The Greek property market and the UK experience on property performance measurement

By

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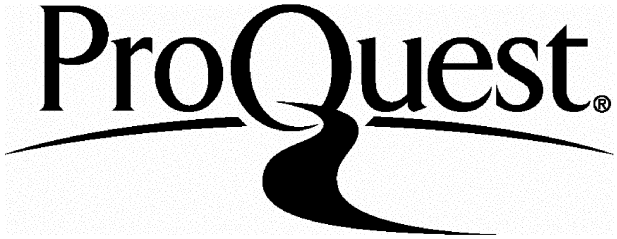
This thesis is submitted in partial fulfilment of the requirements for the Degree of Master of Science in Built Environment from the University of London

Bartlett School of Graduate Studies

University College London

September 2001



Acknowledgements

For the completion of this thesis I am grateful to Dr Henley Smyth for his guidance and to Dr Graham Ive for the financial support of my research but also for all the important knowledge that I gained from him throughout this year. Moreover I would like to thank the people form IDP and especially Christina Cudworth for all the information and reference that she offered me

With the realisation of this thesis I complete my studies and I would like to express my gratitude to my parents, Efi and John, for all the support and the love that have showed to me these eight years, especially during difficult times of disappointment. Also I would like to thank Xaris for the patience and concern that he showed during this year and I would like to dedicate this report to him as a small indication of love and regard for all the time that we have been together.

List of Figures and Tables

Abstract

The purpose of this thesis is to approach the Greek property market from the investor's point of view and to focus on the performance measurement of property market in portfolios concept. From the interviews and research undertaken in the Greek market the conclusion is that the Greek market is in a very juvenile stage and no property index exists at the present moment in the absence of any driven force. The research goes futher and by studying the property performance system in the UK market and particular the IDP measurement and benchmarking system, recommendations are made on the direction of a future performance measurement system in Greece.

Key words: Greek property market, performance measurement, benchmarking, IDP databank.

Word count: 14,280

Introduction

The problem's owners

Property industry operates in a changing framework of money, space, time and finance environment, which in recent years has mainly been marked by interchangeable and very dynamic processes, such as internalisation and globalisation, deregulation and liberalisation of financial markets. The question that arises is how property industry and in particular the investment sector, keep pace with this dynamic and complicated socio-economic environment?

Roulac argues that "Contemporary real estate strategies need to incorporate the trenchant observation that we must change in order to survive. But change strategies need to be built upon both a keen understanding of the events of the past and of the theories employed to explain them, as well as on a visionary view of the future"

Based on the arguments so far, it should be evident that property has to change and prove its case in the financial system, so as to be treated as an eligible investment class among other classes. It has to do so by using information techniques to match those for other investment media. But, because it takes two to tango, property professionals as well should adjust to the new property-profile requirements.

The main question in this thesis

The main question in this thesis is whether the changes in the international property market have influenced the Greek market and if the people involved in the investment

decision making have left aside the traditional tools of decision-making and have adapted a more portfolio basis analysis. In more details the focus in this thesis is on the property performance measurement system in the Greek market and the lessons that can be learned from the UK experience on this direction.

The report contribution

This report aims firstly, to approach the Greek market from the investor's point of view and to analyse the decision-making techniques, continually to analyse the performance measurement in UK market focusing more on the performance measurement system and finally to make recommendations for any possible performance measurement system in the Greek market in the near future.

Source of information

Primary information was collected by means of interviews in London and in Athens. In London I had the chance to follow the IPD's training seminars and to learn about IPD approach to property indices and by talking to IDP personnel to develop a better understanding of property investment industry.

In Athens, talking to people with knowledge of the Greek market I managed to gain a clear view of what is happening at the moment in the Greek market.

Literature Review was undertaken at

- University College London Library
- IPD Library
- RICS Library
- City University Library

Chapter outline

The structure of this study can be described in the following way

Chapter 1: Provides a description of the Greek economy, the Greek property market and it's sub-markets for the year 2000-1.

Chapter 2: Analyses the Property business system allocating roles and responsibilities and analyses the decision-making in the property investments.

Chapter 3: Analyses the performance analysis in the UK market providing the main problems of the performance measurement system

Chapter 4: Describes the working principles of IPD and discuss the criticism that it has accepted from people inside the industry

Chapter 5: Gives answer to the questions why there has not yet been a performance measurement system in the Greek market and makes some recommendations for any organisation who would try in the future to measure the Greek market

First Chapter

The Greek property market

1.1 The Greek economy

The geographical position of Greece, to the east edge of the European frontier and its neighbouring position to with the Balkan are the main reasons why Greece attracts the international political and economic interest through time. Since Greece has become a full member of the European Monetary Union (EMU), the interest in Greek economy has increased rapidly.

In the last 10 years the Greek economy has improved trying to catch up the performance level of the other European economies. GDP growth accelerated to 4% in 2000 (table1.1), driven by surging exports and strong investment activity. Headline inflation also rose during the year, although the core inflation rate remains low and the collective agreement reached in May will ensure labour costs remain subdued in the short term. The strong economic activity resulted in a reversal of the previous year's rise in unemployment, and further reductions in the rate are projected this year. Greece's application for EMU membership was approved in June 2000 and the country became the twelfth member of the single currency area on 1st January this year.

The impact of EMU membership has already been apparent, for example in the loosening of monetary policy. Further substantial interest rate reductions are predicted that, together with continued strong export growth and investment and an anticipated pick-up in consumer spending will provide the momentum for continued economic growth.

	1998	1999	2000	2001 forecast	2002 forecast
Real GDPgrowth (% change p.a.)	3,1	3,4	4	4,6	4,4
Consumer price inflation	4,7	2,7	3,1	3,0	2,5
Current account balance (US$bn)	-3,8	-5,2	-5,1	-5,0	-5,1
Unemployment %	11,2	12,0	11,4	10,7	10,0
Short –term interest rates	11,6	8,9	6,0	5,4	5,5
Exchange rates against US$	295,3	305,7	368,3	405,1	405,1

GDP per capital (1998): US$11,000
Sources: OECD/Barclays Bank/Consensus Forecast
Table 1.1 The key indicators

1.2 The property market

Property ownership plays a great role in the economic and social life of the society especially in the Greek reality due to the importance that citizens give in property ownership. For the Greeks property is a symbol of assurance against the future uncertain as well as a symbol of wealth. That does not apply only to the individuals but to the state as well, we should not forget that the government (local and central) generates great percentage of its income from the taxation in property ownership. Taxation is a variable that we must take into consideration when we are approaching the Greek property market as Greece has the highest taxation percentage all over Europe (Table 1.2).

Property taxation rates in the European Union	
Greece	9-13%
Portugal	8-10%
Span	7%
Netherlands	6%
France	4.8%
Germany	3.5%
UK	1%

Source: Danos Chartered Surveyors

Table1 1.2 The taxation rates.

1.2.1 The demand and supply

According to Eurostat's Statistics, Greece has the highest property rate ownership in Europe, 4.770.000 dwellings for 3.350.000 households with 44m^2 average space for every Greek citizen or 1,43 rooms when the average in France is 1,32 rooms and in Italy is 0,7 rooms, half of the Greek rate. The 80% of the dwellings belong to their users fact, which implies that in Greece there should not exist any housing problem. However the numbers do not tie in the reality because what the market research[1] shows the previous year is that the demand for square meters in space is greater than the supply.

1 Research made in the summer of 2000 by ICAP, the largest Greek Company providing integrated information and consulting services for your business needs.

That can be explained by the following reasons:

1) A large number of households own more than one dwelling. The Greek tradition and customs support the sharing of the same house of the parents with the children for many years.
2) The increased number of the immigrants after the political changes in Eastern Europe and the wave of emigration from Northern parts of Europe to Southern.
3) The improvement in standards of living has changed the needs that occupied space must cover. According to a research in the beginning of the 80's the average square meters occupied by the families were $70m^2$, today this number has increased to $110\ m^2$.
4) The transport system in the major Greek cities does not help the long-distance trips on a daily basis, the junction problems make commuting impossible and the need of relocation of the property increases the demand for housing as well.
5) The needs of housing increase rapidly after incidents like the earthquakes, which are very frequent in Greece. The last earthquake in Athens made the housing problem worse and caused a great increase in the rents.

The attempt to define the problem of housing should be restricted only to the percentage of people who are seeking for a new house but also should include the people who are seeking for

1) A second house
2) Commercial space to purchase
3) Summer house
4) An improvement of their property.

Despite the high rate of property ownership there have always been investments in the property market as in the past property investments were offering great protection against inflation. The only exemption was during the period from 1982-1985 when the prices went down due to lack of investment interest. But in the end of the decade the market experience great burst of growth lasting for many years till the middle of the 90's. In general the property market in Greece is a market that does cause rapid changes in prices and in the rates of returns. In the worse recessions the prices have just been unchanged. Today the market appears to have an increase in demand an in the investment interest and the launch property bonds will give a boost to the market, as they will inject more capital to the market. According to Mr. Panos Michalos executive of DTZ in Athens, the market currently appears to be very promising for the future and that can been proofed by the growth of the market in the year 2000-01. In more detail the movement of the sub-markets were as follows:

1.2.2 The investment market

The Greek real estate market is currently experiencing very strong growth as a result of a combination of factors: the lead up to and subsequent entry into EMU, decreasing interest rates, ongoing large-scale infrastructure projects, the 2004 Olympic Games and new legislation facilitating real estate investment. Major infrastructure projects include the Attiki Odos Highway (a ring road starting from the western part of Attica, running north and east around the city of Athens to the new airport at Spata in the eastern part of Attica), the new Athens international airport at Spata and the Athens metro. The 2004 Olympic Games will generate significant new development, much of

which will be converted into alternative uses after the end of the Games. After a year of substantial criticism, the 2004 Olympic development programme is now starting to take shape, with some of the necessary construction now under way. The year 2000 was a significant one for the Greek real estate investment market. Whilst there has been increasing interest in the market from international investors since mid-1998, it is only in the past year that the first institutional transactions have taken place. The main factors influencing the more positive attitude from investors are the stability of the currency and Greece's entry into EMU. There is also more institutional-grade product coming onto the market. The increasing maturity of the investment market is, in turn, having a significant effect on the development market. With the potential to sell a completed scheme to a foreign investor, developers are more willing to undertake large-scale developments. The Pradera European Retail Fund completed the first significant international investment deal in 2001 by buying a Village Entertainment Park for around €60 million. According to Peter Collins, head of DTZ EuroInvest "Since the drachma joined the Euro there has been a significant increase in the number of foreign investors looking at the Greek market. This transaction is clear evidence of that trend and sets the precedent for further investment activity in Greece."

Domestic players have also been active, with the banks taking a larger role in real estate investment and development. The law now allows for the creation of closed and open-ended mutual funds in Greece and there have been a number of applications from domestic institutions. These are currently being delayed by a number of unresolved details relating to the legal framework, but it is likely that the first funds will be operational within 12 months. With the poor performance of the Greek equity market

throughout the year, many local investors are looking more closely at real estate as an investment option. With the increased demand for real estate investment, coupled with falling interest rates and 10-year government bonds coming down from 8.5% to 6% over the last 12 months, recent transactions are indicating that prime office yields are now down to 8.5%. The level of investment activity is likely to increase over the next few years, exerting further downward pressure on yields.

1.2.3 The commercial market

The Athens office market experienced significant rental and capital value growth during 2000. Although approximately 100,000 sq m of new supply was delivered in 2000, this was insufficient to meet the demand for well-located modern office accommodation. Indeed, strong occupier demand, combined with a shortage of modern space, has resulted in upward pressure on rents with new record levels being set in all the main sub-markets. Greece's entry into EMU has generated increased demand from multinational companies for office accommodation in the capital. This emanates from both new companies entering the market and the expansion of existing operations. It is also apparent that many companies would like to relocate but are prevented from doing so by the lack of available suitable premises. In order to alleviate the undersupply problem, there have been some attempts to refurbish older accommodation to meet the requirements of occupiers, but the process is hampered by high level of multi-ownership that exists within this segment of the market.

The office market continues to benefit from ongoing infrastructure projects within Attica, which are improving communications within the Greater Athens area. In

January 2000 the new Synagma to Ethniki Amyna metro line opened, providing improved public transport to the Vas Sophias and Mesogion areas. Meanwhile, last November's opening of the metro line from Syntagma Square to Daphni has linked south eastern Athens into the metro network. New stations at Syngrou Fix and Neos Kosmos have dramatically improved commuter access to these commercial areas. Nonetheless, traffic congestion in Athens remains a major problem when travelling within the city. The first section of the Attika-Odos Highway between Stavros and the new Athens airport at Spata opened in March, in tandem with the airport opening. Subsequent sections of the highway will be completed over the next few years prior to the 2004 Olympics. Meanwhile the new airport and the surrounding Mesogia Valley area has attracted increasing interest from developers as the airport opening draws near. Pending the finalisation of planning and zoning issues, some large-scale developments are likely to be commenced over the next few years in this area.

The central Athens sub-market has the highest prime office rents: around Drs14,000 (£25)per sq m per month. The shortage of supply is most acute in the centre, where there is also a shortage of potential development sites. Despite the poor performance of the Athens stock market over the last 12 months, there is still demand from financial services companies for accommodation in the central of Athens. Kifissias Avenue remains the principal decentralised location and prime office buildings continue to be developed along it. It remains popular with multinational occupiers and recent transactions have shown prime rents to be around Drs 11,000 (£19) per sq m per month. There are a couple of large office developments currently under way on the avenue, although again new supply is not sufficient to match current demand. The

Syngrou Avenue sub-market has continued to improve as a number of new buildings have come onto the market, and there are a few schemes under construction. Prime rents on Syngrou Avenue are around Drs 7,500 (£14) per sq m per month. In the secondary market there is a large range of accommodation, both in terms of quality and price. Much of the smaller secondary office accommodation comprises converted apartments and offers small floor plates and a low specification. This segment of the market is of limited interest to major occupiers, as reflected in the much lower rents achieved.

Overall given the continued strong occupier demand and shortage of prime office space in Athens, rents will probably show further growth in 2001.

1.2.4 The retail market

Sustained strong economic growth has resulted in rising household income and expenditure over the past 12 months. Falling interest rates and the availability of credit have also contributed to increased consumer spending. Against this background, retailer demand is high and vacancy levels are very low in the main shopping locations. Clothing and electrical retailers in particular have continued to be active in taking new outlets. The strength of occupier demand has resulted in further rental growth in all the main retail locations in Athens. The Central Athens shopping areas of Kolonaki and Ermou have become more accessible with the expansion of the metro system, thereby enhancing their attractiveness, and prime retail rents in these areas have risen to between Drs55,000-65,000 (£98-116) per sq m per month depending on the unit size. The main suburban retail markets of Kifisia and Glyfada have also seen further

rental growth and falling vacancy rates. Designer label retailers are making up an increasingly high proportion of retail operators in these areas. Prime retail rents in Kifisia are now virtually the same as in the prime central areas and range between Drs55,000-65,000 (£98-116) per sq m per month. Against a background of accelerating consumer expenditure growth and continuing limited availability, retail rents are likely to record further growth this year.

The year 2000 has been an active one in the decentralised supermarket and shopping centre sectors. Having taken over the former Continent supermarkets in the middle of the year, Carrefour opened another 9,000 sq m hypermarket in December. The store is located in the western suburbs and forms the anchor for a 24-unit shopping mall. Carrefour also completed a 29,930 sq m hypermarket, shopping mall and multiplex scheme in Thessaloniki and further developments are likely to follow. Other pan-European retailers who have been active in the market include IKEA and Praktiker. Since it's opening at the end of 1999, the 20,650 sq m village Entertainment Park, a retail and leisure development in western Athens, has proved to be a highly successful concept within the Greek market. It is likely that this will herald an increase in leisure development over the next few years.

1.2.5 The industrial market

The industrial market remains the least developed of the main real estate sectors in Greece. The Greek government continues to encourage decentralisation of industry away from the Greater Athens area. In parallel to this, the traditional industrial locations such as National Road, the Renti area in the western suburbs and Pireos

Street are being regenerated. A notable trend, as industry relocates out of Athens, is for vacated industrial buildings to be converted into alternative uses such as warehouses, retail outlets and office schemes. The high level of state ownership and owner-occupation means that the market for rented industrial premises is limited, making it difficult to track rental patterns. Prime warehouse units are currently being let for Drs1,750-2,250 (£3-6) per sq m per month. Prices for prime industrial land adjacent to the national roads are in the region of Drs150,000-200,000 (£250-350) per sq m. There are indications that demand for new accommodation will increase in the near future, as the vast majority of the industrial/warehousing stock is more than 10 years old and pent-up demand is now sufficient to encourage new development. Furthermore, the construction of the new Attiki Odos Highway has been the catalyst for the creation of modern warehousing facilities, whilst other infrastructure projects are expected to support growth in this segment of the market.

1.2.6 The hotel market

Following a troublesome year in 1999, when the Greek hotel market suffered due to the Kosovo crisis and natural disasters, the past year has seen a strong recovery. Athens recorded a city-wide occupancy of approximately 74% and average room rates averaging around Drs 40,615. This represents an increase of around 8% and 11% respectively, compared with the previous year. Tourist demand remains positive due to a number of factors. First, the Greek economy has performed sufficiently strongly in recent years to qualify for EMU membership. Second, the 2004 Olympics is providing impetus for investment in the country, notably in terms of infrastructure.

Athens hotel supply is set for a major transformation in the run-up to the Olympic Games. Major renovation programmes are either under way or soon to be conducted, including the rande Bretagne which is expected to reopen in 2003. Furthermore, a 14-year ban on hotel construction was lifted in December, paving the way for luxury or Class A hotels to be built in the Attica area. Currently there are only three definite proposals: a 345-room Sofitel airport hotel; the redevelopment of the 52-bedroom Semiramis boutique hotel due to open during 2001 and a 320-bedroom Hyatt Hotel due to be built close to the Athens Olympic Stadium. The outlook for Greece is therefore encouraging. Around 14 million tourists visited the country in 2000, with that number expected to rise to 17 million by 2004. The Olympic Games is expected to aid economic growth and bring prosperity to the region. An element of risk exists, however, about whether the momentum to visit Greece will be sustained after the Olympics and, if not, whether the market is being over developed.

Second Chapter

The Greek property business system and the investment process

2.1 The Greek property business system

The industry of property includes a large range of enterprises with diversification in their activities. We can divide them in three main categories:

Services: concerning all the services provided to the clients such as the real estate agencies, properties consultants

Developing: concerning the execution dig property development work on behalf of the client

Investing: concerning institutions that invest and provide financing for property assets.

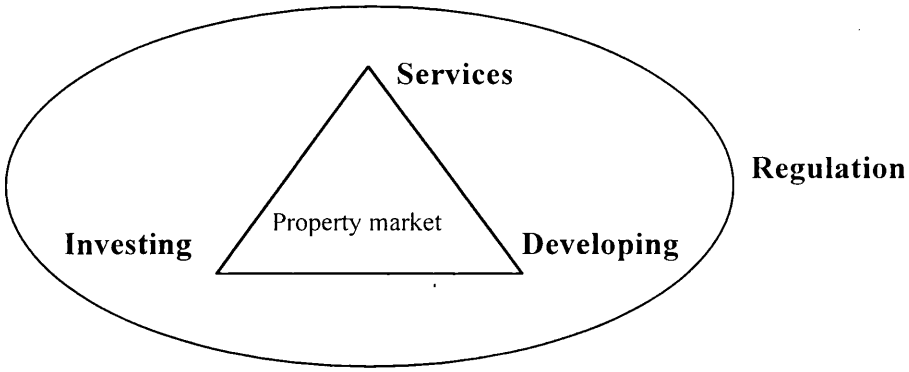


Figure 2.1 The property business system

2.1.1 Services: real estate agencies

The business core of this kind of enterprises is to mediate between the owner and the seller of the property, it's the transactional role of the third party. The obligation that agencies have is to undertake a market search on behalf of the buyer to find properties that interest the buyer the most and to bring into contact the parties involved for the

completion of the transaction. Their fees fluctuate between 5-8% of the property value.

In Greece the estate agencies operate on local level, they are small, family sized businesses with a very small number of employees with no particular education on the nature of the business. They operate more on an immature level than a professional. There are only 10 large reliable real estate offices all over Greece out of 400.

2.1.2 Services: property consultant

Firms operating as property consultants offer consultant services on property investments. Their main activity is to provide the best solutions on property management that maximise owner's profits. The services that they offer are:

Property valuations, an important activity for the property transactions. In Greece the valuations are based on the valuation system of the British Royal Institution of Chartered Surveyors.

Property management, which includes the activities of development planning, project financing appraisal, market research, and facilities management. In general the role of the property managers is to protect the clients investment and to seek for profit maximisation.

Project management on property development, the activity that ensures that the client's requirements on terms of quality realisation (time, cost budget) are met. This is the means the client to reduce the risk and the protect uncertainty.

Corporate real estate: In this case the clients are corporations with property assets in their possession and are looking to increase their equity value by the best management

of their assets. Corporate real estate according to the economic conditions can increase the cash flow of the firm, can influence the long-term investments by providing flexibility to the firm.

In Greece firms that offer this kind of services are fe0w and most of them are large international firms such as DTZ, Andersen Consulting Lambert Smith, Danos and Partners, Price Waterhouse Coopers.

2.1.3 Developers

In Greece, only in the last two years have large construction companies taken the role of property developing seriously. In the past the developing companies were small companies operating on local level on small budget projects. The orientation of the market at the moment is the creation of groups of companies-like the Building Societies- with the financial support of other financial institutions, which will offer integrated developing services to private clients. Many of the construction companies have expressed their interest in the property market with the ambition to increase the value of their equities and to raise more capital. But according to their strategic movements only few seem determined to enter into the market dynamically. One of the most promising construction company is "Helliniki Technodomiki" which during 2000 swapped 5% of its shares with the shares of the "Ethiniki Akiniton", the property company of the National Bank of Greece.

2.1.4 Property investors

In Greece the companies that have the ability to play the role of property investors are mainly the banks and the insurance companies. Their future strategic plans include

the launch of property bonds which have not yet been realised due to gaps in the law framework (2778/1999). Companies' objectives through the property bonds is to achieve returns at approximately 7-8% of the capital employed, from effectively and efficient property management or from profitable transactions. The dominate companies in property investments market are the "EFG properties" and the "Alpha astika akinita", both supported by large Banks groups Eurobank and Alpha bank.

2.1.5 Regulation

The Greek property market is very much controlled by regulations and legislation. The building activity is controlled by the urban planning office, which sets the regulations for the appropriate constructive square metres based on social and economic criteria. For instance now that the area close to the new airport is developing very fast, government is planning to increase the rate of constructive square meter. However, many of the problems that the market has have been caused by incomplete laws, which leave gaps in the market operation. For instance, according to the Greek law system each property can have several values depending on the purpose of the valuation. The ministry of National Economy decides on the value of properties according to it's own system of "detached values", or according to the valuation of the tax office or according to the system of Royal Institution of Chartered Surveyors. All of these valuations according to law can be different between them and from the real purchase price of the property. Other issues concerning law system is the absence of any form of legislation for the real estate agency profession, the limitation of the time-sharing renting only to hotels, the exemption of the parcels from the leasing finance. But all these are out of the scope of this thesis and demand greater analysis.

2.2 Investment decision making in the Greek market

Traditionally, in Greece property fund management has been dominated by a building-by-building approach, attention has been directed primarily to individual stocks. Very little consideration has been given to the features of properties in a portfolio context: how they interact and co-vary with each other, how the return and risk profile of the portfolio differs from the individual properties within the portfolio, and how the property component behaves in relation to others assets. The investment objectives of property portfolios have also been ill defined or in some cases non-existent.

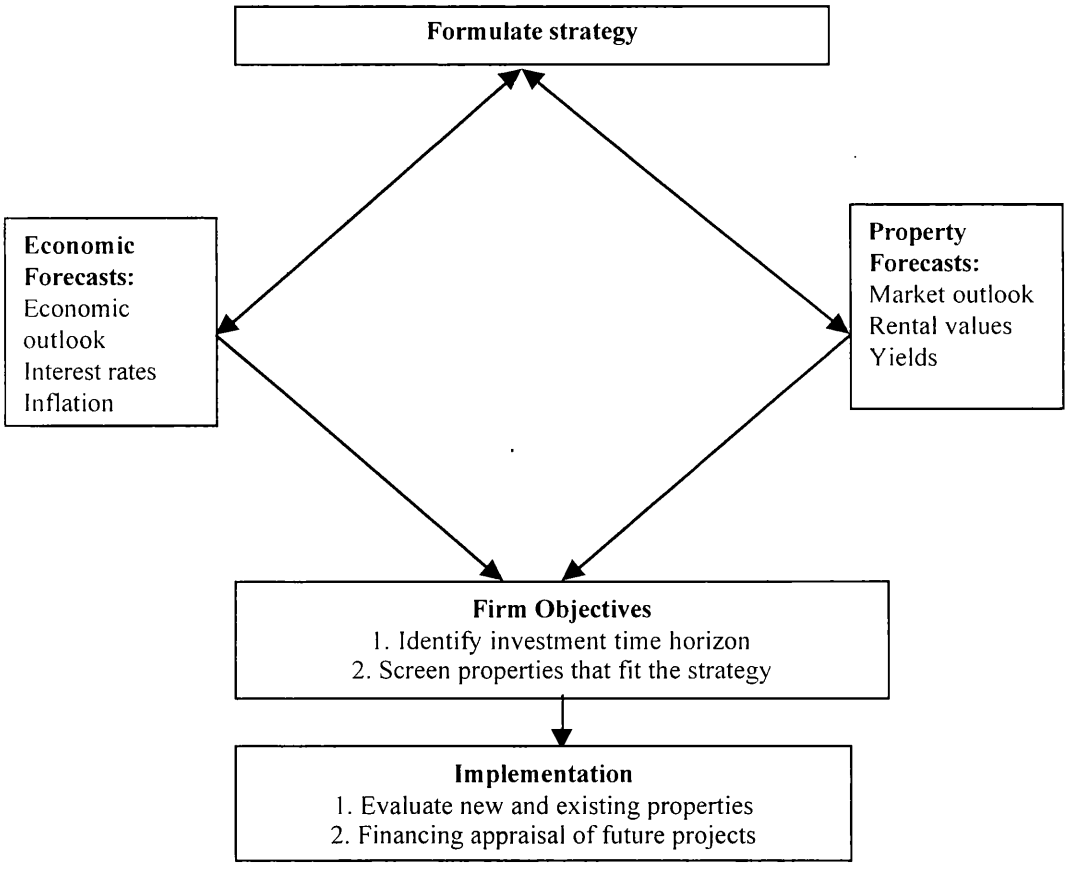


Figure 2.2 The investment decision- making currently in Greek market

Therefore the only performance and investment analysis by the property firms stops to the usual decision making techniques of project appraisal which analyse the viability of projects relevant to the strategic decisions of the firm.

Unfortunately due to the total absence of any property index, performance analysis is restricted only to a comparison of property returns only with the returns of others capital markets. Figure 1.2 illustrates the process of investment decision-making.

Strategy identifies the investment objectives for a fund or a property company, according to the information for opportunities that exist in the market, the communication with the clients and several other issues like the tax status of the firm and the general notion that relates to growth prospects. The firm has a perspective of the future based on its forecast ability and its experience.

The main objective of developing an investment strategy is to locate under-priced properties according to the information that the firm possesses. Due to the lack of a central market place where properties can be bought and sold, the flow of information is not accessible and that creates inefficiency in the market and the opportunity to earn abnormal profits (Brown, Matysiak, 2000).

The process of information and the valuation must be in a better way than the average. In the Greek market, there are two main approaches to identify if a property is underpriced or overpriced. These are a) making a comparison of equivalent yields and b) internal rates of return.

The equivalent yields are the main pieces of information used for deciding whether to purchase a property or not and is based on the comparison of the yield on the property with the prime yield. If there is a difference it is suggested that it is a signal that the property is under-or overpriced or in more simple terms expected returns are different than the growth rates. If investors are interested in maximising their long-term wealth position, then the rate of return is the appropriate measure to use (Brown, Matysiak, 1996).

The internal rates are estimated from the projection of cash flow over a numbers of years. The decision to accept or reject a property depends on making a comparison between the internal rate of return and the target return.

2.3 Trends in property fund management

Talking with Mr Miltos Kamporides, senior manager of the Soros Real Estate and Partners in Athens, he argued that property fund management is changing in Greece as well as it is changing in all European property markets. It is Defiantly that happening at a slower pace but investment advisers are adopting a more strategic approach to the construction and management of property portfolios. This is partly because of the need, to place property within an overall multi-asset framework. Forecasting has assumed greater importance: explicit forecasts of performance are more and more, forming the basis of property investment strategies and this trend can be expected to continue. In line with other investment markets, property portfolio management is therefore becoming increasingly analytical and quantitative. One consequence of these trends has been the emerging requirement for past performance to be monitored, measured and analysed. Fund managers seem to start pressing for better quality data and more rigorous research. But movements in that direction are very slow.

It is only EFG properties that have started to collect data on property performance but in a totally wrong direction as will see in the next chapters, as it tries to create an index from the blue pages[2] of the Sunday press.

The creation of a reliable property index which functions as a useful tool on the performance analysis is a very difficult task and demands research and professionalism from the party which attempts to do it. The role and the requirements that an index must fulfil will be analysed in detail in the next chapter according the UK experience. After that analysis we will be able to give an answer to the question why the Greek market has not developed a property index or any property indicator so far.

[2] Blue pages on Sunday newspapers are the classified advertisements

Third Chapter

The UK experience on the property performance measurement

3.1 Investment markets and indicators of performance

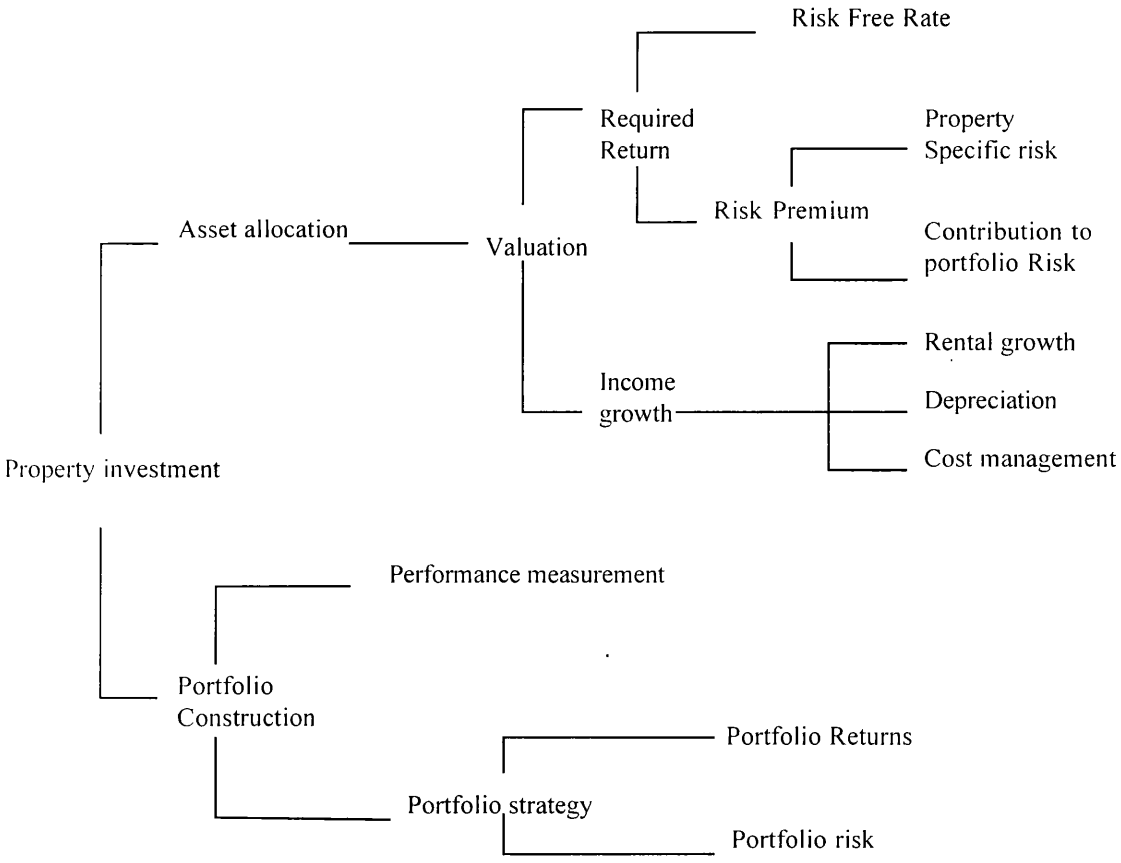
A characteristic of well-established investment market is the existence of indices recording its performance. For example in the UK there are several UK gilts price indices categorised by both bond maturity and coupon yield. There are also a number of share indices. These include the FT 30 index as well as the FTSE Actuaries share indices which include the FTSE 100, FTSE small Cap and the FTSE all share index. Industry sector indices covering, for example, consumer goods and financials are also available. More globally, the FT/S&P Actuaries world indices report daily index (price) figures in a number of currencies for national and regional markets. In the equities markets a number of different performance measures will be found. For example, there are prices indices, price/earnings rations and dividend yield indices. Most of these are routinely reported in the financial press.

Performance measurement statistics for investment categories such as unit trust or investment funds are also regularly reported in the financial press. At the fund level performance measures from the Combined Actuarial Performance Statistics (CAPS) or from the World markets (WM) are regularly reported for pension funds. Clearly investment performance indices are important, the same applies to the property market.

3.2 Why measurement is important.

According to Brown (1985) there are three main reasons for undertaking performance measurement in capital markets: i) communication, ii) accountability and iii) research. Communication is important because portfolio results must be conveyed to the shareholders of a fund to show that targets are being met, to review existing and future strategies and to advise on any changes that need to be made. Without this reporting function it is impossible to make any valid decisions concerning the portfolio.

Moreover, because investment decisions are made on behalf of other people, accountability is likely to become more important as professional advisers are called



Source (McNamara, 1995)

Figure 3.1. Decomposing the Property Investment process to identify areas of research contribution.

upon to justify their advice. If there is a trend towards terms of appointment that focus on achieving target rates of return, then there needs to be greater awareness of the risks involved. A valid justification of investment decisions can only be made within a framework that embraces both risk and return. The investor has two main objectives when making an investment decision: wealth and efficiently allocating resources. Performance measurement looks at these aspects in a way that should make professional advisers accountable for their actions.

The third reason for undertaking performance measurement is to provide information that can be used for research purposes. This is important for professional advisers in a world where accountability becomes a driving force. Performance measurement of individual properties, therefore, provides the basis for developing databases that can be used to carry out empirical analysis. It is only through research that you can develop a better understanding of the property sector as an asset class.

The availability of data as stressed by McNamara, is one of the most significant factors, which will govern the progress of property research over the new decade.

3.3 The objectives of property performance measurement system

According to Brown and Matysiak (1996) there are two main objectives that performance measurement tries to fulfil, the external and internal objectives. The external covers the measurement against pre-set targets. These may be established in the marketplace or by the trustees of a fund. In addition the measurement system should be able to compare the performance of the portfolio against other funds as well

as with other investments. However at these level risk level of the portfolios must be taken into consideration otherwise any comparison would be no useful and misleading. Internal objectives are concerned with the comparison of returns of individuals properties and try to explain why one property has performed better than another. This analysis leads directly to the re-balancing of the portfolio in response to those sectors that are performing badly. "Adjusting the portfolio weights is one way of trying to maximise the performance of the portfolio in the long term and is part of the continuing evolution of the investment strategy"(Brown1991).

3.4 The role of performance measurement in the investment process.

Horsey and Key (1997) have argued that across the globe, those involved in property investment feel the need for better performance measurement because property as an asset class is under threat. Institutions and property managers, directed by their own investment committees and trustees, feel an increasing need for portfolio analysis services.

In other words, their crucial interest is not only to measure the property market, but to benchmark, explain and justify the management of their own portfolios within the market. As Brown (1991) suggests, it may seem that all that property needs, at least at the weakest level, is an 'index', to match stock exchange indices or property indices in other countries. According to him, property trade associations (investors or brokers) feel an index may help to increase the size of their markets, and boost liquidity, best of all attracting new international investment. Given shorter investment

time-horizons, it is essential to be able to develop a performance appraisal system, which helps with investment decisions (Brown, 1991a).

It must be stressed that the measurement of investment performance without subsequent analysis has no virtue for investment decision-making (Hargitay & Yu, 1993) Performance appraisal (measurement and analysis) is a vital component of decision making process. By monitoring and analysing property portfolio performance, the investor can gain valuable insights into the investment characteristics and behaviour of the property assets, and can find satisfactory explanations for the behaviour of property portfolios in the context of the movement of both the property and the general investment market. Rational decision-making at all levels would be virtually impossible without the quantified evidence of past performance and a reasoned assessment of likely future performance. Only through the continuous analysis of the achievements can appropriate decisions be made to improve the efficiency of investment activity (Morell,1997).

However, it is helpful to draw a distinction between the measurement and the analysis of investment performance. Hall(1993) defines performance measurement as "A mathematical means of assessing the effectiveness of a investment decision." Much of the literature in the property field concentrates on measurement, which is more descriptive than analytical. Conclusions are often drawn on the fund's overall return but relatively little attention is given to the underlying reasons, or to the risk levels associated with the returns achieved.

The analysis of performance introduces the wider concept of understanding why results have arisen. A working definition of performance analysis again according to

Hall is therefore required and may be given as "the interpretation and evaluation of investment performance to aid decision- making". Performance measurement is usually concerned with absolute figures whereas analysis is more concerned with performance relative to some form of benchmark or yardstick.

Performance analysis is often regarded as being concerned solely with the past; many consider it is of little benefit in helping to shape future strategy. According to Morell (1991) the analysis of historic performance reveals invaluable information on the risk/return characteristics of a portfolio.

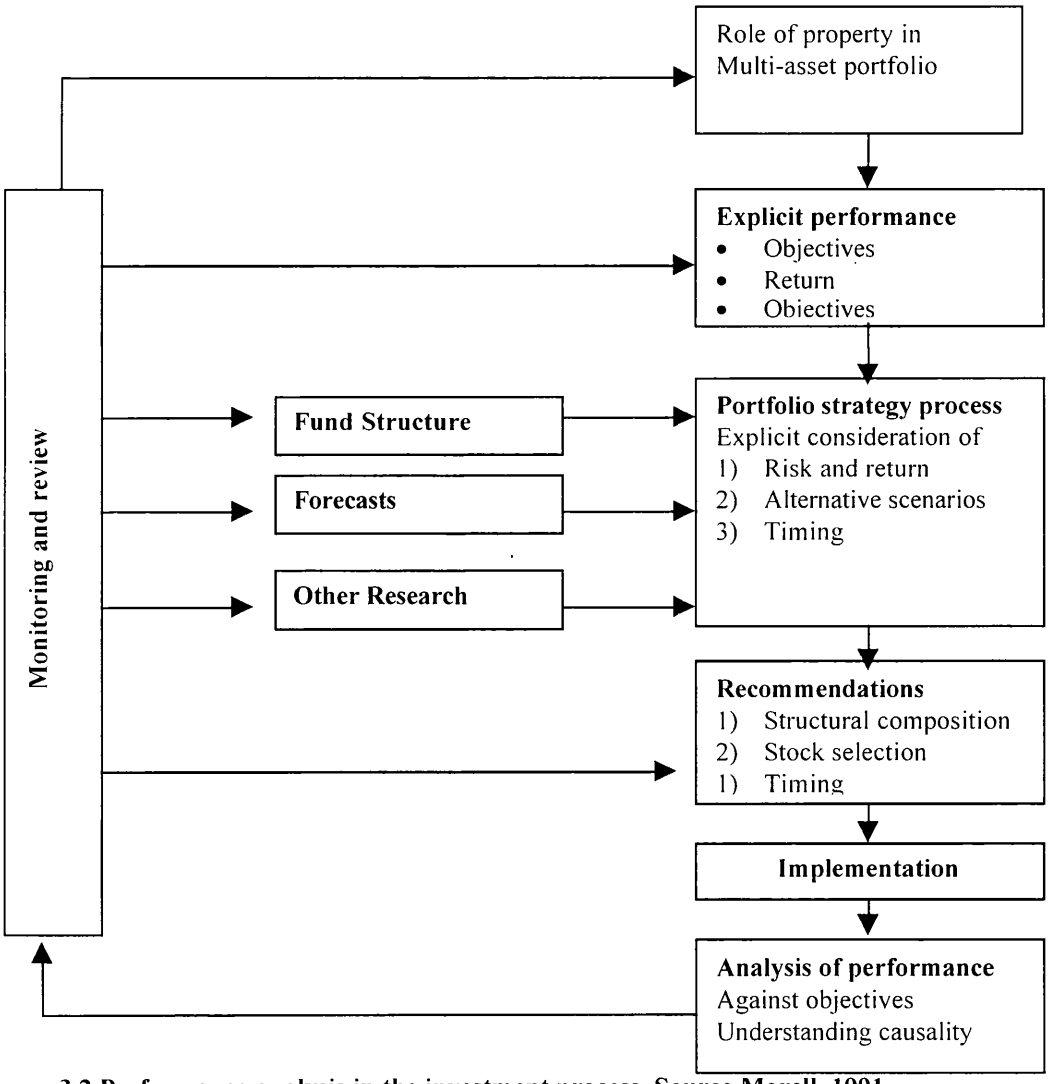


Figure 3.2 Performance analysis in the investment process. Source Morell, 1991

It is further argued that such analysis is particularly instructive for a relatively illiquid asset such as property since it is difficult to change radically the composition of large portfolios quickly. Key characteristics of such funds can therefore prevail over time. The integral role performance analysis plays within the overall investment process is illustrated in Fig. 3.1, as Morell (1991) understands it. For him performance analysis is a complex process, the approach to which varies from organisation to organisation. What follows therefore is a generalised, indicative framework only, which is intended to place performance analysis in context.

The starting point is a clear view of the role property plays within the multi-asset portfolio. The allocation to property will reflect, among other considerations, views on pricing in the market and the expected return and risk of property relative to other assets. A structured and rigorous approach to property fund management necessitates making the performance objectives of the property fund more explicit. These should define a benchmark, which is consistent with its role within the overall fund, and should encompass realistic targets for return relative to the benchmark, the risk associated with this level of return and also timescale. The portfolio strategy process helps to define how the performance objectives are to be achieved. Explicit forecasts of performance under alternative economic scenarios identify the likely return for the portfolio relative to the benchmark, and also the magnitude and sources of risk associated with the return.

The portfolio strategy process leads to recommendations for the fund. Generally, these take two forms. First, advice is given concerning the structural composition of the portfolio, such as its weighting, relative to the benchmark, by land use sector and

region. Second, advice is given on stock selection, which usually refers to the features of assets within the sectoral/regional categories.

Once the strategy for the portfolio has been developed, the next stage is for the recommendations to be implemented in practice, which may involve buying and selling in the market, retaining or actively managing existing holdings. This should not, however, be seen as the final stage of the investment process. Making performance objectives and strategy explicit provides a basis against which historic performance can be assessed. Analysing performance rigorously and regularly enables the fund's historic returns to be compared against its objectives. More importantly, the analysis should reveal the reasons underlying good or bad performance. The results of such analysis can feed into each stage of the investment process as a continuous and iterative procedure, as illustrated by Fig. 3.1.

3.5 Problems in constructing property performance measurement

As suggested above, performance can rarely be considered in absolute terms. Some reference to a benchmark is usually more illuminating and, in the context of evaluating performance against objectives, it is essential. There are, however, practical and conceptual problems in constructing property performance measures, which are considered below. Indices for other investment markets as we have already seen are well established. However, the development of indices and performance measurement techniques in property was relatively slow. In part, this is because of opposition to new approaches from a traditionally conservative surveying profession and its reluctance to adopt quantitative techniques. It also reflects fundamental differences in

nature between real estate and other investment markets. With these differences in mind, it is worth briefly noting the conceptual and practical problems in constructing property performance measures since they are relevant to those wishing to interpret the results.

3.5.1 Heterogeneity and indivisibility

Every property is different. By contrast, many different investors can hold the same type of share in a single company. Because of property's heterogeneous nature, it is difficult to hold a fully diversified portfolio and to eliminate the specific risk that arises due to individual property effects. Brown (1987) suggested it is necessary to hold 200 properties in order to achieve a highly diversified portfolio for which the market explains in excess of 95% of the variation in returns. This analysis was based on the simplifying assumption that the properties were of equal value: the problems of trying to hold a fully diversified portfolio are complicated when the 'lumpiness' and indivisibility property are introduced. By contrast, he suggested that equal investment in only 45 UK stocks is required to explain about 95% of the variation in market movement. This has enormous implications for index construction. Unless it contains a sufficiently large sample of properties, the index will be influenced by the effects of individual stocks to an acceptable degree and it will not, therefore, provide a suitable proxy for the performance of the total market. In such circumstances, the measure will contain some specific, unsystematic, risk that could be diversified away.

3.5.2 The nature of the market and data availability

While data on market trends is more freely available, information on individual property transactions and values remain secret. Institutional property deals are often handled by a relatively small number of surveying practices. Reasons of confidentiality are cited as preventing disclosure of information. The absence of a centralised market place means that comprehensive data on property performance is difficult and costly to collect. The performance of each asset depends on a wide variety of locational factors, legal factors (such as lease clauses), physical factors (the age and condition of a property) and so on; collecting and validating this data at the individual property level is expensive.

The data should reflect the preferences of the major force in investment buying- the institutional sector- excluding any no-standard properties. The composition of the index should change over time to reflect any variations in institutional preferences and to ensure that it tracks change in the market movements and no changes in age of building. As will be explained, the property performance measures have adopted different approaches to the collection of data.

3.5.3Valuations

Equity market returns can be calculated from dividends and prices actually paid in the market. By contrast, property returns are deduced mainly from rental income and from valuations. These are subjective assessments of the likely selling prices based on certain assumptions laid down by the Royal Institution of Chartered Surveyors

(RICS). The use of valuations creates fundamental difficulties for the construction of property performance indices and performance analysis. These relate to the practice and timing of property valuation, to the statistical qualities of the resulting performance index, and also to the interpretation of and confidence in the results. First, potential differences exist between valuation and actual sale price. According to Hagar and Lord research the valuations of two properties varied far in excess of the expected range of 5% around the average value. This study received much criticism from within the property industry. Brown (1986) considered their analysis was neither representative nor rigorous and, presenting the results of an empirical analysis, he suggested that performance based on valuations is as valid as using prices. The Investment Property Databank Ltd and Drivers Jonas (1988) examined a sample of 1400 transactions and concluded that, in the absence of a high frequency of property market transactions, values do their job with a high degree of reliability. Nevertheless, some remain sceptical of the use of valuations and more empirical work is required in this area.

Second, some property transactions are the result of active portfolio management as investors seek to improve existing assets within their portfolios. This may involve releasing marriage value by, for example, merging interests in land either legally (by combining a freehold and head leasehold interest), or physically (by assembling a site of adjoining properties for future redevelopment). Under such circumstances, the actual sale price is not a reflection of the underlying performance of the property market, but rather the sale to a special purchaser. Differences will therefore exist

between the price achieved and the open market valuation since the latter excludes the potential sale to a special purchaser (Morell 1991).

Third, the valuations which are used to construct performance indices are rarely carried at a single point in time, even though they are supposed to be 'as at' a certain date. Some valuations will be made before, and some after, the effective dates. Differences in valuation dates means that some element or smoothing potentially exists in the reported returns. Consequently, property market returns may appear to be more stable than they should be (Baum, 1989). Blundell and Ward (1987) identified strong auto-correlation in the returns used in their analysis. This was attributed to smoothing because valuations were carried out within a few days of the end of each quarter and they describe a statistical technique of transforming the data to overcome the problem.

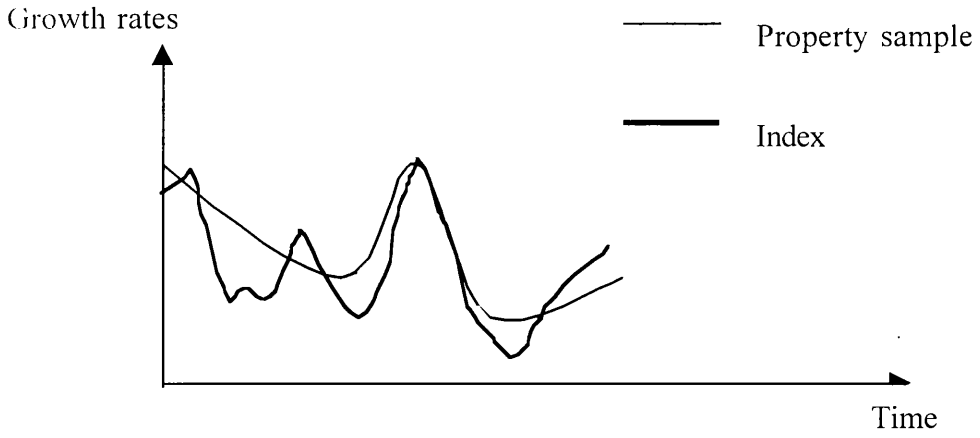


Figure 3.3 Random data and average index

Smoothing can seriously restrict the use of properties indices in such areas as performance measurement and the development of property portfolios. Standard deviation of returns calculated from smoothed series will be understand and imply that

compared with other economic indices, the property carries less risk than in reality (Brown, 1991a)

3.5.4 Comparison of property portfolio with property indices

Errors from two different resources can arise in measuring performance of a portfolio against commercial property indices. One relates to the arrival of information and its effects on index construction, the other to the number of properties included in the index. Information arrival and its impact on index construction was considered earlier in relation to property valuation. Using statistical data on different indices (IPD and Richard Ellis), Brown asserts that, even if sample sizes used to construct the indices are different, this only accounts for 2% of the difference in standard deviation. The major differences arise due to the arrival of information and is captured in the first order serial correlation coefficient (1995). Based on his observations he identifies three important facts on the interpretation of property indices and their use for performance measurement.

1) Property indices tend to record turning points in the market after they have taken place, and market trends rather than specific changes.
2) A group of property indices can have significantly different profiles if the arrival of information incorporated into each of the indices varies, even if the true underlying market changes are the same for each index.
3) If the return characteristics of an individual property or portfolio are random and their expected returns are the same as the market, they will tend to show out-

performance relative to the moving average index whenever the market rising and under performance whenever the market is falling (Brown,1995)

Taken together these three points have significant implications for the interpretation of property performance and measurement of tracking errors. Because of the significant differences, which may arise in the serial correlation structure between a portfolio and an index, performance over shorter periods becomes more critical issue. As highlighted by Morell, it is inadvisable to rely on short-term performance figures forming longer-term investment decisions. That is, the monthly and quarterly measures are less representative of the whole market, but provide a more up-to-date indication of property market movements.

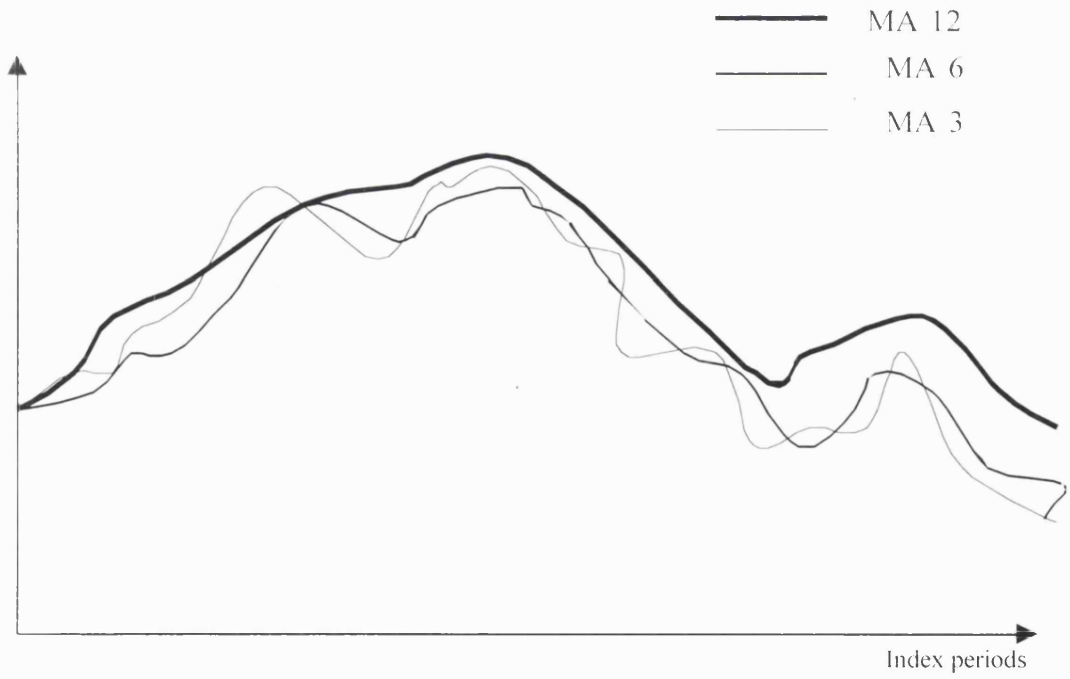


Figure 3.4 Alternative moving average MA process. Source: Brown,1995

Figure 3.4 shows the effect of using different moving average process for forming an index. These profiles are shown using twelve ,six and three moving averages. The differences between the profiles are quite marked and would be equivalent to the comparison of different property indices where the arrival of information is spread over a range of portfolios (Brown, 1995).

The above consideration aims to show that for various reasons the index results may not always provide a completely accurate yardstick. The issues pinpointed qualify property portfolio performance measurement and the validity of methods currently in use. The number of properties included is believed to be crucial as well as the level of desegregation and segmentation of the index. A large amount of properties is required to eliminate the specific risk, despite property's inherent sensitivity to individual locations.

The problems and the principal issues with the construction of the property indices have led to a variety of measures to depict the performance of the UK commercial property market.

3.6 Types of property indices

Property indices may be constructed in one of two ways

- As portfolio based indices.
- As barometer or market type indices based on a hypothetical portfolio of rents points.

Both types of index are useful but are designed for different purposes. Portfolio based indices measure rental values, capital values and total rates of return of actual rented

properties. Different indices of this type are likely to provide different results because the underlying portfolio of properties will vary in size, location and the weighting scheme employed between each sector of the property market. The rates of return will be money-weighed, meaning that the timing and magnitude of cash flows into the portfolio making up the index will influence the results. As the valuations will rely heavily on comparable evidence of sales of similar properties in the same area, there are likely to be delays in reflecting underlying market movements. The main use of this type of index is for portfolio performance measurement.

The market barometer index aims to track movements in the property market by estimating open market rentals on a number of hypothetical rack-rented properties. Being based on value's estimates of rental value and yield, these measures should provide an earlier indicator of market changes than portfolio-based indices. The purpose of this type of index is to provide market-responsive measures that reflect a wide and therefore, comprehensive view of market sentiment. The main use of this type of index is to highlight short term changes in the level of the market at the regional and local level. An index of this type is unsuitable for portfolio performance measurement since investors could not closely match its movement with an actual portfolio or property holdings.

Given that there is no central marketplace and that indices are based on valuations, a commercial property index cannot, therefore, be viewed in the same way as transaction based index, such as Ft All share index or the FTSE 100.

Published indices may not provide suitable benchmarks. For example, the business objectives of a small, unit-linked portfolio might be expressed in terms of the need to

out-perform other funds against which it is competing for business. In. such circumstances, a benchmark that contains large life funds may well be inappropriate and it may be necessary to adopt a tailor-made benchmark, such as a sub-set of an index.

3.7 UK commercial properties indices

The society of Property Researchers carried out a user survey of commercial property performance measures in 1994 in order to elicit views on various indices. They were interested to see how indices were used and what improvements users would like to see. One of the reported findings was that the main purpose was a reference of the state of the market. Clearly, it is important that the reported measures should reflect the underlying market trends and not the idiosyncratic features of the constituent properties.

The longest continually reported series are those provided by Hillier Parker and Jones Lang Wootton. The CB Hillier Parker indices were designed to track current market movements. This market method uses open market rental values and yields estimated from a representative sample at different 'rent points' rather than specific properties. The measure reflects the best rent obtainable assuming it is available on the open market. Essentially, what is effectively being measured is a property with vacant possession. It is likely that the measures reported by this type will provide a leading indicator of actual portfolio performance trends.

The Jones Lang Wootton Index employs a portfolio method where the performance of representative portfolio of actual properties is measured. The portfolio index reflects factors such as voids, rent-free periods and tenant inducements.

Although most properties are valued annually there are, nevertheless, a substantial number of investment-grade properties that are valued quarterly or monthly. These are usually tied to other investment products such as property unit trusts or property bonds where the unit prices are fixed in relation to the value of underlying properties. Using these properties, indices have also been produced that track the movement of the property market on a more frequent basis. The largest monthly index is produced by IPD. It uses a much smaller sample than the IPD Annual Index. The composition of the index is different from the annual index although the overall trends are the same. We will see the IDP approach in more details in the next chapter.

In addition to IPD, Richard Ellis also produces a monthly index, although this is based on a smaller sample of properties. Jones Lang Wootton produces the only index based on formal quarterly valuations. Tables 3.1&3.2 provide broad details of the most frequently reported monthly and quarterly indices.

Measurer	Number of properties	Capital value billion
IDP Monthly	2.812	£7.86 (Oct. '98)
Richard Ellis Monthly	412	£2.4 (Oct. '98)
JLW Quartely	177	£0.42 (Sept. '98)

Table 3.1. Comparison of high-frequency indices

Source	Nature of Business	Types of indices	Sector & Spatial coverage	Frequency and start date
IDP	Performance measurement organisation	RV/C/T/Y	R/O/I/A L/RG/N	Monthly: 1986 Annual: 1971
CB Hillier Parker	Surveyor/fund manager	RV/C/T/Y	R/O/I/A/RW/S L/RG/N	Quarterly: 1990 Annual: 1977
Jones Lang Wootton	Surveyor/fund manager	RV/C/T/Y	R/O/I/A/ L/RG/N	Quarterly: 1977 Annual: 1967
Richard Ellis	Surveyor/fund manager	RV/C/T/Y	R/O/I/A/ RG/N	Monthly: 1987 Annual: 1978
Healey & Baker	Surveyor/fund manager	RV/Y	R/O/I/A/ L/RG/N	Quarterly: 1984 Annual: 1977
Chersterton	Surveyor/fund manager	RV/Y/C	R/O/I/A/ L/RG/N	Monthly: 1990
Weatherall Green & Smith	Surveyor/fund manager	RV/Y/C	R/O/I/A/N	Quarterly: 1979

Type of index: RV: rental value growth; C: capital value; T: total return; Y: yield.
Sector and spatial coverage: R: retail, O: office; I: industrial; A: all property; RW: Retail Warehouse; SM: Super market; L: local centre level; RG: regional level; N: national level.

Table 3.2: Comparison of UK commercial property indices:

Fourth Chapter

The IPD approach

4.1 IPD Business profile

"Investment Property Databank (IPD) Ltd is an independent, information specialist business, dedicated to performance measurement and market analysis for the property industry. In its 16 years of existence, the company has made a major contribution to the UK's world lead in property research. Its portfolio analysis benchmarks, market indices, published reports and information services are essential tools for investors, occupiers, advisers, lenders, analysts and policy makers."

Investment Property Databank, Special Edition, 1996

The Investment Property databank Annual index is the most widely used measure of UK property performance. Founded in 1985 is an independent organisation that collects property data and provides a performance measurement service. The property database held by IPD is the largest source of investment property in the UK. Annual performance figures span the period from 1 January to 31 December and are reported, on average, at the end of the first quarter in the following year. At the end of 2000, the Index was based on 230 portfolios and 13,300 properties worth £97.3 bn (€153.3 bn). That is equivalent to 75% of the total property investments of institutions and listed property companies. Given such a large independent database the IPD performance figures provide benchmark measures of the universe of UK investment properties. The data is based on regular annual valuations of all assets (actual, not hypothetical properties) in the database, together with monthly valuations of linked funds. Each individual holding is recorded with the essential valuation and cash-flow information required to measure property performance, together with the lease and rental details of every direct tenant, as well as full physical and geographical

descriptions of each property (Heule & others, 1997). Although WM[3] (PPS) and Hillier Parker also provide information on a regional level, only IPD, as a flexible research database, answers specific questions to individual investors by providing detailed desegregation down to town/city level, apart from a breakdown of composition and returns by both sector and region. As explained by Morrell (1994), while some measures include developments within the calculations of the returns, and others do not, IPD's analysis covers both. While some measurers include the effect of transactions on return and others exclude them IPD does, both. Most of the indices do not allow for ongoing management expenses on holding property; IPD does. The indices produced by IPD differ significantly from other produced by various surveying firms in that (Hargitay, 1993):

- property total returns use a formula adjusted to approximate the continuous accrual of income, assuming that income accrues daily to the title holder for the precise period of ownership (IPD Annual Index 2000)
- transactions and property costs are deducted; other revenue expenditures are deducted.

In addition to income return, capital growth, total return and ERV growth measures, IPD publish average equivalent yield measures and indexed yield movements based on actual properties (Hargitay, 1993). The indices are well presented in tabulated and

[3] World Markets: Independent performance measurement organisation, located in Edinburgh, Scotland; demands less detail from the participants and makes comparisons on a more aggregated level

graphical forms and are easy to follow. These features placed in the context of the principal problems and requirements for property indices make IPD the industry standard, recognised by RICS and the property data users. 'IPD research is needed to compare property with other assets, to track current trends and long term cycles, to analyse and to forecast markets' (Investment Property Databank, Special Edition, 1996).

4.2 The working principles

IPD's working principles are best summarised in Figure 4.1 below. The company's staff collects, processes, validates and releases data, assuring security and reliability by stringent consistency checks throughout. Confidentiality is fully guaranteed, no information on individual properties of owners is ever disclosed (Heule & others, 1997; Investment Property Databank, Special Edition, 1996).

Another unique feature of IPD that contributes to the representativeness and reliability of its business is its independence: it does not participate in the market and offers no investment advice. As defined by IPD, total return on property portfolios measures total return on capital employed through the year. It is a compound measure, which can be broken down in several ways. The analytical structure is shown in Figure 4.3 below.

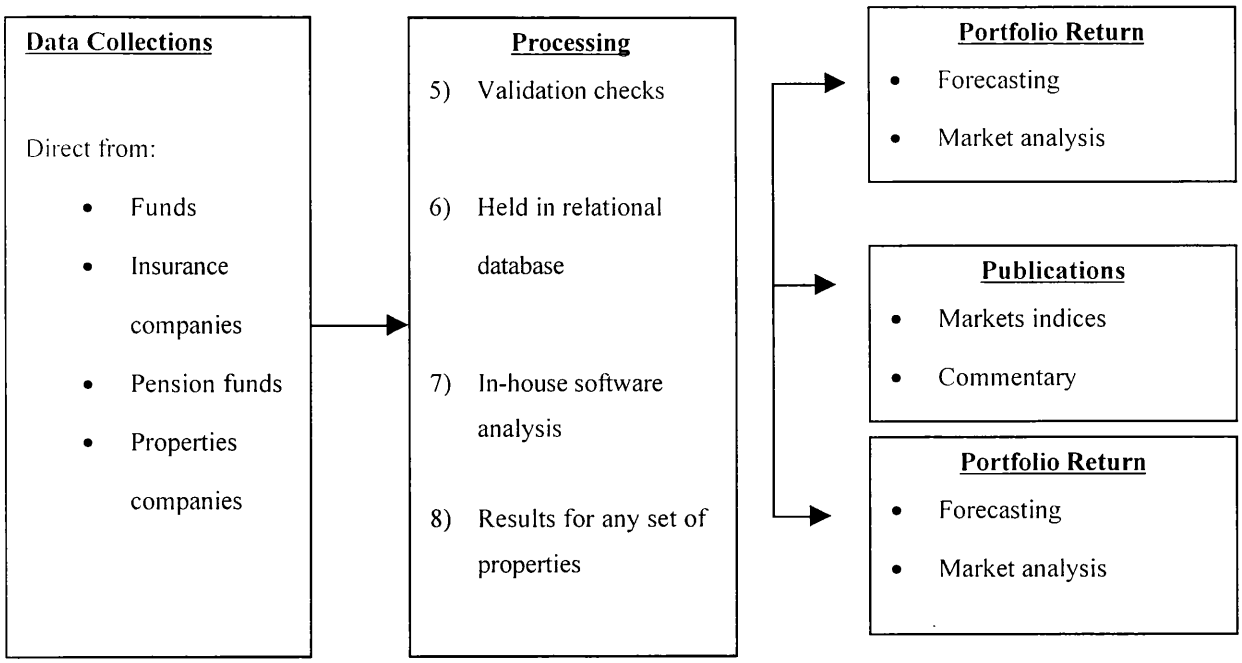


Figure 4.1 IPD's Data Process

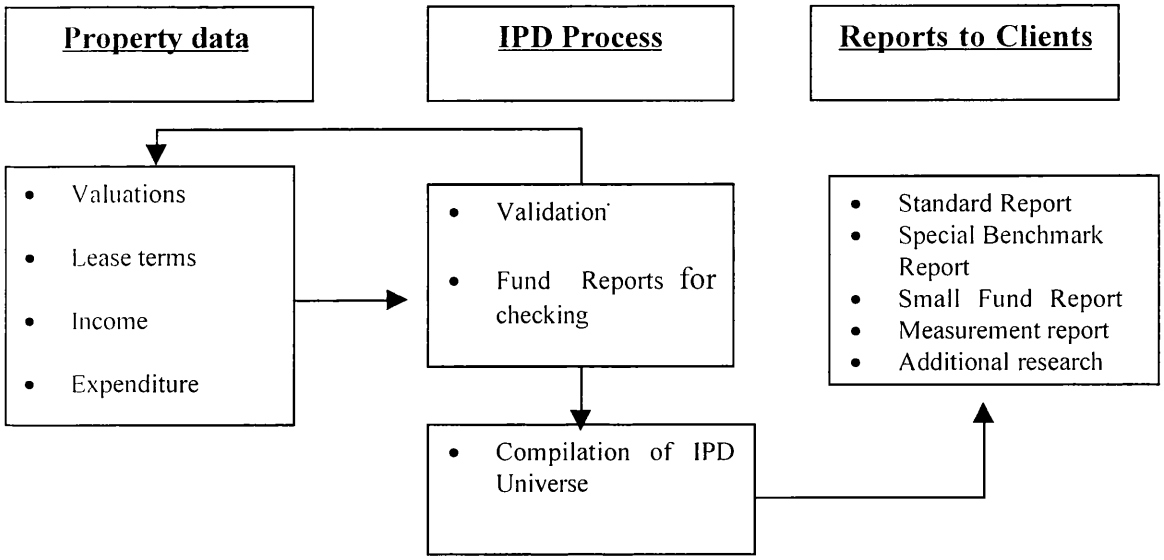


Figure 4.2 Portfolio Analysis Service

IPD covers a respectable range of professional services by its continuously evolving information systems. The systems provide i) indices and publications, to track and analyse trends in the market and ii) an information resource, to help understand the workings of the industry, as far as different types of property and types of property

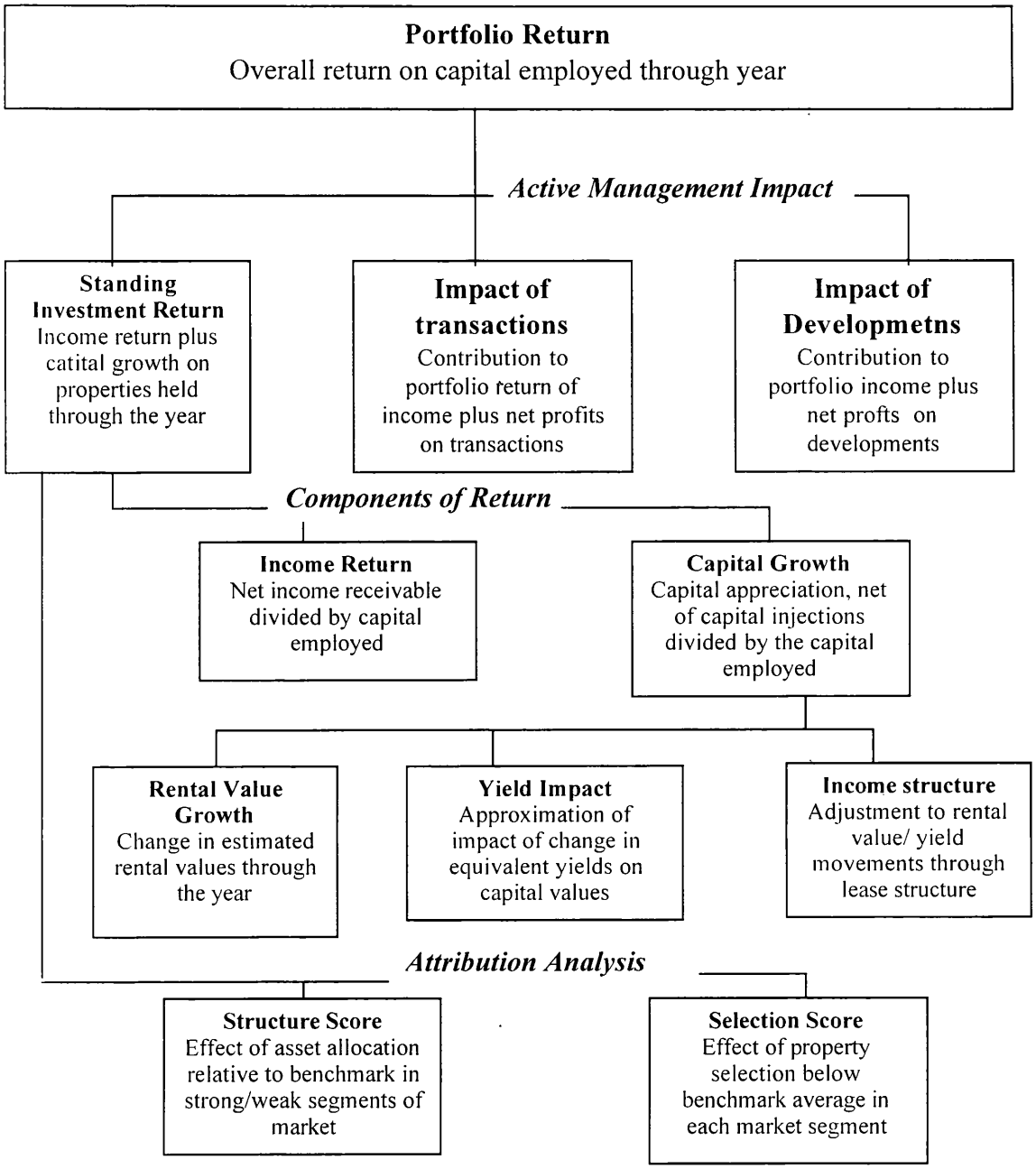


Figure 4.3 The analytical structure of Total Return Used by IPD

owners are concerned. Apart from the standard Annual and Monthly Indices on the commercial property performance in the UK, the Operational Property Databank (OPD) and the Retailer's Property Databank (RPD) within IPD, since 1995 have provided objective and reliable information on occupational use and its cost. These services give the clients, major corporate occupiers, the fullest and fairest possible

annual comparisons of their property costs, use of buildings and estate management overheads (IPD News, The Investment Property Databank Newsletter, January 1997). Additionally, the IPD Forestry Index has been published annually since 1994, while the IPD Mortgage Rate Index is a continually updated indicator of the rates applied for residential mortgages dealt with by a consortium of banks.

However, in my personal view, what makes IPD really different in the array of commercial property indices available is its objective and sophisticated Portfolio Analysis and Benchmarking Services[4] in the UK and abroad. In the UK, IPD is the only property research company devoted to benchmarking of actual property portfolio performance, against a number of standard or customised yardsticks pre-defined to match investment objectives. Abroad, the company has pioneered its approach and working with national organisations and has already established fully operational investment property databanks in the Republic of Ireland the Netherlands, Germany, Sweden and many other European countries with a view to further expansion.

Therefore, IPD's achievements so far have greatly contributed to the evolution of performance appraisal as an integral part of property investment decision-making nationally and internationally. IPD's systems have brought about more transparency in the property markets they serve, and hopefully will lead to stronger recognition of real estate as an eligible asset in the global investment portfolio.

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[4] The purpose of the service is to produce as accurate a measure as possible of the return earned by the fund during the year on its property assets in order to provide the best estimate of the quality of the underlying assets and the skill of the management team in timing transactions (IPD Bible,1996).

4.3 Benchmarking and benchmarks

In the broad commercial sense, "benchmarking is the process of comparing business practices and performance levels between companies to gain new insights and to identify opportunities for making improvements" (Young, 1996). The concept behind, benchmarking is to learn from other approaches rather than to solve the problem from first principles. This results in faster implementation and improves the chance of, getting it right first time. Benchmarking provides a tool, which can close the performance gap between current performance and best in class. Selecting the right yardstick gives a number of benefits (Godson, 1995), such as:

- Helping to define realistic targets;
- Evaluating relative performance by isolating the impact of trustee strategy or constraints from the skill of the manager;
- Assisting in setting agendas and providing a framework against which to record the reason for decisions;
- Identifying the risk and rewards of deviating from the average;
- Allowing trustees to match incentives with results on a fairer basis.

Property industry lags behind the rest of the commercial world (Young, 1996) in respect of two particular issues. Firstly, it has become increasingly common among industrial companies to undertake syndicate-benchmarking studies. Thus companies can define appropriate benchmarks together, share information, and receive individual feedback on relative performance, all based on confidentiality. It is similar to IPD's service, but focusing on much more detailed performance measures. Secondly, benchmarking has now moved beyond quantitative analysis, measuring the gap

between current and best practice. Recent developments have shown that greater benefits can be derived from understanding the processes that bring about the variations in performance, and identifying how to close the gap.

However, property has been shown to have specific features in comparison with the other investment assets, which causes different performance for different types and sizes of funds (Godson, 1995). Moreover, the particular characteristic of property may affect implementation of benchmarking in the context of an effective property portfolio performance measurement system. Therefore, setting the right benchmarks for property portfolios is a crucial issue, which requires special consideration. Godson (1995) offers more detail on theoretical and practical selection of benchmarks that IPD has to deal with. The practical agenda in the way forward is to:

- improve the understanding of IPD benchmarks;
- bring more order into the construction of customised benchmarks;
- take responsibility for explaining how they should be applied and interpreted.

In other words, a feeling that property markets need indices, or higher-quality market information, cannot by itself lead to the creation of an effective performance measurement system. It has to be accompanied by a more sophisticated, and widespread, appreciation of the benefits of portfolio benchmarking among property owners (Horsey & Key,1997). Indeed, a benchmark differs from an Index:

- An Index is constructed to reflect the total performance of all tradable assets in a market and represents the ideal return achievable by an investor holding a representative spread of assets in that market (Godson, 1995). Equity and bond indices are constructed from published prices of tradable securities and

even perfect Index tracking funds cannot match the performance of an Index after costs are deducted.

- A benchmark measures the average performance of investors in that market net of costs. It is limited to the part of the investor market, which is measurable, normally to the performance of institutional investors. There must be a distinction between "comparison" and "benchmarking". The latter should be reserved for a predetermined, consistent and meaningful target of performance, and allows more objective measurement of fund management skills in achieving abnormal returns.

If a benchmark is to be successful as a measure of management quality, it should be

- meaningful and match to the fund targets (have a high coverage of the target, it addresses).
- be consistent with overall fund liabilities.
- reflect the investible position of the manager so that he is able to hold the full range of assets available if he chooses.
- comprise a homogeneous set of funds.
- stable, not a moving target.

In practice though, benchmarks are often not what they seem to be, especially regarding performance measurement of property portfolios. The indivisibility and illiquidity of property assets impose severe constraints on property investors, which make the use of size-specific benchmarks necessary for the majority of funds. Additionally, the different range of property returns makes the selection of rational targets for property managers a different task from those for equities (Godson, 1995).

Benchmarking of investment property performance is challenging. Better said, it is a challenge within a challenge, having in mind the sophisticated and dynamic socio-economic framework to the property industry. IPD, the only provider of benchmarking services on commercial property in the UK, has taken the challenge, and in recent years has changed in response to the dynamics of the market. It revised its standard All-Fund Annual benchmark, and has developed a variety of customised (size and/or type of fund based) and style (sector/segment specific) yardsticks to better serve fund management in the UK . At the same time, with its experience at home, the company has attracted a respectable number of international clients, reflecting the beginning of international property portfolio performance measurement and hopefully, the debate on common standards for performance measurement across national boundaries (Horsey & Key,1997).

4.4 Criticism and further development of the services

IPD's data, considered the standard benchmark for UK institutional property, are used in various property research areas and are sometimes criticised on major issues such as: quality of property indices and benchmarks, accuracy of valuations and risk. Brown & Matysiak, using the IPD returns series over 1987-1992 showed that the appraisal-smoothed risk estimates need to be increased by a factor of approximately 3.5 to reflect the actual risk of UK property returns. This is especially important since asset classes volatility estimates are one of the fundamental inputs in asset allocation models available to investors to facilitate the determination of appropriate mixed-asset portfolios (Miller, 1991). However, their study used the IPD Monthly

Index, which is not representative of the overall market than the IPD Annual Index (Morrell, 1994) and must less be confused with a benchmark, stresses Godson (1995), for the following reasons:

1) Annual returns on the Monthly Index are calculated on a time-weighted basis, which is not comparable with the money-weighted returns calculated from non-monthly valued funds
2) The Monthly Index is comprised of unitised funds, which have specific short-term liquidity constraints (requiring them to maintain greater liquidity than pension funds).
3) Although the median size of funds in the Monthly Index is £33m, the average size is almost £70m. The average property size is a third larger in the Monthly Index.
4) Comparison of the composition of funds valued at less than £70m and the, Monthly Index funds shows a marked difference in the shopping centre, retail warehouse and central London office weightings, which are all substantially higher in the Monthly Index. Increasing the sample for the Monthly Index would help improve its reliability as a proxy for the wider market.

Another argument by Morrell (1994) is that IPD's Indices should ensure for income receipts reflected accurately in the return calculations, and should be closely compatible with the methods used to measure returns on equities and gilts. The assumption on income receivable annually in arrears therefore is outdated and should be changed. After discussion with their Consultative Groups IPD responded to this criticism and since the beginning of 1997 the new model of continuous income accrual has been employed in all statements of the Annual Index and in all benchmarks

compiled from the Annual Database (Revisions to IPD Methods for 1997). Such an adjustment has the advantage of improving the total return to property over the past 25 years by around 0.3% per annum. It brings not only property and other investment media into line, but also reconciles the return calculations on the IPD Annual and Monthly indices and benchmarks. All historical performance series, over all time periods between 1970 and 1995, will now be restated using the new formula.

For various reasons, performance indicators at the portfolio level can provide useful first indicators of overall efficiency, but cannot measure more specific aspects of management, or the effectiveness of different management practices. Since large-scale property investors share a keen interest in evaluating the quality of their management, IPD, following a discussion between Prudential, Legal & General, Norwich Union, MEPC and Standard Life, has suggested a more closely controlled assessment of property management (IPD Discussion Note, 1997). It aims to provide more reliable indicators of management quality by focusing on a small group of the most sophisticated investors, on specific aspects of management[5], and on comparable sets of properties drawn from their portfolios.

With the view of the Internet, McNamara (1995) has raised the issue of maximising data access to IPD. While acknowledging the uniqueness of the company world-wide and its importance for the UK property research, he characterised IPD's as a

[5] 'the management work breaks down into a number of specific functions: rent collection, rent reviews, rent renewals, lettings, and perhaps service to tenants. For each activity, we could seek objective indicators of performance -such as speed of rent and service charge collection, void clearance rates, lease renewal rates, uplift achieved on reviews. Optionally, it might also be possible to assemble additional information on the management objectives, performance targets, resource inputs and associated costs for each investor.' (Extract from IPD Discussion Note, 1997)

"Granddad's-radio'; you have to tell him what channel you want to listen to and he will tune it in for you. Reach to slap the dials and he will slap your hand." He recommends a provision of a secure database allowing individualised analyses on a pay-as-you go basis, offering interactive linkage to the Databank without jeopardising the privacy of contributors.

As emphasised in Chapter 3, efforts are being made to incorporate property element in performance appraisal of global institutional portfolios. For those efforts to succeed, it should be realised that if investors are prepared to accept a premium for bearing risk, then risk must play an important part in explaining and forecasting performance of investment property. IPD's analysis of property risk is limited to the simple statement of statistical fact (Fairchild, 1995). Reports analyse the volatility of portfolio returns, and their relationship to benchmarks and other asset classes, via measures such as standard deviations, tracking errors, risk-adjusted returns[6], correlation's. Portfolio simulation can be ordered separately for managers who want to explore alternative possible features for their funds. Capital values and lease profiles of each portfolio are entered into a model, which projects returns and allows for different trading scenarios to be tested.

Some of the criticisms IPD has responded to, but other relate to problems of property finance, appraisal-smoothing, temporal aggregation and the degree of inefficiency in the property market in understating property risk. Much of the observations, especially on smoothing and risk, concern not only IPD-the provider. There are

principal issues in constructing property performance indices that call for action and future developments from the whole industry, if property is to prove its case as an eligible asset relative to other media in the global investment portfolio.

[6] For more details on Risk Adjusted Return refer to Fuller Peiser & Investment Property Databank (1996) where Alick Davidson of Fuller Peiser Research introduced this measure

Fifth Chapter

5.1 Conclusions and recommendations

The major question is this thesis was why there has not been any property performance measurement in the Greek market so far and what should be done in that direction. After my research in the Greek and UK market I tried initially to approach the Greek market with its own peculiarities, continuously to make clear the reasons why a reliable measurement system relevant to IDP's is a need for investors in a property market such as the Greek market with ambitions to concentrate international investment interest, and finally to give the reasons why a measurement system had not been established so far.

Therefore, the answer to the question is that the Greek market could not have developed a measurement system in the past, as there was any driven force for the establishment of any form of measurement system. The market was in a very juvenile stage and the investment interest was no existing at all. Now although that the market seems to grow after the economic improvements and the challenge of the Olympic games and the international interest seems to grow as well, I still believe that we can not start talking about measuring performance, before the market reach its maturity and find its balance.

In my opinion the market needs its time so the firms to implement their strategic plans in the market and to gain their market share. After market reaches its maturity the dominant firms can be the driven force for the establishment of any system of measurement. But there are still institutional and cultural issues to be dealt within

applying a measurement system like the one of IPD's under the endogenous economic and cultural circumstances.

Barriers coming from the various property business cultures have to be broken down. The traditionally secretive property investors have to face some dilemmas before embracing the idea such as: confidentiality of their data and its desegregation, high cost involved, requirements for new valuation standards and valuations of the whole portfolio every year. There may be suspicion of the results stemming from the lack of knowledge of the benefits that such a Databank can provide. Breaking through that resistance and getting agreement to exploit the potential of the information by pooling it will not be easy.

The most difficult problem in creating a property performance measurement system is to attract enough actively committed property investors. Only in this way can a sufficient sample of properties be pooled for a representative Universe for benchmarking purposes. At this point, the fact that at the moment a number of international firms have shown interest for the Greek market helps in that direction as they brink together in a market their international experience and culture. Of course there is still a lot of uncertainty whether these firms will make finally the move to penetrate the market and to gain a large market share.

In any other occasion, as I experience the attitude of the Greek property investors towards the investment process it will take more time to them realise the importance of a Databank in the decision-making process. Only the new generation of property investors with more finance background can be a driven force for information sharing.

Unfortunately the existence of an atmosphere inside the industry with no transparency and thrust in can not be easily break down.

For these reasons any organisation which will try in the future to establish a databank must fulfil certain requirements. It must have as core business the information production that puts the analysis and management of property investment on the same basis as other investment media such as equities and bonds. It must ensure that the information going into databases, benchmarking and market indices is consistent. It must also ensure strict confidentiality of individual property records and individual property owners, it must manage the system in consultation with the investors supplying data and it should not provide any investment advice, brooking or management services to individual participants in the Database, or third parties.

From the participants side, contracts require each investor to follow the valuation principles and standards, with any auditing procedures, supply annual performance records for all properties within their investment portfolios, supply complete performance records for individual properties following the Data Requirements as soon as possible following each year.

In this process we should not exclude and forget the role of the government as it has great influence in the market due to the complicated and uncompleted regulation framework. State must make clear its role in the market leaving the market to find its own balance with less interventionist law. But as it was mentioned previously the role of the state in the market needs further investigation and analysis as it is out of this thesis scope.

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Michalos Panos, executive manager of the DTZ Hellas, 20 July 2001

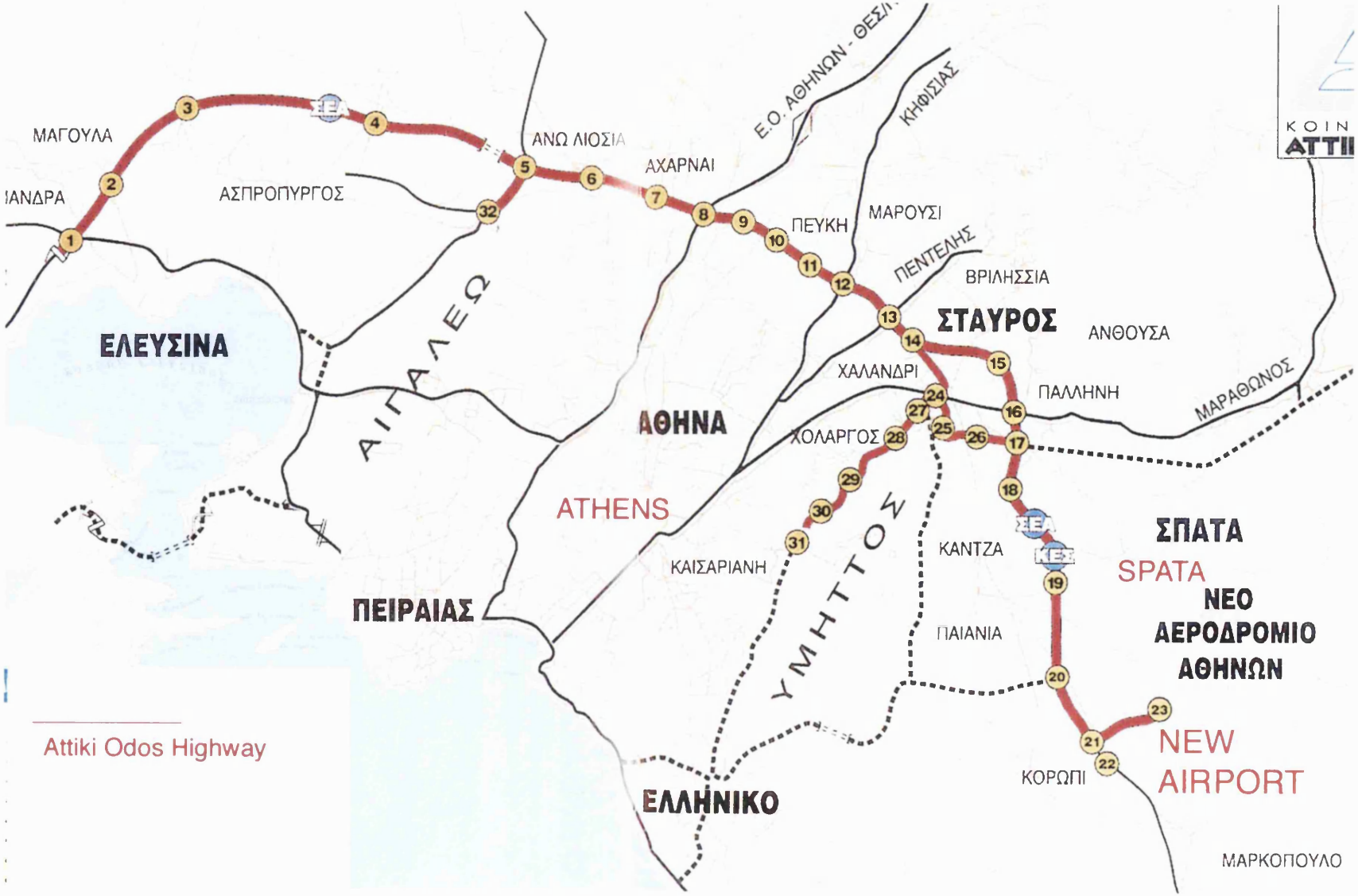
Kampourides Miltos, executive manager of Soros Real Estate and Partners in the offices in Athens, 25 July 2001

Magginas Nasos, Director in German Portfolio Analysis Service in IPD, 25 June 2001

Christina Cudworth, Training manager in IPD, 25 June 2001

Appendix A: IPD Publications

Appendix B: Maps of the City of Athens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ΑΣΠΡΟΠΥΡΓΟΣ
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ATHENS
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SPATA
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ΑΕΡΟΔΡΟΜΙΟ
ΑΘΗΝΩΝ
NEW
AIRPORT
ΚΟΙΝ
ΑΤΤΙ
Attiki Odos Highway

Egaleo
Mt. Imitos
Vas. Sophias
SYNTAGMA
OMONIA
ATTIKI
MONASTIRAKI
VICTORIA

IPD UK annual index

Results for calendar year 2000

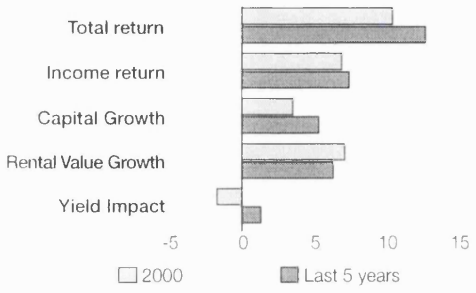
	Total return	Capital growth	Income return
Property market			
Retail	6.6	0.4	6.2
Office	15.5	8.1	7.4
Industrial	13.8	5.4	8.4
All property	10.4	3.5	6.9
Other assets			
Equities (all share)	-5.9	-8.0	2.1
Gilts (long dated)	9.2	4.0	5.2
Cash (Treasury bills)	6.2	-	6.2

IPD is sponsored by:
CB Hillier Parker
Chesterton
Cluttons
DTZ Debenham Tie Leung
Donaldsons
Drivers Jonas
FPD Savills
Gerald Eve
GVA Grimley
Hadley & Baker
Jones Lang LaSalle
King Sturge & Co
Knight Frank
Lambert Smith Hampton
Insignia Richard Ellis
NAI Gooch Webster
Strutt & Parker
Weatherall Green & Smith

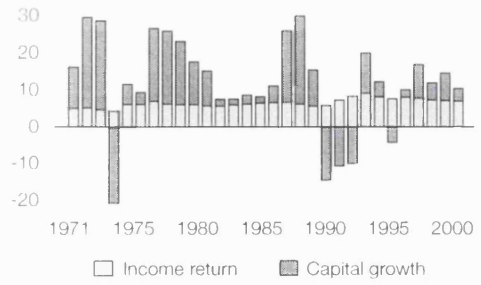
Published:
9 March 2001

All property performance

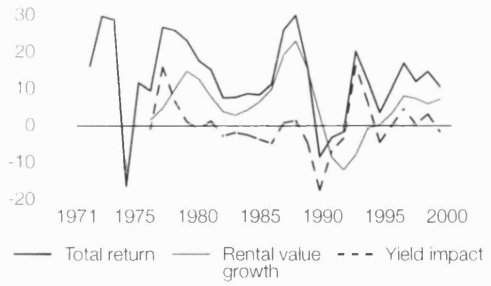
Performance in 2000 & last five years %



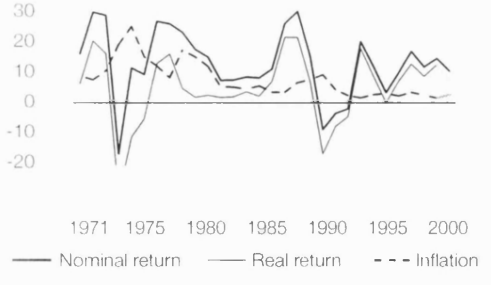
Long run capital growth & income return %



Total return, rental value growth & yield impact %



Total return, nominal & inflation adjusted %



Annual Index Headlines

Property was last year's top-performing UK asset with total returns of 10.4%. This out-turn was exactly in line with property's long-term average since 1980 and was the fifth consecutive year of double digit returns.

Rental values rose by 7.1% in 2000, maintaining the upswing which began in 1996. Capital values increased more slowly by 3.5%, as a rise in the all property equivalent yield of 0.13 percentage points knocked 2% off capital growth. The upturn in yields accounted for the drop in total returns from 14.5% in 1999.

IPD Annual Index & Benchmark results

The Annual Index measures ungeared returns on direct investment in properties held through the year without major alteration or capital injections. The Universe Benchmark result shown in IPD reports to individual investors, 11.5% in 2000, includes the additional impacts on returns of transactions, development and active management. The IPD Annual Index return is neither appropriate nor authorised for use as a benchmark for portfolio or manager performance.

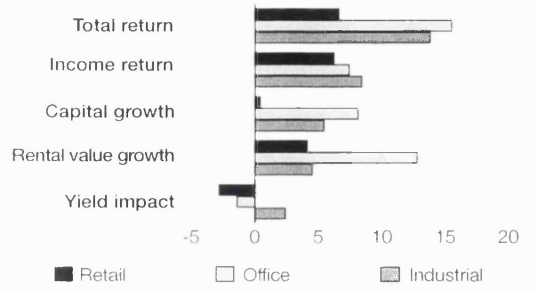
All property - performance %

	Total return	Income return	Capital growth	Rental value growth	Initial yield	Equivalent yield	Equivalent yield shift pp
1971	16.1	5.0	11.1	..	4.8	..	..
1972	29.5	5.2	24.2	..	4.4	..	..
1973	28.5	4.7	23.8	..	4.0	..	..
1974	-16.2	4.3	-20.4	..	5.6	..	..
1975	11.5	6.1	5.4	..	5.7	..	..
1976	9.4	6.1	3.3	1.6	6.1	9.6	0.09
1977	26.5	6.9	19.6	4.7	5.8	8.2	-1.30
1978	25.7	6.2	19.5	9.8	5.2	7.6	-0.51
1979	23.0	6.0	17.0	14.6	5.1	7.5	-0.08
1980	17.5	6.0	11.5	12.5	5.3	7.7	0.06
1981	15.0	5.7	9.4	7.8	5.2	7.9	-0.10
1982	7.5	5.6	1.9	3.8	5.5	8.0	0.22
1983	7.6	5.9	1.6	2.8	5.8	8.0	0.15
1984	8.6	6.2	2.4	4.2	6.1	8.0	0.20
1985	8.3	6.4	1.8	6.4	6.3	8.1	0.30
1986	11.1	6.6	4.5	9.8	6.3	8.3	0.40
1987	25.8	6.7	19.1	19.1	5.8	8.1	-0.06
1988	29.7	6.2	23.5	22.8	5.2	7.8	-0.11
1989	15.4	5.6	9.8	15.0	5.4	8.0	0.38
1990	-8.4	5.8	-14.2	2.8	7.0	9.7	1.69
1991	-3.2	7.3	-10.5	-8.5	8.3	10.3	0.70
1992	-1.7	8.3	-10.0	-11.9	9.2	10.6	0.36
1993	20.0	9.1	10.8	-7.9	8.2	9.0	-1.45
1994	12.0	8.1	4.0	-0.8	7.7	8.4	-0.53
1995	3.5	7.6	-4.1	0.3	7.9	8.6	0.39
1996	10.0	8.0	2.0	3.3	7.7	8.5	-0.01
1997	16.8	7.8	9.0	8.0	7.1	8.0	-0.36
1998	11.8	7.3	4.6	7.3	6.8	7.9	-0.03
1999	14.5	7.1	7.4	5.9	6.4	7.5	-0.24
2000	10.4	6.9	3.5	7.1	6.4	7.6	0.13
Annualised over the last:							
3 years	12.2	7.1	5.2	6.8			
5 years	12.7	7.4	5.3	6.3			
10 years	9.2	7.8	1.4	0.0			
20 years	10.4	6.9	3.4	4.5			
30 years	12.3	6.5	5.8	..			

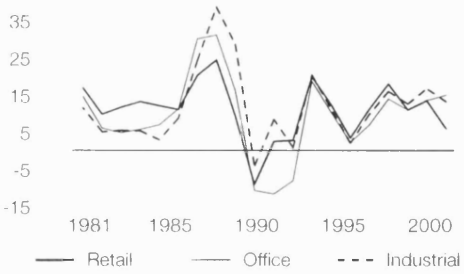
.. insufficient data

Sector performance

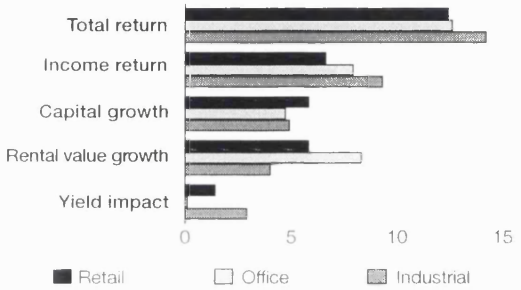
Performance in 2000 %



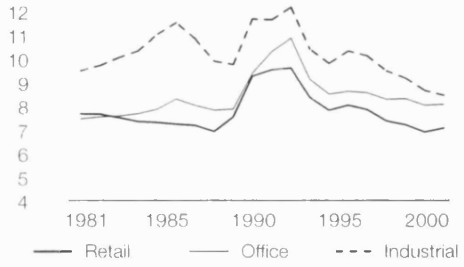
Annual total returns %



Performance over the last five years %



Equivalent yields % (end year)



Most of last year's deterioration in all property performance was due to retails. Total returns on retails fell sharply to 6.6% in 2000, from 14.1% in 1999. Retails suffered the largest rise in yields - of 0.2 percentage points - and they were alone in seeing a slowdown in rental growth.

Offices fared better, as total returns rose to 15.5% in 2000, from 14.1% in the previous year. The improvement reflected a near doubling in the rate of rental value growth to 12.8%, led by Central London. Industrials slipped into second place as returns eased to 13.8%, down four points on 1999.

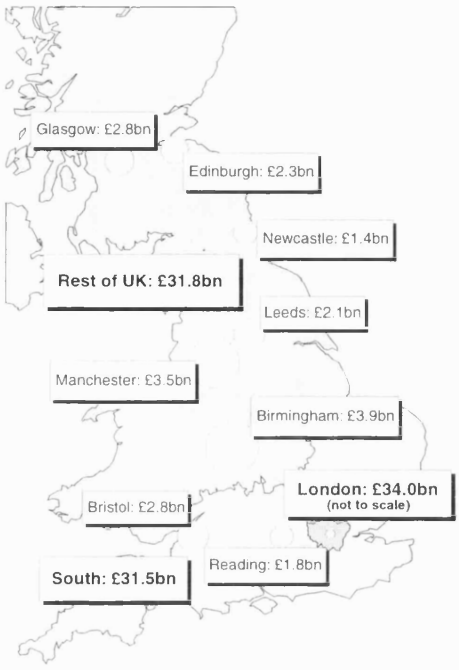
The divergence in retail and office returns meant that nine percentage points separated the best and worst performing sectors in 2000, the biggest range since 1992.

Offices still have the weakest long-term record. Since 1980 office returns have averaged 9.5% per year against retail and industrial returns of 11.4% and 12.1% respectively. Office rental growth has lagged the all property average and the sector has seen the biggest rise in yields.

	Total return %			**Income return %**			**Capital growth %**			**Rental value growth %**		
	Retail	Office	Industrial	Retail	Office	Industrial	Retail	Office	Industrial	Retail	Office	Industrial
1981	17.4	15.1	12.1	5.1	5.6	7.4	12.3	9.5	4.7	9.1	8.1	5.0
1982	10.4	6.7	5.7	5.1	5.5	7.4	5.3	1.3	-1.7	5.7	3.3	2.1
1983	12.3	5.5	6.1	5.5	5.8	8.0	6.8	-0.3	-1.9	4.9	2.4	1.2
1984	13.8	6.4	6.0	5.6	6.1	8.6	8.3	0.3	-2.5	7.2	2.9	2.9
1985	12.7	7.6	3.6	5.6	6.4	9.2	7.1	1.2	-5.6	9.4	6.0	2.6
1986	11.7	11.8	9.3	5.6	6.6	10.1	6.1	5.2	-0.8	9.7	11.7	4.4
1987	20.8	30.6	24.8	5.7	6.7	10.4	15.1	23.9	14.4	14.6	24.8	11.7
1988	24.9	31.6	39.0	5.4	6.0	9.6	19.4	25.6	29.4	19.5	25.3	22.3
1989	9.9	16.6	29.1	5.1	5.5	8.2	4.8	11.1	20.9	14.1	14.3	21.0
1990	-8.3	-9.9	-3.5	5.5	5.5	7.5	-13.8	-15.4	-11.1	4.5	0.5	6.8
1991	3.2	-10.8	9.1	7.1	7.0	9.3	-3.9	-17.8	-0.1	-2.2	-15.0	-1.9
1992	3.5	-7.3	1.5	7.7	8.5	9.7	-4.2	-15.7	-8.2	-3.4	-20.4	-8.8
1993	20.4	19.2	20.9	8.1	9.7	10.6	12.3	9.5	10.3	-1.9	-13.8	-8.9
1994	13.0	10.9	11.8	7.2	8.5	9.5	5.8	2.4	2.3	0.2	-1.2	-3.0
1995	4.1	2.9	2.7	6.8	8.0	9.2	-2.8	-5.1	-6.5	1.8	-0.8	-1.5
1996	11.7	7.5	10.3	7.1	8.4	9.9	4.6	-0.9	0.3	4.7	2.3	1.3
1997	18.5	14.5	16.5	7.0	8.3	9.8	11.5	6.1	6.6	7.8	9.8	5.3
1998	11.6	11.6	13.2	6.4	7.9	9.2	5.2	3.7	4.0	6.7	9.8	4.7
1999	14.1	14.1	17.3	6.3	7.6	8.9	7.8	6.5	8.4	5.6	7.1	4.5
2000	6.6	15.5	13.8	6.2	7.4	8.4	0.4	8.1	5.4	4.1	12.8	4.5
Annualised over the last:												
3 years	10.7	13.7	14.7	6.3	7.6	8.8	4.4	6.1	5.9	5.4	9.8	4.6
5 years	12.4	12.6	14.2	6.6	7.9	9.3	5.8	4.7	4.9	5.8	8.3	4.0
10 years	10.5	7.4	11.6	7.0	8.1	9.5	3.5	-0.8	2.1	2.3	-1.6	-0.5
15 years	10.7	9.9	13.9	6.5	7.5	9.4	4.2	2.4	4.5	5.5	3.6	3.8
20 years	11.4	9.5	12.1	6.2	7.1	9.1	5.1	2.4	3.0	6.0	3.9	3.5

Databank profile

	2000 Total Return %	End-2000 No of Properties	Total Capital Value £ bn	% Total Capital Value
All Retail	**6.6**	**6,081**	**46.3**	**47.5**
Standard Shops	3.5	4,006	13.5	13.8
Central London	9.2	346	3.3	3.4
Rest of London	5.2	418	1.2	1.2
Southern England	1.3	1,438	3.5	3.6
Rest of UK	1.7	1,804	5.5	5.7
Shopping Centres	6.2	323	17.5	18.0
Retail Warehouses	11.3	1,029	12.3	12.7
Other Retail	6.4	723	2.9	3.0
All Offices	**15.5**	**3,607**	**34.4**	**35.4**
Standard Offices	15.9	3,246	29.9	30.8
Central London	18.1	1,265	16.2	16.7
Rest of London	18.6	354	3.7	3.8
Southern England	12.4	982	6.0	6.2
Rest of UK	10.2	645	3.9	4.1
Office Parks	13.2	361	4.5	4.6
All Industrial	**13.8**	**2,514**	**13.1**	**13.5**
Standard Industrials	14.5	1,831	8.3	8.6
London	17.8	320	2.0	2.1
Southern England	15.3	805	3.6	3.7
Rest of UK	11.3	706	2.7	2.8
Industrial Parks	13.2	365	2.3	2.4
Distrib'n Warehouses	11.7	318	2.5	2.5
Other Property	**9.1**	**1,058**	**3.5**	**3.6**
All Property	**10.4**	**13,260**	**97.3**	**100.0**



At the end of 2000, the 230 portfolios and 13,300 properties covered by the Annual Index were valued at £97bn - equivalent to 75% of the total property assets of UK institutions and listed property companies.

Retails are the largest sector in the Index, accounting for 47.5% of value at the end of last year. Offices and industrials had weightings of 35.4% and 13.5% respectively. The remaining 3.6% of total value covered a mix of farms, leisure and residential property.

One third of total investment is in Greater London. Outside London, eight major urban areas each have investments exceeding £1.4 billion.

Last year, retail's weight slipped by 2.4 points in 2000, the first decline since 1989, due to a mix of slow capital growth and relatively low net investment. Conversely, the office weight grew by 2.0 points, after twenty years of almost continuous decline and industrials share of total value gained half a point.

Net income growth %

	Retail	Office	Industrial
1981	10.2	8.7	8.9
1982	11.6	8.9	7.3
1983	12.1	9.8	8.1
1984	12.2	9.6	8.0
1985	7.7	8.6	7.5
1986	11.2	7.9	6.2
1987	12.4	12.0	6.0
1988	11.5	15.9	9.2
1989	13.1	15.2	14.5
1990	12.5	13.2	12.9
1991	9.0	5.8	8.0
1992	4.6	1.3	3.7
1993	3.2	-0.6	1.2
1994	2.7	-0.4	0.3
1995	2.9	-0.9	1.8
1996	3.6	2.2	1.8
1997	4.4	2.5	1.4
1998	5.7	5.5	2.5
1999	6.9	6.7	2.7
2000	5.5	6.1	2.6
Annualised over the last:			
3 years	6.0	6.1	2.6
5 years	5.2	4.6	2.2
10 years	4.8	2.8	2.6
15 years	7.2	6.0	4.9
20 years	8.1	6.8	5.7

Initial yield %

Retail	Office	Industrial
4.6	5.1	6.9
4.9	5.4	7.3
5.2	5.8	7.9
5.2	6.1	8.5
5.2	6.3	9.3
5.3	6.3	9.8
5.1	5.6	8.9
4.7	5.1	7.4
5.1	5.2	6.9
6.7	6.9	8.7
7.6	8.5	9.2
8.2	9.9	10.3
7.3	8.8	9.3
6.9	8.2	9.0
7.1	8.3	9.5
6.8	8.4	9.5
6.3	7.7	8.7
6.1	7.4	8.4
5.8	7.0	7.8
6.0	6.6	7.5

Equivalent yield %

Retail	Office	Industrial
7.7	7.5	9.6
7.7	7.6	9.8
7.5	7.6	10.1
7.4	7.7	10.4
7.3	7.9	11.1
7.3	8.4	11.6
7.2	8.1	10.9
7.0	7.9	10.0
7.6	7.9	9.8
9.3	9.5	11.8
9.6	10.4	11.7
9.7	11.0	12.3
8.4	9.2	10.5
7.9	8.6	9.9
8.1	8.7	10.4
7.9	8.6	10.2
7.4	8.3	9.6
7.3	8.4	9.3
7.0	8.1	8.7
7.1	8.1	8.5

Equivalent yield shift pp

Retail	Office	Industrial
-0.20	-0.06	0.02
0.11	0.24	0.44
-0.03	0.21	0.40
-0.02	0.25	0.57
0.16	0.31	0.90
0.26	0.51	0.63
-0.01	-0.02	-0.38
-0.04	-0.07	-0.76
0.61	0.24	0.01
1.67	1.60	2.07
0.36	1.11	0.06
0.13	0.59	0.49
-1.15	-1.67	-1.62
-0.52	-0.54	-0.45
0.37	0.36	0.66
-0.05	0.06	0.04
-0.43	-0.15	-0.51
-0.04	0.08	-0.17
-0.22	-0.14	-0.47
0.20	0.11	-0.20

Property & other assets

Rates of return

Last year saw property again prove its worth as a diversifier of risk in multi-asset portfolios. Total returns on equities dropped to -5.9% in 2000 as high tech stocks slumped and fears of recession grew. Gilts, conversely, gained from the prospect of a US recession and lower world inflation and total returns recovered to 9.2%.

Looking over the last five years, property now occupies its 'rightful' position, given the relative risk characteristics of the three assets. Since 1995 property returns have averaged 12.7% per year, behind equities at 13.7% per year, but ahead of gilts at 11.1% per year.

Long run property performance has been highly cyclical, but with an annual volatility well below other assets.

Yields

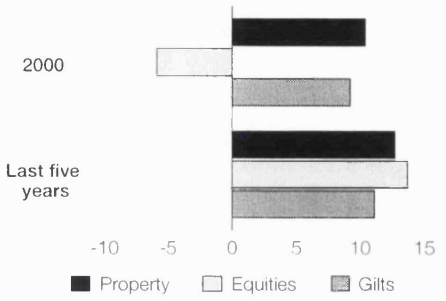
The gap between the property equivalent yield and long-gilts stood at 3.2 percentage points at the end of 2000, maintaining the large gap which opened up in 1998.

The returns for other assets shown below are courtesy of Barclays Capital Equity-Gilt Study

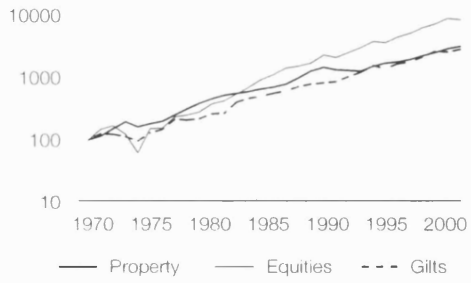
Other assets - total returns

	Equities (All share)	Gilts (15-20) year)	Cash (T-bill)	Inflation rate (RPI)	Exchange rates $:£1
1971	46.5	27.3	6.2	9.0	..
1972	16.4	-3.8	5.4	7.7	..
1973	-28.1	-8.9	9.0	10.6	..
1974	-50.1	-15.2	12.6	19.1	..
1975	149.3	36.8	10.8	24.9	2.023
1976	2.3	13.7	11.3	15.1	1.702
1977	48.6	44.8	9.4	12.1	1.919
1978	8.6	-1.8	8.1	8.4	2.041
1979	11.5	4.1	13.5	17.2	2.225
1980	34.8	20.9	17.2	15.1	2.392
1981	13.6	1.8	13.8	12.0	1.911
1982	28.5	51.3	12.4	5.4	1.618
1983	28.8	15.9	10.1	5.3	1.452
1984	31.6	6.8	9.5	4.6	1.158
1985	20.2	11.0	11.9	5.7	1.446
1986	27.3	11.0	10.9	3.7	1.484
1987	8.7	16.3	9.6	3.7	1.887
1988	11.5	9.4	11.0	6.8	1.808
1989	35.5	5.9	14.6	7.7	1.613
1990	-9.6	5.6	15.9	9.3	1.930
1991	20.8	18.9	11.6	4.5	1.868
1992	19.8	18.4	9.5	2.6	1.515
1993	27.5	28.8	5.9	1.9	1.478
1994	-5.9	-11.3	5.4	2.9	1.565
1995	23.0	19.0	6.7	3.2	1.551
1996	15.9	7.7	6.2	2.5	1.712
1997	23.6	19.4	6.9	3.6	1.645
1998	13.7	25.0	7.9	2.8	1.664
1999	23.8	-3.5	5.5	1.8	1.612
2000	-5.9	9.2	6.2	2.9	1.495
Annualised over the last:					
3 years	9.8	9.6	6.5	2.5	
5 years	13.7	11.1	6.5	2.7	
10 years	15.0	12.5	7.2	2.9	
20 years	16.9	12.7	9.5	4.6	
30 years	16.0	11.8	9.8	7.6	

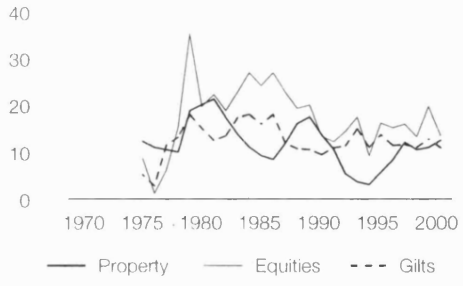
Total Returns %



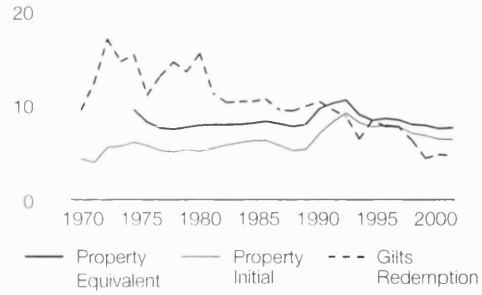
Long run total return Index 1970=100



Rolling Returns over 5 years %



Yields % (year end)



Index histories

Total return

	All property	Retail	Office	Industrial
1980	100.00	100.00	100.00	100.00
1981	115.05	117.40	115.08	112.13
1982	123.69	129.60	122.79	118.55
1983	133.07	145.50	129.55	125.79
1984	144.55	165.64	137.90	133.38
1985	156.48	186.61	148.37	138.15
1986	173.82	208.49	165.83	150.98
1987	218.59	251.80	216.49	188.36
1988	283.48	314.40	284.86	261.90
1989	327.14	345.58	332.18	338.18
1990	299.61	317.04	299.34	326.29
1991	290.08	327.22	266.90	356.14
1992	285.17	338.51	247.54	361.58
1993	342.08	407.68	295.07	437.16
1994	383.16	460.87	327.19	488.81
1995	396.76	479.60	336.74	502.25
1996	436.26	535.70	361.85	553.74
1997	509.58	635.05	414.17	644.85
1998	569.88	708.94	462.10	729.83
1999	652.45	808.60	527.46	856.41
2000	720.29	861.99	609.35	974.28

Capital growth

All property	Retail	Office	Industrial
100.00	100.00	100.00	100.00
109.39	112.27	109.49	104.73
111.49	118.17	110.86	102.94
113.32	126.17	110.56	101.00
116.03	136.60	110.90	98.42
118.16	146.24	112.25	92.93
123.45	155.20	118.05	92.20
146.99	178.62	146.23	105.46
181.56	213.32	183.60	136.45
199.31	223.63	204.04	165.00
171.00	192.79	172.55	146.77
153.07	185.28	141.81	146.60
137.77	177.45	119.51	134.65
152.68	199.31	130.85	148.52
158.71	210.87	134.01	151.92
152.22	205.02	127.16	142.08
155.25	214.35	126.02	142.56
169.19	239.07	133.74	151.99
176.89	251.49	138.70	158.04
190.03	271.00	147.74	171.34
196.72	272.02	159.71	180.60

Rental value growth

All property	Retail	Office	Industrial
100.00	100.00	100.00	100.00
107.80	109.08	108.14	105.04
111.86	115.29	111.74	107.24
115.04	120.99	114.39	108.55
119.93	129.68	117.76	111.67
127.66	141.89	124.81	114.59
140.18	155.67	139.39	119.58
166.92	178.46	173.92	133.56
205.06	213.34	217.89	163.41
235.88	243.41	249.09	197.68
242.47	254.32	250.41	211.14
221.79	248.72	212.93	207.03
195.30	240.29	169.45	188.85
179.86	235.62	146.15	172.09
178.36	236.03	144.44	166.90
178.96	240.28	143.27	164.46
184.93	251.56	146.62	166.60
199.79	271.21	160.95	175.37
214.44	289.33	176.67	183.53
227.00	305.52	189.14	191.79
243.19	317.93	213.31	200.47

Index construction

The IPD Annual Index measures returns to direct investment in commercial property. It is compiled from valuation and management records for individual buildings in complete portfolios, collected direct from investors by IPD. All valuations used in the Annual Index are conducted by qualified valuers working to RICS guidelines.

The Annual Index shows total return on capital employed in market standing investments. Standing investments are properties held from one annual valuation to the next. The market results exclude any properties bought, sold, under development, or subject to major refurbishment in the course of the year.

The Annual results are chain-linked into a continuous, time-weighted, index series. This and all historical market performance numbers reported in the Index (and in other IPD publications at the all property and three sector levels) are frozen historically and thus identical to those published last year.

Definitions

Total return is overall return on capital employed, and is the sum of income return and capital growth. Income return is income receivable net of property management and irrecoverable costs divided by capital employed through the year. Capital growth is change in capital value from one valuation to the next net of any capital flows, divided by capital employed. Capital employed is capital value at the start of the year plus half of any net capital flow, and half of income receivable (ie the calculation assumes flows of capital and reinvested income are even through the year).

Rental value growth is synonymous with estimated rental value growth and open market rental value growth. It is the percentage change in the rental value used in the valuation from one year end to the next.

Yield levels are given at the year-end for properties held as standing investments through the year. Initial yield is current net income divided by capital value. Equivalent yield is the rate which discounts the projected cash flow (taking into account all adjustments to rental value through review or expiry) to the capital value.

Yield shift is the change in equivalent yield only on those properties held as standing investments through the year. It is different from changes in end-year equivalent yield, which also reflect changes in the composition of the standing investment samples.

Extensive analyses of the IPD Annual results are available in the UK Property Investors Digest. Performance is tracked through the year in the IPD Monthly Index and Quarterly Review.

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IPD International Indices

On the following sheets, you will find full annual Index series, and results to end-2000, for all seven countries covered by IPD Indices.

		Total Return		
	Period:	1998	1999	2000
Ireland	1984-2000	38.2	31.1	27.9
Sweden	1984-2000	14.4	17.6	22.1
Netherlands	1984-2000	14.2	16.6	16.6
United Kingdom	1981-2000	11.8	14.5	10.4
France	1984-2000	5.1	13.5	14.2
South Africa	1995-2000	5.6	13.7	11.3
Germany	1996-2000	4.9	5.0	5.7

IPD UK Annual Index - full results to end-2000

Get the latest IPD UK Monthly Index results: http://www.ipdindex.co.uk/headline.html

Details on Index construction and variable definitions are below the tables.

Total return %

	All Property	Retail	Office	Industrial
1981	15.0	17.4	15.1	12.1
1982	7.5	10.4	6.7	5.7
1983	7.6	12.3	5.5	6.1
1984	8.6	13.8	6.4	6.0
1985	8.3	12.7	7.6	3.6
1986	11.1	11.7	11.8	9.3
1987	25.8	20.8	30.6	24.8
1988	29.7	24.9	31.6	39.0
1989	15.4	9.9	16.6	29.1
1990	-8.4	-8.3	-9.9	-3.5
1991	-3.2	3.2	-10.8	9.1
1992	-1.7	3.5	-7.3	1.5
1993	20.0	20.4	19.2	20.9
1994	12.0	13.0	10.9	11.8
1995	3.5	4.1	2.9	2.7
1996	10.0	11.7	7.5	10.3
1997	16.8	18.5	14.5	16.5
1998	11.8	11.6	11.6	13.2
1999	14.5	14.1	14.1	17.3
2000	10.4	6.6	15.5	13.8
Annualised over the last:				
3 years	12.2	10.7	13.7	14.7
5 years	12.7	12.4	12.6	14.2
10 years	9.2	10.5	7.4	11.6
20 years	10.4	11.4	9.5	12.1

Total return index Dec 1980 = 100

All Property	Retail	Office	Industrial
115	117	115	112
124	130	123	119
133	145	130	126
145	166	138	133
156	187	148	138
174	208	166	151
219	252	216	188
283	314	285	262
327	346	332	338
300	317	299	326
290	327	267	356
285	339	248	362
342	408	295	437
383	461	327	489
397	480	337	502
436	536	362	554
510	635	414	645
570	709	462	730
652	809	527	856
720	862	609	974

Income return %

	All Property	Retail	Office	Industrial
1981	5.7	5.1	5.6	7.4
1982	5.6	5.1	5.5	7.4
1983	5.9	5.5	5.8	8.0
1984	6.2	5.6	6.1	8.6
1985	6.4	5.6	6.4	9.2
1986	6.6	5.6	6.6	10.1
1987	6.7	5.7	6.7	10.4
1988	6.2	5.4	6.0	9.6
1989	5.6	5.1	5.5	8.2
1990	5.8	5.5	5.5	7.5
1991	7.3	7.1	7.0	9.3
1992	8.3	7.7	8.5	9.7
1993	9.1	8.1	9.7	10.6
1994	8.1	7.2	8.5	9.5
1995	7.6	6.8	8.0	9.2
1996	8.0	7.1	8.4	9.9
1997	7.8	7.0	8.3	9.8
1998	7.3	6.4	7.9	9.2
1999	7.1	6.3	7.6	8.9
2000	6.9	6.2	7.4	8.4
Annualised over the last:				
3 years	7.1	6.3	7.6	8.8

Income return index Dec 1980 = 100

All Property	Retail	Office	Industrial
106	105	106	107
112	111	111	115
118	117	118	125
126	123	125	135
134	130	133	148
142	137	142	163
152	145	151	179
161	153	160	197
170	161	169	213
180	170	178	229
193	182	191	250
210	196	207	274
229	212	227	303
247	227	246	332
266	242	266	363
287	260	289	399
310	278	313	438
332	296	337	479
356	314	363	521
380	334	390	565

5 years	7.4	6.6	7.9	9.3
10 years	7.8	7.0	8.1	9.5
20 years	6.9	6.2	7.1	9.1

Capital value growth %

	All Property	Retail	Office	Industrial
1981	9.4	12.3	9.5	4.7
1982	1.9	5.3	1.3	-1.7
1983	1.6	6.8	-0.3	-1.9
1984	2.4	8.3	0.3	-2.5
1985	1.8	7.1	1.2	-5.6
1986	4.5	6.1	5.2	-0.8
1987	19.1	15.1	23.9	14.4
1988	23.5	19.4	25.6	29.4
1989	9.8	4.8	11.1	20.9
1990	-14.2	-13.8	-15.4	-11.1
1991	-10.5	-3.9	-17.8	-0.1
1992	-10.0	-4.2	-15.7	-8.2
1993	10.8	12.3	9.5	10.3
1994	4.0	5.8	2.4	2.3
1995	-4.1	-2.8	-5.1	-6.5
1996	2.0	4.6	-0.9	0.3
1997	9.0	11.5	6.1	6.6
1998	4.6	5.2	3.7	4.0
1999	7.4	7.8	6.5	8.4
2000	3.5	0.4	8.1	5.4
Annualised over the last:				
3 years	5.2	4.4	6.1	5.9
5 years	5.3	5.8	4.7	4.9
10 years	1.4	3.5	-0.8	2.1
20 years	3.4	5.1	2.4	3.0

Capital value index Dec 1980 = 100

All Property	Retail	Office	Industrial
109	112	109	105
111	118	111	103
113	126	111	101
116	137	111	98
118	146	112	93
123	155	118	92
147	179	146	105
182	213	184	136
199	224	204	165
171	193	173	147
153	185	142	147
138	177	120	135
153	199	131	149
159	211	134	152
152	205	127	142
155	214	126	143
169	239	134	152
177	251	139	158
190	271	148	171
197	272	160	181

Rental value growth %

	All Property	Retail	Office	Industrial
1981	7.8	9.1	8.1	5.0
1982	3.8	5.7	3.3	2.1
1983	2.8	4.9	2.4	1.2
1984	4.2	7.2	2.9	2.9
1985	6.4	9.4	6.0	2.6
1986	9.8	9.7	11.7	4.4
1987	19.1	14.6	24.8	11.7
1988	22.8	19.5	25.3	22.3
1989	15.0	14.1	14.3	21.0
1990	2.8	4.5	0.5	6.8
1991	-8.5	-2.2	-15.0	-1.9
1992	-11.9	-3.4	-20.4	-8.8
1993	-7.9	-1.9	-13.8	-8.9
1994	-0.8	0.2	-1.2	-3.0
1995	0.3	1.8	-0.8	-1.5
1996	3.3	4.7	2.3	1.3
1997	8.0	7.8	9.8	5.3
1998	7.3	6.7	9.8	4.7
1999	5.9	5.6	7.1	4.5
2000	7.1	4.1	12.8	4.5
Annualised over the last:				
3 years	6.8	5.4	9.8	4.6
5 years	6.3	5.8	8.3	4.0
10 years	0.0	2.3	-1.6	-0.5

Rental value index Dec 1980 = 100

All Property	Retail	Office	Industrial
108	109	108	105
112	115	112	107
115	121	114	109
120	130	118	112
128	142	125	115
140	156	139	120
167	178	174	134
205	213	218	163
236	243	249	198
242	254	250	211
222	249	213	207
195	240	169	189
180	236	146	172
178	236	144	167
179	240	143	164
185	252	147	167
200	271	161	175
214	289	177	184
227	306	189	192
243	318	213	200

20 years	4.5	6.0	3.9	3.5

Net income growth %

	All Property	Retail	Office	Industrial
1981	8.0	10.2	8.7	8.9
1982	9.3	11.6	8.9	7.3
1983	10.0	12.1	9.8	8.1
1984	10.7	12.2	9.6	8.0
1985	7.9	7.7	8.6	7.5
1986	8.6	11.2	7.9	6.2
1987	10.9	12.4	12.0	6.0
1988	13.3	11.5	15.9	9.2
1989	14.1	13.1	15.2	14.5
1990	12.9	12.5	13.2	12.9
1991	7.3	9.0	5.8	8.0
1992	2.8	4.6	1.3	3.7
1993	1.3	3.2	-0.6	1.2
1994	1.4	2.7	-0.4	0.3
1995	1.1	2.9	-0.9	1.8
1996	2.8	3.6	2.2	1.8
1997	3.3	4.4	2.5	1.4
1998	5.1	5.7	5.5	2.5
1999	6.0	6.9	6.7	2.7
2000	5.2	5.5	6.1	2.6
Annualised over the last				
3 years	5.5	6.0	6.1	2.6
5 years	4.5	5.2	4.6	2.2
10 years	3.6	4.8	2.8	2.6
20 years	7.0	8.1	6.8	5.7

Net income index values Dec 1980 = 100

	All Property	Retail	Office	Industrial
1981	108	110	109	109
1982	118	123	118	117
1983	130	138	130	126
1984	144	155	142	136
1985	155	167	155	147
1986	168	185	167	156
1987	187	208	187	165
1988	212	232	217	180
1989	241	263	250	206
1990	273	295	283	233
1991	292	322	299	252
1992	300	337	303	261
1993	304	347	301	264
1994	309	357	300	265
1995	312	367	298	270
1996	321	380	304	274
1997	331	397	312	278
1998	348	420	329	285
1999	369	449	351	293
2000	389	474	373	301

Equivalent yield %

	All Property	Retail	Office	Industrial
1981	7.9	7.7	7.5	9.6
1982	8.0	7.7	7.6	9.8
1983	8.0	7.5	7.6	10.1
1984	8.0	7.4	7.7	10.4
1985	8.1	7.3	7.9	11.1
1986	8.3	7.3	8.4	11.6
1987	8.1	7.2	8.1	10.9
1988	7.8	7.0	7.9	10.0
1989	8.0	7.6	7.9	9.8
1990	9.7	9.3	9.5	11.8
1991	10.3	9.6	10.4	11.7
1992	10.6	9.7	11.0	12.3
1993	9.0	8.4	9.2	10.5
1994	8.4	7.9	8.6	9.9
1995	8.6	8.1	8.7	10.4
1996	8.5	7.9	8.6	10.2
1997	8.0	7.4	8.3	9.6
1998	7.9	7.3	8.4	9.3
1999	7.5	7.0	8.1	8.7
2000	7.6	7.1	8.1	8.5

Equivalent yield shift pp

	All Property	Retail	Office	Industrial
1981	-0.10	-0.20	-0.06	0.02
1982	0.22	0.11	0.24	0.44
1983	0.15	-0.03	0.21	0.40
1984	0.20	-0.02	0.25	0.57
1985	0.30	0.16	0.31	0.90
1986	0.40	0.26	0.51	0.63
1987	-0.06	-0.01	-0.02	-0.38
1988	-0.11	-0.04	-0.07	-0.76
1989	0.38	0.61	0.24	0.01
1990	1.69	1.67	1.60	2.07
1991	0.70	0.36	1.11	0.06
1992	0.36	0.13	0.59	0.49
1993	-1.45	-1.15	-1.67	-1.62
1994	-0.53	-0.52	-0.54	-0.45
1995	0.39	0.37	0.36	0.66
1996	-0.01	-0.05	0.06	0.04
1997	-0.36	-0.43	-0.15	-0.51
1998	-0.03	-0.04	0.08	-0.17
1999	-0.24	-0.22	-0.14	-0.47
2000	0.13	0.20	0.11	-0.20

Initial yield %

	All Property	Retail	Office	Industrial
1981	5.2	4.6	5.1	6.9
1982	5.5	4.9	5.4	7.3
1983	5.8	5.2	5.8	7.9

End year capital value £bn

	All Property	Retail	Office	Industrial
1981	17,960	5,012	9,601	2,687
1982	19,805	5,711	10,500	2,878
1983	21,705	6,562	11,377	3,008

1984	6.1	5.2	6.1	8.5	24,034	7,711	12,386	3,148
1985	6.3	5.2	6.3	9.3	27,037	9,351	13,691	3,273
1986	6.3	5.3	6.3	9.8	30,242	10,987	15,158	3,409
1987	5.8	5.1	5.6	8.9	37,244	13,636	19,251	3,724
1988	5.2	4.7	5.1	7.4	47,570	17,268	24,749	4,860
1989	5.4	5.1	5.2	6.9	55,220	19,139	28,817	6,421
1990	7.0	6.7	6.9	8.7	50,516	17,625	25,757	6,109
1991	8.3	7.6	8.5	9.2	47,554	17,947	22,118	6,452
1992	9.2	8.2	9.9	10.3	44,437	18,168	19,054	6,255
1993	8.2	7.3	8.8	9.3	50,141	20,937	21,088	7,127
1994	7.7	6.9	8.2	9.0	57,909	25,781	23,166	7,843
1995	7.9	7.1	8.3	9.5	57,333	26,211	22,204	7,632
1996	7.7	6.8	8.4	9.5	60,548	28,579	22,439	7,838
1997	7.1	6.3	7.7	8.7	71,024	34,692	24,905	9,199
1998	6.8	6.1	7.4	8.4	80,206	39,820	27,408	10,288
1999	6.4	5.8	7.0	7.8	89,478	44,630	29,853	11,594