THE FEASIBILITY OF U.S. PENSION FUND INVESTMENT
IN SINGAPORE REAL ESTATE

by

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ABSTRACT

In the late 1980s, US pension funds began to be interested in international real estate investment. The reasons for this included diversification, more attractive returns in some overseas markets, and the lack of institutional-grade properties in the US. The first major US pension fund investment overseas was in the JMB Randsworth deal in London in 1989. International commingled investments are currently being marketed by several major pension fund advisors. US pension funds have, however, focussed their attention almost totally on the real estate markets in Europe. This thesis examines whether it is feasible for US pension funds to invest in a real estate market in Asia; the study is focussed on the Singapore market, with a brief survey of other markets in Southeast Asia for comparative purposes. If the Singapore market is found to be favorable, then US pension funds should consider investment in Singapore (and perhaps other Asian markets), and not limit themselves only to the culturally and economically similar markets in Europe and Australasia.

The current status of US pension fund interest in international real estate investment and the potential of the Singapore real estate market are briefly surveyed in the introductory chapter. Chapter 2 studies the development of pension real estate in the US, and determines the objectives and requirements of US pension funds in international real estate investment. The rationale for international real estate investment, as well as the associated risks and issues, are also considered. Chapter 3 looks at Singapore and its real estate market. The major macroeconomic, financial and government factors are examined. The real estate market is analyzed in terms of the availability of data, the major players, the ease of foreign investment, taxation, financing and historical performance. In Chapter 4, the major advantages and disadvantages of investing in Singapore real estate are summarized, and the feasibility of US pension fund investment is determined. The appropriate investment structure (direct or indirect, debt or equity) and the most effective method of entering the market (acquisition of properties, debt investments, purchase of real estate stocks) are discussed. In addition, the potential of a regional Southeast Asian market is also considered. Finally, Chapter 5 summarizes the findings and draws some implications for US pension funds, as well as the players and consultants in Singapore.

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CHAPTER 1: INTRODUCTION

US Pension Funds

Pension funds are a large and fast-growing source of real estate capital in the US today. In 1989, pension funds investment in real estate capital (debt and equity) stood at $99.6 billion; this represented 2.6% of the total $3.9 trillion real estate capital pool [1]. As capital from financial institutions (commercial banks, insurance companies and savings institutions) continue to decline, the role of pension funds is expected to become greater in future. This is seen as the increasing 'institutionalization' of real estate in the US. In recent years some pension funds have been considering investment in non-US real estate. The reasons for this include diversification, the lack of current domestic real estate investment opportunities and the higher returns in many international real estate markets. The JMB Randsworth deal in London in 1989 was the first major international real estate investment by US pension funds.

Several international real estate investment vehicles are now being marketed to pension funds. These vehicles are mainly commingled investments which are marketed by major advisors such as Equitable Real Estate, Prudential Real Estate, Jones Lang Wootton and La Salle Advisors; these commingled investments (except the one marketed by Prudential) focus on the real estate markets in Europe, particularly the United Kingdom. Some advisors, such as La Salle and JMB, have established offices in Europe in order to look for European real estate deals. However, the initial reaction of pension funds to these commingled funds has been very cautious. One reason for this is the current poor performance of US real estate, where returns have been lower than what was projected in the boom years of the mid-1980s. Some pension funds are questioning whether real estate is a legitimate asset class in a pension fund portfolio, and some funds have actually decided to reduce their real estate allocation. In addition, international real estate is perceived to be too risky due to factors such as political risks, exchange rate risks and cultural risks. The poor performance of the Randsworth deal has reinforced the skepticism towards
international real estate investment. A common view among the pension fund community is stated by the director of a pension fund investment board, 'I think people can get in enough trouble in this country. They don't need to go somewhere else to do it.' [2]

Nevertheless, the theoretical argument for investment in international real estate is a strong one. First, the US market is only a small fraction of the world real estate market, and the non-US market holds many opportunities for rewarding investments. The value of office properties in North America is only 38% of the world total, excluding Tokyo; if Tokyo is included, the North American office properties represent only 13% of the value of the world market [3]. The lack of institutional grade properties in the US has been cited as the main reason for the failure of pension funds to meet their target allocation for real estate; in 1989, the actual allocation of US pension assets to real estate was still below 5%, compared to 10-15% for UK and Dutch pension funds [4]. It is now widely accepted that, with the globalization of the world economy, today's investors must analyze their investment portfolios in terms of global risk and return parameters. Investors who do not evaluate their portfolios globally are exposing themselves to domestic risks and volatilities that may be reduced in a global portfolio. Secondly, research by Prudential Real Estate Investors has shown that the real estate trends within the three economic regions of North America, Europe and the Pacific Rim do not move in tandem; this suggests that total portfolio returns can be improved by a global real estate strategy which recognizes the cyclical differences between the three major economic regions [5]. In addition, Steve Manolis, the managing director of Salomon Brothers' real estate group which is a leader in global real estate investment banking, points out, 'There's always going to be a capital surplus area and there's always going to be an undervalued product area.' [6] The areas with excess capital and the markets that are undervalued change over time; the sophisticated real estate investor would monitor and recognize these changes, and take advantage of them in his investment strategy.
The Singapore and Southeast Asian Markets

Singapore is the busiest port, and one of the major financial centers in the world. Its GDP per capita is the second highest in Asia after Japan. In the past few years, it has consistently been rated as one of the most attractive investment centers in the world. It is also the manufacturing and services center for the Southeast Asia region. Singapore, and the Southeast Asian region in general, has experienced rapid growth in recent years, and this growth is expected to continue in the 1990s. For the purpose of this thesis, the Southeast Asian countries refer to Indonesia, Malaysia, the Philippines, Singapore and Thailand; these countries are the original members of the Association of South East Asian Nations (ASEAN) (see Figure 1 on page 11). The rapid growth in this region is reflected in the strong performance of its equity markets. For example, the average annual return on equity investments in the period 1970-1987 was 20.7% for Singapore, compared with only 7.1% for the US [7]. Similarly, the real estate markets in this region have been buoyant in recent years. In 1989, the rates of return (income and appreciation) in the cities of Kuala Lumpur (K.L) and Singapore were 156% and 33% respectively [8]. There has been substantial intra-regional investment, and investment from other Asian countries, particularly Japan. In 1989 and 1990, foreign investors, mainly from Japan and Hong Kong, poured US$1.3 billion into properties in Singapore [9]. Suntec, a consortium of the major real estate players in Hong Kong, is developing a massive project in Singapore that will contain a total of 4.9 million square feet of office, retail and convention space. In December 1990, one of Singapore's largest property companies, in terms of market capitalization, fell under the control of an Indonesian tycoon [10]. One third of K.L.'s prime properties changed hands in 1989, and all but one of these went to foreign investors from Japan, Singapore, Indonesia and Hong Kong. Lastly, the Kuok Group, based in Hong Kong and led by a Malaysian magnate, has recently emerged as the second largest developer in the Philippines, after another group which is based in Taiwan; the Kuok Group is currently involved in the development of 4 hotels and 2 retail projects there [11].
**Purpose And Methodology Of Thesis**

Thus, it seems that US pension funds would gain from investment in overseas real estate markets; at the same time, Singapore and the other Southeast Asian countries, with their rapidly expanding economies, may benefit from the infusion of additional capital. This thesis investigates whether it is feasible for US pension funds to invest in the real estate markets of Southeast Asia. The study is focussed on the real estate market in Singapore, a well-developed services and financial center at the heart of the region. This thesis considers the following questions:

1. what investment opportunities can US pension funds find in the Singapore real estate market, in terms of yields, capital appreciation and diversification benefits?
2. how great are the constraints and obstacles, and can these be overcome without adversely affecting the expected returns and benefits?
3. what strategies should the pension funds adopt in order to enter the markets successfully, and what investment structures (equity or debt, direct or commingled) should be used?

Singapore, and the Southeast Asian region in general, may hold considerable real estate investment opportunities; the investment obstacles that exist may not be any more severe than those that US pension funds must face in the currently preferred markets of Europe. If this is the case, then US pension funds, in making their international real estate asset allocations, should consider the opportunities in Singapore and Southeast Asia, and not restrict themselves only to the culturally and economically similar markets in Europe and Australasia.

The rest of this thesis is organized into four chapters. Chapter 2 examines the development of US pension fund investment in real estate, and what their objectives and requirements would be in international real estate investment. The theoretical rationale for investing in international real estate, together with the associated issues and problems, are discussed. Chapter 3 surveys the real estate market in Singapore in terms of the players,
the financing, the historical performance and the role of institutional investors. Foreign ownership restrictions, taxation, currency exchange, repatriation of earnings and other issues which are of concern to foreign investors are examined. The opportunities and constraints for US pension funds in Singapore's real estate market are considered in Chapter 4. This chapter also looks at the methods for US pension funds to enter the market and the ways to overcome the existing constraints. Lastly, Chapter 5 summarizes the thesis, and considers some implications for US pension funds and the real estate players and consultants in Singapore.
Figure 1. Map of the ASEAN countries in Southeast Asia
Notes On Chapter 1


4. Etter, Wayne. The Role Of Pension Funds In Real Estate Investment, Real Estate Center, Texas A&M University, 1989.


CHAPTER 2: U.S. PENSION FUNDS AND INTERNATIONAL REAL ESTATE ISSUES

US Pension Funds In Real Estate

US pension funds began investing in real estate in the mid-1970s. The Employee Retirement Income Security Act of 1974 (ERISA) required diversification and identified commercial real estate as one asset class that could be considered in achieving diversification. Since ERISA, diversification across asset classes has been the standard pension plan investment strategy. During the 1970s, there was also concern with the disappointing performance of the stock and bond markets, and this helped to increase pension fund investment in real estate. Another contributing factor was the emergence of new investment vehicles and professional asset management which met the needs of the pension funds.

The application of modern portfolio theory to real estate provided empirical evidence of the benefits of real estate in institutional portfolios. Initial research showed that commercial real estate provided high absolute returns with low variability. This produced risk-adjusted returns that were competitive with those for stocks and bonds (It should, however, be noted that while many researchers have found that real estate has outperformed stocks, there are others who argue that real estate cannot produce better returns than stocks in ‘normal’ economic conditions with relatively low inflation and moderate growth rates)[1]. Secondly, researchers found that real estate total returns were not highly correlated with those of stocks and bonds. In addition, commercial real estate was found to provide a hedge against inflation; this explains why real estate generally outperformed stocks and bonds during the inflationary periods of the 1970s. Thus, it was concluded that real estate would improve the performance of a mixed-asset portfolio.; higher total portfolio returns would be accompanied by lower portfolio risk as measured by portfolio standard deviation.

Pension fund investment in real estate was modest in the 1970s, but grew dramatically in the 1980s. As real estate became accepted as a legitimate asset class in a
pension fund portfolio, it was the more financially aggressive corporate pension funds that accounted for the bulk of early pension real estate investment. In recent years, however, many public funds have been attracted to real estate; from 1983 to 1988, the real estate assets of public plans grew at an annual compound rate of 45% compared with only 12% for corporate plans [2]. Public pension funds now represent the future growth of pension real estate because of their rapid total asset growth and the effort to meet targeted allocations for real estate.

The method of investment by pension funds have changed over the years. Pension funds began by investing in open-end commingled funds that were generally broadly diversified across property types and geographical regions. In the early 1980s, closed-end vehicles became more popular; these were more specialized and focused on one property type or geographical region. During the mid-1980s, direct investment strategies became the preferred vehicle for investment, especially among the larger and more sophisticated pension funds. In addition, mortgage investments currently form a lower percentage of the total pension real estate capital than in the early 1980s; pension funds have invested a larger proportion of their assets in equity, rather than mortgage, investments in recent years. The evolution of pension real estate reflects a growing familiarity with real estate and an increasing willingness to take risks; the development pattern is very similar to that of insurance companies in the 1960s. In terms of property type, office buildings continue to be the favored form of investment. The percentage invested in office buildings has, however, fallen in recent years and stood at 40% in 1988. Retail and industrial properties are the other major property types that plan sponsors buy.

Pension funds have not been able to meet their target real estate allocation. While UK and Dutch pension funds are known to invest 10-15% of their total assets in real estate, the actual allocation of US pension assets to real estate in 1989 was still below 5% (at $99.6 billion out of total assets of over $2 trillion) [3]. A 10% 'standard' had been commonly quoted in the industry but there was no clear basis for this (this 'standard' has
been falling in recent years). The major reason for the failure to meet target allocations is the lack of institutional-grade real estate properties in the US market. This situation is, however, expected to improve. The Tax Reform Act of 1986 has removed competition for properties by tax-motivated syndicates and investors. In addition, financial institutions have retreated from the real estate capital markets. The stage is set for pension funds to play a more prominent role as a supplier of real estate capital in the US.

In recent years, pension fund sponsors have been disappointed by their real estate investments. Yields have been lower and more volatile than were anticipated, especially in comparison with the corporate securities market. The widely-followed Russell-NCREIF Property Index reported that pension investors obtained a yield of only 1.2% on domestic core real estate in 1990; this is substantially below the rate of domestic inflation of 6.1%. The Index has shown negative capital appreciation since 1987 (with annual values ranging from -0.1% to -5.2%). The poor performance of US real estate has raised questions on whether real estate is a competitive and legitimate asset class; some pension funds have decided that it is not, and have reduced their allocations to real estate.

**US Pension Funds In International Real Estate**

In the late 1980s, US pension funds began to show an increasing interest in international real estate, and some began to explore the feasibility of investment in non-US markets. The first significant step in international real estate investment by US pension funds was in the Randsworth deal in London which was managed by JMB Institutional Realty Corporation. A dozen US pension funds (and an endowment) invested nearly $300 million in the deal. Prior to this deal, only two pension funds were known to have invested in Europe, namely Eastern Airlines and GE Investment Corporation. Unfortunately, the Randsworth deal was made at virtually the crest of the London market in 1989, and has since become a symbol to many US investors of the difficulty of international real estate investment. The market softened considerably in 1990 and the Randsworth portfolio value fell by about 6%. More importantly, about one half of the investment was in pound-
denominated floating-rate debt; interest payments rose as interest rates increased sharply. In 1990, and again in early 1991, JMB had to ask the investors for additional capital in order to pay down the floating-rate debt.

The current skepticism and caution toward international real estate is felt to be even stronger than the resistance toward international stock and bond investing a decade ago. The evidence suggests that there will not be any significant asset flows for at least another five years. Apart from the current poor performance of the domestic market and the failure of the JMB Randsworth deal, pension fund managers have also cited other reasons for not considering international real estate; these include currency risks, political risks and the lack of knowledge of foreign markets. The risks and difficulties are perceived to be greater than the expected benefits. Pension fund managers generally want to familiarize themselves with the opportunities and risks of investing overseas before making any actual investments; they are waiting for a substantial track record and long-term favorable statistical data. Whilst this means that they may miss out on some opportunities, the managers prefer an opportunity loss to a real loss at this stage.

There is, however, a definite interest among some members of the pension fund community. Some funds are studying further the concept of international property investment while others are in the policy formation stage. For example, the $62 billion California Public Employees Retirement System (CALPERS) has commissioned a study of international real estate investment from the Roulac Consulting Group; earlier this year, and with disagreement among the investment committee members, a policy was adopted that will allow the board to at least look at international real estate [4].

**Rationale For International Real Estate**

Before discussing the objectives and requirements of US pension funds in international real estate, it would be helpful to consider the rationale for international real estate investment, together with some of the obstacles and risks that must be faced. The major reasons for international real estate investment are: (1) significant investment
opportunities now exist, (2) higher and more stable returns in other markets, (3) strong diversification benefits, and (4) insufficient domestic real estate opportunities.

(1) **Significant investment opportunities now exist**

Opportunities for international real estate investment are much greater today than in the past. This has been brought about by factors such as the globalization of economic activity; developments in international communication in terms of the movement of people and information; political changes in Europe and Asia; and public and regulatory acceptance of international investment. Real estate is still at the beginning stage of internationalization but much greater development is expected in this decade.

(2) **Attractive returns in other markets**

Research carried out, for example by Prudential Real Estate Investors, has shown that many non-US markets have attractive historical absolute total returns; in the period from 1985-1989, the markets surveyed in Europe and in Japan had higher rental growth, IRRs and lower cap rates than the US [5]. In addition, these markets had lower volatility in vacancy rates, and had more stable returns arising from reduced operating risks. Thus, in the period 1985-1989 the risk-adjusted returns in the markets surveyed were superior to those in the US. It should be noted, however, that the US market generally outperformed non-US markets in the early 1980s (this illustrates the dynamic nature of the relative attractiveness between different markets, and will be further discussed later in this chapter). Nevertheless, with the oversupply in the US market and the weakness in demand, foreign markets which offer higher returns are an attractive alternative to the domestic market in the near term.

(3) **Strong diversification benefits**

A lot of work has been done in the area of international diversification benefits in relation to financial assets, by researchers such as Grubel, Black, Lessard and Ibbotson. It has been found that diversification among countries effectively reduces the systematic (or undiversifiable) risk element of the total risk exposure; one study found that about 40% of
the return volatility can be reduced by an international portfolio [6]. One of the first applications of modern portfolio theory to international real estate was carried out by Ross and Webb [7]. They found that the rates of returns for real estate in 14 countries were not correlated, and presented some of the first empirical evidence of risk reduction through diversification in international real estate. The research carried out by Prudential Real Estate Advisors supports the findings of Ross and Webb. Prudential’s results show that a ‘global’ portfolio comprising of an equal weighting in the markets surveyed had lower variability in vacancy rates, rent levels, cap rates and total returns.

An investor gains diversification benefits by adopting a global real estate strategy because he is able to reduce risks which are particular to one country, such as national real estate cycles, national inflation, political instability and national economic trends. The experience in the US in the 1980s has shown that real estate development and investment patterns are becoming increasingly national, as opposed to regional, in scope. Many factors such as interest rates, capital availability and inflation expectations function on a national level. Recent changes such as increased inter-state banking, ease of capital movement and increased investor sophistication have created a more homogeneous real estate market. These factors have combined to reduce intra-US diversification benefits. Thus, the sophisticated real estate investor should make decisions based on global parameters.

(4) Lack of domestic real estate opportunities

There are many US real estate investors, including pension fund managers, who feel that there are sufficient investment opportunities within the US. As noted in Chapter 1, however, the North American real estate market, while it is still large, is only a small fraction of the world real estate market. Prime office properties, in particular, have been found to be insufficient at acceptable prices and yields. As stated previously, this is the main reason why pension funds have been unable to reach their real estate allocation targets. Thus, international real estate is an avenue for US pension funds to increase or
maintain their real estate allocation without lowering investment requirements and standards.

**Risks In International Real Estate**

The major risks in international real estate are: (1) political risks, (2) exchange rate risks, (3) risks connected with lack of local knowledge, and (4) small scale of foreign markets.

**(1) Political risks**

Political risks include the decisions of foreign governments to expropriate property, nationalize markets, close their borders or to restrict capital flows. On a more micro level, there are risks such as the failure to gain development permits or to access local government services. These risks may be reduced by investing in countries that are politically and economically stable, and that have reasonably established real estate markets. The formation of joint-ventures, especially with reputable local players, is one way to reduce the risk of being singled out as a foreign entity.

**(2) Exchange rate risks**

International investment carries with it inherent currency risks; this applies to investment in stocks, bonds and real estate. Foreign exchange rates are a function of numerous factors. One of the important factors which determine exchange rates and exchange rate movements is the historical and anticipated inflation of a currency. Among the functions of exchange rate changes is to maintain a constant buying power relationship between currencies regardless of changes in domestic inflation (the concept of relative purchasing power parity). There are exchange rate risks in that changes in exchange rates may not adequately compensate for differences in inflation between countries; there have been many, sometimes prolonged, periods of deviation from parity in the past [8].

Some pension fund managers and advisors believe that the currency risk problem is not a major issue in evaluating international real estate; the argument is that the same problem also applies to international stock investments. The director of a pension fund
states, 'Currency is a separate issue. My view is that we hedge the currency, but that is a different decision than going into European real estate just as with stocks or any other asset class. It is an issue, but it is no different an issue than you face with any other asset, bonds or stocks.' [9] There are others who feel that, over the long term, the impact of currency rate changes should tend to balance out. In addition, the impact of currency rate changes could be positive as well as negative. By limiting the exposure to any particular exchange rate, that is by diversifying geographically, the view is that exchange rate volatility can be minimized.

Exchange rate risks may be mitigated by currency hedging strategies. However, compared to stocks, hedging may be more difficult to apply to investments in real estate because of the typical long-term nature of such investments. While the periodic cash flow derived from rental payments may be hedged, it is difficult and expensive to do the same for cash flow from capital appreciation. There are indications that many investors in foreign real estate do not attempt to hedge real estate returns [10]. In addition, academic studies on hedging strategies have been inconclusive. One study on the application of hedging to foreign real estate showed that exchange rate risks can be reduced but cannot be eliminated (unless the value of after-tax cash flow in the local currency is known with certainty) [11]. A strong argument against hedging is that it takes away some of the diversification benefits of international real estate. The argument assumes that, in the long run, purchasing power parity applies regardless of changes in domestic inflation; for the US investor, an investment in a foreign currency would be a 'hedge' against US inflation, and would tend to reduce portfolio volatility. In this respect, a currency hedging strategy would be counterproductive.

The decision to hedge may, ultimately, depend on the investment perspective of the investor and his investment goals. A long-term investor may rely on the belief that global real estate offers a long-run 'natural hedge'; because real estate is an inflation hedge, total returns should reflect cross-border inflation differentials. Investors who are concerned
with managing the risk or variance of the real estate portfolio’s return (such as investors who focus on quarterly returns) may hedge because short-term exchange rate movements often deviate from long-term parity. The decision to hedge also depends on the investor’s attitude towards risk. In any case, hedging may be advisable for the international real estate investor during periods of acquisition and disposition of properties; unlike stocks, where transactions can be carried out almost instantaneously, real estate transactions may take several months.

(3) Lack of local knowledge

The lack of local knowledge of foreign markets leads to a set of implementation issues and obstacles for the international real estate investor. Most pension funds have very little experience in international investment; even the larger funds have only ventured into international stock and bond investment in recent years. Some pension fund managers feel that this lack of local knowledge would put US pension funds at a severe disadvantage and that they would not be able to compete effectively with local investors.

Pension funds that wish to invest in international real estate must incur costs in developing an investment monitoring and reporting system. For example, different accounting rules between countries may mean the keeping of two sets of books. Changes in exchange rates would make reporting more difficult. Furthermore, performance benchmarks are lacking in most countries except in the most developed markets such as the UK. The costs of monitoring investments in multiple legal and taxation environments may be substantial. Another major issue is the availability of market data. Data in many countries is limited, inaccurate and inconsistent; there may be a lot of anecdotal evidence but little of the hard data that US investors are accustomed to using to make investment decisions. Many of the foreign markets are highly inefficient and are dominated by a few large participants who have a vested interest to keep market information to themselves. A great deal of local knowledge of tenants, properties and transactions is required in order to succeed in these markets. Even when data is available, however, it may be difficult to
compare real estate returns across countries due to different accounting and tax treatments, different methods of measuring returns and different investment perspectives.

It is often said that real estate is a local business. This point becomes very clear when international real estate is considered; there are great differences, both formal and informal, between the real estate business in different countries. There are tax issues such as whether capital gains are taxed, the allowances for depreciation, special taxes on foreign property owners and restrictions on the ability to repatriate profits. A survey of 94 countries in 1984 found that two thirds of the countries exercised some control over remittance of dividends, profits and capital to other countries; for example, in Taiwan, outward remittances in excess of US$5 million must be approved by the relevant authorities [12]. In most countries, US pension funds would not obtain the tax-exempt status that they enjoy at home. Then, there are legal issues such as different forms of restrictions on foreign ownership (by property type or geographical region), and forms of ownership entities for foreign investors. Leases, security of tenure, rent control and tenant requirements may also vary. Next, financial restrictions may exist in the form of foreign exchange controls, and restrictions on foreign borrowing and capital raising. There are also various property management issues in holding foreign property, especially for an absentee landlord. Lastly, there are a set of informal differences related to different customs, conventions, language and culture. In order to overcome these obstacles related to lack of local knowledge, international investors should consider professional market research, and try to develop relationships with local market participants (such as through joint-ventures).

(4) Small scale markets

Many foreign markets are not as large or as well diversified as markets in the US. In fact, once the investor moves out of the major markets such as New York, London and Paris, the markets become relatively small and thin. This reduces investment opportunities and may lead to illiquidity. The problem may be especially severe in smaller countries with
only one major market, such as in the countries of South East Asia. The global investor needs to strike a balance between investments in the small and relatively larger markets; the former are usually more volatile and illiquid, while the latter are more stable and have more trading of properties. In general, the international real estate investor, including US pension funds, have no choice but to invest in many small markets, if they want to gain the benefits of diversification and improved returns. The investors can, however, minimize the risks of investing in these small markets by adopting appropriate investment structures and strategies.

**Toward A Global Real Estate Strategy**

UK, Dutch and German institutional investors have invested outside their domestic markets for many years. Japanese institutional investors, such as life insurance companies, were major investors in the US during the 1980s, and have recently been investing in Europe. Pension funds in other countries including Australia and Sweden have now turned their attention to international real estate opportunities. International real estate investment is more complex and costly than domestic investment; it involves more qualitative and judgmental elements in relation to risks. However, major real estate investment advisors, such as Prudential and Roulac, believe that the overall benefits of international real estate investment are greater than the risks; they believe that the obstacles to investment are practical implementation issues that can be overcome. This is the same conclusion that researchers came to for international investment in stocks about a decade ago; the relevant studies showed that the combined effects of the obstacles to international investment do not offset the advantages [13]. The theory of international diversification of stocks is, of course, well accepted today. Jones Lang Wootton, an international real estate advisor, believes that international real estate investment will continue to grow, and that there will be major capital outflows from the US into international real estate in the decade ahead [14].

However, as noted previously, there is currently a great deal of resistance to international real estate investment among US pension funds. Apart from the
dissatisfaction with the current poor performance of US real estate, several other reasons are commonly given by opponents of international real estate (these reasons were discussed earlier). It is interesting to note the similarities between these reasons and those found in a study by Pund and Sharon in 1984 [15]. In a survey of 168 corporate pension funds, both with and without international investments in stocks and bonds, Pund and Sharon found that the major reasons for not investing internationally were: (1) enough investment opportunities existed in the US, (2) international investment is too risky and the company is too conservative, (3) the pension fund is too small and has limited expertise and resources, (4) there is a need to obtain the approval of the investment committee or board, and (5) a desire to match assets and liabilities of the pension plan in the same currency. Pund and Sharon argued that none of the above reasons are sound. They found that the major obstacles to international diversification were the 'glacially slow' and diffuse nature of the decision-making process of pension funds, and the influence of ERISA; these factors tended to encourage investment managers to minimize risk and to aim at attaining thresholds rather than to maximize performance (referred to as the 'satisficing' behavior).

Two other interesting observations were derived from the survey. First, the overwhelming factor which separated the 'international' pension funds from the 'domestic-only' funds was their size; this was due to the existence of minimum investment amounts in most investment vehicles and also the fee structures of managers. Secondly, the survey showed that the experience of the 'international' funds has been positive. Except for exchange rates, none of the other obstacles (political risks; limited size and depth of foreign markets; restrictions, taxes, transaction costs and lack of information) were felt to have any significant effects on investment performance; the effect of exchange rates was attributable to the strong dollar during 1982-1984). The actual effect of these obstacles was less than what the fund managers had expected. Pund and Sharon concluded that the theoretical soundness of international investment, and the positive experience of the 'international' funds, will cause the concept of international investment to 'trickle down' to a general level
of acceptance in the future. They stated that it is not too risky to invest internationally; on the contrary, it is risky not to diversify internationally because diversification can reduce risks.

Thus, real estate investment advisors and managers who feel that international investment is too risky or that there are sufficient opportunities in the US may be giving up the chance to maximize performance by diversifying away a portion of national market risk. Researchers and advisors have been developing frameworks and concepts to assist investors and managers to think about international real estate. Webb has proposed a model for real property returns which integrates political risks, taxation and exchange rate risks; this model allows the estimation of gains from international diversification with appropriate data [16]. Prudential has created the concept of a ‘diversified global real estate investment strategy’. The strategy is to recognize the dynamic relationships between the major economic regions and to emphasize one economic region, market and property type over another depending on differences in relative attractiveness; this approach relies on the use of quality research to differentiate markets based on supply, demand and investment performance. Strict market timing is not used, and portfolio level strategies, in the allocation of investment among markets, is considered to be as important as individual transactions [17].

Objectives Of Pension Funds In International Real Estate

In adding US real estate to their portfolios, pension funds expect to ‘improve the risk-return profile of their overall investment portfolio and ....... provide a fairly high, yet consistent, rate of return over a variety of economic scenarios’ [18]. Pension fund managers have the same objectives for international real estate investment - higher returns, more stable returns (reducing portfolio volatility) and diversification. Diversification may be the strongest and most common objective. It is argued that US pension funds would not go half way around the world (as Singapore is) for higher returns; if higher returns were the main objective, it is argued that the pension funds would be more inclined to invest in
higher-risk, higher return investments within the US (such as in development), instead of venturing overseas. On the other hand, it is felt that US pension funds would go overseas for diversification; the reduction of portfolio volatility, as measured by standard deviation, would lead to higher risk-adjusted returns. Another way of looking at the benefits of diversification is that, with the reduction in portfolio risk, lower returns from investment are acceptable (in order to achieve the same risk-adjusted return).

Associated with the three main objectives are requirements for safety of investment capital, liquidity and quality of investment. Pension fund managers would be very concerned with the track record of real estate investment in the foreign country; they would require ample data, including current market information and historical performance data. As fiduciaries, these managers want to be able to demonstrate that their decision to invest in a particular country is sound and prudent. Pension fund managers are very wary of being embarrassed by, or even sued for, investment decisions that eventually turn out to be unsound or imprudent. Thus, before investing in a particular country, they will carefully consider the macroeconomic, financial, government and real estate market factors that will affect the investment. The appropriate investment structure (equity or debt, direct or commingled) and the methods of entering a market are also important considerations.

Regulatory Obstacles

There does not appear to be any legal or regulatory impediments to international real estate investments by US pension funds. A particular pension fund may go through the appropriate channels to adopt an explicit policy which will allow it to invest in international real estate (as carried out by CALPERS); this is to be expected for a new type of investment. On the other hand, the investment committee of a pension fund may have the power to make the decision to diversify internationally; for example, the Massachusetts Pension Reserve Investment Management Board (PRIM), the trustee of the local pension system, invested in the Randsworth deal after obtaining advice from its investment advisors. Most of the largest corporate and public pension funds already have investments
in foreign stocks and bonds; thus, they already have appropriate 'approval' to make international investments. International real estate would simply be another step in the direction of international investment.

In addition to regulatory pressures, public pension funds must also deal with political and social pressures. For example, the statutory regulations for the state public pension funds of New York and Massachusetts explicitly mention a preference for in-state investments. States such as California encourage the investment of public pension assets in mortgage-backed securities related to residential properties within the state. It is possible that these political and social pressures may inhibit international real estate investments by some public pension funds. Thus far, however, this does not seem to be the case. CALPERS is the largest international investor among US pension funds, with $5.7 billion invested in foreign equities and bonds; New York City has invested over $1 billion in similar investments [19]. The Massachusetts PRIM Board invested $25 million in the JMB Randsworth deal in London.
Notes On Chapter 2


3. See Note (2).


9. See Note (4).

10. See Note (5).


13. See Note (6).


15. See Note (6).


18. Etter, Wayne. The Role Of Pension Funds In Real Estate Investment, Real Estate Center, Texas A&M University, 1989.

CHAPTER 3: SINGAPORE AND ITS REAL ESTATE MARKET

Singapore (from the indigenous Malay name, 'Singapura' which means 'Lion City') was founded in 1819 by Sir Stamford Raffles who recognized its strategic location and set up a trading post there. In 1824, the island was ceded in perpetuity to the East India Company; its control was transferred to the British Colonial office in 1867. In 1942, it was surrendered by the British to Japanese troops; the island was under Japanese rule until 1945. Singapore gained self-government status in 1959 and joined the federation of Malaysia in 1963. It was separated from the federation two years later, and became a republic in 1965 [1].

At that time, the future of Singapore was uncertain, and even bleak. It was a small island with no natural resources, its only asset being its strategic location. What it has achieved in the short span of 30 years is generally regarded as an economic miracle. Under the leadership of Lee Kuan Yew, who was prime minister from 1959 to 1990, what was an island of slums has been transformed to an economically progressive nation. Singapore's GDP per capita is today the second highest in Asia after Japan; the figure was US$11,094 in 1989. For three consecutive years (1989-1991), Singapore has been rated the most competitive of the ten newly industrialized countries by the Swiss-based International Institute for Management Development. It has been assigned a 'no risk' status by the Japan Bond Research Institute since 1981. In 1989, the Washington-based Business Environment Risk Information (BERI) placed Singapore third in the world as an attractive investment center, after Switzerland and Japan [2]. It is the busiest port, and also one of the major financial centers in the world.

Singapore is strategically located at one end of the Straits of Malacca, the seaway that connects the Pacific to the Indian Ocean. It consists of a main island and 58 smaller islands, and its total area is only 626 square kilometers. In the recent 1991 census, the population just exceeded 3 million people. This makes Singapore one of the densest nations in the world, with about 4800 persons per square km., compared with 5400 for
Hong Kong. It has established itself as the manufacturing and services center for the Southeast Asian region. At the same time, it is using incentive packages to attract more multi-national corporations to set up regional headquarters and manufacturing operations there (under what is called the OHQ, or Operational Headquarters, scheme).

The Economy 1980-1990

The last ten years have been some of the best and worst years in the economic development of Singapore, and the Southeast Asian region in general. Between 1980 and 1984, Singapore had an average annual GDP growth rate of 8.5%; this followed a commitment by the government, in the late 1970s, to shift from labor intensive, low skill and low value-added activities to capital intensive, high technology and high value-added activities in manufacturing and services. In 1985, for the first time in its modern history, Singapore's economy actually contracted, by 1.8% in real terms. This was due to the plunge in commodity prices, which severely affected the economies of its resource-rich neighbors; other factors included the fall in external demand worldwide and internal structural problems such as high labor costs which reduced its competitiveness. Major policy initiatives were taken by the government in the next two years; these included wage restraint, reduced charges on services, tax reforms and fiscal incentives to enhance Singapore's attractiveness to foreign investors [3]. Growth was revived, and growth rates of 9.4%, 11% and 9.2% were achieved in 1987 to 1989 respectively. In 1990, despite the Gulf crisis in the last quarter, a growth rate of 8.3% was recorded.

Economic Prospects In The 1990s

The medium and long-term prospects for Singapore are promising. A slower growth rate of 4%-6% is projected for the 1990s; this is to be expected in an economy which has become increasingly services-oriented, and where infrastructure is well-developed. Its economic prospects are good because of its strategic location in the middle of an emerging world economic powerhouse; its aggressive policy to attract foreign investment; its political stability; its excellent infrastructure; its free enterprise economy with
free movement of capital; its skilled workforce; the use of English for business and administration; and its sophisticated business and financial environment. Singapore is also expected to gain from the political uncertainties in Hong Kong. Capital is expected to flow out of the British colony as it reverts to Chinese rule in 1997; multi-national corporations may seek a more stable regional base and, thus far, ten such corporations have moved their headquarters to Singapore. Singapore also makes a much cheaper regional base than Hong Kong or Japan because of lower rents and labor costs.

The government is looking at ways to maintain economic growth. Major strategies which are being implemented include an attempt to link the skills and capital of Singapore more closely with the faster growing areas in Asia (such as Malaysia and Indonesia) and elsewhere. There is also an on-going restructuring of the economy, with a shift to higher value-added goods and high-tech services and industry, such as biotechnology and computer software. The implementation of these strategies is seen in the exciting development of an area which has been called the 'Growth Triangle'; this is a free-trade zone which is being jointly developed by the public and private sectors in Singapore, Malaysia and Indonesia [4]. The aim is to create an attractive economic zone that will encourage multi-national corporations to locate there. Singapore will be able to exploit its excellent infrastructure, and technological and financial expertise; the other two countries will contribute their large pool of cheap labor and natural resources. With the expected increase in trade within the region, Singapore will reinforce its position as the manufacturing and financial center in the region. In addition, the closer economic cooperation will strengthen Singapore's ties with its neighbors and increase internal security, which is a matter of concern in this small island.

**Macroeconomic Factors**

One of the major contributing factors to Singapore's rapid growth has been its very stable political environment. The ruling People's Action Party (PAP) has been in power since 1959 and has won eight consecutive general elections; in the last election in 1989, the
PAP won 80 out of 81 parliamentary seats. Another major factor is the government's success in attracting foreign investment with its pragmatic economic policies and attractive incentives. In 1990, foreign investments accounted for 89% of the investment commitments made in Singapore. Japan and the US have been the largest investors in recent years; in 1990, the US was the largest investor with S$850 million (US$472 million) or 48% of the total [5]. (Note: For the purpose of this thesis, the exchange rate shall be US$1=S$1.8). External demand is, and will continue to be, a major factor of growth for the country. Indeed, Singapore's economic growth has been heavily reliant on export-led and foreign investment-led policies; this is understandable in light of its small population, lack of natural resources and lack of industrial expertise. Thus, there is a highly liberal foreign investment policy, with a general absence of restrictions and regulations governing the entry and operation of foreign companies and their personnel. In general, the same rules apply for foreign firms as for local ones. This is equally true of real estate investments, as will be seen later in this chapter.

Inflation in Singapore is one of the lowest in the world. The rates from 1987 to 1989 were 0.5%, 1.5% and 2.4% respectively. In 1990, the inflation rate climbed to 3.4%. These low rates of inflation are tied to the government's efforts to control liquidity. Singapore has a very high rate of savings because of a compulsory savings fund, called the Central Provident Fund (CPF), to which both employees and their employers contribute [6]. The total contribution rate is currently 38% of a worker's salary, but had been as high as 50% in 1985. A study on pension income worldwide found that salaried employees in Singapore had the highest retirement income; 87% of the final earnings of these workers are replaced at retirement by the CPF, compared to 85% in the UK and 77% in the US [7]. The CPF had accumulated a total of S$40.7 billion (US$22.6 billion) at the end of 1990. Most of these assets are kept in government securities. To keep the assets in Singapore dollars, which is not internationalized, would increase liquidity; thus, the government has been converting part of the surplus funds into foreign reserves. The CPF and Singapore's
foreign reserves have, therefore, grown in step for many years. In Asia, Singapore's foreign reserves, which amounted to S$48.5 billion in 1990, is only lower than that of Japan and Taiwan; on a per-capita basis, it is higher than the other two countries.

Singapore has also attained social stability. The population of 3 million is multi-racial and comprises 78% Chinese, 14% Malays and 7% Indians; race relations appears to be less of a problem here than in the neighboring countries such as Malaysia. The literacy rate of 90% is one of the highest in Asia. English is the medium of instruction in schools and is the language of administration and business. A remarkable 85% of the population live in housing which is provided by the government; a large proportion of this housing is owned by the residents themselves. The overall homeownership rate is 90% [8]. There is some concern on the rate of population growth which has been falling steadily since the late 1960s; the growth rate exceeded 5% in the 1950s, but is expected to drop to 1% in the 1990s and to 0.2% by the year 2025 [9]. The population is also ageing; from 1980 to 1990, the median age went up from 24 years to 29.8 years and the percentage of persons aged 60 years and above rose from 7.5% to 9.1%. The government is trying to increase population growth by offering incentives such as tax rebates and priority in allocation of public housing. It has been indicated that the island can hold a population of 4 million.

The labor force in Singapore is considered to be the most highly skilled in the region. In 1989, the labor force participation rate was 63%, with female participation at 48%. The manufacturing sector was the biggest employer (29%), followed by commerce (23%); the largest industry within the manufacturing sector is the electronics industry. The financial and business sector is, however, expected to be the key sector in the 1990s. In 1989, the financial sector contributed the largest portion to the overall growth in GDP; that was the first time that the manufacturing sector was displaced as the largest contributor. This reflects the continuing shift of manufacturing to neighboring countries, especially Malaysia and Indonesia, where labor is cheaper and more abundant. A very harmonious labor-management relationship exists in Singapore; no strikes have taken place since 1978,
except for one in 1986 which lasted for only two days. There appears to be close co-
operation between the government, workers and employers. The problem connected with
the labor force, however, is that it is growing less rapidly than before. It was expanding
by more than 4% a year in the 1960s but the rate dropped to 1% in 1985-1990; if this trend
continues, the labor force may start to contract some time after the year 2010. Singapore
has always relied heavily on foreign workers from neighboring countries, and in the early
1980s as much as 10% of the workforce was 'guest workers.' As the neighboring
countries themselves expand rapidly, the competition for the labor pool will intensify; in
particular, the building and construction sector, which has traditionally employed large
numbers of foreign laborers, may face a serious labor shortage in the future.

Infrastructure in Singapore is among the newest and most efficient in Asia, and is
being continually upgraded. Singapore has a good network of highways and excellent port
cargo handling facilities. Its airport is regarded as one of the best in the world and has a
handling capacity of 20 million people per year. An extensive underground system (the
Mass Rapid Transit system) was completed in 1990 (see Figure 2 on page 35). In
addition, there are good telecommunication facilities, and sophisticated commercial and
financial services.

Financial Factors

The financial system in Singapore consists of a fairly standard domestic financial
sector and a highly competitive international financial sector. The domestic sector consists
of the Monetary Authority of Singapore (MAS), the Currency Board, 141 commercial
banks, the Post Office Savings Bank (POSB), 68 merchant banks, 28 finance companies,
4 discount houses, 3 building societies, 6 life insurance companies, about 120 other
insurance companies, the Central Provident Fund (CPF) and other financial intermediaries
such as private money-lenders and credit-unions [10]. In addition to these financial
institutions, Singapore also has an active local interbank market, a securities market (the
Stock Exchange of Singapore), a financial futures market and a foreign exchange market.
Figure 2. Map of Singapore

Source: Jones Lang Wootton, Singapore
The MAS carries out all central banking functions other than currency issue which is performed by the Currency Board. In 1981, the Government Investment Corporation (GIC) was established to assume MAS's management of the government's foreign reserves. The GIC has been actively seeking overseas investments, and has invested a substantial portion of the foreign reserves of S$48.5 billion in overseas equity portfolios. It has been making waves lately with the announcement of its plans to invest S$2 billion directly in Hong Kong; earlier this year, it invested S$824 million in Brierley Investment, a New Zealand-based conglomerate. The GIC, which firmly believes in holding real estate, has made several real estate investments in the US since 1982. It is also reported to be one of the eight companies that have committed a total of US$2 billion to the Prudential Global Real Estate Investment Programme (which is co-managed by Jones Lang Wootton) [11].

Commercial banks are the dominant type of non-government financial institutions. Of the 141 commercial banks, there are 13 fully-licensed local banks and 128 foreign banks (22 fully-licensed, 14 restricted-licensed and 92 offshore). The commercial banks provide most of the traditional banking services and are particularly active in overdraft and trade financing facilities. Major foreign banks include Citibank and Chase Manhattan from the US, and several Japanese banks. The local banks are dominated by four major banking groups (referred to as the 'Big Four'); the largest and most profitable of these is the Development Bank of Singapore (DBS). Even though it is publicly listed, the DBS is controlled and managed by the government; it is a 'public sector bank' and is closely involved with promoting government economic and financial development policies. The government uses the DBS as a channel for low interest funds into priority sectors; it is also used as an instrument for the development of large property projects for the public sector. One of the more than 20 wholly-owned subsidiaries of DBS is DBS Land, the largest property company in Singapore by market capitalization (at S$2.05 billion or US$1.14 billion). In general, the local banks are involved in a wide range of non-banking activities. For example, each of the 'Big Four' has a property arm which is publicly-listed, and which
is a major property owner and developer.

The government-owned Post Office Savings Bank (POSB) currently accounts for more than half of the local deposit market, due to a combination of tax exemptions and branch network advantages. Most of its funds are invested in government securities, and it is also a major lender to government authorities and state corporations. As for the merchant banks, many of these have been attracted to Singapore by the rapid economic development in Southeast Asia. Their services include advisory services, underwriting and corporate financing. Finance companies are involved mainly in hire purchase, housing finance and lease finance; loan and advances to these areas generally make up about 75% of their total assets. The other deposit financial institutions, such as building societies and discount houses, have not become major players [12].

Of the non-deposit financial institutions, the Central Provident Fund (CPF) is by far the most important. As mentioned previously, its significance is due to its mandatory coverage of all workers and relatively high level of compulsory contributions by employer and employees. At the end of 1990, 89% of its funds (at S$40.7 billion) were invested in government securities; the remainder was placed with MAS as advance deposits for the future issues of government securities. The CPF is the largest holder of securities issued by the government. Contributors now have access to some of their contributions before retirement (at the age of 55) for the purchase of public and private homes, health care and purchase of approved shares. Then, there is the insurance industry which has lagged far behind the banking industry. The industry has declined over the years because of the compulsory high savings rate of the CPF, and also because of tax advantages related to savings in the CPF and the Post Office Savings scheme. It is generally off-shore in nature and has a high degree of foreign ownership. Government regulation requires most of the insurance companies' assets to be invested locally, with at least 20% in government securities; in addition, only 5% of their total assets can be invested in real estate (thus, the insurance industry is not a major supplier of real estate capital in Singapore).
The international financial sector is confined mainly to the Asian Dollar Market (ADM). The fact that this market is centered in Singapore reflects the country's success as a financial center. In 1990, the pool of resources in the market reached US$340.5 billion. The bulk of Asian dollar loans are channelled into the Asia Pacific region to meet the borrowing needs of industries in the region. Singapore also has a very active international interbank and foreign exchange market. There is also an increasing level of international securities and futures trading. The Singapore International Monetary Exchange (SIMEX) is the first financial futures exchange in Asia and was established in 1984.

This brief overview shows three important features of the financial system. First, the commercial banking sector (the main provider of real estate capital) is very competitive. The competition is strong for both deposits and loans. While double-digit interest rates are common in other developing countries, the interest rates in Singapore have been relatively low; the average prime lending rate has been between 6% to 8% in 1985-1990. The average real prime rate of the 10 leading banks in 1990 was only 3.3%, compared to an average of 5.4% during 1975-1989 [13]. There is also a typically small spread of 2% to 4% between the prime lending rate and short-term deposit rates of banks. Secondly, the public sector absorbs a large amount of funds. The CPF, Post Office Savings Bank and other public authorities now account for about 90% of outstanding government securities. Almost nowhere in the capitalist world does a government control such a high proportion of savings and investment. This has a contractionary effect on the monetary system and reduces the amount of funds for the private sector. The government has been urged to transfer more of the vast government-held assets to the private sector and to reduce the compulsory CPF savings rate. Lastly, even though the financial system operates on an open-economy system (with no regulation of interest rates, no arbitrary allocation of credit, no exchange control and with considerable freedom to foreign institutions), there is a strong government presence and influence on the financial sector. This is discussed further in the following section.
Government Factors

The Singapore government is a parliamentary democracy based on British constitutional and legal principles. Parliament is unicameral and has 81 members who are elected by secret ballot in single-member constituencies; the term of a Parliament is 5 years. As mentioned, the ruling People's Action Party has been in power since 1959 and there is presently only one opposition member of parliament. The government is committed to a basic open-economy system and has always tried to attract foreign investment, as shown by its highly liberal foreign investment policy. The government has been recognized as being highly competent, especially in its management of the economy. In this respect, there is little political risks in Singapore.

On the other hand, however, the government is highly regulatory. It is extremely resentful of criticism and has banned several foreign publications, including the Asian Wall Street Journal and Time, in recent years. All foreign media is censored. The 'long arm of the state' is felt extensively in the economy. Government monopolies provide all utilities (although some of these are now being privatized), radio and television, all education and a large part of medical and health services. State enterprises engage in direct production in competition and partnership with foreign and local companies. There is a state trading company, a state shipping company, a state airlines and other wholly and partly owned companies. As mentioned, the Development Bank of Singapore is controlled by the government; it operates as a commercial bank and invests in many private enterprises as a kind of government holding company.

A similar trend is seen in the real estate market, and this is where political risks may lay for the foreign investor. Whilst the market functions as a free market, and has liberal foreign ownership rules, there is still a strong government presence. A Minister for National Development stated in 1980, 'Property prices in Singapore will not be allowed to escalate to extraordinary heights like in Hong Kong because if national interest is at stake, the government will compete with private developers in the building and sale of commercial...
properties or luxury homes.' [14] The government now provides public housing for 85% of the population. State agencies are the largest owners and operators of industrial space; two of the largest publicly-listed property companies are controlled by the government and are major owners and developers of commercial space.

The government has voiced its concern at the rapidly rising rents and capital values in recent years, which has made Singapore the fifth most expensive city in the world for office space (according to the survey by Richard Ellis, Singapore is even more expensive than New York). The government wants to ensure that the city remains competitive and has taken steps to 'stabilize' the market. First, it announced that it will bring forward the release of some publicly-owned land for development; the government owns about 80% of the country's land and releases parcels for sale by tender in accordance with its development plans, or as deemed appropriate. Secondly, in 1990, it tightened the rules on foreign borrowing of Singapore dollars to finance property purchases; in future, foreign investors will have to finance the bulk of any property investment via foreign currency. Loans may be allowed for construction and other 'value-added' activities but not for buying land or existing buildings; some sources indicate that foreign investors may be limited to a maximum of $5 million in Singapore dollar loans. (This factor may not be very important to US pension funds because of their preference for equity investments). Thirdly, the central bank (MAS) is getting into property development and is planning to build Singapore's first 'financial' park; the development is geared towards banks and financial institutions, and is aimed at reducing competition for space in the CBD [15].

The government's recent moves in the property sector has irritated many developers, just as many bankers have been uncomfortable with the control of MAS over their activities. There is of course the other side of the argument, however. For example, the government's control of the supply of land for development has dampened the escalation of land prices; land prices in Singapore are far below those in Hong Kong. While the management and control of the supply of land by the government has sometimes
been criticized as being 'inefficient', it does place a degree of constrain on the market, and may help to reduce volatility. The property industry has also benefitted from the government's efforts in aggressively promoting Singapore as a tourist and international convention center in recent years. These efforts have resulted in tourist arrivals of 5.3 million in 1990 (following double-digit growth since 1987), and in Singapore being the top convention destination in Asia. In the financial sector, there is little question that much of the rapid development is due directly to the guidance provided by the MAS; most of the government's actions have tended to work toward the goal of making Singapore a major international financial center.

A significant feature relating to the government is the lack of corruption in Singapore. This is a serious issue for US pension funds as they need to stay away from any questionable transactions because of their public standing and their position as fiduciaries. Finally, the Singapore government has been under the leadership of a new, and younger, group of leaders since 1990, when Lee Kuan Yew stepped down after 31 years as the prime minister. The new leaders have thus far shown an inclination towards a more open, more 'human' and less regulatory form of government. This is partly in response to the growing affluence and sophistication of the population; there are also increasing demands, especially among the younger generation, for less government control on their daily lives. In the near future, however, the major policies that the government has adopted to-date are unlikely to be changed in any dramatic way.

The Real Estate Market

Among the real estate markets in Asia, the markets of Hong Kong and Singapore are regarded as the most developed (ignoring the market in Tokyo which is generally considered to be inaccessible to foreign investors). Both these markets are, however, still regarded as being 'near mature' rather than matured markets. The market in Singapore lacks depth and suffers from volatile swings; it has a tendency for speculative gain and lacks long-term institutional players with their emphasis on income yield. Until the mid-
1980s, few property transactions took place and the players in the market were generally speculators rather than long-term investors. During this period, it was the trend to purchase small units within a development and to dispose of the units rapidly; few buildings were sold as a whole. (The purchase of small units was made possible by the 'strata title' legislation in Singapore, which will be further discussed). Investors from Indonesia were then the largest group of foreign investors. Investment activity picked up during the property slump in 1985-1986, but it has only been recently that property companies and other investors have realized the potential of real estate as long-term investments [16]. In 1989, there was a significant increase in the level of foreign real estate investment, particularly from Japan and Hong Kong. In that year there was a record S$4.8 billion worth of major property investment transactions, and over S$1.0 billion (22%) was from Japan. Foreign investors have invested in all sectors of the property market, but more significantly in prime office and luxury residential properties.

The stock of space for various property types at the end of 1990 was: 27.8 million sf of office space, 11.8 million sf of retail, 77.9 million sf of industrial, 52.7 million sf of residential (including condominium, apartments and 'landed' properties, but excluding public housing), and 23,450 hotel rooms [17]. Looking at the office sector in particular, the stock of space in Singapore is relatively small compared with cities such as Paris (360 million sf), New York (290 million sf), London (260 million sf) and Frankfurt (90 million sf). Even 'smaller' cities in the US have considerably larger stocks: Boston (90 million sf), Denver (75 million sf) and San Francisco (89 million sf). Rental and capital values for office space are, however, substantially higher in Singapore than in the US. Average annual gross rental is about US$70 per sf for prime CBD offices and US$45 per sf for the whole island; the average capital value for prime CBD space is about US$890 per sf.

Despite its relatively small size, the market is reasonably developed in terms of the availability of professional expertise, the sophistication of the major players and the quality of the properties developed. Major international property consultants, mainly chartered
surveyors from the UK, such as Jones Lang Wootton, Richard Ellis, Chesterton International and Colliers International compete in the market and provide a full range of property-related services to their clients. There are also international legal advisors (such as Baker & McKenzie), accounting firms (such as Arthur Andersen) and architects (such as Palmer & Turner which operates out of Hong Kong), who are able to provide expertise in specific areas of real estate. The presence of these well-qualified professionals (many of whom are trained in the UK or the US), combined with the fact that English is used as the language of business, means that western investors should not find Singapore to be a major problem in terms of language, customs and conventions.

Availability Of Market Data

The property consultants such as Jones Lang Wootton (JLW) monitor the market closely and have data such as rental values, capital values, yields, occupancy rates and projected supply for all the major property types; JLW, for example, publishes a 'Singapore Quarterly Property Market Review' which contains such data, as well as a review of the performance of all the property sectors, and the economic outlook. Property market data is generally available from 1975. The data is, however, not as comprehensive as those found in the US and the UK. Data is thin because of the lack of institutional investment; in addition, there were very few en-bloc transactions before the mid-1980s. The major players are property companies who do not have any incentive to share information and market data. An index such as the widely-followed Russell-NCREIF Index in the US does not exists in Singapore; there are no public or private organizations that regularly monitor the changes in appraised values and income of a large stock of properties. Thus, whilst data on initial yields (or going-in capitalization rates) are common, there are no reliable data on total returns (among the major property consultants, only one was found to compile data on total returns, and this data is only available from 1985). The indices that are available, such as JLW's Rental Property Index and Capital Value Property Index, are more simple and are generally based on very small samples. A
property consultant indicated that one of the company's index is based on a basket of less than 10 properties; this sample is very small when compared to the property base of about 1,500 properties in the Russell-NCREIF Index. The data from different property consultants also tend to be inconsistent because the results are derived from different sets of transactions and information which are in the possession of the respective consultants. (The Russell-NCREIF Index, on the other hand, is compiled from data which is provided by over 50 property managers and advisors). Nevertheless, major trends in the market can be consistently identified in the data prepared by different consultants.

The Major Players

The major players in the real estate market are large publicly-listed property companies. While the US real estate market is mainly a private market, the Singapore one is very much a public, securitized market. There are currently 15 publicly-listed property companies in the Stock Exchange of Singapore (SES), with a total market capitalization of S$7.66 billion [18]. These property companies are among the largest companies in the SES and, as in Hong Kong, have a strong impact on the performance of the stock market; the property sector forms about 20% of the total stock market capitalization. The property companies are generally well-capitalized and have very strong backing; the 'Big Four' banks and the major finance company each has a property arm. The largest property companies in terms of market capitalization are DBS Land (S$2.05 billion), Singapore Land (S$1.83 billion) and City Developments Ltd. (S$1.60 billion) [19]. The property companies are generally involved in both development and investment; there is no separation between the two activities, with companies generally developing properties for their own portfolios and holding them as investments. The property companies generally have very diverse portfolios which cover the major property types. Even though the financing of projects has traditionally been more conservative than in the US, many of these companies carry large amounts of debt; it is reported that many of the companies are 50%-100% geared (leveraged) [20]. Apart from the listed property companies, the other
major owners of space are the government, major corporations and financial institutions who are owner-occupiers. A large amount of space in Singapore, particularly office but also industrial and retail space, is owned by corporations; for example, Bousteadco, a distributor of consumer goods lists a S$125 million freehold property as one of its assets. Lastly, there are other companies that 'dabble' in property investments; a company called Amcol, for example, lists 'manufacture and sale of electrical products, investment holding and property investments' as its principal activities and holds S$200 million worth of investment properties [21].

Land Use And Planning

Land use and planning is controlled by the Urban Redevelopment Authority (URA). Any proposal to develop real estate in Singapore must first be approved by the URA; building plans approval is then required from the Public Works Department. The URA is guided by a Master Plan which is revised every 5 years; the Plan provides the basis for development control in terms of zoning and development intensity. Development proposals which do not abide totally with the Master Plan (for example, involving an increase in density) may be allowed in some instances. These development proposals would, however, incur a development charge which is pre-determined and revised annually.

More importantly, the URA is involved in the acquisition, amalgamation and subsequent sale of sites by tender as well as in the reclamation of land. A substantial amount of land near the prime areas has been reclaimed and sold by the URA; reclaimed land is expected to increase the size of the CBD by about 50% by 1993. Land in private ownership can be acquired by the government under the Land Acquisition Act (1966) for the purpose of 'public benefit'; the Act allows the government to compulsorily acquire private land at very reasonable cost [22]. A substantial amount of private land has been acquired through this Act. The government owned only about 44% of the land in Singapore in 1960 but the percentage is now about 80%. Fragmented land ownership
within the CBD remains a major problem; the land which has been acquired and amalgamated by the URA are generally larger and more desirable. (The bids for URA parcels must normally include development and design proposals; in the past, in order to improve their chances of winning such bids, many local developers employed the services of 'big name' foreign architects, including such American luminaries as I.M. Pei, Paul Rudolph and John Portman). By controlling the supply of land, the URA is able, to a certain extent, to influence the pace of development. During the property slump in 1985-1986, the URA decided to halt land sales until 1989. The situation was reversed in 1990 when it decided to bring forward its plans for the sale of reclaimed land because of the tight market situation. As mentioned previously, the increase of the supply of land is one of the tools that the government uses to dampen what it regards as undesirable escalation of rents and property prices. The control of the supply of land by the government does not, however, mean that the supply of space by real estate developers is similarly well-controlled; the oversupply of space in the early 1980s that led to the slump in 1985-1986 is set to be repeated in the early 1990s, when a huge amount of space is expected to be completed. Thus, even though the supply of land may be planned, this does not appear to reduce the problem of periodic, chronic over-supply of space in the market.

Regulation And Ease Of Foreign Investment

This section looks at restrictions on foreign ownership, the setting up of a company and the purchase of properties in Singapore. There are no restrictions on foreign ownership of commercial property. The Residential Property Act of 1976, however, prohibits any 'foreign person' from owning residential property, unless the property is an apartment in a building which is at least six storeys high, or the property is a unit in a project which is designated as a 'condominium' under the Planning Act. The intention behind the 1976 Act was to remove foreign competition for residential 'landed' properties (landed properties is a term that refers to terrace houses, semi-detached and detached houses). In the case of development, only the same residential properties which are subject
to restriction on ownership are subject to control; all other forms of development, including residential condominiums, are not subject to any restrictions by the government.

The setting up of a company is relatively straightforward. Legal costs are minimal, as are registration fees which are payable to the Registrar of Companies. Singapore companies must have at least two directors, one of whom must be resident in Singapore. There is no restriction on the ownership of shareholding in a company which holds properties in Singapore. Neither is there any restriction on a branch of a foreign company, as opposed to a Singapore incorporated company, investing in property; there are, however, certain commercial and tax aspects to be considered in deciding which structure to adopt [23].

Two systems of conveyancing actually exist side by side in Singapore. These are the system of transfer by deed (common law system) and the registration of title system under the Land Titles Act 1970. The state may make grants of land of four types, including fee simple and leases; the most common form of grant today is the lease, usually for 99 years. Existing estates in fee simple (or freehold) were mostly created prior to the coming into effect of a Crown Lands Ordinance in 1886 [24]. Nevertheless, many prime properties in the CBD are on private land which are held under freehold.

A stamp duty is payable on the conveyance of an interest in property. The duty is calculated at graduated rates based on the transaction value; the maximum rate is 3% for transactions exceeding S$50,000. The duty is normally paid by the purchaser. Each party to a transaction usually pays their own legal fees, the amount of which is stipulated in the Solicitor's Remuneration Order. Where the sale price, or the loan, exceeds S$20 million, legal fees on the excess over S$20 million is negotiable. Agency (or brokerage) commissions in Singapore are usually paid by the seller. Where an agent (broker) searches on behalf of a client for a specific property, a small agency fee of below 1% can be charged.

An interesting feature relating to the sale of property in Singapore is the ability to
break up buildings once they have been registered for 'strata title' subdivision. Singapore has a well-established Strata Title system based on the Australian system. Thus, an owner may sell off only 2 or 3 floors of a building. There is, however, a requirement to retain 30% of a building in one ownership for a period of 10 years. Each of the strata units have certain rights which are determined by the share values allocated to the strata lot. The Land Title (Strata) Act contains provisions such as for the setting up of a Management Corporation and the payment of Maintenance Contributions by the individual owners. The sale of strata units is regulated by the Commercial Properties Act [25]. As indicated previously, there is an active market for these strata units, especially in the office sector.

**Leasing And Property Management**

The standard form of lease is modelled on the English form. A typical commercial lease will have a lease period of 3 years, with an option to extend the lease for a further 2 or 3 years. Major retail or office tenants who occupy substantial amounts of space can negotiate longer leases of 5 years plus a 5 year option. Leases generally provide for the rent to be reviewed to market value at the start of the option period. One reason for the short lease periods is that leases of six or more years duration must be registered and will thus incur a stamp duty. The short lease period and the absence of a landlord/tenant law means that rents generally respond rapidly to changes in market conditions; a property consultant indicated that initial yields can increase by as much as two hundred basis points after one year due to this rapid response [26].

Rent control has been applied to properties which were built before 1947. This has, however, been progressively phased out, and all rent control will be removed by 1991. (In any case, rent control would not apply to prime properties in Singapore as these have mostly been built only in the last ten years). Rental rates quoted in Singapore are gross rents, on a rent per square foot per month basis. The gross rent includes a charge called a 'service charge' which covers the cost of utilities, repair and maintenance. The landlord pays for utilities, insurance and property tax out of the gross rental; as a general
rule, these costs reduce gross income by 20% to 30%. Most leases allow a landlord to recover any increases in service charge and property tax during the period of a lease [27].

Major properties in Singapore are usually professionally managed by one of the firms of international property consultants. Firms such as JLL and Colliers have well-established property management divisions. Management fees are normally included in the service charge. The service charges are normally audited and tenants either pay an additional charge or receive a rebate if actual costs are lower than the service charge collected.

**Taxation Issues**

Singapore's income tax is a territorial tax; it is levied on income accrued in, or derived from Singapore or received in Singapore from outside. There is currently no capital gains tax in Singapore; any profit gained from the disposal of property is not subject to income tax provided that the Comptroller of Income Tax (CIT) is satisfied that such assets are investments and not trading stock. The crucial question of whether a transaction is an investment or a trading transaction is decided on a case by case basis. Among the primary factors considered in determining the nature of a transaction are the period of holding the property and the regularity of such transactions. A minimum holding period is not defined, but the general rule appears to be that gains on property held for longer than three years are not taxable. An investor who intends to establish an investment holding company, as opposed to a trading company, must ensure that the Memorandum and Articles of Association of the company incorporates the purchase and holding of property as long term investments as one of its primary objectives [28].

Rental income from the leasing of property is subject to income tax, regardless of whether the holding company is a trading or investment holding company. Rental income after deductions for property tax, insurance, repairs and maintenance, mortgage interest and other direct expenses incurred in the production of the income, is subject to income tax at the standard rate of 31% for companies and non-resident individuals. A distinction,
however, applies between a business activity and a non-business (or 'passive') activity. For the activity to be regarded as a business, it is normal for a comprehensive range of services to be provided in addition to the letting of property. In an office building, this would include a property manager and maintenance personnel to provide support services. Where a property is let bare without service, the CIT normally considers this as a passive activity. Whilst the tax rate is the same in both cases (31%), there are severe restrictions on the tax deductibility of expenses for a passive investor; excess of expenditure over income cannot be set off against other income in the same year and cannot be carried forward to be set off against future income. On the other hand, the investor who is regarded to be 'in the business of letting out property' can set off and carry forward such losses as they are regarded as trading losses; in addition, there are other advantages such as the availability of capital allowances for plant and machinery [29]. This distinction should not, however, be a problem for US investors, including pension funds, as they generally look after their property investments and provide comprehensive services to their tenants through their property managers.

Depreciation of buildings for tax purposes applies only to industrial buildings, generally on the basis of an initial allowance of 20%-25% of the cost of construction (not including land), and a 2%-3% annual allowance thereafter. The current property tax rate is 16% of the assessed 'gross value' and is payable half yearly in advance; the primary definition of 'gross value' is the gross amount at which the property can reasonably be expected to be let from year to year.

Another feature of taxation which is of interest, especially for US pension funds that may consider investing through debt instruments, is the withholding tax at 32% of the interest paid or payable to a non-resident lender. This tax is deducted at source. The tax may be mitigated by a double tax agreement, which Singapore has made with 25 other countries; the US, however, is not one of such countries. One way of overcoming this withholding tax on interest payments is to arrange a 'back to back' loan. Under this
arrangement, the borrower will borrow from a financial institution in Singapore instead of directly from a non-resident lender; such facilities may be secured either by a lender's guarantee, or the lender could place a corresponding deposit with the foreign branch or associate of the financial institution.

Lastly, there are no controls on foreign exchange or on the repatriation of earnings in Singapore. The government also has a policy of targeting exchange rate stability with the US dollar; the exchange rate of the two currencies has been very stable from 1980-1990, with the Singapore dollar progressively appreciating from $2.14 to $1.86 due to its strong current account surplus and low inflation. This stability would reduce exchange rate risks for the US investor in Singapore. There is of course a possibility that the Singapore government will, in the future, peg the Singapore dollar to some other currency, such as the Japanese Yen. This is, however, unlikely to happen in the short or medium term because of the importance of the US market to Singapore; in 1989, 23% of Singapore's exports were to the US, compared with only 9% to Japan.

**Real Estate Financing**

Singapore has well-developed debt and equity markets that provide funds for real estate. The major source of funds are commercial banks which provide project loan financing. Bank financing consists mainly of overdraft and term loans secured by a mortgage on the property, or debentures which create a fixed and/or floating charge on the company's assets or pledge of the company's shares [30]. In 1989, loans to the building and construction industry (at S$6.73 billion) accounted for 12.8% of total commercial bank loans; housing loans (at S$4.8 billion) made up another 9.1%. The second major source of funds is the capital market. In the last five years, more property companies have been listed on the stock exchange (there are now 15 listed companies) and these companies have made more use of the capital market to raise funds. Over S$3 billion has been raised in the capital market since 1985, reflecting the growing 'corporatization' of real estate financing. More companies have employed innovative capital market techniques to lower their cost of
borrowing. The more common corporatized real estate instruments used in Singapore are rights issues and bonds with detachable warrants; other instruments used include ordinary shares and private placements. As an example, DBS Land issued S$300 million of unsecured bonds with a coupon rate of 5% in 1990. As the bonds were issued with warrants attached, they sold at a premium, with an effective interest rate of only 1% or so. Corporatized real estate financing is expected to continue to be a significant source of funds in the future. Its use depends, however, on the capital market conditions. For example, the publicly-listed property companies have generally been under-performing the stock market since mid-1989, and many are trading at large (40%-50%) discounts to their net asset values; under this situation, it would be impractical for these companies to continue to raise funds in the capital market. The use of the capital market is also restricted to the larger companies with good performance records and a high degree of investor acceptance. Commercial bank financing will remain the major source of real estate financing.

Direct foreign capital flows into Singapore real estate amounted to S$1.57 billion in the record year of 1989, but dropped to S$800 million in 1990; these sums represented 33% and 32% of the total real estate transactions in 1989 and 1990 respectively [31]. Thus, in both years local investment accounted for the bulk (about two thirds) of the total investment. Apart from direct investment, there were also indirect ventures into the Singapore real estate market; the most prominent of these was the Indonesian Liem Sioe Liong’s acquisition of a controlling stake in Singapore Land, the second largest property company by market capitalization. Foreign interest in Singapore’s real estate is expected to remain high mainly because of its political and economic stability, and its growth potential. However, the government’s recent restriction on the lending of Singapore dollars to foreign investors is expected to dampen foreign capital flow considerably.

Unlike the US and the UK, insurance companies in Singapore are not major suppliers of real estate capital. As stated previously, insurance companies have diminished in importance because of tax disadvantages and the high savings rate in the compulsory
CPF fund. In any case, they are prohibited by law from holding more than 5% of their total assets in real estate. Finance companies are involved only in housing loans and have consistently made about S$1.5 billion of these loans in each of the last five years.

Other forms of financing which are used in the US can also be found in Singapore, although these are not very common. The largest ever property transaction in Singapore, which took place in 1989, was a sale and leaseback arrangement where the Standard Chartered Bank sold its headquarters to DBS Land for S$800 million (US$444 million). This form of financing has great potential in Singapore because there are many multi-national corporations and financial institutions which own substantial real estate mainly for their own occupation. Sale and leaseback arrangements can free funds from being committed to real estate, and these funds can be channelled to the companies’ main activities. In addition, the companies may reduce their tax payments since rental payments are tax-deductible. As the region continues to grow rapidly, and as more of these companies seek funds for their expansion, sale and leaseback arrangements may become more common and may increase investment opportunities for investors. Sale and leaseback arrangements may incorporate call and put options, or may be modified into sale and repurchase arrangements in order to make them more attractive to owner-sellers.

Another form of financing which has been used is convertible mortgages. In 1989, Citibank made a loan whereby it agreed to finance 70% of the purchase price of S$156.5 million at a below-market rate of interest in exchange for 50% of the profits arising from the eventual sale of the property. Non-recourse loans are not common in Singapore. In 1989, however, a non-recourse loan was arranged for a development which is expected to cost S$800 million. Securitization has also appeared on the scene. In 1986, the first mortgage-backed bond was issued; it was secured by a mortgage on a building, and guaranteed by a bank and backed by the issuing company’s assets. Whilst this form of financing may have potential, it is not expected to develop into a major source of funds. The major impediment is the lack of understanding among local financial institutions and
investors. In addition, Singapore’s market is relatively small and it does not have a credit rating agency. Finally, securitization has not received the backing of the government.

The government had considered the idea of starting equity REITs in Singapore in 1986. The proposal was made by the Property Market Consultative Committee which was set up to make recommendations on ways to revitalize the property market during the slump in 1985-1986. The Committee believed that REITs would increase liquidity in the market by providing a suitable means for small investors to invest in real estate. The Committee also felt that some form of preferential tax treatment was necessary in order to make REITs attractive to small investors; this was because initial yields on real estate, especially office properties (generally 4%-5%), had often been below that of government bonds (5%-6%). The government, however, did not agree to the preferential tax treatment, and the concept did not materialize. However, JLW are now trying to establish property trusts and funds in Singapore. The formation of these vehicles will add liquidity and depth to the market, and increase its efficiency and maturity. It will allow small, and institutional, investors to participate more readily in the real estate market. The integration of the property market with the capital market will also be further enhanced.

Historical Performance

The performance of the real estate market in the last 10 years is illustrated in Figure 3, 4 and 5 (on pages 56, 57 and 58 respectively); the graphs show the initial yields, occupancy rate, rental values and capital values for the office, retail and industrial sector. The main feature of the graphs is the volatility. Upswings and downswings are a common characteristic of maturing markets that lack depth. The Singapore market experienced peaks in 1973, 1981 and 1989; the strong peaks and troughs can be clearly seen in the graphs for all three sectors [32]. The economy grew at an average rate of 13.4% during 1968-1972, with the liberalization and strong growth of world trade. The peak in 1973 was followed by a slump that was mainly due to the escalation of oil prices. The market peaked again in 1981 as the world economy recovered. However, a combination of the
slowdown of the global economy and the severe over-building in the early 1980s led to the worst slump in Singapore’s history in 1985-1986. All property sectors experienced high vacancy rates and sharp falls in rental and capital values. Office vacancy rates rose from about 1.5% in 1981 to 16% in 1986; capital values for prime office space fell from S$1450 to S$550 per sf (a drop of 62%). The rapid improvement in world trade and a sharp decline in the supply of space led to a recovery from 1986, and a peak was reached in 1989. In that year, vacancy levels for prime office space were at 1%-2% and capital values rose to record levels. The market is, however, expected to soften from 1991 to 1995 due to the slowdown in the world economy and a slower rate of growth in Singapore. In addition, a large amount of space is coming onstream in this period; this is particularly so in the office sector, where about 11 million sf is expected to be added to the current stock of 27.8 million sf by 1994. It is clear that the Singapore economy, and its real estate market, is highly sensitive to the performance of the world economy; this is to be expected in an economy that is heavily reliant on external demand and foreign investment.

The second feature of the market is the relatively low yields. Singapore has a reputation of having the lowest initial yields in Asia, except for Japan. Initial yields (net operating income divided by purchase price) for prime office space ranged from 4%-5.3% in 1981-1989; the yield rose to 6.5% in 1990 because of the fall in the expectation of rental growth (with a vast supply of space coming onstream in the next 3-4 years). Initial yields for retail space ranged from 5%-8.3%, and is currently at around 6.5%. The industrial sector has produced yields in the range of 5%-8% in the same period. Looking at the office sector in particular, the yields are low when compared to the yields that US investors have been accustomed to in the 1980s; yields for prime office space in the US ranged from 6.08%-8.16% during 1980-1990 [33]. Local players and consultants in Singapore are prone to say that investors have to go for capital gains in this market; the capital appreciation component has formed the major portion of historical total returns in this market. Capital gains have certainly been impressive in the past few years. From 1987 to
Figure 3. Graphs of Initial Yields, Occupancy Rates, Rental Values and Capital Values for the Office Sector

Historic Initial Yields For Prime Office Space

Trend of Average Gross Rental
Central Business District

Trend of Office Occupancy Rates
Whole Island

Trend of Average Capital Values
Central Business District (CBD)

The yields shown above are cash on cash initial yields after property tax but before corporate tax.
Source: Richard Ellis Research, Singapore
Figure 4. Graphs of Initial Yields, Occupancy Rates, Rental Values and Capital Values for the Retail Sector

Rental and Capital Value Trends for Prime Retail Space 1991 - 1991

HISTORICAL & PROJECTED OCCUPANCY RATES
WHOLE ISLAND

TREND OF RETAIL RENTAL VALUES
FIRST STOREY

TREND OF RETAIL CAPITAL VALUES
FIRST STOREY

Source: Richard Ellis Research, Singapore
Figure 5. Graphs of Initial Yields, Vacancy Rates, Rental Values and Capital Values for the Industrial Sector

Flatted Factories
Historic Initial Yields

Source: Richard Ellis Research, Singapore

TREND OF AVERAGE GROSS RENTALS
PRIVATE FLATTED FACTORY/WAREHOUSE

TREND OF AVERAGE SALE PRICES
PRIVATE FLATTED FACTORY/WAREHOUSE

Source: JLR Research
August 1990
1990, the capital values for prime office space went up an average of 23% per year (from S$1000 to S$1700 per sf); for prime retail space, the figure was 37% per year (from S$1700 to S$3600 per sf). It is this potential for growth that has kept yields down; investors are willing to pay a higher price for the same amount of rent, the capitalization rate being seen as a function of the required return ($K_e$) minus the expectation of growth ($g$). [This is the Gordon model for the valuation of assets: $V = \frac{D}{(K_e - g)}$.] The low yields may also be attributed to Singapore's political and economic stability, its low cost of funds, the absence of foreign ownership restrictions, its infrastructure, and other favorable factors; these factors reduce the required return (the 'Ke' component of the capitalization rate). Thus, the low yields in Singapore reflect the low risk of the market and the high expectation of growth. These low yields are not a negative factor, but actually reflect a strong market; similar low yields have been found in many European markets for the same reasons.

One interesting feature of the graphs is the close relationship between the rental and capital values curves. This relationship is to be expected; for example, as rental values fall, capital values would also be expected to fall (since the lower rentals are valued as lower prices in the asset market, assuming no changes in the capitalization rate). Property data in the US did not, however, show this relationship in the 1980s when the Russell-NCREIF capital values were rising in the face of declining rents.

**Survey Of Property Types**

The major property types in the Singapore market - office, retail, industrial, residential and hotel - are briefly surveyed below. The opportunities for US pension funds investment within each property type are also identified.

**1) Office**

The stock of office space, according to an estimate by JLW, is 27.8 million sf. Other consultants have, however, estimated the stock to be larger, at about 35 million sf; the discrepancy is probably due to different definitions, and what is included or excluded
by each of the consultants. 43% of the total stock is found in the CBD; the prime area within the CBD is referred to as the ‘Golden Shoe’ area. The stock is relatively new, with 47% of the space within the CBD being less than 10 years old [34]. The office buildings are generally small compared to the US; the 27.8 million sf of office space in JIW’s estimate comes from a total of 235 buildings, giving an average size of 118,000 sf.

‘Institutional grade’ office properties in the US are generally required to be at least 100,000 sf in size; office buildings of this size, or larger, are not uncommon in Singapore. Opinion is divided on the prospects for the office sector in the short term; this is due to concern on the vast supply, estimated at around 11 million sf, that is expected to come on-stream during 1991-1994. With historical annual absorption of 1.2 million sf in the last 10 years, some analysts fear that vacancy rates may rise to 20% by 1995. Demand for space is, however, expected to remain strong because of the government’s efforts to attract multi-national corporations to set up their regional headquarters in Singapore. In addition, the financial and business sector has now emerged as the most important sector; office employment is expected to grow by 3% per annum in the next few years. The average amount of space per worker is also expected to rise due to increased automation and the larger numbers of management staff. Singapore is also expected to benefit from the re-location of companies from Hong Kong as 1997 approaches.

Singapore is moving strongly towards a services-oriented, high-tech and high value-added economy. It is currently marketing itself as a ‘total business center’. The opportunity for US pension funds would be to invest in modern office buildings with up-to-date amenities such as telecommunication facilities. As stated previously, there may be opportunities for sale and leaseback arrangements with owner-occupiers of quality office buildings who wish to release the capital which is held in their properties. A trend which is emerging, and which will become stronger in the future, is the decentralization of office space; the government is strongly encouraging this and has planned a ‘hierarchy of nodes’ comprising new regional, sub-regional and fringe centers. Another factor to consider is the
presence of a large area of reclaimed land near the city center which will soon be released by the government; this land is expected to increase the CBD area by as much as 50% by 1993 [35]. These factors are expected to have a significant impact on rental and capital values in the CBD area in future.

(2) Retail

The retail sector has performed very well in the last two years, with an average occupancy rate of 98% and with rapid increases in rental and capital values. This is due to the rise in disposable income of the population and to the continuing growth in tourist arrivals. The number of tourists in Singapore exceeded 5 million in 1990. The primary shopping area in Singapore is located near the CBD; the area is centered on Orchard Road where about 30 retail properties may be found. This area is characterized by large shopping centers, with one or more departmental stores as anchor tenants. The average annual absorption of retail space for the whole island during 1980-1990 was 680,000 sf [36]. The prospects for the retail sector in the short term is expected to be good; this is because of the projected annual growth in GDP and tourist arrivals of 5% and 4%-6% respectively in the next few years. In addition, the completion of the subway system and the improvements in the expressway system have expanded the market area of retail centers.

A trend which is developing is the decentralization of retail space; as with the office sector, this is being strongly encouraged by the government in order to reduce the congestion in the city center. The effort to decentralize is boosted by greater accessibility, and several quality suburban shopping centers are now being developed. US pension funds are, however, likely to restrict themselves to the better located properties in the more established area along Orchard Road. Another interesting trend is the movement of Japanese retailers into Singapore (and also other Southeast Asian countries). For example, Sogo paid S$690 million for a shopping center and an adjoining piece of land, while Takashimaya invested S$300 million for a stake in a major development along Orchard
Road. The Japanese retailers are committed to a global expansion program; several of these retailers are already major players in the Hong Kong retail market. Finally, the retail industry is getting more sophisticated as the purchasing power of the population increases and as competition from foreign retailers becomes stronger; this will bring about the development of more high-quality retail centers, which will increase investment opportunities for US pension funds.

(3) Industrial

Singapore's industrial sector is divided into the market for factory space and warehouse/storage space. The public sector plays a very large role in this sector; prior to 1982, there was very little private industrial development, and the government took the lead in providing land and buildings for Singapore's industries. In June 1990, the public sector owned 75% of the 62 million sf of factory space and 41% of the 14.5 million sf of warehouse space [37]. The largest landlord for factory space is a government corporation called the Jurong Town Corporation (JTC) which owns and manages about 28 million sf of space. The JTC has moved towards privatization and formed a private company in 1990. Factory space in Singapore comprises mainly of flatted factories (factory space housed in multi-storey buildings as opposed to single-storey structures); the stock is generally new, with 53% being built during 1982-1986. The largest owner of warehouse space is another government entity, the Port of Singapore Authority (PSA), which owns and operates over 5 million sf of warehouse properties. The JTC and PSA develop factory and warehouse space, normally including the infrastructure, and lease the space to the private sector. Industrial space is generally scattered all over the island. The average annual absorption of private factory space and warehouse space was about 1 million sf and 630,000 sf respectively during 1980-1989.

Singapore is positioning itself as a regional center for high-tech industry and distribution in the 1990s. It has the infrastructure, telecommunications network, port facilities and airport to establish itself in this role. In the coming years, labor intensive
industries are likely to be re-located out of Singapore to other areas in the Growth Triangle, that is Johor in Malaysia and Batam in Indonesia. Singapore will concentrate on high-tech industries, high value-added goods and R & D activities; these activities will demand new industrial space because the existing properties cannot be readily converted. The government is encouraging the development of business parks which will combine business and light industrial operations, including R & D, under one roof. These business parks, with a diversified tenant base, may be suitable investment opportunities for US pension funds. Pension funds should be careful with industrial investments that have a strong concentration in a single industry or a single tenant; industries in Singapore are mainly export-based and are heavily dependent on the performance of the global economy.

(4) Residential

The residential market in Singapore consists of apartment (including condominium) properties and landed properties. As mentioned, 85% of the population lives in public housing provided by the government. Demand for private residential properties has been rising in recent years due to the increase in disposable income of the population, speculative buying (estimated to account for 15% of sales in 1989) and foreign investment. A substantial amount of foreign investment has come from Hong Kong, partly because of the relaxation of the rules for immigration into Singapore. Other overseas buyers have come from Japan, Taiwan and Indonesia. US pension fund investment in this sector will be restricted to apartment properties as foreign investors are prohibited from buying landed properties. In 1990, there were about 37,000 apartment units in Singapore. Both the supply and absorption of these units have been volatile in the past 10 years; annual supply ranged from 748 units (in 1987) to 7,351 units (in 1983) while annual absorption ranged from 1,406 units (in 1985) to 4,831 units (in 1983) [38]. The demand for private housing will grow in the coming years as the population becomes more affluent. The shift from public to private housing has already prompted the government, through its Housing Development Board, to release several public housing sites for private residential
The opportunity for US pension funds in this sector is in upmarket residential properties which are located in the prime residential areas (these areas are called Districts 9, 10 and 11). These properties have consistently enjoyed almost full occupancy and are under-supplied. A major source of demand has been the large expatriate community in Singapore; the number of expatriates is expected to grow with Singapore’s efforts to attract multi-national corporations.

**Hotels**

Apart from the four 'core' property types discussed above, US pension funds may also consider investing in hotels in Singapore. In the US, hotels are generally regarded as a 'specialized' property type, as opposed to being 'core'. However, hotels may be considered in international investment by US pension funds because it is an established international institutional asset class and is generally similar all over the world. The Singapore hotel industry is well-developed; many of the established international hotel chains, including Holiday Inn, Westin and Hyatt from the US, have operations there. Occupancy rates during 1980-1990 peaked at 86% in 1980 and 1989, but was at a low of only 65% in 1986. Hotels in Singapore may be classified into low, medium and high tariff hotels. More than half of the hotels are in the medium class and many of the high tariff hotels were built only in recent years [39]. The Singapore government is aggressively promoting Singapore as a tourist destination and an international convention center. Development of tourist attractions and resorts in the Growth Triangle are expected to increase the number of tourist arrivals in the region. The government is concerned that there will be an acute shortage of hotel rooms in the next few years and has actively encouraged the development of new hotels by releasing land for this purpose. Interest in hotels in Singapore is reflected in the sale of four hotels for a total price which exceeded S$300 million in 1989.
Notes On Chapter 3


5. See Note (2).


8. See Note (2).

9. See Note (6).


13. See Note (10).


18. See Note (4).


21. Information obtained from the Stock Exchange of Singapore listing of Industrial and Commercial companies.

22. See Note (14).

24. See Note (1).


27. Information on the Singapore market provided by Chesterton International Property Consultants, Singapore.


29. See Note (24).

30. The information in this section on real estate financing is obtained mainly from: Koh, Choon Fah. 'Real Estate Financing In Singapore,' SES Journal, Singapore, May, 1990.


39. As note (36).
CHAPTER 4: U.S. PENSION FUND INVESTMENT IN SINGAPORE

In Chapter 2, the objectives and requirements of US pension funds in international real estate investment were discussed. The objectives are diversification, higher risk-adjusted returns and more stable returns. Associated with these objectives would be the requirements for safety of investment capital, liquidity and quality of investment. US pension funds would be concerned with the track record of real estate investment in the prospective country, and would require ample historical performance data. They would examine the macroeconomic, financial, government and real estate market factors that may affect their investments. The relevant factors in relation to Singapore and its real estate market were discussed in Chapter 3, and some advantages and disadvantages of real estate investment in that country were identified.

Advantages Of Investing In Singapore Real Estate

One of the major advantages that Singapore has is its strategic location in the middle of a rapidly growing region in Southeast Asia; even though it will not experience the double-digit growth rates of the 1970s and 1980s, it is still expected to grow by 4%-6% per annum through the 1990s. Thus, there is a strong potential for capital appreciation, as demonstrated by the 70% and 118% increase in prime and retail capital values respectively during 1987-1990. The economic prospects for the country are good as it has established itself as a major manufacturing, shipping and financial center. It has excellent infrastructure and a well-developed telecommunications network. In addition, its workforce is highly-rated, skilled and disciplined. In response to the changing environment, it is taking steps to re-structure its economy, by shifting to high value-added goods and high-tech services and industry; it is also linking its economy to the faster growing economies in the region and elsewhere. Both inflation and interest rates have been relatively low in the last 10 years. There is also remarkable political stability, a factor which is important because of the illiquid nature of real estate investments. Another attractive feature for US pension funds is the lack of corruption.
The real estate market itself is also very favorable. The market operates generally as a free market, with minimal restrictions for foreign investors. Restrictions on foreign ownership are imposed only on residential landed properties. There are no restrictions on the repatriation of earnings and no foreign exchange controls. The Singapore government targets exchange rate stability with the US dollar; this reduces exchange rate risks for US pension funds. Market data, though not as comprehensive as in the US, is available from 1975. Independent professional services can be readily obtained from international property consultants, legal advisors, accountants and architects. The taxation and legal systems are based on the British system, and are not overly burdensome for foreign investors. It is relatively easy to set up a holding company in Singapore, and to purchase properties and land. A major advantage is that there is no capital gains tax; the tax on rental income, at 31%, is not excessive. The services of experienced property consultants may be obtained for leasing and property management. There is no rent control or tenant/landlord law, and rents respond quickly to changes in the market due to the relatively short lease periods. Then, there are well-developed debt and equity markets that provide funds for real estate; many of the sophisticated financing techniques used in the US have been applied in Singapore. Lastly, the use of English as the language of business and administration, coupled with the strong British influence in many aspects of the real estate market, minimizes the language and cultural difficulties that US pension funds may face in other foreign countries.

In recent years, total returns from real estate investment in Singapore have been competitive with, if not better than, those in the US and the UK. For the period of 1985-1989, the Russell-NCREIF Index in the US and the Investment Property Databank in the UK show average annual total returns of 6.9% and 17.1% respectively [1]. As mentioned, a similar index does not exist in Singapore. However, total returns data compiled by a property consultant for the office, retail and industrial sectors during the same period show that returns in Singapore are competitive; the average annual total returns for the three
sectors are 20.3%, 33.3% and 11.8% respectively [2]. The Russell-NCREIF data for the office, retail and industrial sectors during the same period show average annual total returns of 3.9%, 11.7% and 10.6% respectively. Thus, the average total returns of all three sectors in Singapore were higher than those in the US. The return figures for Singapore are especially impressive because of the severe real estate slump in Singapore in 1985-1986 when all three sectors posted very poor (in some instances, negative) returns; in contrast, all total returns figures were in double-digits during 1987-1989.

Disadvantages Of Investing In Singapore Real Estate

There are several disadvantages of investing in Singapore real estate, especially for institutional investors such as US pension funds. First, there is the volatility of the market. As stated previously, vacancy rates varied from about 1%-2%, during the boom in 1981 and 1989, to 16% during the 1985-1986 slump. Similarly, capital values for prime office space fell about 60%-70% from 1981 to 1985, but increased by a similar percentage from 1986 to 1989. One observer stated, 'The market always seems to be either in a boom or a bust.' Such upswings and downswings are very severe when compared to the markets in Europe; for example, the major markets in Europe had office vacancy rates of only 1%-6% during 1979-1989 [3]. (Some markets, such as the London office market, have, however, softened substantially since 1989). One reason for the volatility is the relatively small size of the Singapore market (this point is discussed further below). In addition, Singapore does not have the same degree of supply constraints, supply-demand balance and built-in discipline that are characteristic of many European markets. Development and planning controls exist, but are not as restrictive or formidable as in Europe. While the government owns 80% of the land and controls supply, the management of the supply has appeared at times to be ineffective. More land is being reclaimed, and by 1994 the amount of land in the CBD is expected to increase by 50%; if the demand for space does not similarly increase, there could again be too much development in the CBD. Another factor is that, prior to 1985, most players in the market were speculators, and it is only recently that
property companies and institutional investors have realized the potential of real estate as a long-term investment. The Singapore economy, and the real estate market in turn, is also very susceptible to downturns in the world economy.

Secondly, the market is relatively small, and lacks depth and liquidity. A substantial amount of space is owned by the government and owner-occupiers; until recently, very few properties were traded in the market. The trend of major property transactions was seen only from 1987 (with S$1.1 billion in transactions), and peaked in 1989 (with S$4.8 billion) as the market was stimulated by foreign investment. There is a lack of institutional investment, such as by pension funds and insurance companies in the UK, which would add depth and stability to the market. The limited size of the market reduces the opportunities for local and foreign investment. US pension funds would be concerned with their ability to trade on and pull back their equity as desired.

Thirdly, there is the active involvement (some would say 'interference') of the government in the real estate market. The government is committed to creating a stable business environment which would allow Singapore companies to compete globally; it has repeatedly shown that it would not allow rents and prices to escalate to 'undesirable' levels. The government provides the public housing in which 85% of the people live, and owns about 75% of the industrial space. It controls the largest property company (DBS Land) in terms of market capitalization. It also controls the supply of land for development; while it aims at an optimal supply, it has shown a tendency to be more concerned with shortages of sites than with oversupply. Some developers feel that the government released far too much land in the early 1980s; this contributed to the over-supply and slump in 1985-1986 (the developers who bought the sites and developed the excess space must, however, share the blame). Finally, the government imposes its influence by monitoring the real estate loans made by commercial banks, the major source of real estate finance. It has recently admonished the banks for making large amounts of loans to foreign real estate investors and has imposed restrictions on such loans. This heavy involvement by the government
may have an effect on the free operation of the market. Ultimately, however, a US pension fund is concerned primarily with the returns on its investments, and the safety and liquidity of its capital; on these grounds, real estate investment in Singapore is relatively favorable.

The government's active involvement does not appear to have had a strong negative impact on total returns (which have been competitive). It may also be argued that the active government involvement has a stabilizing influence on the market. By trying to keep rents and prices from escalating to 'undesirable' levels, the government may help to reduce chronic over-supply of space and subsequent rapid declines in values. While its management of the supply of land may not have been effective at times, the fact that there is control does place a degree of constrain on the market. As such, the role of the government in Singapore may not be a major drawback.

The low initial yields in Singapore are sometimes cited as being another disadvantage. Historical initial yields have been especially low for the office sector (around 4%-5%); yields have, however, risen in 1990 to 6.5%, where it is comparable with recent yields in Europe and the US. These low yields may be a deterrent to some US pension funds. In recent years, many US pension funds have placed a strong emphasis on income return (or annual yield); this is understandable when one considers that the Russell-NCREIF Index has shown negative capital appreciation since 1987. US pension funds are generally more wary of promises of capital appreciation. The low yields should not, however, be seen as a negative factor. Yields are a reflection of the risk in the market, and the lower the risk, the lower the yield. As discussed in Chapter 3, initial yield (or capitalization rate) is a function of \((K_e - g)\). [The Gordon model for the valuation of assets, as mentioned, is: \(V_0 = \frac{D_1}{(K_e - g)}\)]. The required return \((K_e)\) component is low in Singapore because of its political and economic stability, low interest rates, excellent infrastructure, absence of foreign exchange and foreign ownership restrictions, and other attractive factors. In addition, the expectation of growth \((g)\) component is high because of its high growth rate. The low yields in Singapore should not be an obstacle for most US
pension funds; the low yields in Europe have certainly not discouraged US pension funds from investing there. On the contrary, reasonably low yields (like those in Singapore) should be attractive to risk-averse, institutional investors like US pension funds because they reflect a market with low risks. Yields in Singapore tend to improve quickly because of the fast growth in rental values (and the short lease periods); an investor would also obtain competitive total returns, as pointed out earlier.

Should US Pension Funds Invest In Singapore?

The objectives and requirements of US pension funds, together with the ability of the Singapore market to meet these objectives, are summarized below:

(1) diversification : yes
(2) higher returns : yes, or competitive
(3) more stable returns : no
(4) safety of capital : low political risks but high volatility
(5) liquidity : limited
(6) track record : satisfactory
(7) availability of data : satisfactory, not as comprehensive as in the US

First, investment in Singapore real estate will satisfy the diversification objective of US pension funds. A study of the graphs for vacancy rates, rental values and capital values for the Singapore and the US market clearly show that the performance of the two markets have been very different in the past 10 years. In order to verify this, the correlation between the two markets was studied. The results are shown on Figure 6 and 7; each figure contains a line graph, a correlation table and a scattergram (with a regression equation between the variables). For the period 1981-1990, the correlation of initial yields for prime office space in Singapore and the income return for the office sector in the Russell-NCREIF Index is found to be -0.53 (see Figure 6 on page 73). Similarly, the correlation of annual percentage change in capital values of prime office space in Singapore and the capital appreciation component for the Russell-NCREIF office sector is deduced as
Initial yields for Singapore prime office space is obtained from Richard Ellis, Singapore. US yields are the income component of total returns for the office sector in the Russell-NCREIF Index.

The line graph shows that the movement of the yields in the two markets has been different, especially in the second half of the 1980s. A negative correlation of -0.53 is shown in the correlation table. The linear regression line in the scattergram table also shows a negative relationship between the yields; however, the r-squared is very low, and only 28% of the variation in US yields is explained by the linear regression with Singapore yields.
The figures for Singapore are derived from data on capital values of Grade A office space (in S$ psf) provided by Jones Lang Wootton; the annual percentage change is derived by calculating the percentage change in the capital values from year to year. The percentages for the US are the capital appreciation component of total returns in the Russell-NCREIF Index.

A large difference between the performance of the markets can be seen in the line graph. The correlation table shows a negative correlation of -0.66. The linear regression line in the scattergram table also shows a negative relationship; a reasonable 43% of the variability in the US capital returns is explained by the linear regression with Singapore changes in capital values.
-0.66 (Figure 7 on page 74). This shows a strong negative correlation between the two markets. Thus, there are real diversification benefits to be gained by investing in the two markets. This makes the Singapore market very attractive to US pension funds because, as discussed previously, many of these funds will likely not venture into foreign markets for higher returns, but will do so for diversification benefits.

Secondly, total returns in Singapore have been competitive with, if not higher than, those in the US since 1985; there is a stronger potential for capital gain in Singapore in the future. Thirdly, the track record for major foreign investment is relatively short, having started only in the mid-1980s; however, no major obstacles or problems appear to have been encountered by foreign investors to-date. The track record may be described as being 'satisfactory'. Lastly, both current market information and historical performance data are readily available, although these are not as comprehensive as in the US. Property consultants in Singapore realize the need to improve their data; substantial progress can be expected in future as the market matures, and as both foreign and institutional investment increases.

Singapore falls short, however, on meeting the objective for stability of returns, safety of capital and liquidity of investment. With regard to the safety of capital, the degree of safety is high when it is considered that there are no restrictions on the repatriation of earnings, the real estate market is sufficiently well-developed, and the government is basically committed to foreign investment and a free market; the safety of investment capital is, however, questionable when the volatility and illiquidity of the market is taken into account. US pension funds may reduce the effects of volatility and illiquidity in the market by adopting a long-term, strategic diversification approach (as opposed to an opportunistic approach); such an approach will minimize the impact of volatility on long-term total returns. Many US pension funds have indicated that they are, in fact, long-term investors in real estate. Based on the historical performance of the Singapore market, US pension funds can expect their long-term investments to produce income yields of at least 4%-5%
per year, plus competitive capital appreciation. The impact of volatility can also be moderated by combining investments in Singapore with those in the more stable European markets; in this way, US pension funds will be able to achieve both stability of returns and opportunities for capital growth. In addition, the pension fund asset allocation for real estate investment in Singapore is likely to be so small, in percentage terms, that the relatively higher volatility in this market will probably not have a significant impact on the total volatility of the whole real estate portfolio. The Asian Pacific Rim, a grouping of 16 countries excluding Japan, is estimated to hold only 5% of the world's value of non-US real estate; the amount in Singapore would be less than 1% [4]. In comparison, the European Community is estimated to have about 35% of the value. Thus, if asset allocation is based roughly on the value of real estate in a country or region, the amount allocated to Singapore would be relatively small. This is discussed further in the next section.

The volatility and liquidity problem can also be overcome with appropriate deal structures. Call and put options can be incorporated into sale agreements in order to satisfy US pension funds' requirements. For example, US pension funds may have the option to re-sell a property to the seller within a certain period, at a price that will give them a predetermined total return. The total return may be, say, 5% real, with 2% real from income and 3% real from the agreed capital appreciation per year; thus, if inflation is at 3%, US pension funds would have an assured capital appreciation of 6% per year. The seller, on the other hand, can 'call' the investment, and gain on the upside; he will, however, have to take the risk on the downside. Thus US pension funds would have the means to exit the market quickly, and will avoid volatility in the market. Arrangements such as these can be made with owner-occupiers of quality buildings or property companies.

The problem of volatility in the Singapore market must also be kept in perspective. Researchers have reason to believe that the true volatility in equity real estate returns in the US may not be significantly different from that of common stocks. The use of periodic
property appraisals to establish index values is felt to understate actual volatility of returns because such appraisals are based on the long term underlying asset value, and are much less volatile than values set by transactions (as in frequently traded securities); for example, equity REIT returns have been found to show essentially the same volatility as stocks [5]. As for the problem of illiquidity, it should be remembered that real estate investment in any country is inherently illiquid to a certain extent. Liquidity may depend, to a large degree, on market conditions; the US market is currently very illiquid due to chronic over-supply, scarcity of capital and the poor prospects for growth. In the medium term, liquidity in the Singapore market can be expected to improve as the stock of space, especially in the office sector, is rapidly increased and as institutional investment grows.

Thus, it appears that real estate investment in Singapore is basically feasible for US pension funds. Whilst the market leaves something to be desired in terms of stability and liquidity, the general macroeconomic, financial, government and real estate factors provide a basic viability for investment. The main objectives of diversification and higher returns can be fulfilled in this market. On top of this, Singapore offers a stronger potential for growth than the US, and arguably the European Community, because of its promising economic prospects and its location at the center of a rapidly expanding region. US pension funds can demonstrate that an investment in this market is both sound and prudent. The implication for the pension funds is that their scope for international real estate investment should extend beyond the more economically and culturally similar countries in Europe and Australasia. The Singapore market is an example of a real estate market that can offer the desired diversification and competitive returns to US pension funds.

**Getting Into The Singapore Market : Investment Structure**

The following sections discuss how US pension funds may enter and invest in the Singapore real estate market. First, the appropriate investment structure is examined; the question is whether investments should be direct or indirect, and whether equity or debt instruments should be preferred. Next, four major methods of investment are discussed,
together with the implementation issues involved; the investment methods are acquisition of existing properties, debt instruments, joint-ventures in development and the purchase of shares in property companies.

Before proceeding to the above issues, however, it would be instructive to determine the approximate amount of assets that US pension funds may invest in Singapore. By the year 2000, US pension fund assets are expected to grow to US$3 trillion (that is, US$3,000 billion); if 5% ($150 billion) of the assets are allocated to real estate, and 10% of this real estate allocation is invested in international real estate, the amount that will be invested overseas will be US$15 billion. As mentioned, it is estimated that 5% of the world’s value of non-US real estate is located in the Asia Pacific Rim; thus, about US$750 million will be invested in this region, assuming that investment assets are allocated according to the value of real estate held. The Asian Pacific Rim, in this particular case, is a grouping of 16 countries, and includes the Southeast Asian countries, countries in Indo-China, South Korea, Taiwan, Hong Kong and China, but excluding Japan and Australia. Assuming that 5%-10% of the US$750 million Asia Pacific Rim allocation is invested in Singapore, the amount of investment will be in the region of US$37.5 million to US$75 million (this will be 0.25%-0.5% of the international real estate allocation). The amount is equivalent to S$67.5 million to S$135 million, based on the exchange rate of US$1=S$1.80. If this amount is commingled or pooled, it may be barely sufficient for the purchase of one institutional-grade office property in Singapore in the year 2000 (a 100,000 sf prime office property would currently cost about S$120 million, or about S$1,200 per sf). The amount allocated to Singapore may, however, be substantially higher, at the expense of the other Asia Pacific Rim countries; this is very likely when one considers the strong relative attractiveness of the Singapore real estate market in terms of sophistication, ease of entry and depth, and its political stability and economic prospects. For example, the real estate market in countries such as Taiwan and South Korea are virtually closed to foreign investors; the other markets in Southeast Asia, as will be seen at
the end of this chapter, are far less attractive when compared to Singapore, and are currently generally unfavorable for US pension funds investment.

Based on the relatively small asset allocation estimated above, US pension funds investment in Singapore is unlikely to raise the politically sensitive issue of American 'imperialism'. Japanese investment in Singapore amounted to about US$550 million in 1989. In Singapore, as in most of Southeast Asia, the prospect of extensive Japanese ownership of property and land should raise more concern than similar ownership by American entities (Singapore, Malaysia and Thailand had fallen under Japanese rule during the Second World War). However, the substantial Japanese investment in Singapore real estate has not caused visible public concern or objection (the question of immigration from Hong Kong has received far more attention). The Singapore government may actually welcome US pension funds investment in Singapore real estate because a US presence in the region, including through business and investment, would be regarded as 'stabilizing'.

Direct Or Indirect Investment

Direct investment is defined as an investment structure where an investor holds a major, controlling (51% to 100%) share of an investment; the 'separate account' investments of pension funds in the US are examples of direct investments. In contrast, indirect investments are defined as pooled or commingled structures, where an investor is one of a collection of investors and does not have total control over the investment. As stated in Chapter 2, there has been a shift towards direct investments among US pension funds in recent years; pension fund managers have been seeking more control, flexibility, liquidity and the ability to respond quickly to market conditions.

Most US pension funds have, however, indicated that they would use indirect investments when they venture into international real estate investment. This preference for indirect investments is reflected in the collection of commingled investment vehicles which have been marketed by pension fund advisors. Except for the investments made by a couple of pension funds (Eastern Airlines and General Electric) in UK apartments and
commercial properties, there has been little direct investment by US pension funds outside of the US.

Indirect investment makes sense when a pension fund is just beginning to invest overseas. It provides broad geographical diversification with a lower capital investment. A diversified international portfolio may be obtained more quickly than with direct investment, especially since pension funds do not have the necessary expertise to invest in international real estate. In addition, pension funds would be able to avoid the need to develop analytical frameworks and reporting procedures for direct investment in a host of countries; monitoring and reporting on investments in a number of countries can be very time-consuming and costly as the tax, legal and financial environments would be different [6]. In an indirect investment, these frameworks and procedures may be more economically developed and implemented by pension fund advisors for the commingled investors. Pension funds may use direct investments to ‘round out’ their portfolios, and to take advantage of opportunities in locations or property types that are not covered by their commingled investments. A reasonable allocation may be a minimum of 70% to direct investment; the percentage would probably be even higher for smaller pension funds.

US pension fund investment in Singapore will very likely, at least in the initial years, be through indirect investments. The pension funds would want to start with a small investment in order to gain more experience and knowledge in the market, and to establish an acceptable track record. They would need to be reassured of the investment potential of real estate in Asia, and in Singapore in particular; to most US pension funds, it would be a venture into a new frontier, despite their experience with investments in stocks and bonds in many Asian countries (including the emerging markets). In addition, the real estate asset allocation to Singapore is likely to be too small for any one pension fund to invest directly.

In discussing the investment structure (and investment strategies in general) that US pension funds will adopt, the initial or short-term view should be separated from the long-term one. The purpose of this thesis is to focus on the initial, short-term process of
bringing US pension funds to Singapore and Southeast Asia. In the long term, US pension funds are likely to adopt very different, and probably more aggressive and risky, investment structures and strategies, as they become more familiar with international real estate investment and with the real estate markets in Asia.

**Debt Or Equity Investment**

In recent years, US pension funds have invested more in equity than debt investments. In the early 1980s, when US pension funds were just beginning to invest substantially in real estate, debt investments formed a larger portion of pension real estate capital than they do today. The shift towards equity investments reflects a growing familiarity with real estate and a greater willingness to take risks. Foreign investment in the US in the 1980s also shows a pattern of starting out with debt investments and then shifting to equity investments as more experience is gained.

US pension funds have, however, indicated that they will start their international real estate investment by investing in equity rather debt instruments. This is reflected in the international commingled funds that are being marketed by pension advisors; these funds will generally seek equity investments in foreign (mainly European) markets. There are several reasons why equity investments are likely to be more common in international real estate. First, debt or mortgage investment opportunities are more difficult to find in many non-US countries, where deals are traditionally not as highly leveraged; this may be due, for example, to higher interest rates or the lack of tax advantages for debt financing. Understandably, the players and advisors in these markets would be hesitant to consider debt investments, as these are unfamiliar to them. For example, Aldrich, Eastman & Waltch (AEW), a major pension fund advisor, and the manager of the largest amount of convertible mortgage assets in the US, has found an unwillingness among the players in the UK to consider hybrid debt instruments since it opened its office in London in 1989. Secondly, US pension funds generally have a preference for equity investments within the US and this is likely to influence their international investment structure decision.
More importantly, some advisors argue that debt investments minimize international real estate diversification benefits; it is felt that debt investments can only diversify against the risks of default, inflation and exchange rate fluctuations, and in some cases, interest rate fluctuations [7]. A lender can only participate in the returns from a project if the borrower defaults. Thus, in terms of diversification, an overseas debt investment by a US pension fund would be very similar to an investment in government bonds, except with different yield characteristics. Since diversification is the major objective of international real estate investment for many US pension funds, this reduction in diversification benefits is a major disadvantage of debt investments. Another disadvantage is that debt investments do not provide as many opportunities to learn in a new market as equity investments. Thus, future international real estate investment by US pension funds will likely be equity oriented; equity investments may account for, say, 80% of the international real estate allocation. Debt investments may, however, be viable in some cases. Mortgage investments may be found that may allow US pension funds to earn a reasonable return and at the same time provide some opportunities to learn about the market before venturing into equity investments; hybrid debt, such as convertible mortgages, may be suitably structured to achieve this. (The international equity investments of US pension funds may or may not be leveraged. Leveraged equity is generally regarded as being too aggressive for early international investment; the JMB Randsworth deal, as described previously, shows the additional financial risks in leveraged equity investment structures).

US pension funds may invest in debt or equity in Singapore. The major disadvantage of investing in debt in Singapore is that it is a market where the appreciation component (as opposed to the yield component) generally makes up the major portion of total returns; capital appreciation has been impressive in recent years and strong growth is expected to continue in the 1990s. Traditional mortgage investments would not enable US pension funds to take advantage of the upside in developments or investments. As stated previously, it is this potential for growth and capital appreciation which makes the
Singapore market stand out, on top of its basic attractiveness. Secondly, competition for loans is very intense; the average prime lending rate of the 10 leading banks in Singapore was 6.7% in 1990, but the average real prime rate was only 3.3% (compared with an average of 5.4% during 1975-1989). There was only a 2.7% spread between the leading banks’ prime rate and the 3-month fixed deposit rate (at 4.0%) [8]. In addition, many of the property companies are currently very highly geared; this may explain why a number of these companies are turning to the capital market to raise funds instead of relying on traditional bank loans. Even though equity funds from the capital market are always more costly in the long run, these companies can avoid the need to service the funds in the short term.

Methods Of Entering The Market

In this section four major methods for US pension funds to enter and invest in the Singapore real estate market are examined. Pension funds may use each of these four methods through a direct or indirect investment structure; for example, a pension fund may invest directly in the acquisition of a property or it may do so through a commingled fund. As discussed, US pension fund investment in Singapore is likely to be indirect, at least in the initial stages.

(1) Acquisition of properties

Acquisition and holding of properties is a common method of investment by foreign investors in Singapore. The implementation procedures in Singapore are not very different from those in the US. This method of investment is, of course, familiar to US pension funds. Even though there is a trend among US pension funds to bring their real estate investment activities in-house, it is likely that they will rely on pension fund advisors in international real estate investment, even for direct investments. This is because they lack expertise in international real estate and would want to ensure that they are carrying out their fiduciary responsibility in a satisfactory manner. The pension fund advisors would rely mainly on property consultants in Singapore (such as JLW and Richard Ellis) to bring
them prospective acquisition deals. The advisors may be able to develop a larger investment network which may allow them to locate deals through investment banks (such as Salomon Brothers and Goldman Sachs which have branches in Singapore) or local property companies. Alternatively, US pension funds may form joint-ownership arrangements with prominent and well-established local property companies. Joint-ownership with established US institutions, such as investment banks, property companies and insurance companies, was a strategy used by Japanese insurance companies when they began investing in the US in the early 1980s; an example is Nippon Life’s acquisition of a 50% equity interest in a property from Equitable Life in 1981 [9]. This strategy enables a foreign investor to gain assurance and confidence in a new market; it would also be in line with the current trend among some US pension funds to structure deals with developers or property companies that will have an interest in the deal. In analyzing the acquisitions, the expertise of the local property consultants would be critical; the legal, tax, accounting, leasing and operating factors would be unfamiliar to the pension advisors and need to be assessed by local professionals. The overall due diligence process would be overseen by the pension advisors and the property consultants.

During the holding period, the property should be managed by the property management division of one of the established property consultants. The consultant should be engaged to provide both property and asset management services. It is important that the consultant have experience in managing international investments, because of factors such as changing exchange rates and different accounting rules which will complicate the reporting process. US pension funds should be aware that a widely-followed performance benchmark does not exist in Singapore. Total returns figures are generally not compiled by property consultants. US pension funds should ensure that their property investments are appraised regularly (quarterly or yearly) and that an appreciation return is tracked, as well as income return. Lastly, in the disposition of properties, local expertise is again essential. In a relatively volatile market such as Singapore, active management by the local
consultants and by the pension advisors would ensure that properties are disposed of at the optimal time, leading to enhanced returns. An explicit exit strategy would serve as a useful guide for pension funds and the consultants they employ in Singapore; the exit strategy, as part of a global real estate strategy, should rely not on strict market timing but on the relative attractiveness of markets.

(2) Joint-venture in development

Even though joint-ownership of existing properties may be a viable method of investment for US pension funds, joint-venture partnerships in development are generally considered to be too risky. The additional risks come from construction, leasing, the market and financing (if leverage is used). Even in the US, only a limited number of pension funds invest in development; these investments are managed by specialist advisors such as Copley Real Estate Advisors. In Singapore, joint-ventures between local property companies and foreign investors (such as property and retail companies from Japan and Malaysia) are fairly common. Investment in development may be a way to overcome the relatively illiquid nature of the market, where the number of existing properties being traded is small. For US pension funds, one of the critical factors in joint-ventures would be to link up with development partners who are reliable, and who would be able to deliver high-quality properties on time and within budget. Established joint-venture partners can also provide up-to-date market information and important contacts, such as in government departments. Such reputable and established development partners are not difficult to find in Singapore. In addition, joint-ventures may be made with major foreign developers who are interested in the Singapore market; for example, joint-ventures may be established with major developers from Hong Kong who are eager to diversify out of the colony. Whoever the joint-venture partners may be, it is important that all parties are clear on their commitments and expectations, especially with regard to areas such as project control and disposition strategies. US pension funds should, however, develop the necessary relationships, experience and confidence in this market before considering this method of
investment; this method is not advisable in the short term.

(3) Debt investments

The relative attractiveness of debt and equity investments in international real estate was discussed in the previous section; disadvantages and obstacles related to debt investments in Singapore were also cited. Most importantly, US pension funds need to consider the reduction in diversification benefits that result from debt investments. Debt investments may be felt to be appropriate for Singapore based on decisions at the global portfolio level. However, the opportunities for US pension funds to enter the market as lenders appear to be limited at the moment. Conditions may, however, change in future. For example, the cost of funds in Singapore may rise, from the current average real prime rate of only 3.3%, to a level which is comparable to that in the US. Singapore’s property companies may also look for other sources of funds as alternatives to commercial banks and the capital market. Commercial banks in Singapore are generally conservative and limit their exposure to real estate; their real estate lending activities have also been constrained by the Monetary Authority of Singapore. Thus, even though there is no overall shortage of funds in Singapore, the flow of funds into real estate may be restricted. The capital market, on the other hand, may be unattractive due to the poor performance of the property stocks; the stocks of most of the publicly-listed property companies have been underperforming the entire stock market since mid-1989, and are trading at 40%-50% of their net asset values [10]. In this situation, it is impractical for these companies to continue to raise funds in the capital market (where over S$3 billion was raised during 1985-1990). Financing by US pension funds, such as through convertible or participating mortgages, with competitive interest rates and opportunities to share in the upside of investments, would then be a viable alternative for local property companies. US pension funds may be able to co-invest with, say, Citibank, which arranged the only convertible mortgage loan ever made in Singapore in 1989. Construction and project financing by foreign investors is not new in Singapore; this was the common method of investment by Japanese investors before a shift to direct
ownership of properties.

(4) Purchase of real estate stocks

The purchase of stocks (or securities) of publicly-listed real estate companies is another way of entering a market. Several international real estate equities funds now exist in the US and the UK. This method is particularly feasible in the case of Singapore because both its real estate and stock markets are well-established; the stocks of the 15 publicly-listed companies within the property sector form about 20% of the total stock market capitalization. In addition, this method of investment is effective for countries or regions where US pension funds would have relatively small allocations for real estate investment; Singapore and other small markets in Asia are likely to fall into this category. This investment method is less complex than direct property investment, and also less risky. The advantages it offers include ease of entry, low transaction costs, a lower minimum capital commitment, instant access to local expertise, and established investment monitoring and reporting procedures. Unlike commingled funds, which are normally organized as ‘blind’ pools, a real estate stock investor can analyze the existing portfolio and track record of a particular company through its annual reports and public disclosure documents. US pension funds can obtain further assurance from the relatively high liquidity of stocks, which would allow them to pull back their capital quickly if so desired. Perhaps most importantly, there is a strong potential for diversification, not only by property type and geographical location, but also by management strategy and style. In the long run, US pension funds can participate in the income and appreciation of the underlying real estate of the property company [11].

The purchase of real estate stocks may also present an opportunity for long-term investors to buy an interest in real estate at a lower price than through direct investments or commingled funds. As mentioned, property companies in Singapore are currently trading at large (about 50%) discounts to their net asset values; the situation is similar in the UK and Australia. These large discounts reflect the negative market sentiment toward real
estate in the short term. In Singapore, there is a lot of concern over the vast supply of space that will be coming onto the market during 1991-1995; the stock market has, since the end of 1989, used this information to substantially discount the values of property stocks. For long-term investors, however, this situation may present an opportunity to make gains by purchasing an interest in the property companies and waiting for market sentiment to turn.

On the other hand, there are several disadvantages associated with the purchase of real estate stocks. First, it is really a stock investment, rather than a real estate equity investment. Research by Sagalyn at MIT showed that the returns of publicly-traded commercial real estate companies (RECs) had a high correlation (0.772) with the S&P 500, but a very low correlation (0.003) with the PRISA index. (PRISA is a commingled real estate fund managed by Prudential Realty, and the real estate in the index is directly held) [12]. During 1973-1987, commercial RECs outperformed the S&P 500 and PRISA, but also showed much greater volatility, as measured by standard deviation of returns; the standard deviation of commercial RECs was 17.99%, compared with 9.5% and 1.3% for the S&P 500 and PRISA respectively. Thus, while securitization offers liquidity, there is a trade-off in terms of high volatility, despite stable underlying cash flow returns. The stock market views the RECs not as portfolios of existing assets, but as businesses whose earnings are closely linked to development activity. (As will be seen in the next section, this does not, however, appear to be the case in Singapore). In the short run, the risk-return attributes of real estate stocks are different from direct investment in properties. Secondly, there is a lack of control over the future policies and management of the company. Next, it may not be economical to carry out due diligence on the underlying property portfolio of a large number of publicly-listed companies. Lastly, this method of investment may not present many opportunities for US pension funds to gain local market knowledge, or to develop local affiliations.
Research on international real estate equities

Research on the risk-return attributes of international real estate equities by Asabere et al. shows that the international equities offered higher returns, comparable total risk but slightly lower systematic risk than US based real estate companies (RECs) [13]. The international real estate equities also had higher returns as well as higher measures of both total and systematic risk than US based REITs. The time period of the research was 1980-1988 and real estate equities data was taken from 14 countries. Empirical results indicated that the international real estate equities were weakly positively correlated with the returns on REITs (0.27) and RECs (0.4). Thus, there is a potential, in the purchase of real estate equities, for international diversification and improvement in portfolio performance. The research also found that international real estate carries significant unsystematic risk; this is in line with other research on US real estate which found, for example, that systematic risk only accounts for 13% of the total risk in real estate investments [14].

A detailed analysis of the risk-return profile of the Singapore property stocks was carried out by Thieme [15]. Taking data from the Stock Exchange of Singapore (SES) and the SRC Red Book of Security Charts for the period 1978-1984, Thieme found that Singapore property stocks not only had higher annual returns (27.71% against 17.57%) but also lower weekly variance of returns (17.50% against 24.53%) than the stocks of RECs in the US. The correlation coefficient between the returns was a low 0.13. A minimum variance portfolio was calculated at 62% US and 38% Singapore stock; at this point the annual returns and weekly variance of returns were 23.86% and 11.56% respectively. Thus, the US investor would be able to increase returns by 35.8% and reduce variability by 31.4% by investing in the minimum variance portfolio. Thieme’s research also covered the composite index and five other selected sectors in the SES (Industrials, Finance, Hotels, etc.). A low correlation (0.21) was found between the composite indices. These results indicate that strong diversification benefits can be gained by investing in the two markets; the economies of the two countries, as reflected by the
performance of their stock markets, do not move in tandem. The results are in line with the
low correlation (in fact, a high negative correlation) between the performance of the real
estate markets in the two countries, as discussed on page 72. It should be noted that
Thieme found the weekly variance of the property stocks in Singapore to be less than those
of RECs in the US even though the variance of the Singapore market was higher in almost
all other sectors. The explanation may lie in the research by Asabere et al. which showed
that RECs have comparable total and systematic risk to international real estate equities; in
addition, the research by Sagalyn also showed that RECs are among the most volatile
stocks in the US stock market.

Further analysis was done in order to study the relationships between real estate
stocks, the stock market and the real estate market in Singapore. A positive correlation
(0.61) was found between the performance of the stock market and real estate stocks, using
the Straits Times Industrial composite index and the SES Property index respectively
during 1980-1990. The results of the correlation are shown on Figure 8 (page 91). The
correlation of 0.61 is in line with the correlation of 0.772 that Sagalyn found between the
returns of the S&P 500 and commercial RECS in the US. Contrary to the experience in the
US, however, a very high correlation was also found between the performance of real
estate stocks (represented by the SES Property index) and the real estate market (using
prime office capital values and rental values during 1980-1990). The correlation of the
property index with the office capital values and rental values was 0.82 and 0.78
respectively (please refer to Figure 9 and 10, on page 92 and 93 respectively). It appears
that publicly-traded property companies are looked at in a fundamentally different way in
Singapore's public-driven real estate market; the stock market appears to view the property
companies not only as businesses whose earnings are tied to development activity (as is the
case in the US) but, at the same time, also as portfolios of existing assets with cash flow
and capital appreciation. Thus, unlike the US market, an investment in real estate stocks in
Singapore would resemble investment in equity real estate; this would strongly support the
Figure 8. Graph and Correlation of Straits Times Industrial Index with SES Property Index, 1980-1990

Data for the Straits Times Industrial Index and the SES Property Index are obtained from the Stock Exchange of Singapore (SES).

The line graph shows that the two indices have moved in a reasonably similar pattern during 1980-1990. However, the correlation is not very high; a correlation of 0.61 is shown in the correlation table. A linear regression of the SES Property index with the STI index produces an r-squared of only 0.38, as shown in the scattergram table; thus, only 38% of the variation in the SES Property index is explained by the linear regression with the STI index.
Figure 9. Graph and Correlation of SES Property Index with Capital Values of Prime Office Space in Singapore, 1980-1990

Capital values are in S$ psf and are obtained from Jones Lang Wootton in Singapore.

A strong relationship can be seen from the line graph. A high correlation of 0.82 is shown in the correlation table. The linear regression exercise produces a high r-squared of 0.67; thus, 67% of the variation in the capital values is explained by the linear regression with the SES Property index.
Figure 10. Graph and Correlation of SES Property Index with Rental Values of Prime Office Space in Singapore, 1980-1990

Rental values are in S$ psf per annum gross. The data is obtained from Jones Lang Wootton in Singapore.

A similar pattern in the movement of the two variables can be seen in the line graph. A high correlation of 0.78 is obtained, as shown in the correlation table. As with capital values (in Figure 9), the linear regression of rental values with the SES Property index produces a high r-squared; 62% of the variation in the rental values is explained by the regression with the SES Property index.
argument to enter the market by purchasing real estate stocks.

**Purchasing real estate stocks in Singapore**

On balance, investment in property stocks is an effective way for US pension funds to enter the Singapore real estate market. US pension funds can invest and gain benefits such as diversification and liquidity, as mentioned earlier; at the same time, they can gain experience in the market with a view to invest through acquisition of properties or debt arrangements at a later time. Joint-venture arrangements may be made with the property companies whose shares are invested in. The manager of an international real estate equities fund in London stated that, based on his experience, a US pension fund can expect close co-operation and good disclosure of information from the management of a property company if it invests a reasonably large sum, say US$5-US$10 million, in the company's shares [16]. This relationship can then be nurtured, and can lead to joint-ownership of properties, debt arrangements or joint-venture in development. Apart from the shares of property companies, property trusts and funds are being developed by J LW in Singapore; these instruments are expected to be marketed in 1992 and may be suitable investment vehicles in the future.

In selecting the companies to invest in, US pension funds would consider a company's property portfolio in terms of composition, quality and value. The prospects for income growth and capital appreciation, the quality of its management, and the liquidity of its stocks are also important. In Singapore, three other factors should be considered. First, the property companies generally have diverse interests, and are not separated into investment holding and development companies; thus, US pension funds that prefer to invest in real estate investment companies, as appears to be the current trend, must seek out those companies that are more investment-oriented, such as Singapore Land. Secondly, many of the property companies are highly leveraged; their capital structures should be evaluated carefully before investment. Lastly, there is the question of conflicts of interest. Some publicly-listed property companies in Singapore are controlled by families which
own other major property interests through their private holdings; while the market may have discounted this factor, it is advisable to avoid these potential conflicts of interest.

**Controlling interests in property companies**

Apart from buying non-controlling interests in property companies, US pension funds may purchase controlling interests. An example of this investment method occurred in Singapore in late 1990, when an Indonesian tycoon took a controlling interest in one of the largest and most established property companies (Singapore Land). The advantages of this investment method include diversification potential, immediate access to local expertise and control over the investment. The Randsworth deal in London in 1989 is in this category; in that deal, the whole property company (Randsworth) was bought by JMB Acquisition Partners who then sold limited partnership shares to US pension funds. US pension funds could invest in a commingled fund that would subsequently take a controlling interest in a Singapore property company. There would, however, be several major obstacles to overcome. First, it is difficult to manage a property company from afar; from the viewpoint of distance and time difference, Singapore presents a much greater problem than London. Secondly, there would be issues connected with the existing management and financial liabilities of the company. The deal would offer less diversification benefits than purchasing non-controlling interests in several companies. Next, the investment is likely to involve a large capital commitment. The estimated US pension allocation to Singapore of S$67.5-S$135 million in the year 2000 is likely to be too small for the acquisition of controlling interests in the larger, blue-chip property companies; for example, the average market capitalization of the three largest property companies is S$1.83 billion, or US$1.02 billion. Finally, a major factor is that the investment could potentially be very illiquid. US pension funds are not expected to use this method of investment in Singapore (or anywhere else in Asia) in the initial stages of investment.
Property Types

In making their international real estate investments, US pension funds would initially aim at creating a ‘core’ portfolio; this would be a collection of high-quality, well-located and fully-leased properties, and would contain the four core property types, namely office, retail, industrial and residential. The reason for developing a core portfolio, before venturing into ‘specialized’ property types such as hotels, is to provide diversification and stable returns. The different property types and the opportunities for US pension funds investment within each type have been discussed at the end of Chapter 3.

A Southeast Asian Regional Market?

Singapore, Malaysia, Thailand, Indonesia and the Philippines are the original members of the Association of South East Asian Nations (ASEAN). These countries have been fostering closer economic and political co-operation in recent years. They have generally experienced rapid growth in the 1980s; Malaysia and Thailand, for example, are expected to gain Newly Industrialized Country status within this decade. Because of the development of closer economic ties, and the similar rapid growth experienced by these countries, it is tempting to consider the potential of a regional real estate market, in the same way that the potential of the real estate markets within the European Community are now being viewed by US pension funds and other investors. The presence of a regional Southeast Asian real estate market will increase investment opportunities and improve liquidity, and will help to make US pension funds investment in Singapore real estate more attractive and feasible. Some investors have already begun to look at the markets in Asia on a ‘regional’ basis. For example, the first property investment fund for the Asian region was formed in 1990. The fund is managed by the well-established Jardine Fleming group in Hong Kong, and is called the Jardine Realty Fund. The objective of the fund is to invest in the rapidly growing property markets in Asia, primarily in the Southeast Asian cities and in Hong Kong. The fund is a 10 year closed-end fund with a capitalization of US$90 million, and has shareholders (including institutional investors) from Europe, Japan and the
While the concept of a regional Southeast Asian property market is very appealing, the reality is that the markets outside of Singapore, perhaps with the exception of Kuala Lumpur, are currently unsuitable for institutional investors such as US pension funds. In each of the other four countries, the potential for investment is concentrated in the capital cities; these cities generally have small stocks of space and very few institutional-grade properties. The markets are illiquid and very little trading occurs. The markets of Kuala Lumpur (in Malaysia) and Jakarta (Indonesia) are 'maturing', while those in Bangkok (Thailand) and Manila (Philippines) are in 'early development'\[17\]. Restrictions on foreign ownership are far more stringent than in Singapore. Market data is generally difficult to obtain; the markets in Bangkok and Manila have a very limited track record, and have not developed identifiable cycles and patterns. There are major infrastructure problems in Bangkok and Jakarta. Corruption is generally widespread, especially in Manila, Bangkok and Jakarta. Political and cultural risks are higher than in Singapore. These factors show the relative attractiveness of real estate investment in Singapore. The other four countries currently offer more opportunities for business investment, rather than real estate investment. The populations in these countries are large; Indonesia has 178 million people, while Thailand and the Philippines each have about 60 million. These countries also have some of the highest population growth rates in the world; thus, the consumer markets are large and are rapidly expanding. In terms of real estate, there are more opportunities for development, because of the lack of existing high-quality properties; a substantial portion of recent foreign investment in these countries have been in development, especially in hotel and resort properties. In summary, the Southeast Asian property markets outside of Singapore are generally unsuitable for US pension fund investment at the present time. While the return potential in those markets may be great, the existing obstacles and risks appear to be outweigh such returns potential. These markets are more suitable for entrepreneurial and private investors who are able to move more quickly and take greater
risks, rather than institutional investors. The other four markets are briefly surveyed below.

**Kuala Lumpur (Malaysia)**

Kuala Lumpur (KL) may be the most favorable location for US pension fund investment in the region, outside of Singapore. Since the lifting of restrictions on foreign ownership of land and property in 1987, the amount of foreign investment has increased dramatically. In 1989, one third of KL’s prime properties changed hands and all but one of these were sold to foreign investors. Foreign investors are attracted by the comparatively low capital values and the low value of the Malaysian currency. Rental and capital values have escalated in recent years and the government has taken steps to moderate the overheating in the market. First, foreign investors of office and retail properties are now limited to a 60% stake in the investments; they are required to divest their stakes to 30% after three years. Secondly, foreign investors are now required to use foreign funds for their real estate investments in Malaysia. Lastly, foreign ownership of agricultural land has been restricted.

The legal and property title system in Malaysia are based on the British System (Malaysia was a British colony until 1957). Exchange controls are very liberal and present little practical difficulty. Net income is subject to taxation at a rate of 35%; unlike Singapore, there is a real property gains tax that varies from 5% to 20% for companies [18]. The real estate market cycle (like that of Jakarta) has been reasonably close to that of Singapore. The stock of office space in KL, at around 28 million sf, is the second largest in the region (the estimate for Singapore, by the same source, is 35 million sf). Rents for office space, at US$15-20 per sf per annum, are very low compared to Singapore (US$45). Yields are comparable to those in Singapore, at 4%-5% for office space and 7%-8% for retail space. The creation of property trusts in 1989 has increased the competition for properties and enhanced the liquidity in the market; there are currently two publicly-listed and two unlisted property trusts operating in KL.
Malaysia experienced an average annual growth rate of 8.25% during 1987-1990. During the same period, the average annual inflation rate was only 2.2%. It has a strong potential for growth because of its political stability, cheap labor, natural resources, abundant industrial land and well-developed infrastructure. In recent years, it has shifted from a commodity-based economy, and its services and manufacturing sectors have grown rapidly. The real estate market is maturing rapidly and may present more opportunities in future.

Jakarta (Indonesia)

Indonesia is a very large country; it has a land area of 1.9 million sq. km., which is about 3000 times the size of Singapore. Its population of 178 million people is the fifth largest in the world. 60% of this population lives on the island of Java; Jakarta is located on this island and has about 8 million people. Average annual GDP growth was 6.2% during 1987-1990. The prime lending rate was very high, at 29.5%, in 1990. The GDP per capita was only US$516 in 1990, the lowest among the five countries in the region (the figure for Singapore was US$11,094).

Like KL, the real estate market in Jakarta is maturing rapidly and has great potential for growth. There are, however, some major deficiencies at present. First, the stock of office space, at around 14 million sf, is less than half the size of that in Singapore. Unlike Singapore and KL, many buildings are characterized by a lack of sophistication in design and in the amenities provided; the provision of telephone lines is known to be a particular problem. There is no institutional investment, and hardly any trading of properties. Secondly, foreign investors are prohibited from owning land. They may acquire property only through joint-venture partnerships where the local partner owns at least 5% of the stake; foreign investors must reduce their stake to less than 49% after 15 years. Next, Indonesia has acquired an archaic Agrarian Law from its Dutch colonial administration and does not have a concept of fee simple; various rights to 'build', 'exploit' and 'use' are granted by the government. There is also a lack of coherent city planning. Unlike...
Singapore, capital gains are taxed; the gains are treated as ordinary income and are taxed at a rate of 15%-35%. Yields are substantially higher than in KL and Singapore; initial yields are around 11%-13% for offices and 12%-14% for retail. The high yields reflect the higher risks in the market and a lower expectation of growth.

Bangkok (Thailand)

Thailand is moving strongly from an agriculture-based to an industrialized economy. During 1987-1990, it had an average annual GDP growth of 11.1%, the highest in the region. GDP per capita is, however, still very low, at US$1,267. It has a population of 56 million people and about 6 million of these live in Bangkok. The rapidly growing population and the large-scale movement of people to Bangkok has led to severe congestion. The poor infrastructure and telecommunications in Bangkok are felt to be major barriers to its development. The economy in general lacks an open-market tradition and is dominated by large family businesses. Many observers, however, believe that Thailand holds the greatest longer-term investment potential in the region because of its location, which will allow it to be a springboard to the new markets in IndoChina.

Bangkok's real estate market is still in its infancy. Commercial development is recent, and very little historical market data is available. The stock of office space is only 11.8 million sf; the investment market is very limited and trading occurs only in distressed situations. Many offices are known to be inefficient, and have poor amenities. Foreign investment has mainly been in the form of development of new properties, especially hotels and resorts. There were no publicly-listed property companies in Thailand until 1988. The government policy is to restrict foreign ownership of land; foreign investors may only own land through joint-venture arrangements where they own less than 49% of the company. Currency controls are more stringent than in Singapore and requires proper registration, documentation and approval. Capital gains are treated as ordinary income and are taxed at the corporate rate of 35%. As with Jakarta, the yields are higher than in KL or Singapore; yields range from 9%-12% for office and 8%-12% for retail. This again reflects the higher
risks in the market.

Manila (Philippines)

The Manila market is perhaps the least developed among the five markets. This factor, combined with the political instability and widespread corruption in the Philippines, has deterred foreign investors. For example, the JF Realty Fund, which aims at investing in the rapidly expanding markets in Asia, is currently not considering investment in Manila; Japanese banks have also been reluctant to provide loans for investment there. The Philippines has a long way to go before it achieves newly industrialized status; it did not experience the boom in industrialization that its neighbors did in the 1980s. Foreign investment in the real estate market has mainly been in the development of hotels. Ownership of land by foreign investors is prohibited; land may, however, be owned by companies with less than 40% foreign ownership. There is no limitation on foreign ownership of buildings (without ownership of land), or on leases of land for less than 25 years (renewable for another 25 years). Capital gains are treated as ordinary income and are taxed at the rate of 35%. All foreign exchange remittance requires the approval of the central bank. Market data is even more difficult to obtain than in the other countries.
Notes On Chapter 4


6. See Note (4).

7. See Note (4).


13. Asabere, Paul, Kleiman, Robert T. and McGowan Jr., Carl B. 'The Risk-Return Attributes Of International Real Estate Equities.' This article is forthcoming in The Journal of Real Estate Research.


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CHAPTER 5: CONCLUSION

The analysis in this thesis shows that US pension fund investment in Singapore real estate is basically feasible. The macroeconomic and financial factors are very favorable. The government factor raises some concern because of the government's active involvement in the real estate market and its policy of ensuring that rental and capital values in Singapore do not escalate to 'undesirable' levels; however, the government's involvement does not appear to have negatively impacted total returns in the past. In fact, the government may be seen as a positive, stabilizing force in the market because its control of the supply of land does place a degree of constrain on development, even though the management of the supply has not always been effective. The real estate market factors satisfy US pension funds' objectives of diversification and higher returns. A high negative correlation was found between the performance of the Singapore and US real estate markets in the past 10 years; this shows that the markets do not move in tandem and there are diversification benefits to be gained by investing in the two markets. With regard to returns, total returns in Singapore have been competitive with, if not better than, those in the US since 1985. Even though initial yields are relatively low in Singapore, this is to be expected in a market with high political and economic stability, low interest rates and high expectation of growth. Singapore also has a satisfactory track record for real estate investment. Both current and historical market data are available, though not as comprehensive as in the US. In terms of the risks related to international real estate investment, US pension funds investment in Singapore will have low political, exchange rate and cultural risks.

The main barriers to US pension fund investment in Singapore are the volatility and illiquidity of the market. Volatility is a result of the small size of the market, relatively weak supply constraints and the susceptibility of the Singapore economy to changes in world trade. Illiquidity is caused by the lack of depth in the market, and the absence of institutional investors such as pension funds and insurance companies; this is a major
concern for US pension funds because they want the assurance that they can dispose off their investments and pull back their capital without undue difficulty (even though they are generally long-term investors in real estate). One way to overcome the problem of volatility and illiquidity in the market is to adopt a long-term strategic diversification approach, as opposed to an opportunistic approach, to investment in Singapore; with a long-term approach, the impact of volatility and illiquidity can be minimized. This problem is also reduced when an overall portfolio view is taken. Investment in Singapore is likely to be very small in percentage terms, probably at around 0.5% of the international real estate asset allocation; thus, the relatively higher volatility of the Singapore market is unlikely to have a significant impact on the total volatility of the portfolio. In addition, the small investment in Singapore will be combined with much larger investments in the more stable and liquid markets of Europe. US pension funds should also keep the volatility of the Singapore market in perspective; researchers have found reason to believe that the true volatility in US equity real estate returns may not be significantly different from those of common stocks. In addition, real estate investment all over the world is inherently illiquid to a certain extent, and the ability to trade may depend very much on conditions in the market. Lastly, the problem of volatility and illiquidity may be overcome with appropriate deal structures; for example, call and put options can be incorporated into agreements in order to allow US pension funds to re-sell a property to the seller within a certain period, at a price that will give them a pre-determined total return (say, 5% real).

The allocation for real estate investment in Singapore by US pension funds in the year 2000 is estimated at US$37.5 to US$75 million (S$67.5 to S$135 million), with the assumption that investment allocation is based on the value of non-US real estate held in a country or region. The amount is not very large, and may be barely sufficient for the purchase of one institutional-grade prime office property. The allocation to Singapore may, however, be substantially higher because of the relative attractiveness of its real estate market when compared to most other markets in the Asia Pacific Rim. Some of the
markets in this region, such as Korea and Taiwan, are closed to foreign investors, while many others are too immature and risky for US pension funds to consider. The relatively small amount of US pension fund investment is unlikely to be a politically sensitive issue in Singapore. On the contrary, US pension fund investment may actually be welcomed by the Singapore government because it has an interest in maintaining a 'stabilizing' US presence in Southeast Asia; the government would also be interested in fostering stronger economic ties with its major trading partner. The small asset allocation will, however, affect the investment structure and strategy of US pension funds in Singapore.

US pension funds are likely to invest in Singapore through an indirect, equity-oriented investment structure. Indirect investment allows diversification to be obtained more quickly and at a lower capital investment; the real estate allocation to Singapore is likely to be too small for any one pension fund to invest directly. Equity investments would be preferred to debt investments because the latter have the major disadvantage of reducing diversification benefits. In addition, there are obstacles to mortgage investments in Singapore for US pension funds. The major obstacle is the low cost of funds in Singapore; the average real prime lending rate was only 3.3% in 1990. The cost of funds may, however, rise in the future; the average real prime rate was 5.4% during 1975-1989. On an international portfolio basis, some US pension funds may decide that debt investment is appropriate for Singapore, because of its relatively high volatility. Hybrid debt, such as convertible mortgages, may be structured to allow US pension funds to participate in a project at the end of the loan term (usually around 7 years); the lower interest rates in these types of mortgages will make them more competitive with commercial bank loans.

US pension funds may enter the Singapore market through three methods of investment: acquisition of properties, mortgage investments and the purchase of real estate stocks. A fourth method, joint-venture in development, is not advisable in the initial stages of investment because it involves substantially more risks; US pension funds should
develop the necessary relationships and experience in the market before considering this method of investment. The acquisition and holding of properties in Singapore is not very different from that in the US. US pension funds may go through pension advisors who may in turn obtain the services of one of the many property consultants in Singapore for the acquisition, management, reporting and disposition of the property. Alternatively, joint-ownership with a reputable and established property company may be considered; this method would be in line with the trend among US pension funds to avoid the use of pension advisors, and to structure arrangements with co-investors who will stay in a deal and have an interest in it. In this case, the property company in Singapore will manage the property and report on the investment. A second method is the investment in debt instruments such as convertible mortgages, as mentioned earlier. US pension funds may be able to co-invest with, say, Citibank or Salomon Brothers, in Singapore. In the future, property companies in Singapore may seek alternative sources of funds. Commercial banks, the major source of funds, are generally conservative and restrict their exposure to real estate; their real estate loans are also closely monitored by the Monetary Authority of Singapore. The use of the capital market, the second major source of funds, depends on conditions in the market; it is impractical for property companies to raise funds in the capital market at present because many of them are trading at large discounts to their net asset values.

The most feasible method for US pension funds to enter the Singapore market may be through the purchase of real estate stocks in one of the 15 publicly-listed property companies. Unlike the US, which is mainly a private market, Singapore is very much a public, securitized market. The main advantages of this method of investment for US pension funds are diversification, liquidity, and the ability to analyze the existing portfolio, track record and management expertise of a property company. In addition, it is an effective investment method where the real estate allocation is small, as is the case with Singapore. Other advantages include ease of entry, low transaction costs, and established
investment monitoring and reporting procedures. Overall, this is a less complex and less risky method to enter a market than acquisition of properties or debt investments. By investing a substantial sum, say US$5-US$10 million, in the stocks of a property company, US pension funds can begin to develop co-operation with the company and gain experience in the market, with a view to joint-ownership or debt arrangements in the future.

The major disadvantage of the purchase of real estate stocks is that it is considered to be a stock investment, rather than a real estate equity investment. Research on the US markets has shown a high correlation between the returns of publicly-traded real estate companies (RECs) and the S&P 500, and a low correlation between the returns of RECs and those of equity real estate. In the short term, the risk-return profile of RECs is different from direct ownership of real estate. This may present a practical difficulty for US pension funds. The real estate investment managers within the pension funds would not buy real estate stocks because it is the investment area of securities managers; the securities managers, on the other hand, would limit their purchase of real estate stocks because, in their minds, the stocks are tied to real estate. Some pension funds are, however, beginning to treat the purchase of real estate stocks as part of their real estate investment portfolio. For example, a particular real estate advisor is currently managing the global real estate securities investment of a pension fund; assets for the investment came out of the pension fund's real estate allocation, as opposed to its securities allocation. It is believed that US pension funds will be more inclined to buy real estate stocks in markets such as Singapore when they realize the public-oriented nature of such markets, where more than 50% of the total value of investment real estate may be held by publicly-traded companies, compared with less than 1% in the US. Interestingly, the problem of real estate stocks being 'more stocks than real estate' may not be as great in Singapore. The analysis of the Singapore market shows a high correlation between the performance of the real estate stocks and that of the real estate market. The Singapore stock market appears to view the property companies not only as businesses whose earnings are closely linked to
development activity (as is the case in the US) but also as portfolios of existing assets with underlying cash flow and capital appreciation. Publicly-traded property companies in Singapore's public-driven market appear to be viewed in a fundamentally different way from that in the private-driven market of the US. Thus, it appears that an investment in real estate stocks in Singapore will closely resemble an investment in equity real estate; this would be an argument for the purchase of real estate stocks as an effective way to enter the Singapore market, and for the purchase to be handled by real estate, as opposed to securities, managers within pension funds.

Outside of Singapore, the other four markets in Southeast Asia, perhaps with the exception of Kuala Lumpur, are currently not favorable for US pension fund investment. The markets are generally very small, have very few institutional-grade properties and are very illiquid. The track record of real estate investment is not well-established, and there are no clearly identifiable cycles and patterns. Market data, especially historical performance data, is difficult to obtain. Restrictions on foreign ownership of property, especially land, is much more stringent than in Singapore. The macroeconomic, financial and government factors are generally less favorable when compared with Singapore; political, cultural and foreign exchange risks are generally greater. The relative immaturity of these markets does not present an opportunity for US pension funds to consider a Southeast Asian regional real estate market; the presence of a large regional market (such as in the European Community) would help to make investment in Singapore more attractive for US pension funds, by increasing investment opportunities and liquidity. Nevertheless, the comparison with the other Southeast Asian countries bears out the relative attractiveness of Singapore real estate. With the growing uncertainty in Hong Kong as 1997 approaches, and with the Japan market being virtually closed to foreign investors, it may be argued that Singapore should be the first real estate investment choice for US pension funds in Asia. Opportunities in the other markets will be in development, initially in hotel and resorts development, but also in office, retail and industrial developments in the future. There are
opportunities in these markets for US developers, and individual investors who are more entrepreneurial and able to take greater risks. In recent years, some of these US investors have invested in the region; a property consultant in Singapore indicated that investments have been made by Prudential Insurance, Salomon Brothers and Gerald Hines in Kuala Lumpur, and by Turner Construction in Singapore.

The analysis in this thesis shows that real estate investment in Singapore is feasible for US pension funds; obstacles that exist can be overcome with appropriate investment structures and strategies. The implication for US pension funds is that there are favorable markets outside of Europe and Australasia that can immediately be considered in their international real estate investments. It is argued that the Singapore market does not present any more obstacles or problems than some markets in Europe such as Spain and Italy.

For the players and consultants in Singapore who are interested in promoting US pension funds investment (as well as other institutional investment from the US and Europe) this thesis shows the importance of understanding the objectives and requirements of these investors. In order for foreign institutional investors to invest in Singapore, their requirements and unique concerns must be met. A priority for consultants in Singapore is to improve their data, performance benchmarks and information on the behavior of the market; in the future, US pension funds, and other institutional investors, will go where the most comprehensive (and convincing) data is available. The investment methods of institutional investors, such as US and Dutch pension funds, have become very sophisticated in recent years, and consultants in Singapore must be able to provide them with the appropriate data and information. For example, US pension funds would be interested to have information on the behavior of the Singapore real estate market, such as its historical performance relative to stocks, if it is an inflation hedge, whether it is correlated to stocks, and the correlation between the Singapore market and other markets (in order to determine diversification benefits). It is unlikely that data and research in a small market like Singapore will be as comprehensive or extensive as that in the US and
UK; however, the more data and information that is generated, the more attractive
Singapore will be to US pension funds and other institutional investors. As mentioned,
Singapore is arguably the most favorable real estate investment location in Asia at present;
by developing their data and research, and by understanding the investment methods of US
and European institutional investors, there is perhaps a potential for property consultants in
Singapore to develop the city into an 'Asian real estate investment base' for western
investors. They may be able, for example, to create and manage commingled investments
that would cater to institutional investors from Asia, Europe and the US.

And, finally, what is the future of international real estate investment by US
pension funds? There is a lot of skepticism in the US at the moment. The analysis in this
thesis shows the complexities and difficulties of international real estate investment. It
requires the analysis not only of the real estate markets in foreign countries, but also of the
macroeconomic, financial and government factors; it introduces many more risks such as
political risks, exchange rate risks, and risks associated with a lack of familiarity with the
foreign market and culture. But as experience is gained and as ways are found to more
effectively overcome existing obstacles, the global real estate market, with its ability to
provide diversification, improved returns and increased opportunities, will become a
reality. US pension funds will be guided by their advisors, and these advisors, such as the
Frank Russell Company and the Roulac Group, generally appear to believe that the
advantages of international real estate investment outweighs the risks and difficulties. As
for US pension fund investment in Southeast Asian real estate, one observer remarked,
'Investment in real estate in Southeast Asia will happen. It may take 10 or 20 years, but I
am quite convinced of it.'
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