

# **Risk Return Profiles in the UK Regeneration Market**

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### **Abstract**

This paper is concerned with investment returns and risk within urban renewal areas in major UK metropolitan areas. The analysis presented is by property type. The results indicate high returns for retail real estate with compelling risk return ratios. For retail property in particular, but also to a lesser extent for office and industrial, this research indicates that investment performance in regeneration areas has outperformed national and local city benchmarks. This study is significant for two reasons. First the research addresses the issue of transparency of investment returns for a sector of the market which institutions have largely by-passed, due to data deficiencies and uncertainties regarding the risk-return profile. Second the research makes a significant contribution to the policy perspective in terms of those initiatives, which are capable of stimulating large private sector capital flows into regeneration areas. Returns for regeneration property are analysed at aggregated (total returns) and disaggregated levels (income returns and appreciation returns separately) over a 22- year time period. Separation of the returns highlights the highly risky nature of capital return and the low risk bond-like income return.

### **1. Introduction**

The regeneration of significant parts of inner cities and towns has been a policy objective of successive UK governments over the past decades. Numerous evaluations of initiatives have been commissioned in order to assess the impact as part of the policy review process. Various “value for money” studies have quantified outputs and outcomes in terms of a series of physical, financial and social indicators. However, information on investment property performance has suffered from the lack of transparency in regeneration/urban renewal areas. Indeed, weak and confused market signals have often perpetuated many misconceptions regarding investment returns and risk, which has often led to opportunities being by-passed, notably by some of the largest institutional real estate investors.

This paper considers the investment performance of property in regeneration areas using a database of returns over a 22-year period. Annualised total returns on a sector basis are compared with national and local benchmarks. The results, contrary to perceptions, demonstrate that the risk per unit of return for property in regeneration areas is no greater than the prime markets and for the retail sector is lower. The paper is structured as follows. Section 2 reviews the perception of risk within regeneration areas; section 3 outlines the methodology underpinning this study; section 4 presents the results examining return, risk and diversification; section 5 draws conclusions concerning investment in regeneration property.

### **2. Property performance measurement: information and risk**

In the UK, there has been a concentration of analysis on prime property markets, leaving secondary and other areas less information rich. Regeneration/urban renewal locations are a case in point, with evaluation studies (Tyler, 2001) focusing upon economic and social factors, but excluding measurement of total returns in the real estate market. Adair et al (1998) have highlighted the implications for regeneration/urban renewal areas arising from

the limited range of information available on real estate investment performance in comparison to prime market locations. Such conditions of uncertainty are not conducive to investment (McGreal et al, 2000), especially by major financial institutions, and the wider investability objectives relating to the competitiveness of UK cities (Begg, 2002).

The lack of information remains a key issue. For example, a report by ERM Economics (2002) considers regeneration/urban renewal areas to be characterized by a lack of information, private landowner “hope” valuations, misperceived returns, high transaction and information costs, risk aversion and low demand. Adair et al (2003) discuss how this can lead to the under-pricing of real estate in regeneration/urban renewal areas. Guy et al (2001) argue that investor pricing influences are systematic and can work to undermine weaker, less profitable real estate markets and reinforce stronger more profitable ones. Under such pricing policies, regeneration/urban renewal areas may be particularly disadvantaged.

The pricing of risk is influenced by the probability that returns vary from expectations. Where market data are good, the variance of returns can be determined based upon past evidence. The estimation of risk is often proportional to the variability of returns that investors visualize (Brown and Matysiak, 2000; Besley and Brigham, 2000). Therefore the tighter the probability distribution of expected returns, the less the variability and thus the smaller the risk associated with the investment. In regeneration/urban renewal locations the risk presented by the perceived volatility of returns causes investors to raise the risk premium they would require before committing themselves to an investment (McNamara, 1993). Indeed, much of the problem concerning long-term financial institutional investment in inner city areas relates to perceived risks on income and capital.

This study builds upon previous work by considering total return and its component parts for regeneration/urban renewal property performance. A particular difficulty concerning the use of the variance of returns lies in the need for sufficient return data from which to calculate variability. Adair et al (2003) argue that the relative lack of information is a major issue constraining private sector involvement and explaining why regeneration/urban renewal real estate does not seem to attract the level of institutional funds that might otherwise be expected. It is contended that if regeneration property is to add value as a potential portfolio asset, there is a need for more transparent and robust information on total return and its component parts.

### **3. Methodology**

The methodology is a returns-based analysis that utilizes the concept of total return and employs the Investment Property Databank (IPD) standard method of market analysis. Total return is considered by IPD to be the target measure for investors and provides an indicator of performance for real estate as comparable as possible with the standard measures of investment return for other asset classes, such as equities and bonds (IPD, 2002). The regeneration/urban renewal total return series, developed in conjunction with IPD for this study, is based upon specific properties located within designated urban regeneration locations, or alternatively, properties that have been subject to some form of intervention, such as grant assistance.

This study uses eight UK metropolitan areas. Each of which has been the subject of varying regeneration initiatives by type, size, scale and nature of intervention. The subject

urban areas are Greater Manchester, Sheffield, Newcastle/Tyne and Wear, Birmingham, Nottingham, Bristol, Cardiff and Glasgow. These urban areas were selected on the basis of their differing economic infrastructure and varying experiences of regeneration/renewal. For each city, identification of potential investment quality properties required detailed site inspections with properties drawn from locations that had been or currently are subject to a regeneration mechanism. In addition, there are varying location contexts, namely waterfront areas, inner city/central city areas, and edge of city Enterprise Zones, in order to ensure a wide typology of properties by use, location and regeneration initiative. Given the difficulties with the transparency and completeness of property market data in these areas (Adair et al, 1998), the fieldwork sought to capture all potential investment quality property within a designated area, rather than drawing a random sample from the properties. The analysis was undertaken in conjunction with IPD to produce investment performance information for regeneration/urban renewal areas that was compatible with that for the prime markets and comparable against national benchmarks for the UK.

The traditional commercial property classifications of retail, office and industrial real estate are used. A time series of total returns was constructed over the 22-year period of 1981 through 2002 using 1980 as the base year. This two-decade period captures different phases of the real estate cycle, regeneration initiatives and policy objectives. The key issue is that this time horizon essentially encapsulates almost the entire period of UK urban regeneration. Sample sizes are variable across the time series, due to the phasing of new projects within regeneration areas over the past 22 years and the natural turnover of properties within the IPD universe.

Statistics for properties in the regeneration portfolio for 2001 provide an illustration of the robustness of the eight city return series and the constructed index. In 2001, 187 properties with a total value of £3,135m are included, of these 73 are retail (value £2,360m), 64 are offices (value £548m) and 41 are industrial (value £155m). On a value basis the retail sector has a high weighting in the overall index (75.3%). The IPD universe for England has a sector weighting for retail property of 43.6%. Hence the analysis infers that regeneration areas are particularly attractive to retail property often of high capital value, for example the Metro-Centre in Tyne and Wear. This finding is in broad agreement with recent IPD analysis (2002) for English Partnerships and Morley Fund Management that identified a 60.1% sector weight for retail property in the 10% most deprived wards of England. For 2002, the number of properties in this analysis has been slightly reduced to 177 with a combined capital value of £3,302m. The internal composition of the index has remained consistent with retail (68 properties and value of £2,454m), predominating relative to office (57 properties and value £602m) and industrial (45 properties and value of £602m).

#### **4. Results**

Annualised total returns are estimated for all properties in the aggregate, and more specifically, for the retail, office and industrial sectors, separately. Comparisons are made with national benchmarks for the UK and locally for the eight metropolitan areas where regeneration properties are located. Risk is calculated in terms of the volatility of returns using the standard deviation and the coefficient of variation. Potential diversification benefits from investment into regeneration/urban renewal areas are considered.

### *Annualised returns*

Annualised returns for regeneration/urban renewal real estate since the start of the 1980s, first for all property and second disaggregated by sector (retail, office and industrial), are illustrated in Exhibits 1 through 4. Two issues arise in relation to the patterns of returns: first the similarity between property types and, second, the high degree of variability. The latter is mostly due to differences in the capital appreciation component and is characterized by a number of spikes representing periods of strong, but volatile, market conditions. In contrast, the rental income component is smoother, more bond-like, reflecting the greater certainty of this income stream. For all real estate the annualised return over the twenty-two year horizon is 12.8%, with annualised capital appreciation of 5.6% and an income return 7.2%. Property type analysis highlights differences in the regeneration returns (Exhibit 5c) between retail properties with an annualised total return of 15.80%, and offices (10.59%) and industrials (12.60%). This is a function of the much higher annualised capital appreciation figures for retail property over the long-term (8.98%), compared to 2.79% for offices and 2.82% for industrial property (significance levels 0.02 and 0.03, respectively), whereas the income return is lower (6.82%) for retails and significantly (at 0.01 level) below that for industrials (9.78%).

A primary objective of this study is to assess how regeneration/urban renewal real estate returns compare with benchmarks and also to provide greater transparency for a segment of the UK property market about which relatively little information was previously available. This is accomplished by using the IPD UK returns series as the national benchmark (Exhibit 5a) and a specifically constructed local benchmark for cities in the regeneration index (Exhibit 5b).

At the national level, contrary to perceptions in the real estate investment industry, performance returns for regeneration areas exceed benchmarks. This is particularly apparent for retail property, with an annualised return of 15.80% compared to the UK benchmark of 11.49% (statistically significant at the 0.09 level). For office (10.59%) and industrial property (12.60%) total returns exceed national UK benchmarks, but differences are considerably less than in the case of the retail sector and not statistically significant: (the respective UK benchmarks being 9.65% and 12.26%). On the basis of weighting and total return, retail property is the best performing property sector in urban renewal locations. For office and industrial property, investment performance does not differ significantly from the national benchmarks, suggesting that these sectors perform at least as well in urban renewal areas as in the prime markets/areas.

Analysis of the disaggregated income streams presents a similar outcome, with both capital appreciation and income returns bettering the UK national benchmark figures (Exhibit 5a and 5c) except for capital appreciation for industrial property. Across the various combinations of property sectors and income streams, the most significant deviation is the capital appreciation income stream for retail property (8.98% compared to 5.11%). It would seem that regeneration/urban renewal areas are characterized by high levels of growth for retail property and have been the prime driver underlying the strong total return performance. In comparison, the income return for retail urban renewal properties (6.82%) is much closer to the UK benchmark (6.38%). For offices the regeneration/urban renewal returns for both types of income streams exceed the UK benchmark. Industrial property presents the one anomaly, with returns for regeneration capital appreciation less than the IPD benchmark.

The second level of returns analysis switches from the national to the local perspective and seeks to measure a city-effect through the comparison of the Eight City regeneration returns with the performance of the IPD universe for these same eight cities. This compares the performance for urban renewal properties against prime property in the same cities. This has the added advantage of stripping out the effects of London, in particular, from the benchmark and gives a better comparison. Results demonstrate a similarity to the national benchmarks with annualised total return for regeneration/urban renewal property exceeding local benchmarks. This prevails across the matrix of property types and returns series. However only in the case of retail property is the result statistically significant for total return (0.07 level): 15.80% for the regeneration/urban renewal property compared to the local benchmark of 11.21%, with capital appreciation accounting for most of this difference (Exhibit 5b and 5c). Total returns for regeneration/urban renewal offices slightly out-perform local benchmarks, but the differences are not large enough to be statistically significant, indicating that local market effects probably have an impact on the regeneration returns series. For the industrial sector, capital appreciation is lower for regeneration property but income return is higher; in neither case are differences statistically significant.

The differences in annualised returns between the regeneration index and the UK benchmarks infer that long-term returns for regeneration locations can equal or exceed those across the market as a whole. This finding, which is apparent in the case of comparisons against national benchmarks (strong) and local benchmarks (less strong), is important for many reasons and supports earlier more qualitative research (Adair et al, 1998) that perceptions of low returns in regeneration areas may be inaccurate.

### *Risk*

A main focus of this study concerns risk within regeneration/urban renewal real estate investments. Information on annualised returns, contrary to perception, has highlighted the potential for regeneration areas to outperform or equal national benchmarks. However regeneration investments are also perceived to carry higher levels of risk. In exploring the validity of this contention, the risk profiles of regeneration/urban renewal properties are analysed with particular attention placed upon the components of total return by property type. The analysis utilizes standard deviation as a measure of total risk and the coefficient of variation to compare relative risk.

For total return (Exhibit 6c), risk is lowest for retail property (9.05), the sector which had the highest annualised return, though the level of absolute risk does not vary substantially across sectors: offices (9.15) but higher for industrials (10.20). Of potentially greater interest is the source of risk which is almost entirely a function of the volatility of capital appreciation. In contrast, the income return element shows low levels/negligible risk arising from the stability of the income from lease structures operating in the UK and reinforcing the more bond-like behaviour of the income stream (Exhibits 2 through 4 and Exhibit 6c). Although retail property produces a higher total return and the lowest risk, the securitisation of the income stream across any of the three property types in the regeneration/urban renewal market may provide a low risk investment strategy.

The pattern of risk across property type and investment streams is more complex than return. Retail property conforms to the expectation of higher risk based upon perceptions of regeneration (Adair et al, 1998) and the principle that high returns attract greater risk.

In comparison with national and local benchmarks, risk for retail urban renewal property is higher across each of the three investment streams (Exhibit 6). The same pattern of greater risk holds for industrial property, except for capital appreciation, for which the UK benchmark has a higher level of risk. In contrast, offices have a different risk profile, with regeneration risk below both national and local benchmarks for the three investment streams, most notably when compared to the UK capital appreciation benchmark. The lower risk profile of offices in urban renewal areas may reflect the trend that public sector departments and agencies are frequently the tenants of such property, and therefore provide lower tenant risk.

Consideration of the coefficient of variation highlights these differences more explicitly (Exhibit 7) and contrasts the high risk capital appreciation component relative to the virtually risk-free income stream for the regeneration/urban renewal return series (Exhibit 7c). Retail property, although having a high total return, derives a significant portion of this from capital appreciation (Exhibit 5). This is the most risky component and even for retail property (the lowest risk sector) carries almost one unit of risk per unit of return (0.96).

In comparison with the UK benchmark figures, values for the coefficients of variation across the matrix of property types and investment streams are either less or the same for regeneration/urban renewal property, indicating a lower level of risk per unit of return than the market as a whole. The exception is capital appreciation for industrial property, which carries a higher relative risk within regeneration/urban renewal areas, suggesting a legacy of weak markets for industrial activity. Similar patterns are apparent in relation to local benchmarks with retail and office property in the urban renewal area having lower relative risk, whereas industrials carry higher relative risk (Exhibit 7b and c).

#### *Diversification*

On a risk-return basis, investment into real estate in regeneration/urban renewal areas would seem to be a rational decision. However, whether there are any added diversification benefits is more problematic. High correlation coefficients for regeneration returns against the national and local benchmarks signify little diversification benefit (Exhibit 8). However, since all assets are within the same asset class, relatively strong relationships are to be expected. The pattern is for correlations to be stronger with the local, rather than the national, benchmark. The weakest correlations are for retail property income streams ( $r=0.4138$  and  $r=0.3362$ ), suggesting that if diversification benefits exist, they are more likely to be within this investment category. For offices, correlation coefficients of 0.6085 and 0.6059 for capital appreciation and total returns, respectively, against the UK benchmark point towards potential though weaker diversification benefits.

## **5. Conclusions**

The results from this study indicate that investment property in regeneration/urban renewal areas can equal or outperform national and local benchmarks. The analysis demonstrates that over the long-term, regeneration/urban renewal real estate offers significant investment opportunities. These findings challenge preconceived notions and suggest that opinions of low investment returns in these areas are incorrect. Hence, the message of this study is the need to reconsider strategies regarding the investment potential of real estate within regeneration/urban renewal areas. This study also infers that the systematic under-

pricing of property in regeneration/urban renewal markets is probably a symptom of the information deficit. Potentially, the absence of returns evidence has been detrimental to real estate investment strategies in relation to regeneration/urban renewal areas and pricing in these areas.

Retail property is shown to perform extremely well within urban renewal areas. It seems that restrictions on out-of-town development arising from planning policy in the UK may have benefited regeneration locations in encouraging this type of investment. However, decomposition of the total return series indicates that the strong performance of the retail sector is based upon the highly volatile capital appreciation component. Retail property under-performs in terms of the low risk income stream, though this stream may carry added diversification benefits. For office and industrial property, the differences are less pronounced, though it is apparent that regeneration/urban renewal areas do not perform less well, and indeed in the case of the total return indicator, may outperform national benchmarks. On the basis of risk assessment, similar findings prevail. Indeed both of these sectors, but notably industrials, perform better in terms of the income return component. The analysis suggests the perception that regeneration areas have significantly greater levels of risk, compared to prime real estate markets is incorrect. Performance figures indicate that the level of risk faced in regeneration areas is not significantly different than the market as a whole, and in certain instances, may be lower.

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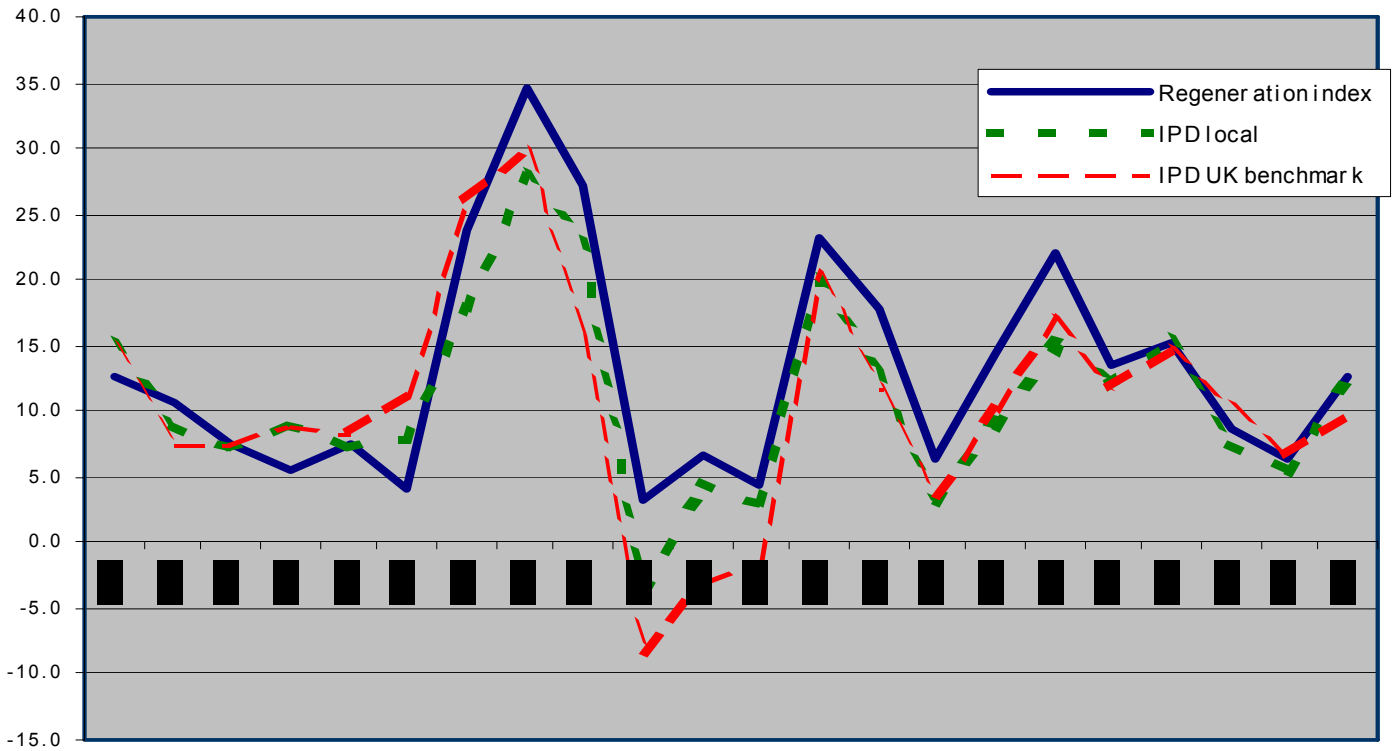
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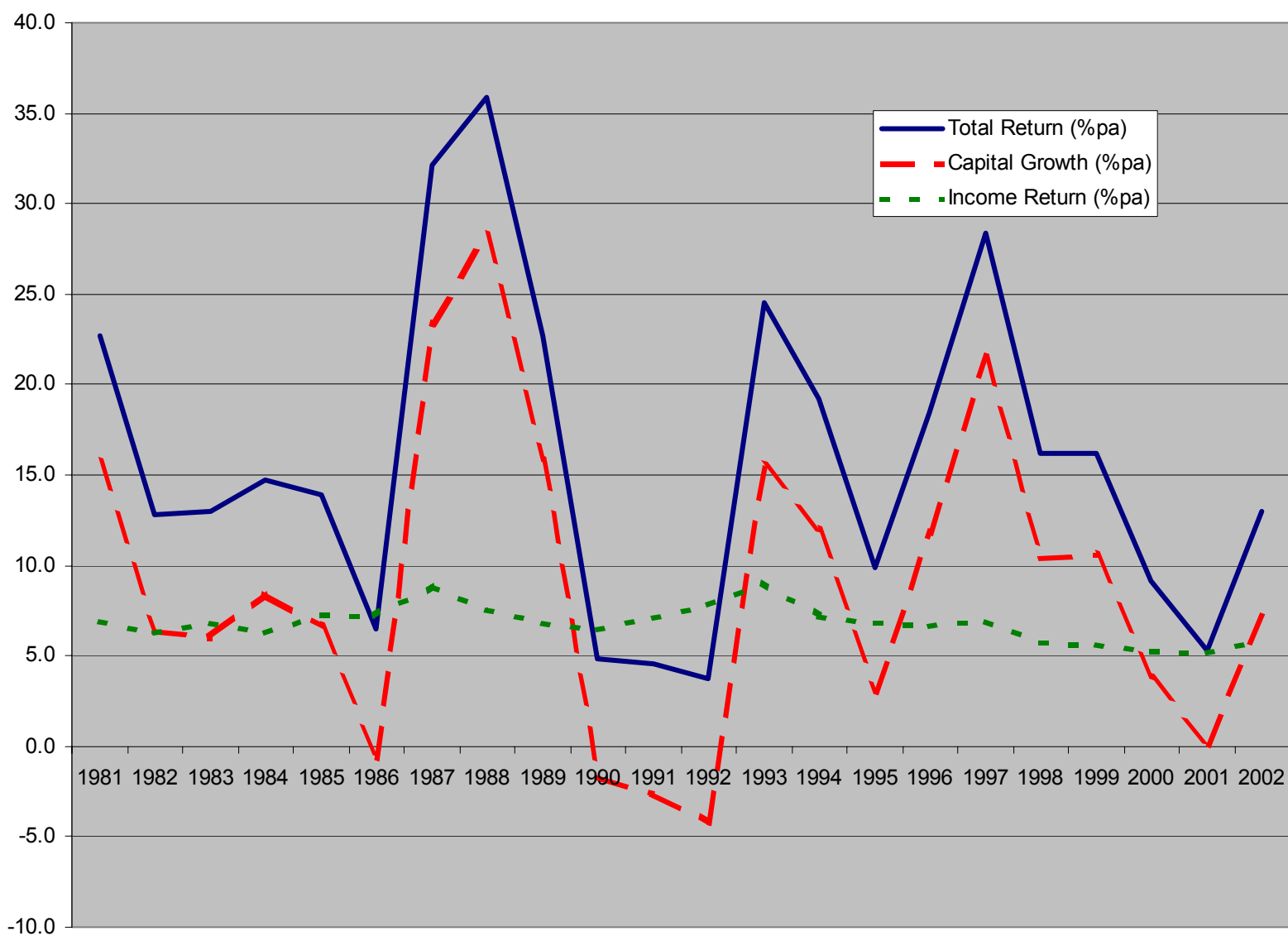
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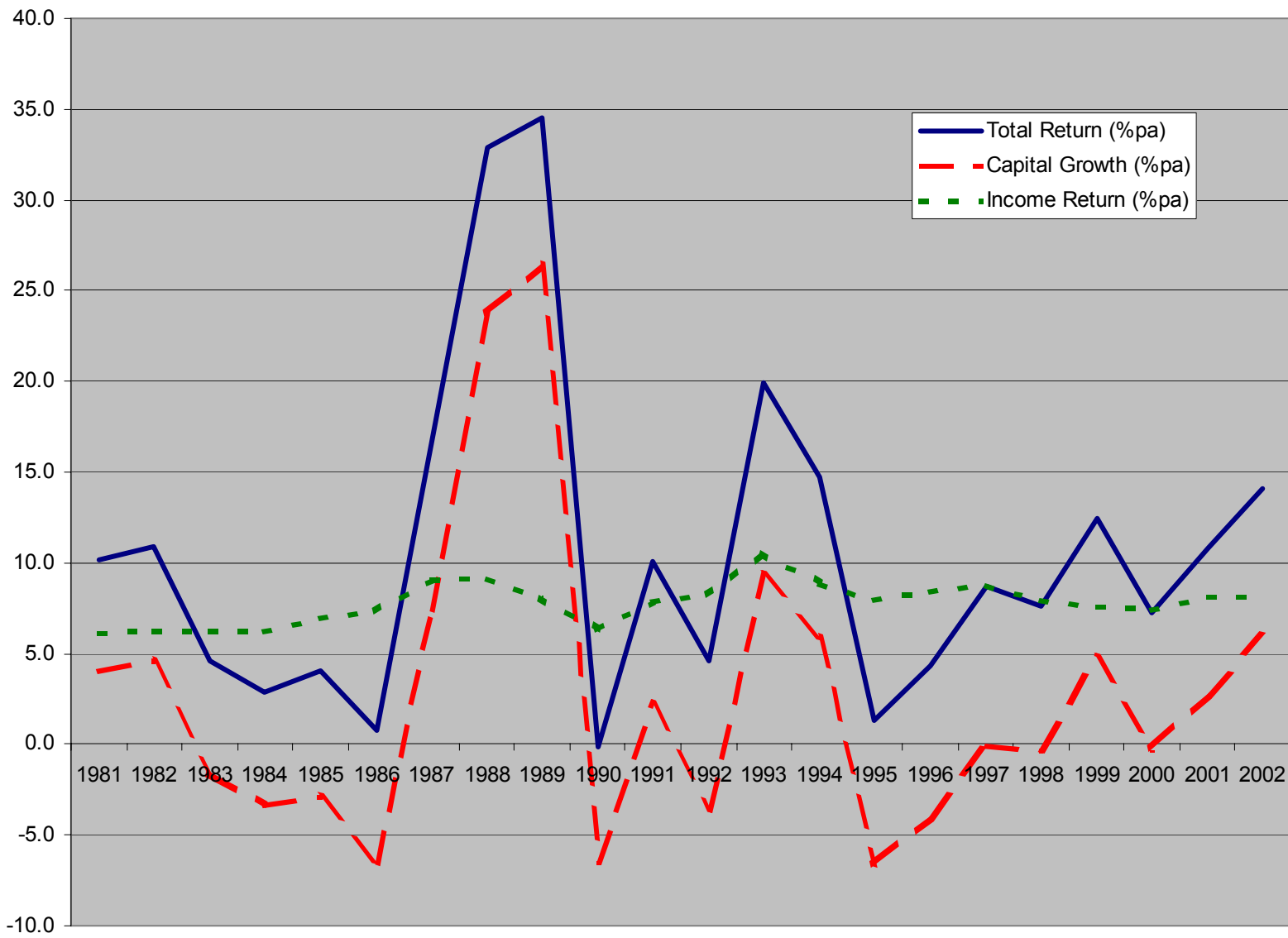
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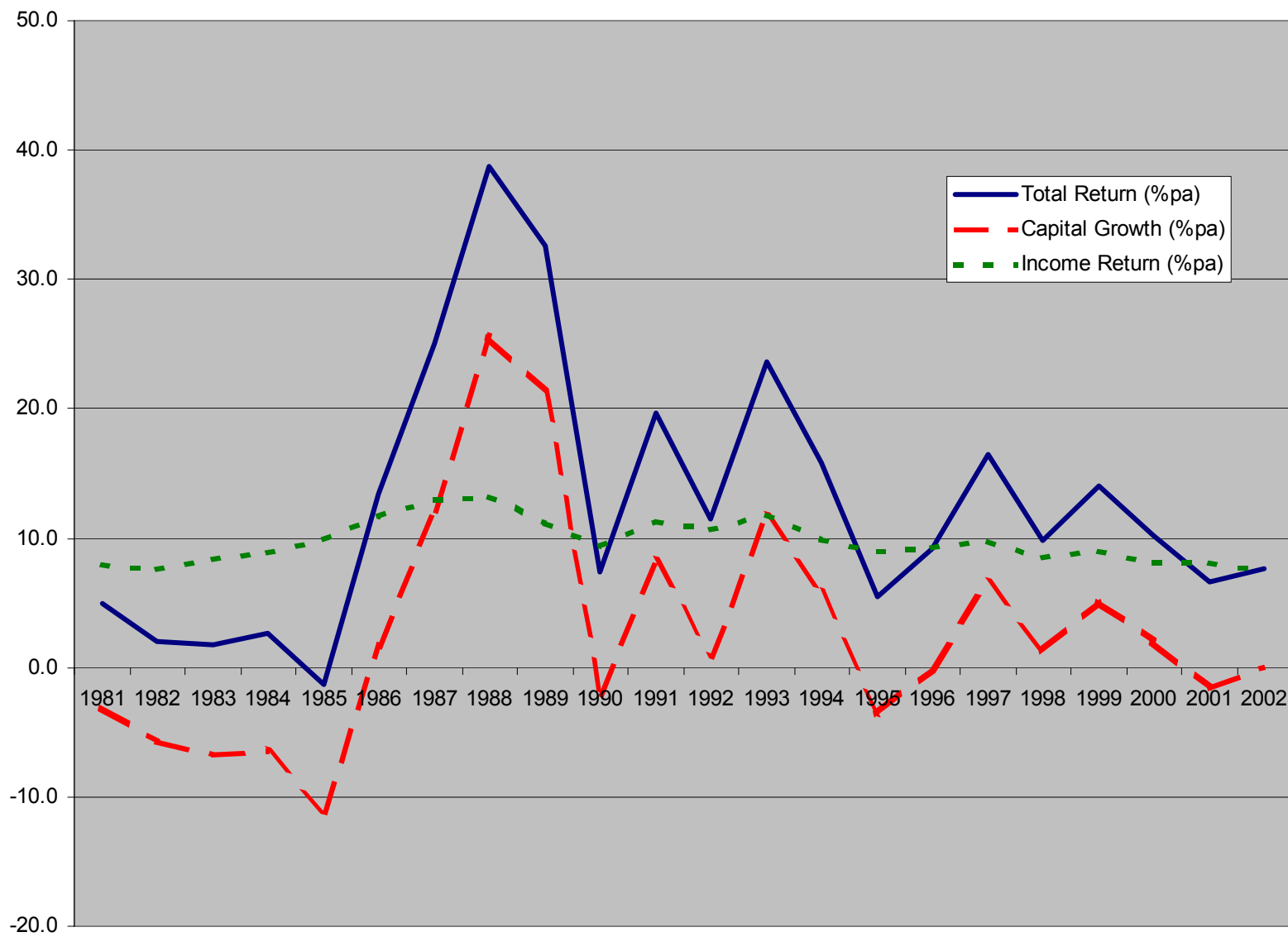
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**Exhibit 1. Total Returns Series Comparing Regeneration with UK and Local Benchmarks**



**Exhibit 2. Retail Property Returns Series**

**Exhibit 3: Office Property Return Series**

**Exhibit 4. Industrial Property Returns Series**

**Exhibit 5. Annualized Returns: 1981-2002**

## a. IPD UK Universe

	Retail	Office	Industrial
Income Return	6.38	7.12	9.09
Capital Appreciation	5.11	2.53	3.17
Total Return	11.49	9.65	12.26

## b. IPD Eight City Local Universe

	Retail	Office	Industrial
Income Return	6.37	7.54	9.65
Capital Appreciation	4.94	2.74	2.91
Total Return	11.21	10.28	12.56

## c. Eight City Regeneration Universe

	Retail	Office	Industrial
Income Return	6.82	7.80	9.78
Capital Appreciation	8.98	2.79	2.82
Total Return	15.80	10.59	12.60

**Exhibit 6. Standard Deviation of Returns: 1981-2002**

## a. IPD UK Universe

	Retail	Office	Industrial
Income Return	0.94	1.26	1.21
Capital Appreciation	7.14	10.41	9.09
Total Return	7.26	10.68	9.79

## b. IPD Eight City Local Universe

	Retail	Office	Industrial
Income Return	0.85	1.21	1.49
Capital Appreciation	6.95	9.00	8.81
Total Return	7.25	9.15	9.76

## c. Eight City Regeneration Universe

	Retail	Office	Industrial
Income Return	0.99	1.14	1.68
Capital Appreciation	8.64	8.61	8.92
Total Return	9.05	9.15	10.20

**Exhibit 7. Coefficients of Variation: 1981-2002**

## a. IPD UK Universe

	Retail	Office	Industrial
Income Return	0.15	0.18	0.13
Capital Appreciation	1.40	4.41	2.87
Total Return	0.63	1.11	0.80

## b. IPD Eight City Local Universe

	Retail	Office	Industrial
Income Return	0.13	0.16	0.15
Capital Appreciation	1.41	3.28	3.03
Total Return	0.65	0.89	0.78

## c. Eight City Regeneration Universe

	Retail	Office	Industrial
Income Return	0.15	0.15	0.17
Capital Appreciation	0.96	3.09	3.16
Total Return	0.57	0.86	0.81

**Exhibit 8. Correlation Coefficients, Income Streams and Benchmarks**

	retail	office	industrial
regeneration income with local benchmark	0.4108	0.8654	0.9308
regeneration income with UK benchmark	0.3362	0.7976	0.7867
regeneration capital with local benchmark	0.8658	0.9300	0.9467
regeneration capital with UK benchmark	0.8457	0.6085	0.8688
regeneration total return with local benchmark	0.8537	0.9275	0.9522
regeneration total return with UK benchmark	0.8439	0.6059	0.8673