

**7<sup>th</sup> Pacific Rim Real Estate Society  
Conference**

**Adelaide, 21-24 January 2001**

**LEASE OR BUY? HOW MANAGEMENT OF  
THE ASSET UPSETS THE EQUIVALENCE**

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**Keywords:** corporate property management; lease analysis.

**Abstract**

It can be proved that, under certain assumptions, buying is financially equivalent to leasing. However, this is merely a convenient device to explore why leasing or buying is not a matter of indifference to users of real estate, plant or equipment. This paper shows why the responsibility for the real estate is one of the main reasons that the choice is of importance. The care of real estate by owners and tenants is likely to be more important than would be the case for other leased assets such as manufacturing plant and equipment, which are the subject of most of the leasing literature.

Using data collected by the Property Council of Australia for the costs of occupying and looking after office space, the consequences of leasing or buying are explored. Three aspects of the maintenance and management of properties may affect the choice between owning and renting commercial premises. These are the availability of specialised skills, the willingness to bear the uncertain expenses and the lack of care that may arise from splitting the interests in the property between a landlord and a tenant.

Using a combination of data and simulation of the choice between leasing and buying, it is shown how property management is relevant to the decision. The data shows the volatility of operating expenses and suggests that there are greater opportunities for landlords than owners-occupiers to reduce costs and perhaps offset the risks of operating expenses against property income and amongst properties. However, owner-occupation avoids the conflicts of interest that commonly arise between landlords and tenants. It is concluded that, if management were the only issue, leasing would be preferable when the specialised skills of landlords outweigh the adverse consequences of tenancy conflicts.

## **Lease or buy? How management of the asset upsets the equivalence**

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### ***Part 1: Introduction***

Businesses choose between leasing their real estate or buying it. The choice may be based on an almost endless variety of factors that relate to the current objectives of the business and its human and financial resources. However, a convenient starting point for the analysis of the decision is to show that, under restricted assumptions, the financial outcome should be the same whether the property is leased or bought. In Part 2 of the paper, the proposition that leasing and buying are financially equivalent, and hence should be a matter of indifference, is described. This is followed by the arguments why the choice is of importance acquiring rights to use both capital equipment and real estate.

Part 3 of the paper concentrates on how the management of the property is believed to influence the choice between leasing and buying. In this context, management means all aspects of operating the property including maintaining building and telecommunication services, keeping the structure and finishes in good condition, paying (and contesting) taxes and other charges and arranging insurances.<sup>1</sup> The remainder of the paper seeks ways of confirming whether management of the property is significant in the lease or buy choice.

Part 4 of the paper uses Australian data on the operating expenses of commercial (office) properties to evaluate whether there are significant variations in the operating expenses which might vary with the ownership structure. Part 5 simulates the consequences of the different incentives for owner-occupiers, landlords and tenants to spend on maintenance and management of their properties. Although the paper is exploratory, it concludes by suggesting that when specialised skills are needed, leasing may be favoured but that leasing may introduce costly conflicts between landlords and tenants.

### ***Part 2: Lease or buy equivalence***

#### **2.1 Equilibrium**

Curiosity about the emergence of financial leases as a common method of funding capital equipment led to much of the early research into the choice between leasing and buying. A formal proposition that leasing and buying an asset are financially equivalent was stated by Miller and Upton (1978, p781) who concluded that the present value of the costs of borrowing to buy would, under limited assumptions, be the same as the present value of the costs of leasing. They showed that the rent, net of maintenance and other operating expenditure, would be the same as the interest payments (on a loan to cover the full costs of purchase) plus the depreciation on the asset. The same equilibrium was suggested for real

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<sup>1</sup> The components of operating expenses are considered further in Part 3 below.

estate by Hendershott (1997, p6). The equilibrium is unlikely to be obvious if the initial rent is expected to rise and if the asset (such as the land under a building) is expected to increase in value.

It follows from the equivalence of leasing and buying that the combined value of the lessor's and lessee's interests in an asset should be the same as the value of the purchaser's asset before financing (Lewellen, Long and Connell 1976, p794). For real estate, this would be expressed as an equivalence between the sum of the landlord's and tenant's interests and the owner-occupier's interest. In whatever way the equivalence is expressed, it is merely a starting point to explore the factors that make the decision between leasing and buying of major consequence to most businesses.

## **2.2 Differences between leasing and buying equipment**

Most of the published studies have addressed how firms obtain rights to use capital equipment by either purchasing with debt or entering a financial lease. However, because not all firms have equal access to debt or financial leases, the choice may influence the cost of capital (Ang and Peterson 1984, p1055; Sharpe and Nguyen 1995, p271). When the lessor can acquire the asset cheaper than the lessee or can obtain more when disposing of the asset at the end of lease, there will be savings which can be shared between the parties, giving an advantage to leasing over buying (Lewellen, Long and McConnell 1976, p796; Smith and Wakeham 1985, p902). The reverse would be true if the operator of the asset has buying and disposal power that a financial institution does not, giving an advantage to buying over leasing.

In most countries, there have been tax and accounting benefits to leasing rather than owning assets under certain circumstances. These may have been the prime reasons for the development of equipment leasing as an alternative to incurring debt to acquire plant and equipment. If the operator of the asset does not obtain the same tax shelter from depreciation or investment allowances as a financial institution (typically because the operator's marginal tax rates is lower), it will reduce the total tax burden of the two parties if the equipment is leased. Lessees are in effect selling tax deductions that they cannot fully use (Wolfson 1985, p168; Lewis and Schallheim 1992, p498). In the past, neither financial nor operating leases appeared as liabilities on company balance sheets. Many companies concerned about market perceptions of their debt to value ratios preferred to enter leases which either were not shown in the annual accounts or appeared only in the accompanying notes (Smith and Wakeham 1985, p904). In most countries, financial leases must now be capitalised as liabilities in balance sheets and there are moves to extend this requirement to operating leases. In summary, recent changes in tax laws and accounting standards have neutralised most of the earlier benefits to leasing over buying.

In considering the leasing of capital equipment, it has been recognised that the incentives to take care of the equipment may be different if leased or owned. The incentives may depend upon which party is responsible for maintaining the equipment and whether the salvage value (at the end of the lease) is guaranteed by one party. Miller and Upton (1976, p766) mention maintenance of the asset but do not fully explore its influence on their proposition of equivalence. Smith and Wakeham (1985, p904) point out that one party, typically the lessor, may have special skills or economies of scale in looking after leased equipment. Flath (1980, p263) describes difference costs and incentives in maintaining asset which are only held for a

short period. Related to this, the parties may have different attitudes to the risks of uncertain operating expenses and uncertain asset depreciation (Weingartner 1987, p9).

Although not explicitly considered by other writers, the transaction costs involved in the purchase by a lessor and in the grant of a lease may be different to the transaction costs of a purchase by an operator who borrows to fund the purchase. For example, the stamp duty on leases is substantially different to the stamp duty on debt (or mortgages over real estate).

### ***Part 3: Leasing or owning properties: why management matters***

Much less has been written about real estate leases than financial leases. The same arguments as above have been used to weigh up the choice between leasing or buying business premises (Nourse 1990, p122; Benjamin, de la Torre and Musumeci 1998, p223). However, some issues assume a greater importance when leasing premises rather than capital equipment. This is largely because the nature of real estate assets and the typical lease structures. Properties are often leased with provision for rental adjustment during the lease. Therefore, the comparison between rent and loan interest payments is more difficult than comparing the fixed payments under most financial leases with interest payments.

Several distinctions between the capital equipment and real estate revolve around the maintenance and management of the asset. This is not to suggest that the other reasons identified above for the existence of financial leases are not also important in the decisions of businesses to lease rather than buy their premises. However, the remainder of this paper explores how the maintenance and management of properties may influence the choice whether to lease or buy.

Property leases may be of similar length to financial leases of capital equipment but they are only for a short period in the life of the building. Because the residual or reversionary value of the property is generally more important than the residual or salvage value of plant, proper maintenance can be critical.

Maintaining and managing property is generally much more costly than maintaining plant or equipment (as a proportion of the rent). Operating strategies for properties are more diverse than those of most items of capital equipment, most of which have pre-defined servicing and operating instructions. Therefore, the issue of whether the property is maintained by the owner, the lessor or the lessee is more important than when leasing or buying equipment. There appears to be considerable scope for the operating methods and expenses of properties to be influenced by the objectives of the owners and managers. The existence of major information asymmetries between property owners and tenants may add to the differences between the approach to maintenance and management exhibited by landlords, tenants and owner-occupiers.

The existence of buildings in multiple occupation is indicative of economies of scale in the provision of commercial space *within* a building. As well as the agglomeration economies reducing the costs of travel for workers and consumers, there are likely to be economies in the provision of services to large buildings, partly because they require a high degree of specialised skill to operate properly. However, these skills can be bought by both owner-occupiers and

landlords. The fact that office buildings are managed individually also suggests that there are not major economies in the management of several buildings in one ownership.

There is a tendency to assume that landlords are more effective in their asset management (as distinct from daily property management) than owner-occupiers. There are doubtless still many examples of businesses which do not control their real estate effectively and this will remain so until they devote more resources to corporate real estate management. One disadvantage of owner-occupation may be that the expenditure on management is used less effectively than if controlled by specialized landlords.

A related issue is whether there are benefits for specialist property owners in their ability to diversify the risks of operating expenses, which are often volatile and unpredictable. A large organization (typically an investment institution) may be better placed to take responsibility for these risks than a small business (typically a tenant) which may prefer to lease rather than own. The existence of net leases under which the tenant takes the responsibility for many of the uncertainties of operating expenses counters this argument.

The final factor that may influence the decision whether to lease or buy is the difference in incentives to spend on the maintenance and management of their properties by owner-occupiers, landlords and tenants. Benjamin et al. (1995, p177) demonstrate the effects of "under-maintenance" by tenants who are required to care for their premises or whose neglect may be unobserved. These authors show that, other things being equal, the lack of incentive for tenants (who have no interest in the reversionary or residual value of the property) should lead to the failure of the leasing market entirely. When landlords are responsible for maintenance and management, they may care little for the premises, after the rent is fixed and until near to the end of the lease.

The lack of incentive is important whenever the enforcement of lease covenants is costly or impractical. The information asymmetries between landlords and tenants are more prominent than those between the parties to most financial leases. This makes the issue of lack of incentive to maintain properly a potential reason for buying rather than leasing. It has also resulted in the leases of some types of business premises becoming politically sensitive,<sup>2</sup> resulting in legislation which tries to prohibit under or overspending (such as the laws governing the recovery of operating expenses in shopping centers).

#### ***Part 4: What does the available data reveal?***

##### **4.1 The significance of operating expenses**

Part 3 of this paper described why managing properties may be a significant factor in the decision to lease or buy business premises. Using data on operating expenses for commercial properties around Australia, it is only possible to show that the property operations *could* be different for owner-occupation than for leased premises. This is because there appears to be

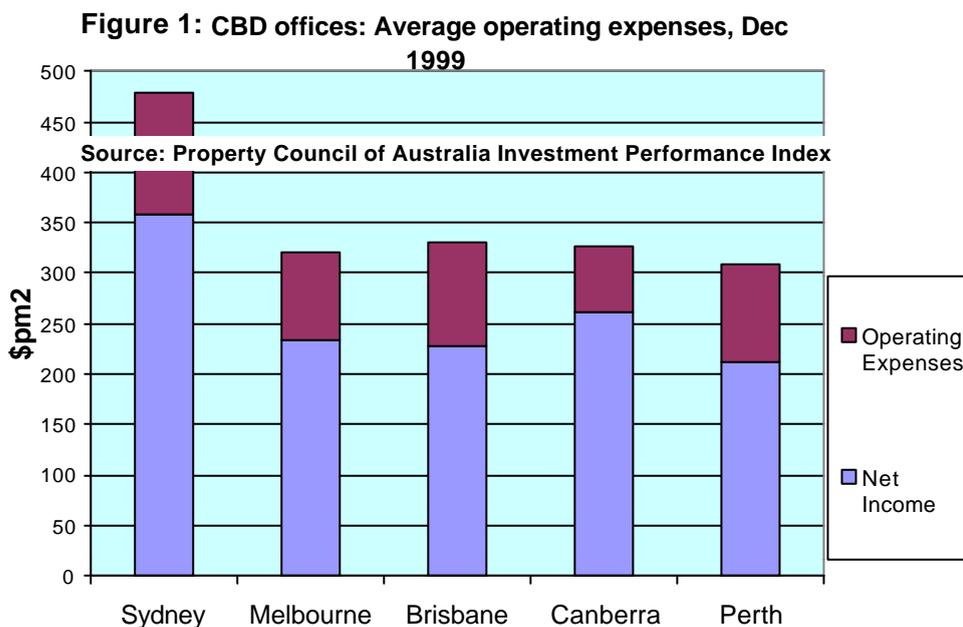
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<sup>2</sup> In Australia, most of the statutory intervention has been to protect small businesses leasing shops from more powerful and better informed owners of shopping centers.

no large sample of operating expenses for owner-occupied buildings that can be compared with the samples of operating expenses for leased properties.

The statistics calculated in this paper are based on the rents and operating expenses supplied to the Property Council of Australia for the compilation of its *Investment Performance Index*. Almost all the properties used in this Index are leased, with the exception of a few buildings which are partly occupied by these owners.<sup>3</sup> This data generally distinguishes between statutory charges (rates, water charges and Land Tax) and other variable operating expenses. However, it does not break down the operating expenses further. It might be argued that the costs of managing owner-occupied properties would exclude the landlord's costs of rent collection, finding new tenants and generally handling tenants. Whether these costs are borne by the landlord or the tenant, they are not incurred by owner-occupiers. This potential saving for owner-occupiers cannot be isolated using this data.

The available statistics do confirm that, first, operating expenses are a major outlay for users of property and, secondly, that the expenses vary significantly. Figure 1 shows the average operating expenses for office buildings in several Australian city centres. In this sample, the operating expenses are between 20 and 32 per cent of the gross rent. As a guide to the relative costs to businesses, the operating expenses of between \$86 and \$122 per square metre per annum (the averages in Melbourne and Sydney respectively) would cost between about \$2,000 and \$3,000 per employee per annum (based on 20 to 25 square metres per



employee). By most measures, operating expenses would be considered significant and have the potential to influence the choice between leasing or buying.

Further, if the operating expenses are variable, this may enable owner-occupiers, landlords and tenants to select different levels of expense to suit their needs. Figure 2 indicates

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<sup>3</sup> The Property Council of Australia also compiles operating expenses reports which may include several owner-occupied buildings in each market. However, these reports do not identify whether the property is leased or not.

considerable variation in the first differences of the operating expenses over time.<sup>4</sup> The variability of the operating expenses within the sample of buildings in each city is indicated by the lower or upper quartiles. Both the variability over time and within the sample of buildings are sufficiently high to suggest some flexibility in the amount of and approach to operating expenses. It is impossible from the data to determine whether there are economies of scale or benefits from special skills if the property is leased and not owned (or vice versa).

## Figure 2: Variability over time

Annualised changes in total costs –1985-99				
	Syd	Mel	Bris	Perth
Mean	4.10%	3.89%	6.12%	2.89%
StDev	9.66%	8.62%	7.96%	8.68%
and within sample – Dec '99				
	Syd	Mel	Bris	Perth
Mean	\$122	\$86	\$103	\$98
Quartile	\$94	\$65	\$86	\$94
n	59	29	27	15

The Property Council of Australia *Benchmarks Survey of Operating Costs* (1999) confirms similar variability of all the major categories of operating expenses (although this does not mean that they can be controlled better by owners, landlords or tenants). Statutory charges can only be varied by disputing the valuations used to compute the charges, which owner-occupiers in Australia are probably less likely to do. There are different levels and approaches to maintenance and servicing, including acceptable response times and replacement cycles. Owner-occupiers may be more willing to pay for greater certainty of operations than landlords or tenants. The cost of insurances can be adjusted according to the cover selected and again owner-occupiers may be willing to pay more to minimise the risk of disruptions. Building staffing can be varied to achieve significant savings for landlords and tenants although owner-occupiers might be willing to incur those costs. In summary, operating expenses vary significantly, giving those responsible scope to reduce outlays and the quality of services to the building.

### 4.2 The risks of operating expenses

A related reason why management may be different for owners and tenants arises from their willingness and ability to handle the risks of changeable operating expenses. Landlords with a large portfolio of properties may be able to diversify these risks by holding properties in different markets. Figure 3 displays the correlation coefficients for changes in operating expenses per period in different cities. These coefficients are significantly lower than the correlation coefficients for total returns in these cities over the same period (averaging about

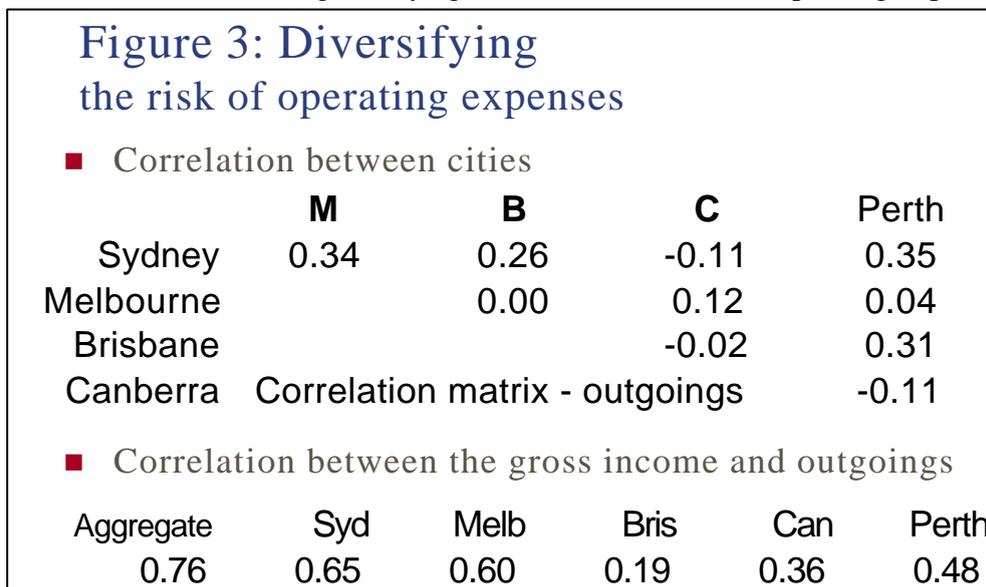
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<sup>4</sup> The same methodology was used to annualise the 6 monthly differences in operating expenses as is used to annualise periodic rates of return in the PCA Investment Performance Index.

0.8). Landlords are more likely to be able to take advantage of these diversification benefits than owner-occupiers. However, in many markets, the risks are passed to tenants (through the use of net leases) and the diversification benefits are squandered, suggesting they are not generally of much importance.

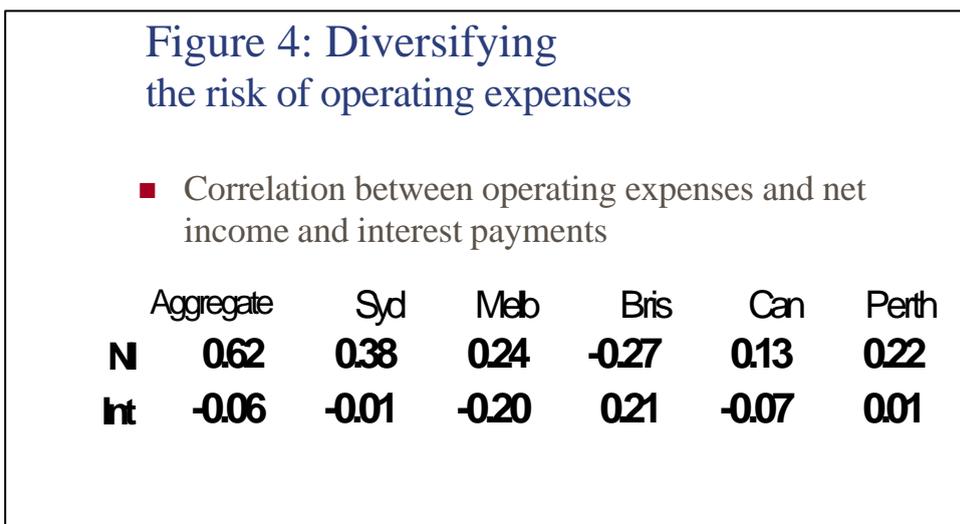
The lower half of Figure 3 shows a curious set of statistics. There is a high correlation between the first differences of operating expenses and gross income. Because net income for the landlord is the gross income less the operating expenses, this high correlation suggests that landlords smooth out some of the volatility of returns by collecting gross rents and then deducting the operating expenses. Tenants liable for net rents plus a service charge to recover the operating expenses are disadvantaged by the positive (but lower) correlation coefficient of 0.62 between net income and operating expenses. Landlords and tenants appear to be able to shift or share the risks of operating expenses but owner-occupiers can only absorb the uncertainty as one of many business risks.

A better test of whether leasing or buying reduces the risks of the operating expenses is to



compare the correlation coefficients between changes in operating expenses and net income and changes in operating expenses and loan interest payments. This assumes the occupier is responsible for operating expenses as well as either net income (if leasing) or loan interest payments (if buying). As these correlation coefficients are calculated using first differences, the interest rates can be utilised to represent loan interest payments (for these calculations, the 180 bank bill rate was used as a benchmark).

Figure 4 below shows that using aggregate Australian data, changes in operating expenses are correlated with changes in net income (0.62) but independent of changes in interest payments (-0.06). This would suggest that businesses owning their premises can diversify their occupancy liabilities but that this is not true of businesses leasing their premises. Tenants are likely to find that net income and operating expenses will vary in similar ways. When considered by City, the correlation coefficients between occupancy liabilities are less consistency.

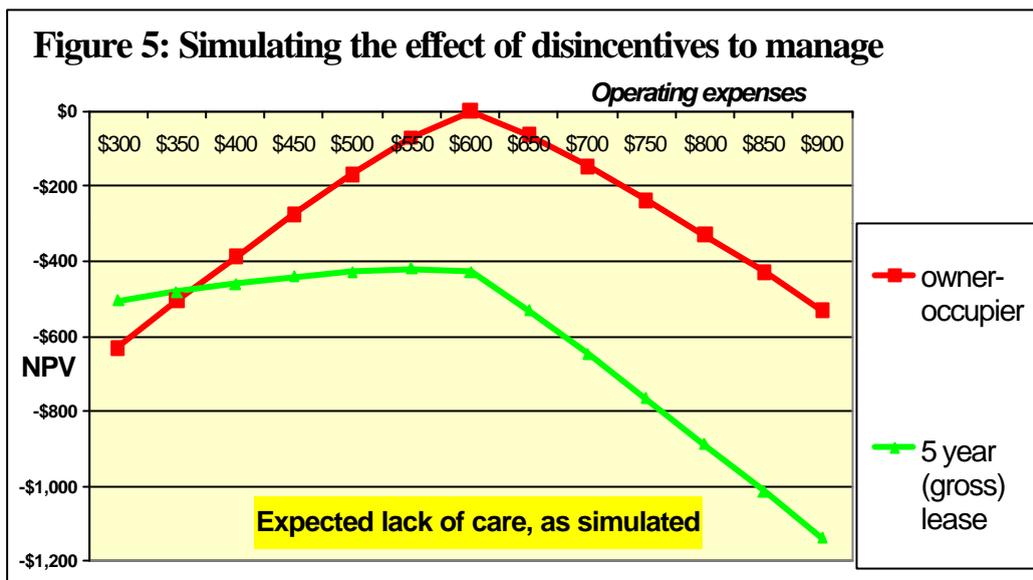


**Part 5: Simulating the incentives for owner-occupiers, landlords and tenants**

It is not practical to design enforceable lease covenants which ensure that landlords and tenants maintain and manage premises in the same way that an owner-occupier would (as described in Part 3 above). Under a lease, the amount that each party spends on managing the asset will depend upon how well the covenants can be enforced and how the interest of each party in the property is likely to be affected by savings on operating expenses. There is reasonable evidence that lease obligations to manage, in particular to repair, are difficult to enforce (Rowland 2000a, p27). Each party will incur operating expenses to the extent that marginal benefits equal the marginal costs (as applied to tenants by Benjamin et al. 1995, p177), subject to a minimum expenditure dictated by the enforceability of the lease covenants.

It is notoriously difficult to test for these incentive effects or agency costs in transactions (Rowland 1998). In a small sample of office buildings, Glascock et al. (1993, p69) found that rents were higher in buildings partly occupied by their owners than those which were fully tenanted. The authors propose that tenants see occupation by the owner as a signal that the owner will maintain the premises properly. Agency theory would suggest that tenants bid more because they are less concerned about failure of the landlord to manage the premises. Without data distinguishing owner-occupied buildings from tenant buildings, similar tests cannot be performed for Australian properties. In any case, several other explanations for the higher rent paid for space in partly owner-occupied offices are conceivable.

To gauge whether the incentive or agency issues might be significant in the choice between leasing and buying, the effects on operating expenses were simulated. A plausible relationship between operating expenses and building depreciation was selected. This relationship was based upon declining marginal benefits of expenses and annual depreciation that was a function of operating expenses in the current and previous years. Figure 5 below shows the net present value of the owner-occupier's asset. As owner-occupation is free from conflicting incentives found in leases, a net present value of \$0 defines the optimum level of operating expenses. Using the same relationship between operating expenses and depreciation, the net present value of the combined interests of the landlord and the tenant is shown to always be negative. Based upon a 5 year gross lease, the optimum level of operating expenses is about \$500 (rather than the \$600 for an owner-occupier).



Changing the length of the lease and insisting that the management of the premises can be partly enforced under the lease will alter the net present value and the optimum level of expenditure. However, provided that the annual depreciation is partly determined by previous years' expenditure (and the lease covenants are not entirely enforceable), the simulation always shows a negative net present value for the combined interests of the landlord and the tenant. This illustrates why Benjamin et al. (1995, p185) conclude that leasing markets should fail, unless there are factors which compensate for the disincentive effects in leasing transactions. In summary, splitting the interest in the property gives less incentive to maintain (whichever party is responsible). Simulating the conflicting interests tests the direction of their effects better than the magnitude because the latter is heavily influenced by the assumptions of each simulation (Rowland 2000b, p189).

**Part 6: Conclusion**

This paper has explored one aspect of the decision by businesses to lease or buy their premises. The conclusions are speculative because little data is available indicating the operating expenses of owner-occupied commercial premises. Nor is data available that distinguishes operating expenses for owner-occupied premises from other groups of investors. To pursue this research further in Australia would probably require collecting data directly from managing agents and owners in one market in which there are significant numbers of owner-occupiers.<sup>5</sup>

Even if data distinguishing building expenses of owner-occupiers becomes available, differences in operating expenses between owner-occupiers and landlords or tenants may be hard to interpret. First, one must be sure that the properties in the two samples are not significantly different. Secondly, it may be difficult to determine whether any higher expenditure by owner-occupiers indicates waste or maintenance to a higher standard.

Thirdly, it may necessary to broaden the study to consider all aspects of the choice between leasing and buying in order to gauge the importance of management. It is likely that for small

<sup>5</sup> Suburban or fringe office locations, such as West Perth, would be appropriate targets.

businesses the availability of 100 per cent debt is critical. The remaining tax differences between leasing and buying may also influence the choice.

The tentative conclusion at this stage is that, if management were the only issue, leasing would be preferable when the specialised skills of landlords outweigh the adverse consequences of the disincentives to manage created by the landlord and tenant relationship.

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