurement of real estate has been dominated by a set of dominant, traditional practices. While commercial practice does not conform completely to a single model, standardisation has been a striking feature of the UK prime commercial property market with institutional structures and appraisal practice tending to entrench a traditional format. As we will argue later, many of the innovative securitisation schemes actually rely and exploit the UK traditional model.

Traditionally, property development companies have obtained short-term project finance from banks or institutions, then sort long-term funding in order to retain the building or sale to realise profits. The short-term funding came by way of a bullet loan. Until the 1980s, the term of the loan coincided with the length of the construction period. Thereafter, loans might run to the first rent review on the assumption that refinance or take-out might be easier at that point. In the second half of the 1980s, banks competed actively to provide capital for (often speculative) development and developers could obtain finance via tender panels, syndicated loans and multiple option facilities. This drove down interest rate margins. However, in the aftermath of the property crash, banks retrenched to a more constrained and conservative approach.

Generally, security has been based on both the company and the project (with both fixed and floating charges, post the 1968 Insolvency Act). In assessing security, banks have adopted a relatively conservative position, with valuation of property at vacant possession and consideration of the liquidation value of the firm (the “gone concern” rather than “going concern” basis). Following downturns, short-term finance has depended upon a forward commitment to purchase or a pre-let to a good covenant tenant. Allied to low loan to value ratios (outside “hot” lending markets), this has forced firms to sink their own equity into projects and/or seek expensive mezzanine funding.

To pay off short-term project borrowing, the completed development would either be sold or, if a long-term interest were to be retained, funding sought in the form of a mortgage or mortgage debenture. The traditional mortgage was fixed rate with a long term. Margins were typically 175-225 bp over a comparable maturity government bond, with conservative loan to value ratios and positive interest rate covers. Debenture spreads over conventional gilts have varied more, exceeding 225bp in the immediate aftermath of the crash but falling to as little as 50bp in the mid 1990s.

The conservative approach to lending reflects both uncertainty as to the validity of appraisals and the assessed risk of the sector (both in terms of risk weighting under capital adequacy regulations and the specific risk exposure that results from large lot size and the difficulty in diversifying loan portfolios<sup>1</sup>). This apparent caution in lending has not led to a stable flow of capital in real estate. At times of heightened competition between banks, prudent lending criteria have been abandoned fuelling speculative development booms; while in the downturn, excess caution has created a classic “credit crunch” with viable schemes unable to obtain finance and funding with consequent welfare losses. This, in part, results from segmentation of the real estate lending market from the capital markets in general.

Property companies may also issue corporate debt or raise capital through equity IPOs or rights issues. In the former case, few companies are able to issue debt which would obtain high credit ratios<sup>2</sup>. With regard to equity, the traditional view has been that property investment companies are valued according to discounted net asset value. However, companies trade at a considerable discount to NAV, averaging 25% in the long-run (Barkham & Ward, 1999)<sup>3</sup>. In the late 1990s and into 2000 persistent deep discounts to NAV (in part due to the downgrading of value stocks in the dot.com mania, in part due to low market capitalisation and hence exclusion from tracker funds, in part to the adverse views of influential analysts) led to a rash of companies delisting, buying back stock or increasing their private element.

These market characteristics are hardly exceptional. However, they need to be viewed in the context of the UK’s dominant lease contract, the so-called “institutional lease” with its long length (traditionally twenty five years), upward only rent review clauses, the repairing and insuring burden on the tenant (a “triple net” lease) and other onerous clauses. There have been many critiques of this lease form (see e.g. Crosby *et al.* 2000, 2001; Lizieri *et al.* 1997 for reviews). A recent RICS survey found that only 8% of respondents thought that the UK leasing system was completely satisfactory against 27% who thought it unsatisfactory and undermined their organisation’s operational efficiency. From the perspective of this paper, the critical issue is the fact that the institutional lease evolved to support and sustain the traditional model of finance, and that appraisal practice entrenches its existence.

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<sup>1</sup> Loan syndication can help diversification and spread monitoring costs. There is, however, anecdotal evidence that syndication actually *reduced* risk analysis and due diligence in the 1980s as all participants sought to free ride on their partners.

<sup>2</sup> Even Land Securities, a long-term FTSE100 company, only had an A1 rating with Moody’s at the end of 1999, while S&P rated Capital Shopping Centres at BBB+

<sup>3</sup> While there are many explanations for the discount, the net effect for property companies is akin to a loan to value ratio as applied by debt holders.

There is now a large body of research which shows that UK valuation practice has been to mark down values sharply wherever there is any deviation from institutional terms. This serves to stifle innovation and hampers the development of flexibility in leasing contracts. The valuation impact is clear in relation to funding and finance of investment property. However, corporate occupiers seeking to raise capital from real estate assets through sale and leaseback schemes or spin offs are similarly restricted to standard institutional terms, driven by the valuation process. Finally, standard appraisal techniques, predicated on comparative evidence from similarly leased properties, are ill-suited to estimating the economic worth of differing cashflow patterns.

This should create arbitrage opportunities. Historically, there is evidence of property investors exploiting mispriced asset classes – short leaseholds valued using dual rate, tax-adjusted sinking fund methods or over-rented properties valued using term and reversion models, for example<sup>4</sup>. Two factors mitigate against this. The first is that, to gain abnormal profits, the new investor must hold the asset to the end of the lease or rely on the market “catching up”. This is problematic for investors since it restricts their ability to manage their assets and because their intermediate performance is measured based on the same valuations that created the arbitrage opportunity<sup>5</sup>. Second, the deal must satisfy due diligence procedures – and valuers advise buyer, seller and lender, helping to preserve existing price<sup>6</sup>.

The property crash left an overhang of supply at the start of the 1990s which allowed tenants to obtain shorter and more varied leases. As supply and demand moved back into balance, some of the tenant gains have been lost. Nevertheless, conventional leases are now more varied, and new forms of occupation and procurement have emerged. The serviced office (executive suite / business centre) sector has expanded, and outsourcing total property requirements has become more common. Investors and valuers increasingly use new and more sophisticated analytic tools to assess the potential of real estate projects. The trend towards internationalisation has continued, with the most large West End agents and advisors now part of global alliances. At the same time, other business and financial services firms, notably management consultants and accountants, have captured a larger share of property market business. These trends have reduced the isolation of property from the other capital markets.

These trends have also helped to fuel innovation in funding, finance and investment. The search for tax-efficient and liquid equity investments has continued, while securitisation of debt markets has grown considerably in importance, probably reaching a sufficient critical mass to be self-sustaining and drive down costs. This, in turn, has led to the development of asset backed securitisation. To an extent, the innovations of the last decade represent a continuation of developments in the 1980s that grew out of the liberalisation and deregulation of financial markets, with the aftermath of the property crash in the early 1990s marking a pause in a longer trend. Although the securitised real estate market is nothing like the scale and significance of that seen in the US, a complete return to a reliance on the traditional model of funding and financing appears unlikely.

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<sup>4</sup> See Baum (1982), Crosby & Goodchild (1992).

<sup>5</sup> Formally, a Nash equilibrium holds in the market.

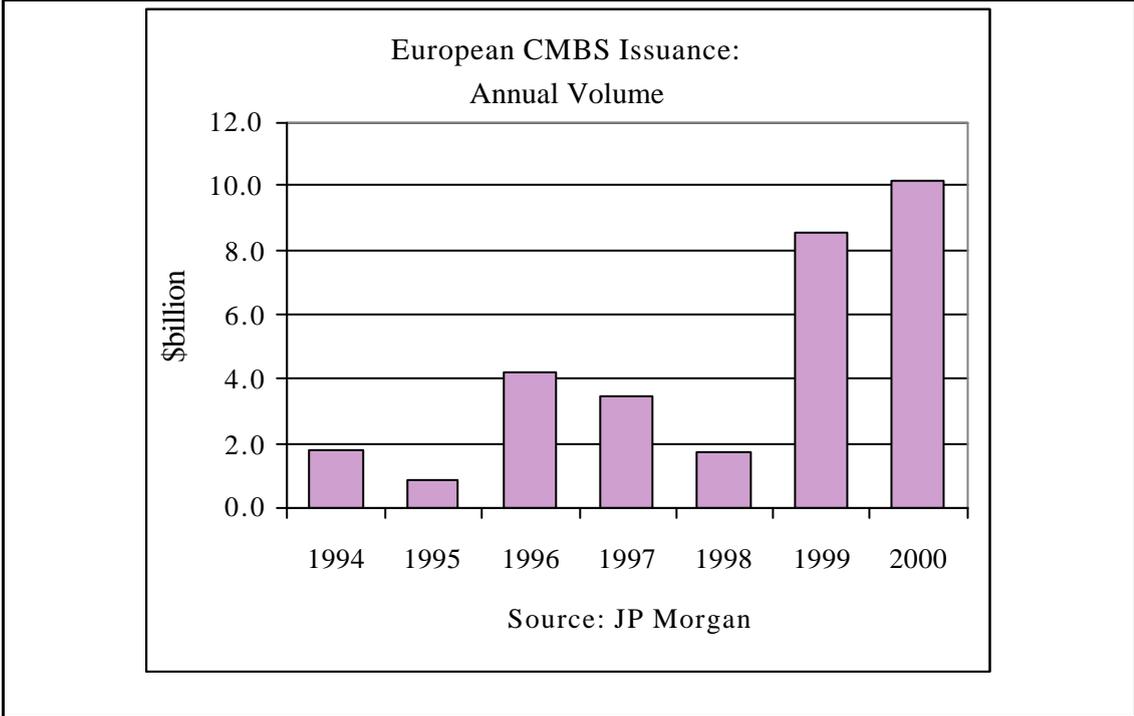
<sup>6</sup> Brown, amongst others, has questioned this, arguing that there are sufficient deals and sufficient information that such a process of valuer influence could not be sustained. However, the characteristics of property markets mean that no building is a perfect substitute and that markets are segmented. It was suggested to us in the course of the research that there had only been around eight deals of £200million or more in central London in the last four or five years, each with a very restricted pool of potential traders. In such thin markets, price anomalies can persist.

The CMBS market has developed slowly in the UK, by comparison to US growth. In part, this relates to size of market (and the difficulties of establishing a pan-European market), in part the less favourable market and regulatory environment. Conduits first appeared in the UK market in 1999. Lack of depth in the market means that margins are high, making it hard to devise profitable schemes in competition with cash-rich conventional lenders and mortgage-bond financing. By contrast, asset backed securitisation has developed rapidly. Three commercial deals have been highly instrumental in raising market awareness of securitisation: the Broadgate, Canary Wharf and Trafford Centre offerings.

In 2000, Peel Group raised \$900million secured on rental income from their 1.4million square feet regional mall. 64% was triple A rated – far in excess of Peel’s rating. Canary Wharf Group have made two major debt issues secured on the Docklands development. The most recent raised \$685million (with an additional callable \$325million). Senior notes have AAA ratings reflecting the covenant strength of the tenants. In 1999, British Land’s securitisation of rents from 13 London offices buildings (the bulk of the Broadgate complex) raising some \$2.25billion. All Class A notes (51% of the issue) have a AAA rating (compared to British Land’s Baa / BBB rating). The properties acting as security are effectively ring-fenced from the rest of the company’s property portfolio in a series of subsidiary companies. The size of this high profile issue and the claimed benefits of securitisation contributed much to the growing acceptance of asset backed securitisation in the UK market.

The size of the Canary Wharf and British Land Broadgate issues are symptomatic of the growth of the UK and European CMBS and asset-backed securitisation market. Moody’s Investors Services estimate that the total property-related bond issuance in Europe has risen from €2.7billion in 1998 to €8.5billion in 1999 and €10.7billion in 2000: they forecast that this will rise still further to €14billion in 2001. JP Morgan point to a similar trend with CMBS issuance averaging around \$2.4bn between 1994 and 1998, climbing to \$8.6billion in 1999 and over \$10billion in 2000. While still small by comparison to the US market (issuance of over \$50billion in 2000), the growth suggests that the market is becoming firmly established.

Figure 1: Growth in European CMBS and Asset-Backed Securities Markets



For firms wishing to raise capital from their corporate real estate, a traditional alternative to structured lending has been sale and leaseback. Traditional sale and leaseback is off balance sheet<sup>7</sup>, the rent provides a tax shield and it may be possible to raise the full value of properties. Disadvantages include potential loss of capital allowances, partial loss of control of the assets, loss of any capital growth, loss of an asset that can be used to secure further borrowing and, possibly, uncertainty at the end of the lease term. Most of all, however, since traditional sale and leasebacks operated on traditional institutional style leases, the firm was exposed to risk from the rental market and faced upward only rent reviews.

There have been recent attempts to create structures that are more flexible than the traditional model. In “Project Redwing”, J Sainsbury’s sold and leased back sixteen supermarkets to an offshore SPV accompanied by issue of \$490million partially self-amortizing secured bonds to raise the capital. Stores are leased back on 23 year leases, rents increasing by 1% per annum rather than being reviewed to market. Sainsbury’s may substitute stores, subject to value and credit tests, providing some flexibility. At maturity, Sainsbury’s underwrites any shortfalls between market and redemption values (a liability that, presumably, brings the transaction back on balance sheet) and have an option to repurchase the stores at market value or take a further 20 year lease. The bonds were initially rated A1 by Moody’s, but downgraded to A2 given the difficulties in the general retailing sector. Subsequently, Sainsbury’s conducted a second sale and leaseback transaction on similar terms, securitising the rents of ten stores to raise a further £232million.

Other large deals include Shell’s sale of 180 freehold or long leasehold petrol stations to a joint venture between Rotch and London & Regional, both private property companies. The stations were leased back on long (18 year) leases with a five yearly rent review formula that took rents to the higher of market rent or 2.5% p.a. compound growth – a formula giving the purchasers a guaranteed real return over the short to medium term. The sale price was \$435m which was debt funded on a 90% loan to value ratio reflecting the favourable rental terms and Shell’s covenant. Retail bank Abbey National’s sold its entire freehold and leasehold estate – 1,300 properties and some 604,000 square metres of space- to Mapeley, the Delancey Estates / Soros backed outsourcing vehicle for \$670million. An unusual aspect of the deal is that the outsourcing included leasehold interests as well as freehold properties, raising complex valuation issues. Abbey National retain the right to repurchase some properties. Rents on the leased back properties will rise on a stepped basis, at 3% per annum. While this creates greater certainty and obviates the need for costly rent reviews, it seems a fairly high rate of growth. The Abbey National deal links to a growing trend for complete outsourcing of property functions, a trend developing from government initiatives and now including private companies, utilities and corporations.

Major claims are made concerning the benefits of such schemes for the borrower/issuer and for the investor: frequently, all parties are said to gain from the deal. For British Land, the overall interest rate cost of the Broadgate issue was assessed to be 6.1% which enabled them to reduce their weighted cost of debt from 8.9% to 7.4% (according to their own post-issue press release, although a figure of 7.05% was quoted later in the property press) while enabling them to borrow more capital at a higher LTV than conventional debt would permit, while investors gained property-exposure and high quality long-dated debt.

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<sup>7</sup> at least until the proposals to revise FRS12 and bring operating and financing leases into line are implemented

Sainsbury's claimed that their sale and leaseback provided 100% capital at a cost of 7% compared to a 10% IRR on a conventional leaseback, with only minor loss of management flexibility while achieving greater certainty as to future liabilities. Abbey National were claimed to have made a profit of \$100million on the transaction, while obtaining flexibility in restructuring their corporate property portfolio. Inevitably, such claims arouse concerns: "*there's no such thing as a free lunch*". To evaluate the benefits, it is important to examine the rationale for the deal, the possible sources of added value and the way that value is apportioned amongst parties to the deal. In the next section, we seek to develop an evaluative framework to inform that appraisal.

### **3. Value Creation and Hidden Costs?**

Considerable entrepreneurial effort is devoted to creating and adding value; one firm may take over another believing that the combined firm will be more valuable than the two separate entities. Similarly a real estate developer may assemble, through a series of discrete purchases, a site that can be yield additional value when developed as an entity. Within the area of appraisal, creation of marriage value reflects the recognition that by combining or recombining two assets, it may be possible to create a third asset that is more valuable than the sum of parts. In the history of capital market research, much effort has been expended on the search for robust methods of adding value to firms through innovative financial products. Research has often demonstrated the fallacies behind traditional arguments for some engineered solutions but has also shown how innovative techniques and products can contribute to corporate value. We therefore produce a brief typology of financial themes that can be perceived to add value for firms through operation of the financial markets.

In uncovering the source of value-creativity in the financial markets, an enormous amount of research effort has been expended. There has been a mixture of methods, protocol analysis, experimental research and stock market price-based research. In both the US and UK, the overwhelming findings are that the capital markets are broadly efficient, in so far as it is extremely difficult to establish financial techniques that will deliver superior returns to shareholders. In other words, it is difficult to create added value. The work has involved the examination of publicly available information such as annual reports and accounts and less widely circulated information such as the information implied by directors' share dealings, the price impact of company presentations to invited investment analysts, window dressing techniques in financial reporting and the dissemination of recommendations by brokers.

Just as in every other market, entrepreneurs and innovators are able to earn extra profit by identifying a latent demand and quickly supplying products that will meet the demand. In the modern global economy, the window of opportunity in which innovators can exploit their foresight has become much shorter as competitors soon identify the innovators' source of value and produce similar financial products. The financial sophistication embedded in many of the new financially engineered securities bears almost no comparison with the techniques and approaches used even a decade before. However, sophistication does not necessarily lead to added value and the discussion below highlights some of the ways in which the value added may not be as great as it appears at first sight.

The analysis of debt finance has produced a large volume of research which has not yet satisfactorily resolved the issue of whether value is added to companies by structuring the debt/equity mix of their capital. Traditional finance identified that the contribution of debt finance could be found in its tax-shield but the extent and value of the tax shield has proved extremely difficult to establish.

In a financial world in which there are investors who are tax-exempt and other investors who have preferential tax positions in some debt vehicles, the financial advantage of debt from the tax viewpoint is likely to be limited. Some authors in real estate (e.g. Geltner & Miller, 2001) argue that the tax-shelter effect is neutral and most would agree that it is not a significant source of value. There may be a clientele effect since there are many investment institutions that seek investment assets which have long duration or maturities and are constrained from investing in equities or other more volatile securities but the creation of value in these cases rests in the appraisal of relative demand and supplies of each type of security and cannot be determined simply by supply-side analysis<sup>8</sup>.

The continuing use of debt finance can also be ascribed to the signalling effect of debt. Since companies that issue debt have to cover the interest payments on debt in order to continue business, debt creates a hurdle that the management of companies have to overcome. Theoretical research argues that management will only create such hurdles if they are confident that their company's future looks adequately secure. The corollary of this argument is that firms that do not issue debt (when they have assets that could provide adequate security for the debt) are likely to lack confidence in the future of their business. The empirical basis of these arguments is mixed but there is anecdotal agreement in the financial markets that ensuring that there is some debt in the capital structure is a signal that the managers of companies can make about positive future prospects of the business<sup>9</sup>.

Leasing in the UK expanded rapidly over thirty years ago in response to a tax-arbitrage opportunity. Manufacturing companies sold assets to financial institutions who could claim tax allowances in the form of depreciation and capital allowances. In leasing back the assets, they acquired a tax shield. Clearly this is a real added value created by the tax system. However, from time to time, claims about the benefits of leasing have been circulated which are unsubstantiated or simply misleading. Two of the most common misconceptions include the idea that leasing provides 100% financing and that leasing provides off balance sheet financing.

When a company rents a property, the amount of capital required to finance the transaction is obviously much less than the amount of capital required to buy the property. However, the two transactions are not comparable. In the first case, the rental payments are, in the short term, fixed, and at all times rank amongst the highest priorities for payment if the lessee becomes financially constrained. Thus the liability for rent is equivalent to the liability for a bond or loan taken out by the lessee. In financial terms, we argue that the rental payment is equivalent to borrowing or issuing a secured loan and, in fact, displaces the opportunity of debt. The owner of the property has, in addition to the rental scheme, the reversionary value at the end of the lease and an option to redevelop the property before the lease is complete. Both of these options become more valuable, the more variable are rents and yields in the property market

Whilst recognising that the "lease as 100% financing" argument is fallacious, advocates would still hold that leasing is preferable since it does not appear as a loan on the balance sheet. Thus it is believed that a company which usually rented property would appear to be safer than a company that bought the properties it occupied and issued debt secured on the properties.

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<sup>8</sup> Further discussion of the tax-related effects of debt can be found in Geltner, 1999, MacDonald, 1999.

<sup>9</sup> e.g. Chan & Kanatas (1985), Bester (1985, 1994)

There are two answers to this argument. First, it is almost inevitable given current concerns of the Accounting Standard Board and the International Accounting Standards agencies that companies will shortly be required to report operational leases in a more transparent form. Second, research into the issue suggests that investors already take into account the additional risk represented by companies entering into lease arrangements. Long established research (Beaver *et al.*, 1970, Hamada, 1972) has determined that the more debt reported in the balance sheet, the higher the risk of equity. But is this true for debt not appearing explicitly in the balance sheet? Bowman (1980) looked at the effect of finance leases in the US before financial leases had to be reported. He found that the lease data was reflected in the equity risk of the firms. Dhaliwal (1986) similarly found that unfunded pension fund liabilities (which did not appear in the balance sheet although they were disclosed in the Annual Report) were reflected in the risk of equity.

The risk attached to investing in the equity of a firm derives from two components; business risk and financial risk. For firms in the same industry which are broadly exposed to the same amount of business risk we can expect that the greater the gearing, the higher should be the equity risk. More specifically, Imhoff *et al.*, (1993), Ely (1995), using US data and Gallery and Imhoff (1998) using Australian data, have looked at the effect of operating leases on the risk of equity. Beattie, Goodacre and Thomson (2000) analysed a sample of 161 UK companies and found that an improved estimate of equity risk resulted when the effect of operating leases was taken into account. This result implies that investors in the UK were aware of the underlying effect of operating leases. In turn, this implies that there is little or no benefit, even in the present regulatory regime, from the off-balance sheet argument for leasing

Much of the innovative practice in financing owners and investors in real estate has been made by specialist financial institutions and investment banks. It is important to review how intermediation by financial institutions may create extra value in the financing process. There are three functions that underpin the value-creation: brokerage, transformation and risk management.

The broker's contribution to adding value to financial products stems from specialist knowledge. Given a market in which either party may participate at irregular intervals, the existence of a specialist broker will lower the transaction costs significantly because information about values and constraints will be readily available. The lack of publicly-visible market transaction data, the consequential need for subjective valuations and the heterogeneity of the real-estate product are all factors that ensure the viability of the broker role. The thinness of the market for real-estate finance, and the lack of publicly-available data on transaction prices are factors that ensure that the brokerage function is an essential source of value when new financial products are being developed

A common characteristic of financial institutions is to act as a maturity transformation mechanism. For much of the 20th century the yield on short-term securities was lower than the yield on longer-term securities. However this pattern was inverted in the 1990s and the inversion has persisted in 2000 and 2001. The implication of this is to encourage more companies to borrow on longer maturities than they would previously have been inclined to do, thereby enhancing the substitution of short-term bank debt by longer maturity securitised loans. Any tendency of the shape of the yield curve to revert to its 'normal' shape may constrain the surge in securitised loan creation that relates to this maturity transformation.

Volume transformation can either replicate the work of a wholesaler, whereby the institution obtains a large financial position and distributes the security or asset between smaller companies, or a collection agency, through which small funds are aggregated to create a larger fund. In wholesaling, financial institutions can, because of their position acting as agents within or instead of a market, often act to make financial assets more attractive to investors by re-packaging them. The source of value in this operation should be found in reduction of transaction costs and search costs. As information about these markets has become more widely available, the gain from this operation should decline. The research evidence for the creation of value by this operation is at best weak. Professional companies and institutions do not unequivocally add value in allocating investment funds.

The collection function is more obviously a creative force in financing since it substitutes for a market that is not yet operating efficiently. Over-the-counter securities can be seen as a special case of this function since financial institutions provide financing by issuing a security that can be sold to many investors. Instead of a market, the issuing institution establishes the security's value by following a recognised procedure – validation by the use of its name, obtaining independently audit or accreditation (e.g. by rating) and ensuring some liquidity or an exit strategy for investors. There has been an enormous growth in the issue of securitised loans and other hybrid securities in the last decade: some of this growth is fuelled by a demand for products which could not be issued in formal capital markets due to regulatory or legal constraints. Creating value through the collection function, usually requires substantial repackaging to maximise the financial value of the original borrower.

Overwhelmingly, demand in real estate financing is for assets with high ratings for safety and liquidity. Value is created by re-distributing and re-insuring the credit risk of the issue through operation in derivative markets. Valuation of properties predominantly reflects the risk attached to each property as a freestanding asset. Thus, risk in a short leasehold is perceived by valuers as being very high because of potential tenant default. This risk is reflected in the premium that investors require in order to be persuaded to invest in the short lease. However, if the short lease is part of a larger portfolio of similar properties, there is far greater predictability of income. The risk in the portfolio is much lower and the valuation of the income received from the whole portfolio should reflect this through a lower required return. In such cases, the portfolio value is higher than the sum of the valuations of each component. This principle underlies some of the more innovative asset-backed securities issued in recent years and clearly will continue to create financial value as long as valuation of the components reflects the total risk attached to single property interests.

There will always be scope for exploiting untapped demand for new financial products. But successful products, stimulate competition and, eventually, competitors catch up and reduce the “economic rent” earned by the innovating company. In less efficient markets, where trading is thin and liquidity is poor, arbitrage opportunities may persist for long periods and, in fact, may never be resolved because of institutional constraints. Arbitrage action, for example, resulted in the recognition that the components of income from “over-rented” leases could be stripped out and repackaged to create bond and equity-type investments. There has been a surge in activity on the part of investment banks seeking to create further variations on repackaging that also exploits differences in yields between the property and the bond markets. Once the emphasis in financing has changed to income rather than asset value, there is further scope for financing. Some of these methods of enhancement are sensitive to market sentiment and we are sceptical regarding the permanent establishment of higher levels of credit enhancement derived from expectations of deferred income or capital value.

Although it is argued that the financial markets are largely efficient in pricing and valuing assets, there have been specific instances in which institutions and firms have introduced new products and achieved high profits. The real estate financing market has been characterised by some segmentation and separation from the other financial markets and financial institutions have been quick to move in and exploit anomalies and/or arbitrage opportunities. Finally the recognition of newer models of asset pricing have enabled more sophistication in creating new financial instruments. In discussing the sources of innovative value, we have noted some of the false claims that have been made. The potential sources of value gain – and the issues they raise – are summarised in figure 2.

Figure 2: Added Value Through Innovative Real Estate Finance Schemes

<b>PRINCIPLE</b>	<b>PROVISOS AND ISSUES</b>
<b>Leasing</b>	
Leasing => Transfer of tax capacity:	Traditional justification for leasing. Applies only if lessor and lessee in different tax brackets.
Leasing => Off balance sheet financing:	Equity investors adjust for implicit gearing risk. Accounting rules may soon require balance sheet reporting.
<i>“Leasing provides 100% financing”:</i>	Increases implicit gearing so required return on equity will increase, reducing market capitalisation of firm.
<b>Debt</b>	
Debt => Tax shelter derived from debt interest payments	Depends on relative tax exposure of investors
Debt => Signalling effects of debt indicate a sharp management	In adverse market conditions, may represent over-optimistic expectations of property entrepreneurs; downside risk magnified.
Debt + ownership $\equiv$ lease + forward investment in property market (reversion):	Exposure to property market investment is lost if property is leased.
<b>Securitisation</b>	
Securitisation => Brokerage function creates value in thinly traded markets:	Added value must be shared between issuer and broker.
Securitisation => Maturity transformation:	Added value must be shared between issuer and broker.
Securitisation => Volume transformation. Property portfolio => Packaged as a loan:	Possibly a relatively weak source of added value
Securitisation => Risk transformation (through diversification gains):	Must take advantage of non-portfolio based valuation in property market, requires/implies market inefficiency
Securitized debt => Realisation of unsatisfied demand for (a) long term bonds; (b) property exposure, constrained by entry barriers:	With present and projected shortage of government stock, securitized debt will be highly marketable; may not persist
Securitized debt => Arbitrage between markets:	Takes advantage of different yield structures in bond and property markets and relies on insensitivity of traditional valuation models

#### **4. Alchemy? Evaluating the Claimed Benefits**

In this section, we seek to evaluate the benefits of some of the recent innovative products and transactions in the UK real estate market, to identify the sources of added value (if any) and to explore whether those sources are time-limited, specific to a particular company or set of market conditions or have a more general applicability. The starting position for our analysis is that, in an efficient market, there will be little or no scope for adding value at no cost with only winners and no losers. We, thus, investigate how risk and return are reapportioned in a transaction. If it appears that both investors and the issuing company appear to gain absolutely, then we seek to identify the source of market inefficiency that the new product is correcting/exploiting. We would stress that we are concerned with particular *types* of product and transaction, rather than individual, named, transactions themselves. It is not our intention to criticise or cast doubt on particular deals which will have been carefully structured and analysed.

We start our analysis with asset-backed securities such as those issued on behalf of British Land and Canary Wharf group. The discussion then extends to a consideration of further ways of repackaging income and to pooled or conduit based mortgage-backed securities. Finally, we consider innovative sale and leaseback schemes and other procurement models.

The claim for asset-backed securities, secured on the rental income stream and capital values of a property company's real estate portfolio, is that the firm can reduce the cost of its borrowing, since the bonds/notes are rated taking into account the covenant of the tenants. Since these may have a credit rating higher than that of the property company, the return required by investors is lower than with a bond secured on the assets alone. Investors are able to gain exposure to an asset that derives its risk-return characteristics from the property market at relatively low cost and receive a rate of interest that may be slightly above equivalent-rated corporate bonds. The process of securitisation means that no investor carries a high exposure to a single asset or borrower – which would not be the case for a conventional bank loan. Finally, the process of securitisation allows the property company to access investors and the capital markets that were previously unavailable.

Some of these claims have a clear validity. The process of securitisation permits the risk of the transaction to be spread amongst many investors; the relatively low cost of each security permits investors to hold the assets within a diversified portfolio. Investors who would have faced market entry barriers can now gain exposure to the property lending market (if they so desire!), leading to an integration across capital values. Since these investors do not require any premium to account for the large size of the loan, there may be downward pressure on interest rates in the less segmented market. The same argument would, of course, apply to a traditional bank lender securitising the loan – individually or as part of a pool. Securitisation is an option which reduces the required risk premium. The bank may be able to make profits through its brokerage/intermediation role, as is, of course, the case with the investment banks who arrange asset-backed securitisation deals.

Other claims seem more debatable. One key argument is that the required coupon on the securities is lower since it is assessed on the credit rating of the tenants, not the property company. As a result, the proceeds of this cheaper debt are used to retire more expensive, unsecured debt, resulting in a fall in the weighted cost of debt. In the Broadgate securitisation, for example, it was reported that British Land reduced their overall cost of debt by 150 basis points. However, care needs to be taken in assessing such claims.

For the property company, existing debt – particularly fixed rate loans – has a set payment profile. Thus, an unsecured bond with a coupon rate of 12% requires interest payments of 12% whatever changes are made to the underlying risk of the firm’s operations. However, in the *secondary* market, the price of the bonds will change depending on attitudes to the risk-return profile of the company. The *market* value of the debt will thus change. It is the market value of the debt, added to the market value of the equity, that determines the value of the company. If a company’s debt is perceived as more risky, then bond prices will fall, effectively increasing the company’s cost of debt.

This suggests a more cautious interpretation. Bonds that were secured on the company as a whole should have been assessed on the basis of the quality of the overall rental cashflow (to cover interest rates) and the value of the properties (as security in the event of default and for redemption at maturity). An asset-backed securitisation, in effect, ring-fences certain quality properties through first charge mortgages and subsidiary structures. This *must* diminish the quality of the remaining corporate cashflow unless and until the proceeds of the securitisation are used to acquire comparable quality assets. Thus, one might expect that the price of earlier debt instruments in the secondary market would fall, reducing the market value of the debt. This is a testable proposition. We note that British Land’s corporate debt was downgraded by the ratings agencies in 2000, although a direct link to the securitisation cannot be proven.

Debts that are not traded on a secondary market – straight bank debt or multiple option facilities – are not subject to such price shifts (theoretically the asset value of the lender may shift downwards, but this may not be observable)<sup>10</sup>. The impact of the securitisation would be experienced when the firm needed refinancing. This would equally be true for refinancing of bonds, paper and debentures.

The foregoing suggests that care should be taken in interpreting an apparent reduction in the cost of debt. It is feasible that the quality of the rental income and the security afforded by the assets in the securitisation had not been fully recognised by the market prior to the issue. The company’s added value (from the reduced cost of borrowing) would, thus, result from improved information and ease of monitoring. However, this would imply either that the valuation of the underlying properties did not reflect full information (a proposition that is important in arguments concerning repackaging of rental income streams) or that the market did not trust the valuations due to uncertainty and prior bad experience<sup>11</sup>. Overall, if the assets and operational practices of the company or group are unchanged, it is hard to find a case for a permanent and significant reduction in the overall cost of debt in the absence of persistent market inefficiencies.

Another explanation for the reduced cost of borrowing is that the securitisation results in a change in the maturity of debt: that the issuance of bonds extends the maturity. If this is the case, then the success of the issue in reducing the weighted average cost of borrowing (and hence, increasing, the value of the firm) relies on two factors: the shape of the yield curve and the length and terms of UK leases.

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<sup>10</sup> There is research evidence that property market events do have an impact on the market capitalisation of banks, proportional to their exposure to the market. For example, the share prices of banks exposed to Olympia & York fell in response to its troubles; contagion effects then reduced the share prices of other banks with substantial property loan books (see Ghosh *et al.* (1994, 1997), Cole & Fenn (1996).

<sup>11</sup> This is a variant on Akerloff’s (1970) lemons argument.

As noted in the previous section, the current shape of the yield curve, with lower rates at the long end than the short, is unusual in historical context. In part, it relates to the lack of new UK government issues as the public deficit reduced, allied to the Pensions Act/Minimum Funding Requirement obligation on pension funds to match their long liabilities. The result is that, even though spreads are wider at longer maturities, the coupon rates on long-dated corporate bonds are, in relative terms, cheap. Thus asset-backed property securitisation offers, particularly where highly rated and backed by quality covenants, are likely to find a ready market. Even if there is a risk premium for property lending over comparable corporate bonds, the required rates will be less than those for conventional property borrowing.

To achieve the high rated long maturities, UK issues make great play of the security provided by the institutional lease. The long length, the upward only rent review clause, the fact that rent is a prior claim on company assets, all provide greater security, encouraging AAA ratings for the senior classes. In a number of the issues, there are obligations placed on the issuer/property company to ensure that any relets or assignments are on similar, institutional terms (this is true of Broadgate and the Trafford Centre). Thus, in creating funding flexibility, the conditions may help to *preserve* inflexibility in the occupational market. From the opposite perspective, moves to introduce much more flexible occupational terms, shorter leases, break clauses and innovative rent fixing arrangements may mitigate against the success of future asset-backed securitisation.

Two further points are worth noting. First, it has been argued that asset-backed securitisation enables a property company to raise more debt on assets due to more generous loan to value ratios. The overall impact on the firm needs to be considered here. The interest payments do represent a tax shield, but the greater proportion of debt should lead shareholders to demand higher returns on equity to compensate for the greater induced volatility. Overall, then, the impact on the market value of the firm may be broadly neutral. Second, the securitisation may place constraints on the operation of the firm. In particular, it may be difficult to dispose of those properties allocated as security or to change their use (most of the schemes studied included some substitution rights, but the particular nature of the properties acting as security would make this difficult to implement). The ability to overcome this induced inflexibility depends upon the prepayment clauses in the issue. The presence of Spens clauses<sup>12</sup> or equivalent penalty terms can make early redemption extremely expensive. Given the pressure on property companies to reposition and respond to rapidly changing markets, this constraint on activity is a significant problem. Another consideration is that some of the asset-backed securitisations defer risk into the future but do not eliminate risk issues.

One argument advocated for the value-added potential of securitisation is that the real estate market has failed to recognise the full investment worth of properties let on long leases. Asset-backed securitisation, in isolating one element of the income stream, exploits this mispricing. More generally, any such pricing inefficiencies could be exploited by repackaging the cashflows from an investment property, selling different elements to distinct groups of investors. This could be through the creation of income strips, swaps or through securitisation. Similar arrangements could be made to release the value of corporate real estate as part of an innovative sale and leaseback or outsourcing scheme.

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<sup>12</sup> A Spens clause forces an issuer, wishing to prepay a debt issue, to value the remaining cashflow at a very low discount rate, often the redemption yield on an equivalent maturity government gilt. See Catalano (2001) for examples.

The essence of such schemes is that the cashflow from a property can be viewed as having three distinct elements, the base rent or rent passing the rental income above the base rent which may arrive from the next rent and the residual capital value at the end of the lease. The argument is that, since these elements will attract different investors with different risk aversions, liabilities and expectations, the sum of the separate elements will be greater than the valuation of the whole property. Alternatively, it can be argued that the total amount of debt secured on the individual elements will be greater than could be raised on the whole property<sup>13</sup>. The value added elements here derive from disintermediation.

As with asset-backed securities, the potential for a market in stripped income in the form described above is dependent upon the preservation of the existing UK lease structure. Lease lengths must be sufficient to provide a long maturity for the vehicle, while the upward only rent review is needed to secure the bond-like quality of the base tranche. Further, if the market became widespread, it seems likely that the valuation of properties would adjust upwards to the sum of the separated elements to eliminate arbitrage profits. This suggests that the potential to profit from such schemes may be time limited. However, past experience of “misvaluation” suggests that there is considerable inertia in the property market (and the valuation process) such that opportunities may persist for some time.

The capital market benefits of commercial mortgage-backed securities have been much discussed in the literature<sup>14</sup>. For the originating lender, CMBS allow active management of their loan book, adjusting exposure to the overall sector or segments of the sector. This may be important in relation to regulatory frameworks (capital adequacy or solvency ratio requirements under the Basle Accord or national banking requirements) – a factor that has been important in mainland Europe, if less significant in the UK. The issuance of securities allows the originating bank to tap new sources of capital and reduces reliance on traditional sources - short term deposits. Finally, the mediation role may generate value in the form of a spread between the interest charged to borrowers and the coupon paid to investors.

This spread, in turn, results from risk diversification, both from the securitisation process itself (spread of risk from one lender to many) and from diversification across loans when the mortgages are pooled or passed through a conduit vehicle. The originating bank could (should) diversify its own loan book, if course, but carries the whole risk of individual loans. Investors can gain access to a particular part of the market previously subject to entry barriers with low transaction and information costs (the monitoring role performed by the rating agency), can manage their portfolios actively and, at least in principle, benefit from liquidity in the secondary market.

A number of market implications follow from the establishment of a broad and deep CMBS market. Capital flows into real estate should be more even than under the traditional system, due to the closer integration of capital markets, diversification effects and new sources of capital. This should prevent capital famines – during which viable projects and firms may be unable to borrow – but also limit over-lending due to monitoring by rating agencies and price signalling in the secondary market. In turn, this may help to reduce the amplitude of the property cycle – particularly allowing developers to start schemes in market troughs, to arrive when demand recovers hence damping rental growth pressures. Evidence on interest rate effects from mortgage-backed securitisation is mixed.

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<sup>13</sup> It has been suggested that this is due to a failure to account for the option value implicit in the upward only rent review.

<sup>14</sup> Reviews can be found in Geltner & Miller (2001), Fabozzi & Jacobs (1999).

The high profile Sainsbury's and Abbey National innovative sale and lease back schemes discussed above are quite different in structure. However, a number of common points emerge from such schemes. As noted above, research suggests that leasing does not add value *per se*. Any added value must result from mispricing (in which case there are losers as well as winners), from information effects or from alignment of interests.

In the Sainsbury's deal, the firm was able to raise \$490million (less \$10million costs) from the sale which it could apply to operations. The rent appears explicitly as a cost in the accounts, allowing investors to assess returns relative to factor inputs. Furthermore, the indexed rents creates greater certainty in cashflow, although the residual position is uncertain with the firm having the option to repurchase (at some uncertain capital value), renew or dispose of the properties and the responsibility of meeting any redemption shortfalls (a responsibility that may bring the deal back on balance sheet). It is claimed that the cost to Sainsbury's of raising the money is just over 7%, although the pure cashflow internal rate of return is closer to 8.25%. In either case this is cheaper than conventional funding. The rental payments generate a tax shield effect and there is potential for a share of any capital gain.

The cost for Sainsbury's relates to the terms of the leaseback. Although there are substitution and redevelopment clauses, Sainsbury's has committed to 23 year terms – necessary to provide the long maturity for the bonds to be marketable, to part-amortise the debt and to carry a low enough coupon to justify the deal. There has, thus, been an arms-length maturity transformation and constraints placed on the retailer's activity. The indexed rent provides stability and certainty and, at a discount rate of 10% translates to an average growth rate of around 1.7% on a conventional lease with five year reviews. This is certainly lower than the average rental growth of supermarkets over the last ten years as measured by IPD. Even with the constraints in the deal, the terms of project Redwing are much more favourable than those of a conventional sale and leaseback, with the typical tenancy being long and with upward only reviews to market rent. However, it does represent an increase in the effective indebtedness of the company, which should lead equity holders to demand higher returns.

The Abbey National divestiture is quite different in structure. In transferring freehold and leasehold assets, the bank has sought to maximise its occupational flexibility, with rights to surrender properties, extend leases, buy back freeholds and with a much shorter average lease length. However, the deal appears to be very costly. It is hard to assess the overall cost of the leaseback, due to the assignment of lease responsibilities. The initial rent roll of \$116million represents 17.5% of the \$660million released. Equally, the 3% indexation of the rents is equivalent to nearly 4% per annum for a five yearly review cycle (again using a 10% discount rate). While this is close to the average for the second half of the 1990s, it is higher than the long run average, and at a time of low inflation represents high real growth. Nonetheless, Abbey National has raised capital from its corporate real estate portfolio, bought flexibility and made the cost of its real estate inputs explicit for shareholders<sup>15</sup>.

It thus seems that the amount raised via sale and leasebacks (and other outsourcing) and the cost of that capital is in inverse proportion to the amount of operational flexibility obtained. In particular, innovative sale and leasebacks that produce cheap capital tend to be accompanied by long term commitments – representing both a maturity shift and a constraint to operational flexibility. This must be considered in evaluating the benefits of such schemes. The (hidden) costs of constraints on active asset management and operational decision making should not be neglected.

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<sup>15</sup> That Abbey National was subject to takeover bids clearly had some influence on the deal.

US research on the impact of corporate real estate management on firm value suggests that moves to improve transparency result in increases in firm value<sup>16</sup>. In particular, evidence suggests that real estate sell offs are associated with increases in the market value of the firm. It is argued that the sell off provides true information about real estate values and property costs (much corporate property is held at historic cost). Evidence on sale and leaseback is less clear. Positive impacts identified include raising capital at a cost below that of a conventional sale and leaseback and at an amount greater than a conventional secured loan. Other gains relate to improved tax position. However, loss of corporate flexibility may offset any improvements in company value. By contrast, creation of a corporate real estate vehicle and spinning it off into a separate entity appears strongly associated with wealth gains for stockholders. It thus seems that moves that make the value of property and the impact of real estate management explicit provide valuable information to shareholders and signal an intention to maximise wealth. This information, together with any tax gain, is capitalised into share prices, increasing the value of the firm.

The foregoing suggests that a number of the innovative schemes in the UK do not offer the unequivocal benefits claimed, not do they offer a long term panacea for the inflexibilities of the traditional market. This is not a criticism of any single scheme. Most have been imaginatively structured to meet the needs of particular clients and to exploit particular market conditions. Where the innovations exploit arbitrage opportunities and market inefficiencies, they contribute to greater market transparency, liquidity and efficiency and, in certain instances, can increase firm value and wealth. However, value gains in one area may be offset by costs in another; flexibility in one area may be offset by induced inflexibility elsewhere. In assessing the benefits of particular vehicles and schemes, it is important that all the implications are traced through. This is particularly true of the tension between business demands for flexibility in the occupational market and the development of asset-backed securitisation which aims to extract full value from the proper assessment of the risk-return characteristics of different elements of rental cashflow. Many of the highly rated asset-backed securitisation structures are predicated on lengthy standardised leases and contain restrictive clauses preserving such arrangements.

Schemes that rely on unusual market conditions may be “period pieces” with less long-term impact on market efficiency than those that address structural constraints – market segmentation, information asymmetry and entry barriers, for example. The current shape of the yield curve is unusual in historic context, a function of the lack of long government fixed interest securities and the relative immaturity of many pension schemes. As pension schemes mature, and seek shorter dated bonds; if PSBR increases and is funded by longer dated issues, then the yield curve may return to its historic shape, increasing the cost of long-term money and threatening the rationale for asset-backed securitisation in the current format.

We have not explicitly treated tax issues in this paper. Nonetheless, these are very important: many schemes rely on tax efficiency to make value gains. This merits further research. We highlight two important aspects. First, tax and accounting rules vary considerably. This means, for example, that schemes that are of benefit in the US will not necessarily be successful in the UK. Second, in the current UK market, many schemes are driven by the tax status of the different players – in particular the tax-exempt institutional investors and corporations who seek tax shields to set against profits. The current position may be subject to review, particularly with the growth of tax-exempt private savings schemes.

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<sup>16</sup> Reviewed in Rodriguez & Sirmans (1996).

## 5. Conclusions and Future Directions

Despite inertia, the UK real estate market has seen considerable innovation in finance, funding and procurement techniques over the last decade. In particular, the growth of CMBS markets, asset backed securitisation and innovative corporate real estate management have led to significant changes in market structure. These, along with the creation of new investment vehicles and new players, have helped to erode the dominance of the traditional finance-funding-procurement model. Major claims have been made about the benefits of the innovations. These may have a validity for the particular scheme at the particular time in the market. Whether they have a more general validity is much more questionable. We argue that it is important to analyse the supposed benefits from a rigorous, theory-led perspective.

In evaluating real estate innovations, it is important to remind investors that value is more difficult to create if markets are efficient and if investors are already aware of the sources of investment risk. We recognise some examples in which the entrepreneurial talent of investment bankers and institutional investors can exploit *lacunæ* in the markets. These included recognising latent demand for new financial products and spotting differences in the valuation of similar financial products in more than one market (market arbitrage). In the absence of a properly-functioning capital market, institutions can also exploit their position of knowledge by acting in a brokerage capacity, supplying a wholesaling function or transforming claims from one maturity to another.

In securitisation of real estate assets, many of the new securities are based on the concept of ring fencing. This can enhance the investor credibility of the issue, but also can have secondary effects on the other securities issued by the company. Another factor that enhances the credibility of income backed securities in the UK is the very same institutional lease that is criticised as being inflexible and inequitable to tenants. UK issuers make great play of the security provided by the institutional lease and, in particular, the upward only rent review. One possible justification for this stance lies in the argument that the real estate market has failed to recognise the full investment worth of properties let on long leases and the option inherent in the rent review clause.

Finally, we have reservations about financing schemes that are effectively trading along the yield curve. Since long term interest rates currently are below short term interest rates, one can arrive at apparent profitable schemes that in 'normal' times would simply not survive. Whilst one can applaud the entrepreneurial ability to spot and exploit yield curve reversals, such products are unlikely to be sustainable (in an economic sense). As a corollary of this claim, schemes that address structural constraints – market segmentation, information asymmetry and market entry barriers, for example, might well continue to be a feature of the expanding property finance market for the foreseeable future. These structural constraints represent a form of market inefficiency: innovative products thus help to create a more efficient real estate market that assists in efficient allocation of resources in the economy.

This paper – and the underlying research project – is discursive in nature. A key future direction for the research is to test the propositions empirically at corporate level. This is a task that is made complex by the fact that many details of schemes and of company structure are private; by the difficulty of isolating the impact of an individual scheme from other changes in the market and the company. Many corporate bonds are warehoused, rarely traded and hence it is difficult to discern changes in the market value of debt. Nonetheless, we have some preliminary results (see Appendix A) and intend to develop the research in this direction in the future.

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## APPENDIX A: SOME PRELIMINARY EMPIRICAL FINDINGS

*Health warning! These are early results and considerable refinement will be necessary.*

If financial innovation has a positive effect on a company, this should be reflected in its equity prices. However, any change in the debt-equity ratio or equivalent impact on corporate structure should be reflected in the required return of equity holders. We set out to investigate this by examining the share prices of four UK companies involved in high profile real estate schemes – British Land, Canary Wharf Group, Peel and Sainsbury’s. In the event, Peel’s share prices proved too noisy to analyse. For the other three, we collected weekly share price returns, along with data on overall stock market returns and sector returns (property sector for British Land and Canary Wharf, retail sector for Sainsbury’s). We analyse these in a variant of an event study framework, using a single index framework. The results reported here use the sector index rather than the overall market index for two reasons. First, the analysis period coincides with the decoupling of value and growth/technology stocks which means that the overall explanatory power of the aggregate market index is low. Second, we are interested in isolating the company effects from overall sector movements. We tested the models using an aggregate market index and an orthogonalised sector index with no significant difference in outcome.

The basic model tested was

$$R_{it} = \alpha + \beta RS_t + \gamma RS_t * D1_t + \phi D2_t + \nu_t$$

where  $R_{it}$  is the excess return on the company,  $RS_t$  is the sector excess return,  $D1$  is a dummy for the period following the announcement of the scheme (such that the coefficient for  $RS_t * D1_t$  captures the change in equity risk after the announcement date) and  $D2$  is an event dummy around the announcement date. Prior expectations are that if the scheme involves an increase in the indebtedness of the company, then equity investors will require a higher return and, hence, the  $\gamma$  coefficient will be positive. The sign and magnitude of the  $\phi$  coefficient will depend on the (perceived) advantages of the scheme for the company’s value. We do not have a prior here, but do not expect  $\phi$  to be universally positive.

In all three cases, the  $\gamma$  coefficient was positive although only in the case of Sainsbury’s was the statistical significance satisfactory. British Land was ejected from the FTSE100 in 1998 and continued to make announcements in the year following the Broadgate securitisation. Even controlling for the FTSE100 period, there may be too many changes to detect a Broadgate effect with clarity. Similarly, Canary Wharf Group only listed in June 1999, so the analysis period may be too short to establish stable betas. The company also announced a major new debt facility six months after the announcement of the securitisation in 2000. The  $\phi$  coefficient is zero for British Land, weakly negative for Canary Wharf and significantly negative for Sainsbury’s.

These are preliminary, speculative results but the Sainsbury’s analysis (see Figure A1) provides strong support for the “no free lunch” hypothesis. Project Redwing effectively increased the company’s debt – which led equity holders to demand much higher returns – and was not viewed in a favourable light by investors, leading to a negative  $\phi$  coefficient. It may be that the loss of control implied in the sale and lease back or concerns about the management’s use of the new funds created uncertainty and adverse impacts. Clearly, much more work is required on these analyses, but these early results are promising.

Figure A1: Preliminary Analysis of Sainsbury's Returns and Project Redwing.

Dependent Variable: J Sainsbury's Weekly Excess Returns

Method: Least Squares

Sample(adjusted): 1/08/1990 6/25/2001

Included observations: 599 after adjusting endpoints

White Heteroscedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.0009	0.0008	-1.079	0.281
Sector Beta	1.0139	0.0382	26.555	0.000
Post Announcement Excess Risk	0.5787	0.0708	8.170	0.000
Announcement Window Dummy	-0.0338	0.0159	-2.129	0.034
R-squared	0.729	Mean dependent var.		0.0002
Adjusted R-squared	0.727	S.D. dependent var.		0.0380
S.E. of regression	0.020	Akaike info criterion		-4.9901
Sum squared residuals	0.235	Schwarz criterion		-4.9614
Log likelihood	1498.738	F-statistic		532.840
Durbin-Watson stat	2.202	Prob.(F-statistic)		0.0000