

The Use of Exchange-rate Hedging Techniques by UK Property Companies

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Commercial property for many years has assumed an important position in the domestic portfolios of portfolio investors. Several studies have concluded that investment portfolios should hold between 5 per cent and 15 per cent of their portfolios in their domestic property market, for diversification, inflation hedging, as well as for superior investment performance[1,2].

The main features of modern portfolio theory are that investors seek to maximize their utility of wealth while reducing their exposure to risk. By constructing diversified portfolios of assets that are not perfectly positively correlated, specific risk associated with a single asset may be diversified away. Elements of market risk will remain, as assets within a class tend to show some positive correlation. By diversifying internationally, the market risk of a portfolio may be reduced still further, reducing risk and increasing return as a result of extending the investment boundaries to national markets that have low correlations, thereby reducing market risk to low or even zero levels[3,4].

Fluctuations in price are one of many risks of a foreign investment, further compounded by fluctuations in exchange rates which may exacerbate any fall in property values once returns are converted to the home currency. Since the collapse of globally fixed exchange rate systems (The Bretton Woods Agreement) in 1971, international financial instability has affected exchange rates and increased their volatility. An international investor who does not hedge his investment is therefore speculating on exchange-rate movements as well as his foreign holdings. Exchange-rate movements do have their rewards from speculation, but may also show similar losses. In any case, it introduces a different type of risk which has to be accounted for.

Although the world financial markets are becoming more integrated, there remain variations in financial stability and timing of the economic cycles of different nations. A UK-based investor in foreign property markets must convert holdings back to sterling for incorporation into his financial statements. By hedging currency risks, exchange-rate movement can be separated and eliminated from the risk-return profile of the underlying investment, giving returns to the investor from the actual property investment only.

There are few UK property companies which have the size of funds to invest on an international basis and are able to diversify internationally by type, location and size to a similar extent to their involvement in the UK. Some companies maintain a policy of not diversifying overseas at all. The most common constraints to overseas investors are the availability of adequate information. Details of a property opportunity overseas in competition with the local investors and the ability actively to manage investments may reduce the attraction of an overseas investment. Property is by its very nature an investment asset which requires active hands-on management in order to maximize performance, a constraint which deters many property investors from investment overseas.

The top five overseas property investors by property value of overseas investment are Hammerson, MEPC, Slough Estates, Brixton Estates and British Land. Their international property composition is illustrated in Figure 1. Other property companies which maintain property assets overseas have less than 5 per cent of their portfolio abroad, usually consisting of a single property asset in Europe, North America or Australia.

Since they began to float in 1971, currencies have fluctuated sharply. This can cause large gains or losses if the risks are not avoided by hedging or exchange rate management. The two principal risks to consider for a UK property company are the effect of changing exchange rates on value of overseas property assets and the effect on the profit-and-loss account when rental incomes are converted to sterling in the year-end accounts.

The volatility of exchange rates can be seen by the comparison of exchange rates over time as illustrated by the American Dollar/Sterling exchange rate illustrated in Figure 2. This clearly shows the changes due to the sterling

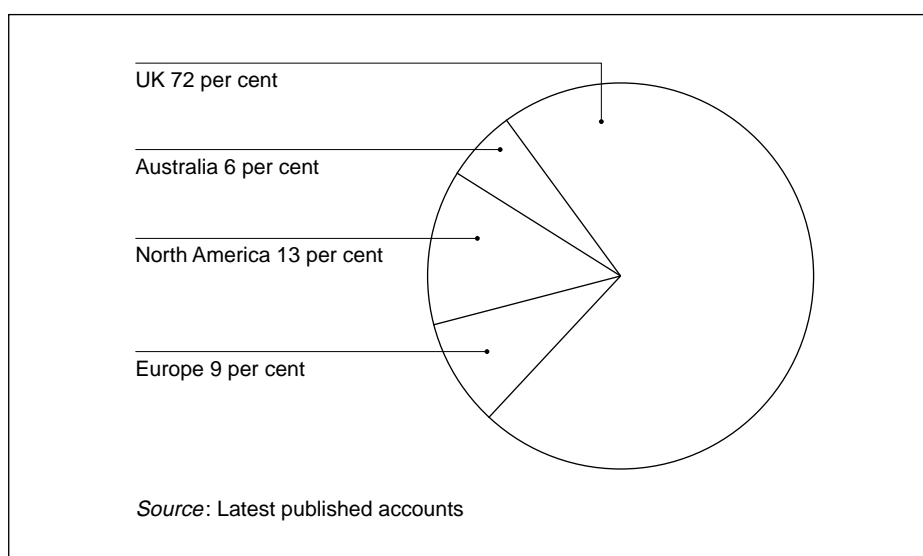


Figure 1.
Top Five UK Property
Companies: Property
Assets by Country

revaluation in 1967 and the volatility of exchange rates since the collapse of the Bretton Woods agreement in 1971.

Various instruments are available for exchange-rate hedging by UK companies. Since property is usually held as a long-term investment and hedging instruments are held for much shorter periods, the ability to hedge an investment in property into the future is often difficult to achieve within one hedging transaction. This has led to the introduction of tailor-made hedging instruments, available from financial institutions.

The main aims of hedging are to match assets with liabilities avoiding any losses due to exchange-rate movements. Traditional hedging methods include foreign exchange contracts, option contracts; swap contracts and other currency management methods involve back-to-back or overseas loans.

In a forward or futures contract, all terms for exchange are arranged in advance of the date of delivery. A forward or futures contract is a commitment to purchase or deliver a specified quantity of currency on a specified date at a price known when the contract is negotiated. Forward contracts are privately negotiated, customized transactions. The current or spot price is used after adjustment for differences between interest rates for the two currencies. Forwards are useful for hedging specific amounts of currencies but they are not negotiable and therefore may lack flexibility.

Futures contracts allow participants to buy or sell on a public exchange where they are traded with detailed knowledge of the characteristics of the contract. They mirror the behaviour of the spot prices but are executed at the margin. This means only a small proportion of the cost has to be paid in

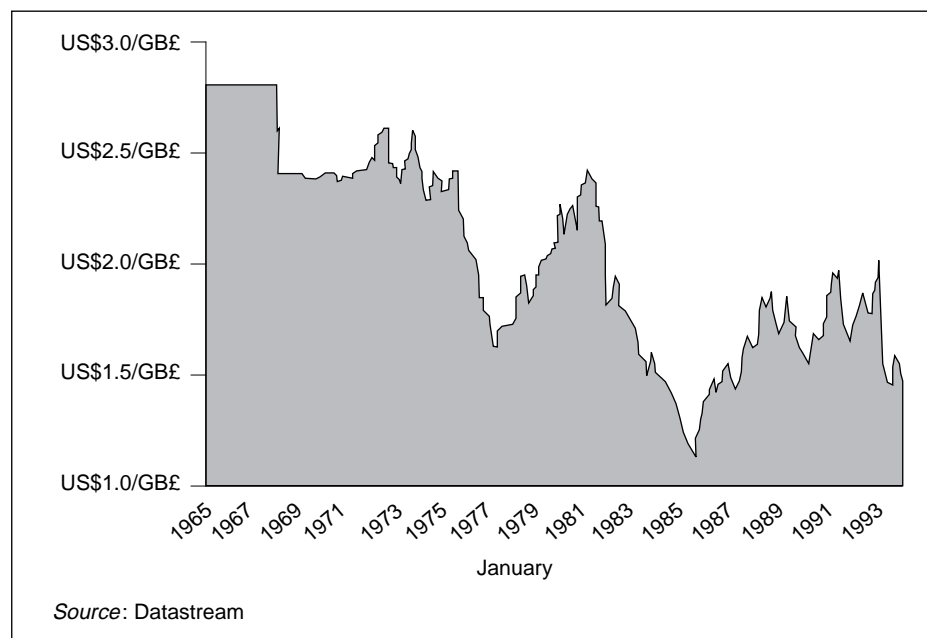


Figure 2.
US\$/GB£ Exchange
Rate

advance and subsequent movement in prices can gear up profits or losses. Furthermore, as contracts are standardized they may not be a perfect hedge, but it is a highly liquid market. Currency futures are traded on the London International Financial Futures Exchange (LIFFE) and are based on certain international important currencies in units of known sterling denominations. Not all currencies are available for trading at LIFFE.

For a property company owning an overseas property, a forward or future contract would require a series of multi-period transactions during the life of a property investment. Long-term property investments cannot be adequately hedged by one contract.

The buyer of an option contract has the *right* but not the *obligation* to buy (or sell) a currency at a specified exchange rate on a given future date in exchange for the payment of a premium. Options are sold either on the trading markets at set prices and standard sizes, with definite dates of purchase and sale or over the counter where dates, sizes and prices are determined by negotiation between the parties. Options are considered an appropriate hedging instrument available to property investment companies owing to the flexibility of their terms and the avoidance of loss, should the exchange rate fluctuate to the disadvantage of the buyer. Unlike futures, where there is exposure to upside and downside movement, options need only be a one-sided bet and offer limited risk. They are available from financial institutions in return for payment of a risk premium to reflect the level of risk involved.

Currency swaps involve private agreements between the buyer and a financial institution or alternatively a buyer and a company in the invested country. A swap is an exchange of liabilities denominated in different currencies involving two parties who agree to exchange specific amounts of two different currencies at the outset, in their home currency. The two parties make periodic payments over time in accordance with a pre-determined rule to reflect differences in interest rates between the two currencies involved. Swaps can also be used to exchange variable-rate loans into fixed rates to match property's cash flow profile, as illustrated in Figures 3 and 4.

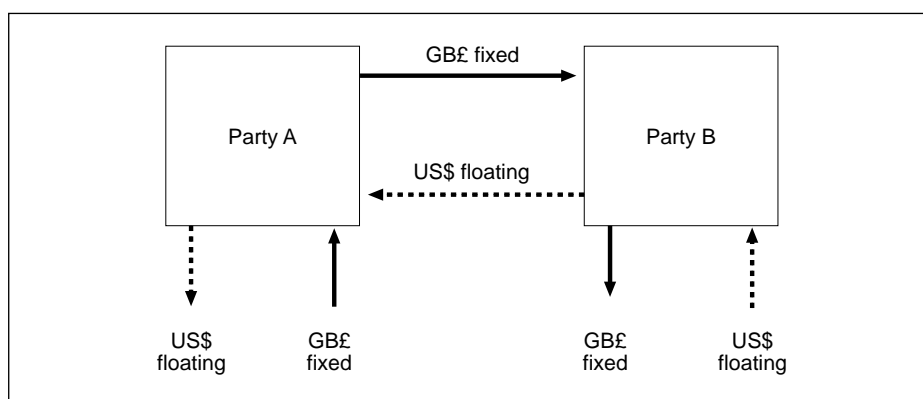
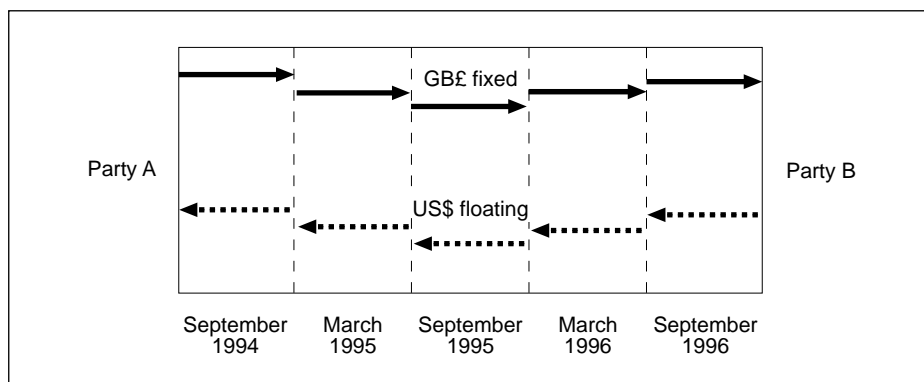


Figure 3.
GBP/US\$ Currency and
Interest Rate SWAP
Basic Arrangement

Figure 4.
US\$/GB£ Currency and
Interest Rate SWAP
Short-term Contracts/
Long-term Hedge



A back-to-back loan is secured on a deposit or an asset held in the UK in order to secure funds to purchase an asset overseas. By the use of a back-to-back loan, no security is offered on the overseas property, so any change in value of the overseas asset and change in exchange rates will not affect the income to the financial statements of the investor.

An overseas loan is a bank loan obtained from a bank in the same country and in the currency of the country where the property is situated. The property being loaned against is usually offered as security for the loan in the same way as a bank loan or mortgage may use a property for security in the UK. This type of loan will not be affected by the movement of exchange rates. It is designed so that the loan is raised in the currency of the asset, matching liability with asset, avoiding the risk of exchange rate changes causing a divergence between the amount of loan outstanding and the property value. The use of various hedging techniques and the outcome from their use are illustrated in Table I.

A questionnaire was recently carried out among UK property companies which are known to invest in property overseas[5]. A number of investing institutions, fund management companies, surveying private practices as well as

£/\$ exchange	Year 0 1/1.5	Year 1 1/1.5	Year 1 1/1.4	Year 1 1/1.6
Property price US\$	1,000,000	1,000,000	1,000,000	1,000,000
Property value to UK Co.	£666,666	£666,666	£714,285	£625,000
Outcome if not hedged		± £0	£ 47,619 profit	£41,666 loss
Outcome if contract was purchased at £1/\$1.5		± £0	No profit	Avoids loss
Outcome if option was purchased at £1/\$1.5		Do not exercise option. Loss of cost of option	Exercise. Profit from cost of option	Do not exercise option. Loss of cost of option
Outcome if swap was used		± £0	No profit	Avoids loss

Table I.
Outcome of Various
Hedging Techniques

merchant banks were also approached for information and comments regarding their use and knowledge of exchange-rate and interest-rate hedging techniques used by UK property companies. The questionnaire had an 80 per cent response rate. Of the 130 UK stock-market-listed property companies, those with known overseas property holdings were approached. Respondents were asked to rank, in importance, their attitude to risk. The results are shown in Figure 5.

Of those companies that replied, 72 per cent did not use or were not aware of the use of any exchange-rate hedging techniques to protect overseas property investments. Forwards, futures, options and swaps, methods traditionally used in the equity and bond markets when investing overseas, were not used or known by 70 per cent of those surveyed. Overseas loans are the most common form of exchange-rate management measure used and known by property companies to avoid exchange-rate risk; by using overseas loans, a property company has assets as well as liabilities in the same overseas currency; therefore any movement in exchange rates will be matched by a movement in the valuation of the asset in the same direction.

Fewer than 5 per cent of respondents utilized or were aware of the use of overseas loans as a measure to avoid exchange-rate risk. This was the highest recorded usage of any measure. In total, 10 per cent of respondents used or were aware of some form of financial avoidance or management measure to avoid exchange-rate risk. Eighteen per cent of respondents used one of the known forms of risk avoidance of management, although they did not consider them of importance and therefore were not fully aware of their use or potential benefits, detailing their use as not important to the company, with the remaining 72 per cent not using nor aware of the use of any measure.

Owing to the greater use of the international finance markets for the raising of loan finance, property companies, which rely heavily on the use of loan finance, often use overseas loan finance to raise funds. Swiss rates in particular

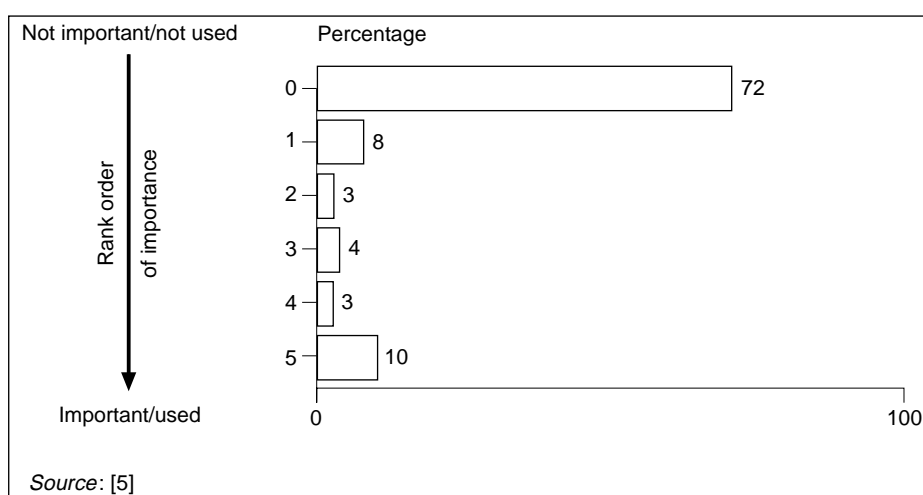


Figure 5.
Attitude towards
Exchange-Rate Hedging
UK Property Companies

have historically been lower than UK rates for unsecured borrowing, and the use of currencies where lower rates are available has become more common recently. Financial statements show that many of the larger UK property companies are beginning to use such overseas-denominated, fixed- or variable-rate, long-term bonds, which offer a lower rate of interest than loans available in the UK or the home country of an overseas asset.

Exchange-rate hedging techniques should therefore be used not only on overseas assets but also where overseas-denominated loans are used. It is evident from the results of the questionnaire that property companies are not fully aware of the use and rewards of exchange-rate hedging techniques, that by avoiding volatility owing to exchange-rate risk, the only risk incurred by investing in property overseas will be the market risk associated with the investment itself. Those property companies which are known not to hedge their investments are exposed to uncertainty of the returns available from exchange rate movements as well as the property markets in the countries themselves. This can have a dramatic effect on their share value and performance.

Shares for property investment companies which have commercial portfolios are valued on the basis of their underlying fully diluted net asset value (NAV). The share price of a quoted company is determined by supply and demand of their shares on the stock market and normally trade at a discount to NAV. The discount (or premium) will vary between company and over time. Management of the risk associated with exchange rate movements will provide security to the shareholders and avoid falls in the shareholders' funds and hence share price[6]. If a property company were to hold assets overseas, this would be represented as a proportion within the liabilities as well as assets of the company. The shareholders' funds, representing say 40 per cent of the liabilities of the company, would then be further broken down into the proportions which are held in the UK and overseas.

To demonstrate the effects of a change in exchange rates over time on the shareholders' funds of the company, and hence the share price of the company, the change in exchange rates of the Australian dollar are used to illustrate what may occur.

Between 1988-93 the exchange rate for the Australian dollar/sterling fell from \$2.6/£ to \$2.2035/£, a fall of 17.8 per cent. For a property company with assets exposed to this fall, a fall in the exchange rate will result in a fall in the value of their Australian portfolio and a resultant fall in the value of the shareholders' funds. Assuming a 40:60 per cent split between equity (shareholders' funds): debt, this fall in exchange rate will all be absorbed by the equity element of the company, while the debt amount due to the banks or other creditors will remain at the agreed borrowed amounts (plus any accumulated interest). A 17.8 per cent fall in the exchange rates affecting a £15 million overseas asset of a £100 million company would have an unfavourable effect on the shareholders' funds; assuming the UK assets of the company do not fall in value (*ceteris paribus*), the shareholders' funds will fall from £40 million to £37.33 million.

The exposure of a property company to the movement in an overseas currency can reduce the level of shareholders' funds and therefore the NAV of the company. The higher the level of debt employed, the greater the effect on the change in value of the shareholders' funds. The debt: equity ratio of the company will have increased, the shareholders' funds will have declined, resulting in a fall of the share price of the company. If the overseas assets of the company are not protected against this fall the company share price will fall. This is illustrated in Figure 6.

Companies with exposure to currencies which are liable to fall over time, like the Australian dollar has done over the past few years, will see a fall in their share price owing to this exposure. A property company with exposure to a variety of overseas markets will be exposed to all of those markets in a similar way and, should the currencies fall concurrently, their NAV will be affected proportionately.

As mentioned earlier, some property companies based in the UK hold property investments overseas. Only five companies hold a significant proportion (over 5 per cent) of their assets overseas, with many others holding less than this amount.

A hypothetical portfolio was constructed with similar proportions in international diversification of the top five UK property companies as a basis for analysis (see Figure 1). The aim of the analysis was to illustrate the change in financial gains/losses to the company owing to exchange-rate movements and hedging techniques. The effects of gearing and taxation were not analysed. Generally, the higher the debt level, the greater the leverage effect of property values to the value of shareholders' funds and portfolio returns. The effects of taxation will also affect net returns. However, amendments to the taxation of financial derivatives is currently being considered by Parliament and will undoubtedly change the current tax structure.

The hypothetical portfolio shows that for a holding period of ten years, a higher return can be achieved if the effect of the movement of exchange rates is hedged. It was assumed that the portfolio has been held from 1983 to 1993, was purchased for an initial cost of £50 million and no subsequent trading has occurred.

The Hillier Parker/International Commercial Property Associates (HP/ICPA) *International Property Bulletins* were used to calculate expected returns for the portfolio. These show an annual total return combining capital growth and income in a standard format for all countries included in the analysis. It measures the property performance of the markets exclusive of the possible effects of exchange-rate movements. The overseas investments in the portfolio were Australia, USA and Germany. Australian dollar, US dollar and German mark spot rates were used to track currency movements.

The analysis results shown in Table II show an increased return to the property company when the overseas currency exposure has been hedged, whether by a hedging facility taken out at the commencement of the investment period or by an annual hedging method. When an annual hedging contract is

Implications of a fall in exchange rates

		Liabilities	
		Before fall	After fall
£100 million	Shareholders' funds	£97.3 million	Shareholders' funds
	£25 million UK		£25 million UK
	£15 million overseas (\$39 million)		£12.33 million overseas (\$32.06 million)
£60 million	Debt • long-term loans • loan stocks • creditors	£60 million	Debt • long-term loans • loan stocks • creditors
	Current liabilities • overdraft • tax • dividends		Current liabilities • overdraft • tax • dividends
£0 million		£0 million	

Source: [5]

Figure 6.
Implications of a Fall in
Exchange Rates

used, a greater increase in return is achieved. Selection of different dates and holding periods would give different results, but companies not hedging their currency exposure would be accepting additional risk for which they may not be fully compensated.

The hedging costs used in the analysis have been estimated from those costs used in the markets and available to large international companies. Like all financial fee-related figures, such costs are negotiable and hedging facilities

Analysis	Initial investment (£million)	Investment value in year 10 (£million)	Average annual return (per cent)
1. Un-hedged portfolio	50	131.62	10.16
2. Hedged portfolio	50	135.19	10.46
3. Yearly hedged portfolio	50	142.95	11.08

Source: [5]

Table II.
Results of Portfolio
Analysis

may be achievable at different premium rates. The level of portfolio returns will be affected by such premiums. The composition of the portfolio gives exposure to economies which have not moved in the same direction. Over the ten-year analysis period the US dollar and German mark contributed to better returns for the UK investor, with assets denominated in those currencies, from US\$ 1.6157/£ to US\$1.514/£ and DM3.845/£ to DM2.4525/£ respectively. The Australian dollar moved in the opposite direction, from A\$1.694/£ to A\$ 2.2035/£. Through this diversification the returns of the investor were less volatile, as the increases in the exchange rates of America and Germany were balanced by the returns from Australia. However, over the analysis period a lower return has been achieved owing to overall exchange rate movements.

Some property companies which invest overseas see their exchange rate exposure as a manageable risk owing to their wide geographic exposure to world currencies. Such a policy is attempting to take advantage of the movement of different currencies hoping that this diversification will reduce the overall portfolio volatility without the need for exchange-rate hedging.

The overall weighted performance of world currencies has been falling in value over time. Diversification into a number of international markets will not result in fully diversifying exchange-rate movements in the long term. The Bank of England Weighted Currency Index (illustrated in Figure 7) shows that exchange-rate movements are following a general falling trend despite different nations appearing to follow diverging short-term patterns. This index is constructed in proportion to the values of the currencies of the world's main trading nations (Australia, Belgium, Canada, Denmark, France, Germany, Finland, Ireland, Spain, Italy, Japan, The Netherlands, Norway, Sweden, Switzerland, the UK and the USA).

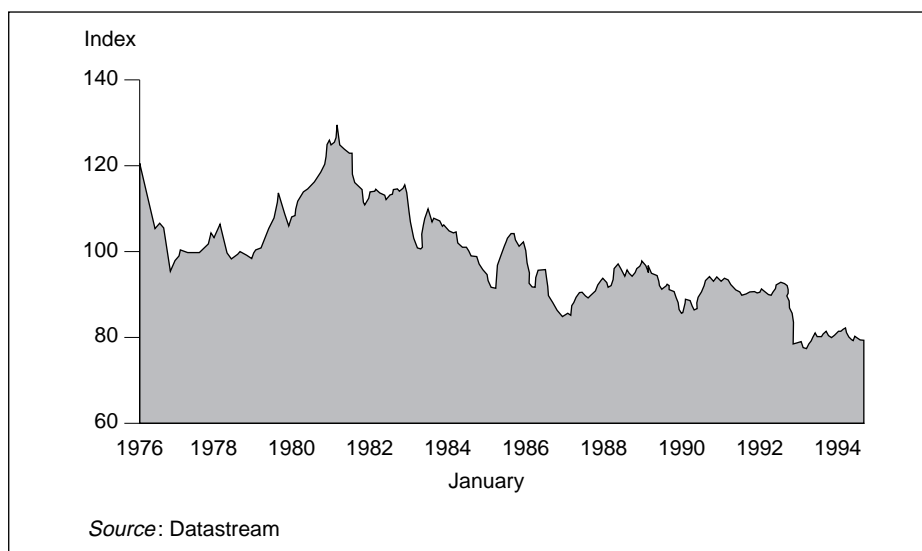


Figure 7.
Weighted Sterling
Exchange Index

As the world economies are becoming more integrated, the harmonization effects of the international financial markets and the free movement of capital throughout the world are reducing long-term currency fluctuations between nations.

Closer correlation of markets as well as exchange rates is diminishing the benefits of wide international diversification without hedging the currency movements. In the long term, exchange-rates will be influenced by following similar cycles and falling in relation to one another as illustrated by the Bank of England Weighted Currency Index. Owing to countries being at different stages of the economic cycle, exchange rates may not always be moving simultaneously.

Conclusions

The property profession is not fully aware of the benefits of hedging techniques to the holders of international portfolios. The current developments in the financial derivatives markets by the use of combinations of the traditional hedging methods used in single tailor-made contracts is further confusing the issue.

Modern portfolio theory recommends wide diversification to reduce risk and maximize returns. Although several studies have been undertaken in international diversification of the equity and bond markets and hedging those investments, the property market is one which lacks detailed research. International investment in property is limited to investors with a high capitalization. This has limited the interest in and knowledge of hedging exchange-rate movements to a select number of investors and their advisers. Growing international diversification and increased global trading in other financial assets combined with a greater awareness of international investments has increased international investment in non-property assets, which is now encouraging the interest in overseas property investment.

The questionnaire results regarding exchange-rate hedging techniques currently used by UK property companies shows limited awareness of the uses of the more traditional hedging techniques. The use of more advanced derivatives is common for other asset classes. An appreciation of the potential long-term benefits to international property investments of exchange-rate hedging needs to be understood by a currently inadequately informed property profession. This would lead to international property investors being able to focus exclusively on maximizing pure property performance.

Many property investors who responded to the questionnaire are not involved in exchange-rate hedging, preferring to leave it to treasury departments or other advisers. A greater understanding by those professionals themselves would encourage the further use of hedging techniques.

The share price of a property company with internationally diversified assets is vulnerable where unhedged positions lead to the shareholders' funds being reduced. The hypothetical, internationally diversified portfolio, analysed in this article, showed lower returns over the last ten years when not hedged. By the use of a traditional hedging technique higher returns were shown to be

achievable. Although not tested in this article, property companies utilizing a high proportion of debt finance may further increase returns due to the combined effects of hedging and gearing.

The hope that wide international diversification will avoid the need to hedge exchange-rates is not proven. Higher risk without sufficient compensating returns can result from unhedged positions. At any one point in time, different exchange rates may be moving in opposite directions and show low correlation, if the long-term international markets are following a similar pattern which will result in a falling investment performance. Hedging against exchange-rate movements can improve the performance of an internationally diversified portfolio.

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