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# Urban regeneration and office market sustainability: capturing private-sector investment

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**ABSTRACT**

Market sustainability, described as where a market has the capacity to sustain economically viable trading activities and cope with property cycles, is a pre-requisite for long-term economic stability and growth. This in turn is a pre-requisite for the fair and equitable funding of public services and facilities. However, market failure, necessitating state intervention and public funding for regeneration is the antithesis. In periods of austerity, such state intervention is not possible, and alternatives are needed to reverse market failure. One example is through local urban regeneration policies which seek to attract private-sector investment in regeneration activities. Examining the effectiveness of such policies in leading to market sustainability, this paper sets out a conceptual framework of the stages that can lead to market sustainability, subsequently operationalising the framework through the collection and analysis of primary data. Thus, new transaction-based rental indices are developed for two case study office sub-markets in the city of Manchester in the UK, enabling comparisons of market maturity, economic resilience and competitiveness for investment for a regeneration and an established sub-market. The paper concludes that the regeneration sub-market exhibits clear characteristics of market sustainability, offering evidence for the effective targeting of future government regeneration policies.

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**KEYWORDS**
Market sustainability; transaction-based indices; regeneration policy; office market; property cycles

## 1. Introduction

Austerity measures have accelerated neo-liberalisation and privatisation in planning (Heslop et al., 2023). In parallel, under the UK coalition government from 2010, the direction of regeneration funding moved away from central funding towards financially incentivising local authorities to cooperate with the private sector and leverage funding from various sources (Berkeley et al., 2017; P. Jones & Evans, 2013). Together, these factors have resulted in local councils facing significant pressure to find revenues, commonly looking to property-related taxation and developer contributions to fund statutory services (Heslop et al., 2023), and this includes regeneration initiatives.

Since the late 1970s, regeneration policies have increasingly been used as state interventions to resolve the problems caused by economic decline and market failure. Such

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regeneration policies have emphasised the role of property markets and have included substantial commercial real estate premises. The office sector in particular has been targeted, to provide essential working space for the expansion of the financial services sector. As the scale of these markets has grown, their impact has become more significant as they are a crucial point of intersection between the financial system and the built environment.

As a market experiencing regeneration grows and becomes more established, it may move towards being self-sustaining, or sustainable. This is explained by C. Jones and Watkins (1996) as a market that is able to sustain economically viable trading activities and, as Kauko (2017) adds, demonstrate essential qualities to secure long-term economic benefits. Exploring this further, C. Jones and Watkins (1996, p. 1132) contend that a sustainable market 'is capable of coping with property cycles' and is one where rental levels 'have risen to the long-run average . . . [and] . . . there has been a period of sustained market activity . . . a critical mass to ensure its credibility' (Jones and Watkins, 1996, p. 1138). Thus, it can be seen that market sustainability refers to a real estate market having the capacity to overcome the impact of economic downturns; market failures can be eliminated without state interventions and substantial public funding.

Debates have established the themes of state–market relations in property, and the performance of regeneration markets in attracting institutional investment as important topics. Indeed, Guironnet et al. (2016) describe an increasing influence of financial investors on the policymaking of city governments because of the growing reliance on property markets in the era of austerity. The trajectory of effort to entice private-sector finance and investment into urban regeneration since the 1970s echoes the incremental importance of financialisation in the built environment that raises a concern that urban policy has been employed as ideological cover for financialising real estate to privilege 'exchange value over use value' (Grydehøj, 2016, p. 14). However, these two themes are mostly disengaged in the literature and, consequently, there is little attention given to how they can be reconciled and, furthermore, how they combine to impact on market sustainability.

Studies have investigated the involvement of institutional funding in regeneration projects and developments (for example, Adair et al., 2007; Haran et al., 2011; Heurkens, 2018), but limited attention is given to how these markets can further attract institutional investment to tackle the problem of constrained public-sector regeneration funding. If regeneration property markets are found to become sustainable over time, that is they are less susceptible to short-term economic market cycles, their investment characteristics will be more closely aligned to private investors' longer-term investment horizons, most notably institutional investors (Parkinson et al., 2010, quoted in Haran et al., 2011), who tend to prefer prime markets and high-quality buildings (Adair et al., 2007), commonly referred to as 'investment-grade' properties.

A sustainable property market is not just important in that it can attract institutional investors, it is important in that its links to economic sustainability and financial stability (Nguyen & Bui, 2020; Teresienė et al., 2021) are core to the assumption that society needs economic growth to generate funds necessary to provide other 'softer amenities' (Kauko, 2017) including social, environmental and cultural dimensions. This is linked to ideas around 'fairness' and 'equity', ideas that have been highlighted in the debate around economic sustainability (Elliott, 2005;

Pitelis, 2013). Notwithstanding debates around the effectiveness of property-led regeneration in delivering social objectives for local communities (Adams et al., 2017; Gray, 2022; O'Callaghan, 2024), Elliott (2005, p. 269) explains the concept of 'fairness in resource allocation across time' as 'if we pass on a capital stock that is at least as large as the one that we inherit [then] we passed on the ability of the next generation to have a quality of life at least equal to ours'. Following this logic, C. Jones and Watkins (1996) suggest that policymakers should hold a long-term perspective when developing regeneration policies. Indeed, Haran et al. (2011, p. 75) highlight that urban regeneration 'has played a pivotal role in enhancing the competitiveness of the UK economy, repositioning cities and city regions as the mainstays of economic growth'. This foregrounds the importance of highly effective regeneration policies leading to market sustainability and, thus, associated local government income generation enabling the provision of amenities (Christophers, 2019).

It is argued, therefore, that regeneration policies are pursued to provide the conditions for economic development, leading to and shaping the economic stability of the local economy. Over time, the aggregate amount of these new regeneration properties injected into the existing stock could be substantial, providing important investment assets in the financial market, providing further economic contribution to the local economy and increasing its competitiveness. The strength of a city's economic competitiveness in attracting investment is closely linked to forecasts of its economic growth. Cities seek to stimulate economic growth to compete with one another to attract businesses (P. Jones & Evans, 2013). E. D'Arcy and Keogh (1999) describe how the property market influences urban competitiveness directly through the provision of suitable accommodation for economic activity and this, then, impacts on the sustainability of its economic growth through the cumulative contribution to the built environment.

It is within this context that the aim of the research is set out, being to explore whether regeneration policies foster real estate market sustainability. The interactions and links between regeneration policies and market sustainability are complex and important, as introduced above, and form the focus of the paper. The concept of market sustainability is used as an evaluative indicator to assess the success of regeneration initiatives. To operationalise this evaluative indicator, a new conceptual framework for market sustainability is developed as set out in section 2. This is the first contribution made by the paper and it highlights the importance of rental levels in tracking market development. This, then, leads to the second contribution made by the paper, being the construction of new transaction-based rental indices for two sub-markets, a regeneration and an established sub-market. Such indices are rare, due to data availability and confidentiality, most especially at disaggregated levels as identified by Devaney (2014) across European markets. However, without their development many in-depth studies of observed market functioning remain impossible. This, then, is a strength of the approach taken here, enabling an assessment to be made of market sustainability for a highly disaggregated local sub-market subject to regeneration policies. The development of the indices required extensive archival analysis, augmented by fieldwork, approaches rarely utilised in the commercial real estate research discipline, but this innovative approach is developed here to provide insights into this important area. The details of this and the wider research approach are set out in section 3. Following this, the data analysis and discussion

are in section 4, with section 5 providing the overall assessment of whether regeneration policies foster market sustainability, alongside wider conclusions.

## 2. Conceptualising and assessing market sustainability

The focus of this paper is to investigate whether regeneration policies foster real estate market sustainability. The common approach to funding land and property regeneration has become through leveraging the significant private sector investment of institutional investors, with the goal of creating conditions for market sustainability and removing the financial burden of extensive public funding from local governments. To assess market sustainability, the literature suggests that there are three key concepts, being market maturity, economic resilience and competitiveness for investment. These are briefly explored in turn below. To enable the development and subsequent operationalisation of a model of market sustainability, the discussion purposefully focuses on how they are assessed.

### *2.1. Market maturity*

Prior to a market being seen as sustainable, an emerging real estate market is seen as immature and less efficient in its functioning and trading activities, and in the availability of market information. During the process of regeneration, as properties are added to existing market stock, these emerging markets are described by Healey (1991) as 'thin' and 'fragile'. These less mature markets are characterised by limited economic activity with little information on market performance and, therefore, 'such markets are frequently epitomised by low demand and substantial uncertainty' (Adams & Tolson, 2019, p. 383).

Regeneration markets in the UK are noted by Haran et al. (2011) as growing in maturity, and Adair et al. (2005) suggest that one of the fundamental elements in measuring such maturity is through rental growth. Similarly, C. Jones and Watkins (1996, p. 1138) state that the conditions for a mature market can be assessed through market rents and, additionally, capital values, such that they 'have risen to the long-run average rent/price, making development viable'. These indicators are important for institutional investors with core strategies and therefore typically seeking a growing rental income stream with low levels of volatility, typically characterising mature markets. Investors will capture their forecasts of future rental levels and perceptions of associated (un)certainty into their appraisals of investment viability and it is these perceptions that manifest as pricing volatility.

Rental value has also been placed in the central position of modelling 'sustainable rent' or 'prudent value' to testify the health of commercial real estate markets and financial stability by some central banks and related organisations such as the Bank of England and the International Monetary Fund (Crosby et al., 2022). Crosby et al. (2022, p. 32) observe that one major cause that triggered the 2008 Global Financial Crisis (GFC) was 'the failure of financial markets to withstand significant real estate market downturns'. They contend that, in the UK, researchers in finance have become more aware of the key linkage between commercial real estate lending and asset values as a key source of

instability. Sustainable rents or long-term equilibrium rents are used as indicators to identify the risk of real estate market downturns and financial stability (Crosby et al., 2022).

Summarising, in assessing market maturity, a market can be said to be mature when market rents are at a level where the long-run price makes private sector development viable (C. Jones & Watkins, 1996). In turn, this indicates that a mature market is one which is accepted as an investment product and is thus characterised by the involvement of institutional investors who provide long-term investment (P. Jones & Evans, 2013; C. Jones & Watkins, 1996). This aligns with the more recent work of Crosby et al. (2022).

### 2.2. Economic resilience

The notion of resilience was highlighted by Martin (2012) to examine the reaction of regional economies to recessionary shocks. He contends that economic structure plays a role in shaping a region's reaction to a major recessionary shock, such as the 2008 GFC. The 2008 GFC exposed the reliance of the office market on the financial, professional and business services industries, with this systemic risk resulting in pronounced downturns (Lizieri & Pain, 2014). This includes both global cities like London and large regional second-tier cities. B. Zhu and Lizieri (2021) investigate the possibility of higher risk in commercial real estate markets due to the 'locking' phenomenon of the 'linked ownership network'. They argue that this '"linked ownership" network reflects the flow of international capital and creates invisible connections between cities: shocks between markets can be transmitted via those global real estate investments' (2021, p. 619). As H. Zhu (2003) remarks, property values are susceptible to boom-bust changes in economic cycles, and this is more evident in regeneration markets as investors exhibit behaviours such as the 'flight to prime' and a reduced appetite for risk (Haran et al., 2011). While this was found by Haran et al. (2011), their results indicated that total returns in regeneration markets overall were only slightly more susceptible to the downturn of the GFC downturn and, interestingly, the office (and industrial) sectors were marginally more resilient. They note that, as time has passed and regeneration markets have become more established, transitioning to become more mature, their data for regeneration markets does increasingly contain prime properties.

Returns and risk are therefore established as core fundamentals in investment decision-making, with fluctuations in actual and perceived rental growth underpinning volatility. One of the characteristics of economic resilience in property markets is that the market has the capacity to 'bounce back' after recession in the business and property cycles (Cowell, 2013; C. Jones & Watkins, 1996) and that the market could adjust flexibly in both the short- and long-run (Keogh & D'Arcy, 1994). In terms of assessing this 'strength' and adjustment, reference is therefore needed to market metrics such as rental growth.

### 2.3. Competitiveness for investment

É. D'Arcy and Keogh (1997, 1999) define urban competitiveness as the ability of a city to exploit or create comparative advantage, and thereby to generate high and sustainable economic growth relative to competitors. Since the 1970s, places and cities have

witnessed incremental pressure to compete with each other internationally for footloose inward investment following the rise of global investment flows that give decision-makers more choices of location (Begg, 1999; Delgado-García et al., 2018; Garcia & Judd, 2012; Tallon, 2020). In parallel, cities across Western developed countries, reliant on urban regeneration developments to revive their local economies and built environment, found themselves competing to stand out due to the remarkably similar strategy of regeneration policies proposed by these cities (Tallon, 2020). P. Jones and Evans (2013, pp. 66–68) observe that 'regeneration policy in the UK has been framed by the emergence of global cities and the new economy' and 'cities able to train, educate and retain workers in the new economy reap the economic benefits'. They also note that a close connection between urban regeneration and property development in the UK has been consolidated because '[f]rom the 1980s, urban regeneration has become a prevailing vehicle utilised in almost all urban areas in the UK, reaching a peak of activity in 2008 before the property bubble burst' (2013, p. 3) and '[u]rban regeneration policies [have] helped to create and shape the pre-2008 property development boom' (2013, p. 4).

Attracting investment in property remains an important vehicle for securing private sector involvement (Adair et al., 2005) and can be used to assess the success of regeneration policies (Adair et al., 2002; CLG, 2012; DIT Department for International Trade, 2016). New investment may bring more businesses into the city and this therefore requires more fit-for-purpose space to be constructed or refurbished. This triggering of an upsurge in demand, and consequent supply response, leads to a gradual cumulative contribution to the built environment and fuels an upwards trajectory in competitiveness as land and property are commonly regarded as hard assets that drive the economic competitiveness in urban areas (Begg, 1999).

This sets out the rationale for urban policies and strategies, such as property-led regeneration, frequently being developed for cities to improve the strength of their competitiveness (Singhal et al., 2009, 2013; Tallon, 2020) with an emphasis on creating an attractive locality for potential investors (Begg et al., 2002). From an economic perspective, the focus of competitiveness enhancement is linked to the ability to compete for inward investment with other cities nationally and globally (Turok, 2004); often through economic regeneration facilitated by public policy and resources (Singhal et al., 2009, 2013).

One of the critical issues in studying competitiveness is how to measure and evaluate the effectiveness of cities' competitiveness for attracting investment. Some researchers investigate the effectiveness of property-led regeneration in attracting investment into inner cities by assessing the performance of such investments (see Adair et al., 2002). Others explore investment indicators such as returns and risk by promoting the increase in the transparency of regeneration property investment data (Adair et al., 2003). Although not continued, the establishment of the IPD Regeneration Index was seen as a significant step in improving data transparency for regeneration property markets. The IPD reports (for example, published in 2007 and 2008) and other studies (Adair et al., 2003, 2005) confirm that regeneration areas outperformed all (UK) property standing investments, suggesting that there might be benefits to investing in regeneration property markets, particularly at the right point in the property cycle (IPD and Savills, 2011).

Investment performance indicators span rental, yield and value measures. Rental growth reflects demand for space by occupiers, a key driver in attracting investors.

Investor expectations of rental growth are captured within investment yields, but yields are volatile as they also reflect complex risk sentiments across multiple spatial scales and wider economic, political and capital markets. Indeed, while yields may be used as an indicator of investment potential, Crosby et al. (2016) reveal their complexities, identifying that only a small proportion of the yield accounts for sector and sub-market specifics. Furthermore, investor strategies will also influence the interpretation of differential yield levels. Thus, while rental levels and yields underpin capital value growth and total returns, it is argued that rental levels and change provide a more stable and singular assessment of investment prospects in a specific market, with rental growth and stability at the heart of core investment strategies.

Expectations of rental growth, and the importance of comparative rental levels and change, are established as indicators across the three concepts of market maturity, economic resilience and competitiveness for investment. This, then, leads the way to the development of a new model of market sustainability, as set out in the next section.

### 2.4. Assessing real estate market sustainability

Building on the discussion above, a novel conceptual framework for market sustainability is developed and presented in Figure 1. This diagrammatically sets out the process whereby local urban regeneration policies, the starting point in the framework, may be a key mechanism in fostering real estate market sustainability, the end point shown. This provides a framework for exploring and assessing the effectiveness of such policies,

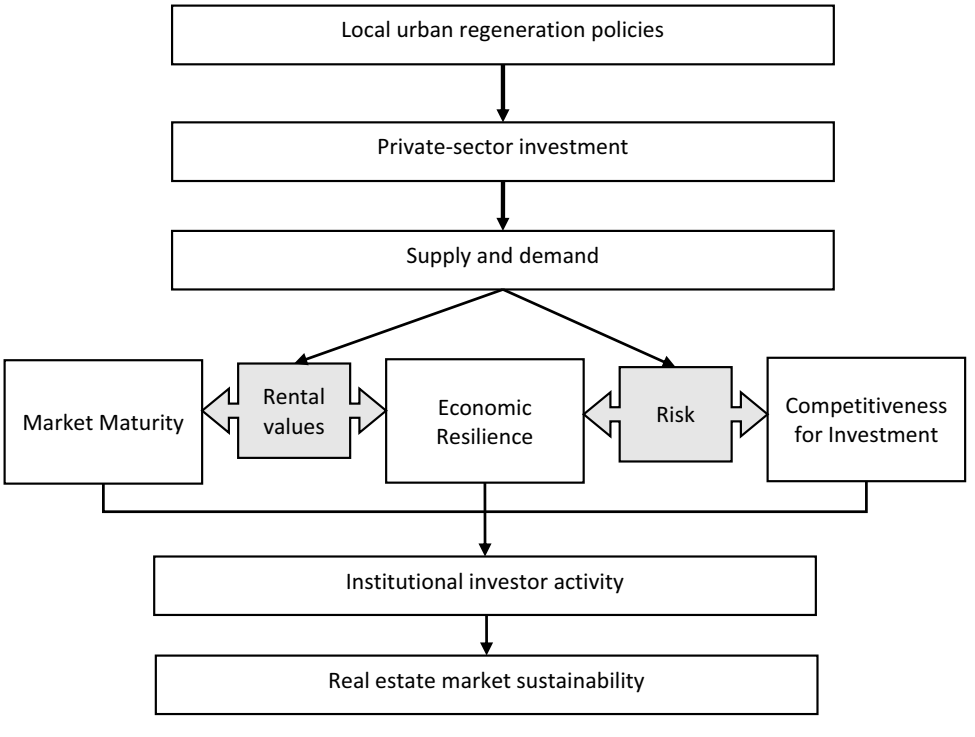


**Figure 1.** Conceptual framework for market sustainability.

important in developing local economic growth and stability, and securing local government income generation in turn enabling the provision of amenities. As depicted, it is through these local urban regeneration policies that private-sector investment in regeneration schemes may be attracted, bringing new supply to the market and stimulating demand. As supply and demand evolve and the market is recalibrated and emerges, it moves towards maturity, being characterised by increasing resilience and competitiveness. Market indicators allow this process to be tracked, with rental levels and volatility in rental levels, identified in the literature as key indicators. As this process continues, institutional investors are attracted to the market, demand for the investment assets is generated and market activity increases. Once a market has sustained activity and reached a long-run level of stability, it can be said to be sustainable. Section 3 explains how this conceptual framework is operationalised to enable an assessment of whether regeneration policies foster real estate market sustainability.

## 3. Methods and data

The aim of this study is to explore whether regeneration policies foster real estate market sustainability. As established above, there are three key underlying concepts and, furthermore, there is a clear commonality in how they might each be assessed, based on rental levels and rental growth. To investigate market sustainability through these concepts a case study approach is used. The rationale for this is set out below, and this leads into details of how the specific markets were identified and, subsequently, the data collection and analysis methods.

### *3.1. Case study approach*

A case-study approach is used as it enables an in-depth exploration of a period of complex market change. The city chosen is Manchester, a regionally dominant and significant market in the north-west of England. It is typical of large cities in the north of England, in that it experienced severe economic decline and job losses with the decline of its industrial manufacturing base, necessarily turning to private-sector investment to revitalise the local economy and tackle market failure. These characteristics are common across international markets in developed countries, making the research applicable to many cities that have a shared history and, furthermore, may provide valuable guidance to cities on the cusp of decline across other international arenas. The Manchester office market has become characterised by institutional investment, making it appropriate for the study of whether regeneration policies foster private-sector investment and long-term market sustainability. Following Swanborn (2010, p. 52), the selection of Manchester as a case study is based on its characteristics being a 'representative case' for other cities across the northern and midlands regions of England, as well as similar cities across many international markets.

Archival analysis has been used to develop a rich history of regeneration plans covering the period from the late 1960s to 2017. The process of de-industrialisation in Manchester started with the First World War (Ortiz-Moya, 2015) which marked the beginning of the population decline. After suffering from a deteriorating economy for several decades, Manchester city centre did not see any new developments until the late

1950s which were gradually completed in the 1960s, coinciding with the publication of the 1967 City Centre Map report and therefore marking the start of the 50-year study period. Starting from this time, the rising industries in the financial and service sectors replaced the mass-manufacturing industry (Taylor et al., 1996), with the City Council recognising the strategic significance of new office developments to meet demand.

The archival analysis comprises a review of documents published by Manchester City Council, as well as various maps and reports, as set out and categorised according to evolving strategic regeneration priorities, in Table 1. It also allowed identification of the evolution of strategies over the 50-year study period, also shown in Table 1. Through this, the broad study area is defined according to the 1967 report and, accordingly, comprises the established City Centre area, marked in blue in Figure 2, defined as the area inside the Inner Relief Route and extends to the south to encompass part of the Oxford Road Corridor. Within this study area, there were six regeneration areas identified in the 1967 report, shown in Figure 2 in dashed lines. Figure 2 also illustrates how, within the overall conurbation, Manchester City Centre is connected to the City of Salford to the west and to East Manchester, themselves subject to later regeneration. As detailed below, the data for properties developed since 1967 within these six zones comprise the 'regeneration sub-market' explored within the study, while the data for other properties developed within the City Centre comprise the 'established sub-market'.

**Table 1.** Regeneration strategies and planning documents.

| Year | Document |
|---|---|
| *1961–1983: Response to demand for modern office spaces from the financial and services sectors* | |
| 1961 | Manchester development plan |
| 1967 | Manchester City Centre Map report |
| *1984–1996: Aim to regain the city's economic confidence through regeneration developments and place-marketing to promote Manchester as a European regional capital* | |
| 1984 | Manchester city centre local plan |
| 1992 | The Manchester plan. The unitary development plan for the city of Manchester |
| 1994 | Economic development statement |
| 1994 | Sustainability in Manchester |
| 1994 | City pride |
| 1995 | The Manchester report: outputs of global forum 1994 |
| 1995 | City development guide: draft |
| 1995 | Manchester: 50 years of changes |
| 1995 | The Manchester plan. The unitary development plan for the city of Manchester. |
| 1996 | A Guide To Development In Manchester |
| *1996–2002: Development and implementation of the 'Manchester Model to regeneration' highlighting the efficiency of rebuilding via effective planning mechanisms, following the 1996 IRA bomb* | |
| 1996 | Supplementary Planning Guidance (SPG) for the bomb damaged areas. |
| 1997 | City Pride 2 |
| 2001 | City Pride Partnership |
| 2002 | Manchester City centre strategic plan. |
| *2003–2009: Sustaining the competitiveness of the Manchester office market* | |
| 2003 | Manchester City Centre: Strategic Plan 2004–2007 |
| 2007 | Guide to Development in Manchester Supplementary Planning Document and Planning Guidance Adopted April 2007 |
| *2010–2017: Launch of strategic regeneration frameworks to create flexible office spaces for 'price-sensitive' occupiers and start-up businesses* | |
| 2011 | Manchester Core Strategy 2012 to 2027 |
| 2012 | Manchester's Local Development Framework – Core Strategy: Development Plan Document |
| 2014 | City Centre Strategic Plan 2015–2018 |
| 2017 | Corridor Manchester: North Campus Strategic Regeneration Framework |

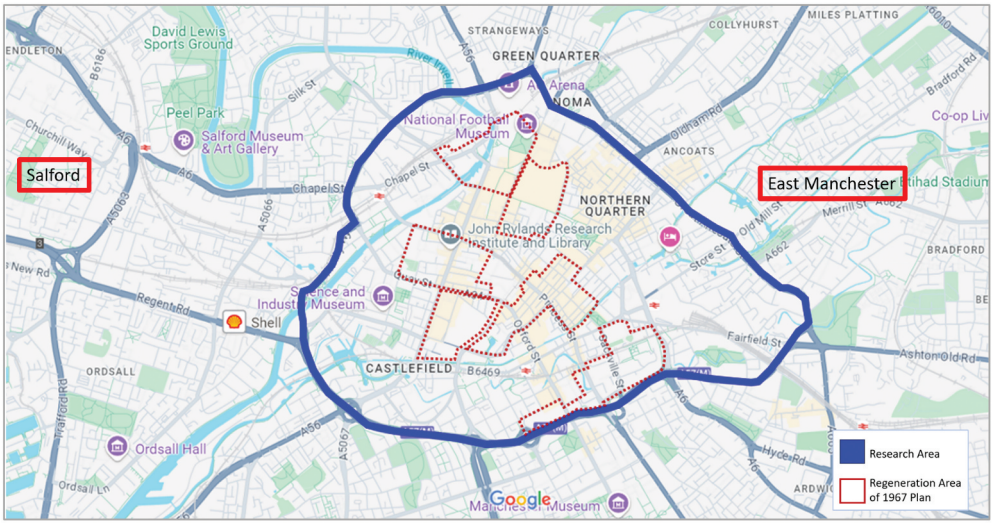


**Figure 2.** Broad study area and designated regeneration plots. Source: adapted from Manchester City Council (1967).

The 50-year study period covers significant evolution and change in cities, urban regeneration policies and philosophical and practical differences in what is understood by redevelopment and regeneration (Roberts, 2017). Although these six areas were identified as 'ripe for redevelopment' in the 1967 report (Manchester City Council, 1967, p. 116), rather than conceiving 'redevelopment' narrowly in policy terms, these six areas have been continuously included in subsequent regeneration policies and are still integrated into city centre regeneration zones at the present day (for example, in Manchester City Council, 2012, 2025). These areas have been recognised more broadly as contributing to the wider regeneration of the city centre and this informs their identification as the regeneration sub-market here.

The office sector is the focus of the empirical stage due to its importance within regeneration schemes, as established above, and, pragmatically, compared to other sectors, data availability is far better. New properties built during the period 1967–2017 were identified through the archival analysis, as well as through site visits to augment the documents and collect up-to-date information. New properties were purposively selected over refurbished properties, to better capture new supply, with the prior grade of refurbished properties unclear. Through this detailed approach, a sample of properties newly constructed through regeneration initiatives and a sample of properties newly constructed in the established sub-market were identified. These two samples enable comparison of indicators of market sustainability across the two sub-markets.

As set out in the conceptual framework in Figure 1, by measuring indicators of market maturity, resilience and competitiveness for each sub-market, an evaluation of comparative market sustainability is possible. As Figure 1 suggests, rental performance can be used to provide indicators of the three concepts and, accordingly, a series of rental indices are constructed. A key element of assessing resilience is that a sustainable market 'is capable of coping with property cycles' (C. Jones & Watkins, 1996, p. 1132) and therefore

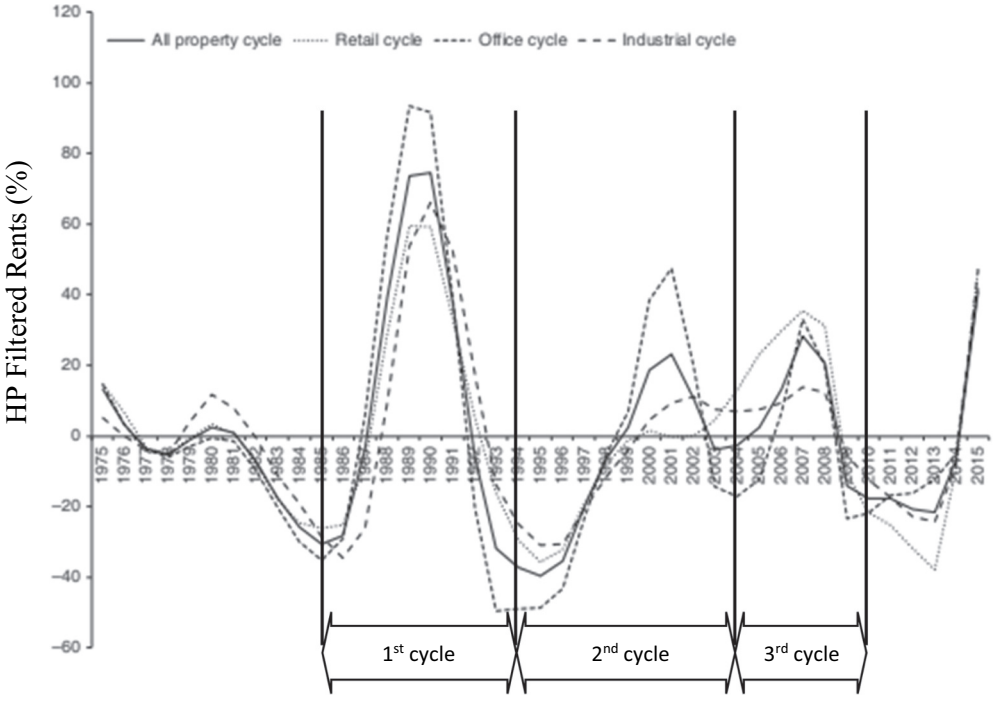


**Figure 3.** UK rental cycles: office sector 1985–1994, 1994–2004, 2004–2010. Source: adapted from Jadevicius and Huston (2017, p. 417).

it is important to plot and examine the indices across cycles. Jadevicius and Huston (2017) explore the commercial property market in the UK using MSCI rental data, analysed using an HP filter and a simplified ARCH method, to reveal volatility. For the current study period, the cycles identified by Jadevicius and Huston (2017) are used and comprise three cycles in the office sector: 1985–1994, 1994–2004 and 2004–2010, as shown in Figure 3, plotted to show their assessment of comparative volatility. The period after 2010 does not comprise a further complete cycle but is nevertheless covered in the following analysis. As seen in Figure 3, it is characterised by a very gradual recovery from stagnation in the office cycle, then a rapid upturn, which will continue until the 2016 Brexit announcement.

### *3.2. Data collection and analysis*

Institutional investors tend to prefer prime office markets and high-quality buildings (Adair et al., 2007), with these 'investment-grade' properties typically characterising sustainable markets. Therefore, focusing on the two samples of office buildings newly developed during the 1967–2017 period, rental data were sourced from CoStar for those buildings classified as '4 Star' in the CoStar databank (CoStar, 2020), selected as they represent a high standard of prime office buildings (the sample size for '5 Star' buildings was too small to include meaningfully). This is also an attempt to control the 'basket of goods' so that the rental indices are not skewed by variations in quality (Chau et al., 2019). A total of 79 newly constructed 'investment grade' office buildings were identified

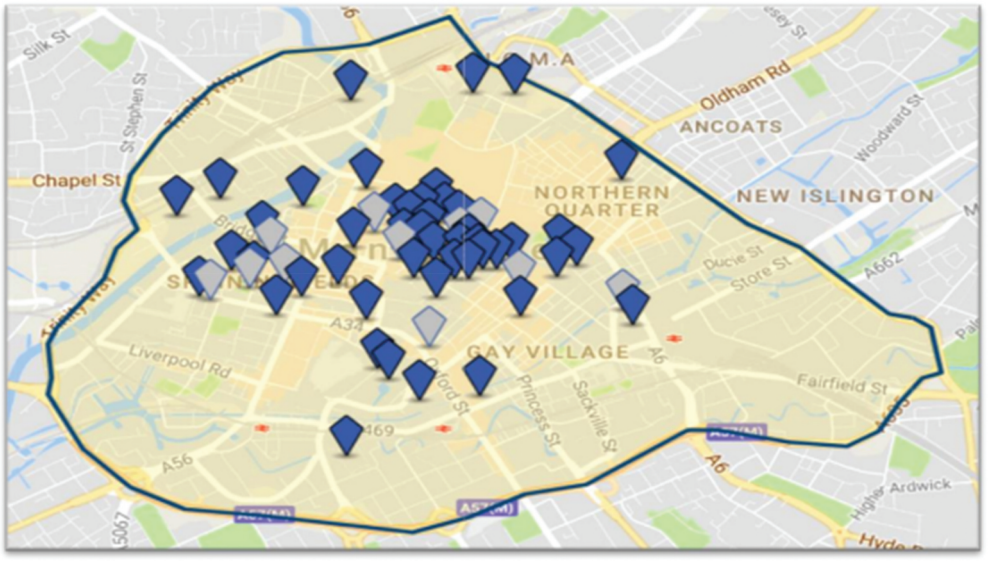


**Figure 4.** Four-star newly constructed office buildings 1967–2017. Source: adapted from CoStar.

over the 1967–2017 period, as shown in Figure 4, and 31 are within the regeneration areas with 48 in established areas. The properties were examined and lettings data found to be too sparse for meaningful analysis for the first two decades. The study period is therefore shortened to begin in 1984 and a total of 569 lettings transactions were identified, of which 215 (38%) are for regeneration properties. The data are presented in Table 2. The two samples are remarkably similar in terms of sustained market activity, with an average of 6.94 deals for each building in the regeneration sub-market and a slightly higher average of 7.38 per building in the established sub-market. The data comprise completed lettings transactions for new lettings, rent reviews and lease renewals and are 'normalised' by using the rent per square foot (psf) to control for any differences in size (Chau et al., 2019). Coverage is uneven over the study period, and Table 2 shows the number of transactions for each sample in each year, as well as the mean value. Where there were no transactions in any 1 year, a proxy value is used, calculated as the value in the previous year multiplied by the rental growth rate for the year, provided by IPD (2013), denoted in italics for ease. Real values are also presented, with the effect of inflation on the nominal data removed by deploying a price deflator series to obtain real rental values. The deflator was RPI figures provided by the ONS available from 1984 to 2017 (The ONS, 2024).

The indices developed using the data in Table 2 are unweighted transaction-based rental indices for each sub-market. The use of transaction-based indices is rare in the UK and, as such, this paper provides a valuable addition to the discipline. One reason for their scarcity is data limitations, and the small sample size for the earlier years is clear in Table 2. This is acknowledged throughout the findings. However, the sample size over the later years is comparable to that for many markets covered by MSCI and, indeed, far exceeds the minimum size adopted by MSCI. The use of mean values allows both an exploration of 'average' rental levels at any particular point in time, as

**Table 2.** Data for the two sub-markets.

| | Regeneration sub-market | | | Established sub-market | | |
|---|---|---|---|---|---|---|
| | | Rental level (£psf) | | | Rental level (£psf) | |
| | No. of transactions | Mean (nominal) | Mean (real) | No. of transactions | Mean (nominal) | Mean (real) |
| 1984 | 1 | 6.75 | 6.75 | 1 | 6.95 | 6.95 |
| 1985 | 0 | *7.17* | 6.78 | 0 | *7.38* | 6.98 |
| 1986 | 2 | 7.23 | 6.62 | 3 | 5.98 | 5.47 |
| 1987 | 3 | 7.23 | 6.27 | 4 | 5.53 | 4.80 |
| 1988 | 1 | 7.50 | 6.20 | 4 | 7.69 | 6.36 |
| 1989 | 0 | *9.62* | 7.38 | 5 | 11.64 | 8.94 |
| 1990 | 2 | 10.34 | 7.25 | 5 | 11.78 | 8.26 |
| 1991 | 1 | 7.00 | 4.64 | 1 | 7.00 | 4.64 |
| 1992 | 1 | 10.00 | 6.38 | 1 | 13.50 | 8.62 |
| 1993 | 0 | *9.51* | 5.98 | 4 | 9.13 | 5.74 |
| 1994 | 0 | *9.36* | 5.74 | 4 | 12.85 | 7.89 |
| 1995 | 3 | 11.33 | 6.72 | 3 | 9.50 | 5.63 |
| 1996 | 1 | 12.00 | 6.95 | 3 | 11.00 | 6.37 |
| 1997 | 3 | 15.00 | 8.42 | 12 | 15.41 | 8.65 |
| 1998 | 5 | 12.20 | 6.62 | 5 | 12.40 | 6.73 |
| 1999 | 1 | 13.00 | 6.95 | 3 | 12.33 | 6.59 |
| 2000 | 4 | 17.38 | 9.02 | 2 | 16.25 | 8.44 |
| 2001 | 4 | 17.88 | 9.12 | 5 | 14.85 | 7.58 |
| 2002 | 3 | 17.16 | 8.61 | 6 | 16.26 | 8.16 |
| 2003 | 5 | 20.08 | 9.79 | 10 | 15.13 | 7.38 |
| 2004 | 13 | 21.02 | 9.96 | 17 | 15.87 | 7.52 |
| 2005 | 18 | 19.45 | 8.96 | 22 | 18.18 | 8.37 |
| 2006 | 14 | 22.70 | 10.13 | 23 | 16.84 | 7.52 |
| 2007 | 18 | 24.09 | 10.31 | 31 | 18.88 | 8.08 |
| 2008 | 14 | 23.80 | 9.80 | 19 | 19.98 | 8.23 |
| 2009 | 9 | 18.42 | 7.62 | 19 | 16.94 | 7.01 |
| 2010 | 13 | 20.27 | 8.02 | 11 | 17.62 | 6.97 |
| 2011 | 12 | 21.25 | 7.99 | 6 | 19.33 | 7.27 |
| 2012 | 10 | 19.11 | 6.96 | 10 | 18.35 | 6.69 |
| 2013 | 15 | 21.56 | 7.62 | 17 | 17.85 | 6.31 |
| 2014 | 11 | 22.12 | 7.64 | 29 | 20.03 | 6.92 |
| 2015 | 16 | 23.66 | 8.09 | 35 | 19.86 | 6.79 |
| 2016 | 10 | 23.10 | 7.76 | 22 | 21.65 | 7.28 |
| 2017 | 2 | 24.70 | 8.02 | 12 | 24.20 | 7.85 |
| | Total: 215 | Mean: 15.68 | Mean: 7.68 | Total: 354 | Mean: 14.36 | Mean: 7.15 |

well as rental change (Chau et al., 2019). One difficulty of using a snap-shot of prime rents is that the data may overstate the rental growth exhibited by a particular property between any two dates due to obsolescence (Barras & Clark, 1996; Grover & Grover, 2013) or other factors. However, this is not a concern here because the analysis seeks to chart changes in each sub-market overall, rather than to chart the performance of specific individual properties.

The indices are analysed for each concept as follows:

*Market Maturity* is assessed using indices of nominal rental levels for the two sub-markets and, secondly, rental growth rates calculated from these indices. This comparison reveals the outcomes of the interaction of supply and demand in each sub-market. Analysing prime 4* institutional-grade property rents provides an assessment of the relative attractiveness of the two markets to institutional investors, as a way of gauging relative market maturity. Further analysis is undertaken using real rental levels. This approach provides insights into whether the levels of

rental value and growth in the regeneration sub-market have reached maturity in comparison with the established sub-market, following C. Jones and Watkins (1996).

*Economic Resilience* is assessed using rental indices, as above, but this time average rental levels and the standard deviation in growth rates provide an indication of the level of volatility, reflecting the use of the standard deviation by investors to assess risk. Here, these metrics are calculated using the £psf data (shown in Table 2) as this produces figures that have higher levels of interpretability than rebased index figures would. These statistics are calculated for each sub-market for each of the distinct property cycles that occurred during the study period, drawing again on Jadevicius and Huston (2017). This provides indicators to assess both comparative resilience to property cycles and volatility in movements over the course of each cycle, key factors for investor confidence in the resilience of the market. The small sample size and assumption of normality are acknowledged.

*Competitiveness for Investment* is similarly assessed using rental indices, but here they are constructed to allow a comparative assessment between the Manchester regeneration sub-market and the city-wide markets of Manchester, Birmingham and Glasgow. City-wide markets are selected in preference to smaller sub-markets as they represent the commonly used overall unit of assessment when cities are competing for inward investment. Birmingham and Glasgow are chosen because of their comparability to Manchester in terms of their position as regional centres, their history of decline and regeneration and, therefore, their competitor status. Nominal rental level indices have been constructed for the three cities using MSCI city-level rental growth data, as shown in Table 3.

The data used to develop the city market indices have the advantage of availability for the research, but they have different characteristics to the rental indices constructed for the Regeneration Sub-Market. The MSCI data are appraisal-based, rather than transaction-based, thereby reflecting the commonly acknowledged effect of valuation-smoothing (see Barkham & Geltner, 1994, for example). The characteristics of the underlying properties are unknown and, although it may reasonably be assumed that they are investment-grade, reflecting the institutional investors that dominate the MSCI database, this cannot be verified due to confidentiality clauses. The year of construction is also unknown. In terms of market boundaries, cities are defined as Local Authority districts, thus far wider than city centres, but again it is not possible to verify the micro-locations of the properties in the dataset. Linked to this, and as would be expected, the larger market area means that the number of properties contained within the database is far greater than for the regeneration indices constructed in this research, as set out in Table 3. Finally, while the number of properties in each city market index is known, the number of rental transactions (albeit appraisals rather than transactions) is not. While the level of activity in the occupier market cannot be assessed, what is evident, however, is that while institutional ownership increased across all three city markets in the late 1980s to the early 1990s, peaking in 1994–95, there has been institutional disinvestment since, with the exception of the period prior to the GFC, most marked for Birmingham and Glasgow. These factors are considered further in the findings presented in section 4, but nevertheless the data allow relativities in rental levels to be explored, allowing competitiveness for investment to be considered.

**Table 3.** Nominal rental level indices for Birmingham, Glasgow and Manchester.

| | Birmingham city market | | Glasgow city market | | Manchester city market | | Manchester regeneration sub-market | |
|---|---|---|---|---|---|---|---|---|
| | Index | No. of properties | Index | No. of properties | Index | No. of properties | Index | No. of transactions |
| 1984 | 100.00 | 80 | 100.00 | 89 | 100.00 | 83 | 100.00 | 1 |
| 1985 | 103.16 | 84 | 104.79 | 97 | 106.95 | 78 | 106.22 | 0 |
| 1986 | 109.44 | 83 | 114.90 | 103 | 115.52 | 74 | 107.11 | 2 |
| 1987 | 117.19 | 77 | 123.02 | 104 | 123.34 | 71 | 107.11 | 3 |
| 1988 | 145.13 | 71 | 136.34 | 99 | 148.54 | 65 | 111.11 | 1 |
| 1989 | 208.01 | 74 | 160.64 | 98 | 188.75 | 70 | 142.52 | 0 |
| 1990 | 231.94 | 80 | 188.89 | 99 | 215.98 | 75 | 153.19 | 2 |
| 1991 | 238.44 | 88 | 196.03 | 95 | 233.65 | 81 | 103.70 | 1 |
| 1992 | 227.44 | 99 | 182.26 | 101 | 228.16 | 87 | 148.15 | 1 |
| 1993 | 220.97 | 97 | 171.78 | 99 | 216.31 | 87 | 140.89 | 0 |
| 1994 | 217.30 | 105 | 168.53 | 117 | 212.64 | 104 | 138.67 | 0 |
| 1995 | 208.74 | 102 | 162.39 | 114 | 205.44 | 105 | 167.85 | 3 |
| 1996 | 218.52 | 98 | 160.12 | 114 | 204.46 | 105 | 177.78 | 1 |
| 1997 | 221.34 | 96 | 162.14 | 103 | 208.42 | 96 | 222.22 | 3 |
| 1998 | 232.40 | 99 | 166.15 | 93 | 217.16 | 94 | 180.74 | 5 |
| 1999 | 239.13 | 87 | 165.78 | 73 | 223.53 | 82 | 192.59 | 1 |
| 2000 | 254.46 | 83 | 176.64 | 72 | 231.56 | 85 | 257.48 | 4 |
| 2001 | 266.78 | 72 | 183.38 | 64 | 248.18 | 81 | 264.89 | 4 |
| 2002 | 273.58 | 76 | 185.30 | 59 | 259.88 | 87 | 254.22 | 3 |
| 2003 | 275.87 | 72 | 187.55 | 52 | 261.87 | 77 | 297.48 | 5 |
| 2004 | 283.66 | 71 | 187.61 | 52 | 271.51 | 73 | 311.41 | 13 |
| 2005 | 291.46 | 79 | 190.36 | 56 | 274.21 | 71 | 288.15 | 18 |
| 2006 | 296.76 | 85 | 198.60 | 67 | 275.97 | 73 | 336.30 | 14 |
| 2007 | 291.62 | 91 | 205.32 | 70 | 278.60 | 73 | 356.89 | 18 |
| 2008 | 291.25 | 86 | 208.37 | 66 | 276.23 | 65 | 352.59 | 14 |
| 2009 | 254.47 | 80 | 200.37 | 64 | 264.20 | 61 | 272.89 | 9 |
| 2010 | 248.47 | 77 | 198.70 | 67 | 253.68 | 62 | 300.30 | 13 |
| 2011 | 243.40 | 73 | 199.51 | 68 | 260.98 | 63 | 314.81 | 12 |
| 2012 | 234.60 | 68 | 198.86 | 66 | 259.85 | 60 | 283.11 | 10 |
| 2013 | 236.45 | 55 | 197.22 | 62 | 258.32 | 61 | 319.41 | 15 |
| 2014 | 236.16 | 56 | 192.36 | 57 | 263.48 | 68 | 327.70 | 11 |
| 2015 | 249.31 | 46 | 194.54 | 55 | 273.99 | 68 | 350.52 | 16 |
| 2016 | 253.16 | 47 | 197.16 | 55 | 282.18 | 67 | 342.22 | 10 |
| 2017 | 255.35 | 47 | 198.77 | 50 | 285.99 | 61 | 365.93 | 2 |

## 4. Data analysis and discussion

This section sets out an exploration of the three concepts underpinning market sustainability – market maturity, economic resilience and competitiveness for investment – using the various indices and approaches set out above. For the first two, this comprises a comparative analysis between the two sub-markets of regeneration properties and established properties, while for the third the comparison is across regional markets. The results of these three stages enable an assessment of market sustainability to be made.

### *4.1. Market maturity*

The nominal rental indices for the two sub-markets are plotted in Figure 5, with the three complete cycles superimposed. The deflated indices are shown in Figure 6, with linear trend lines for each index added. It is notable that, for the first half of the study period, up to around 1998, the two sub-markets had broadly similar rental levels, albeit with the established sub-market showing greater volatility. Thereafter, the two

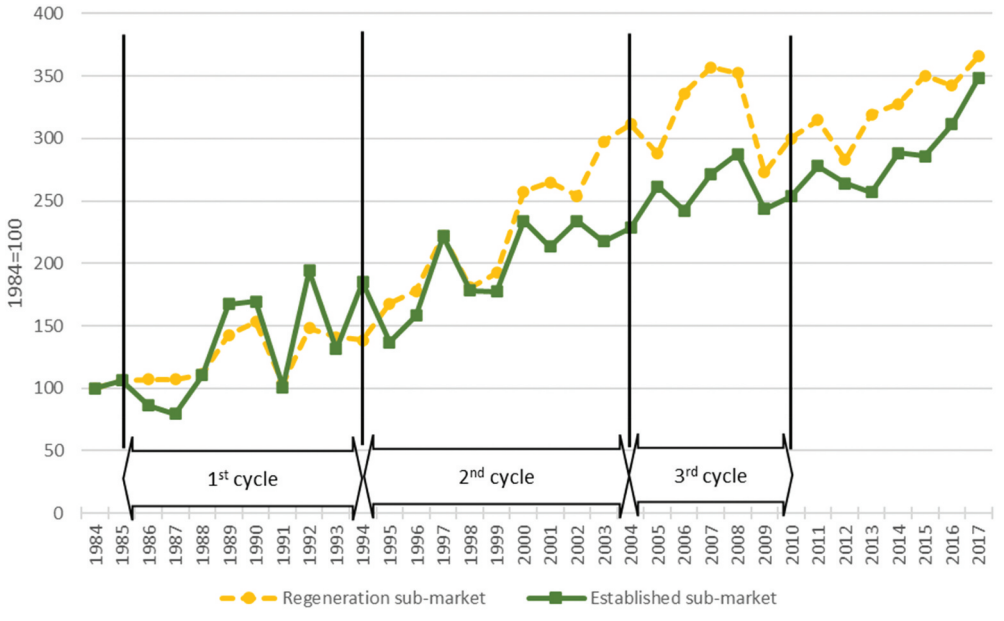


**Figure 5.** Nominal rental indices for the two sub-markets.

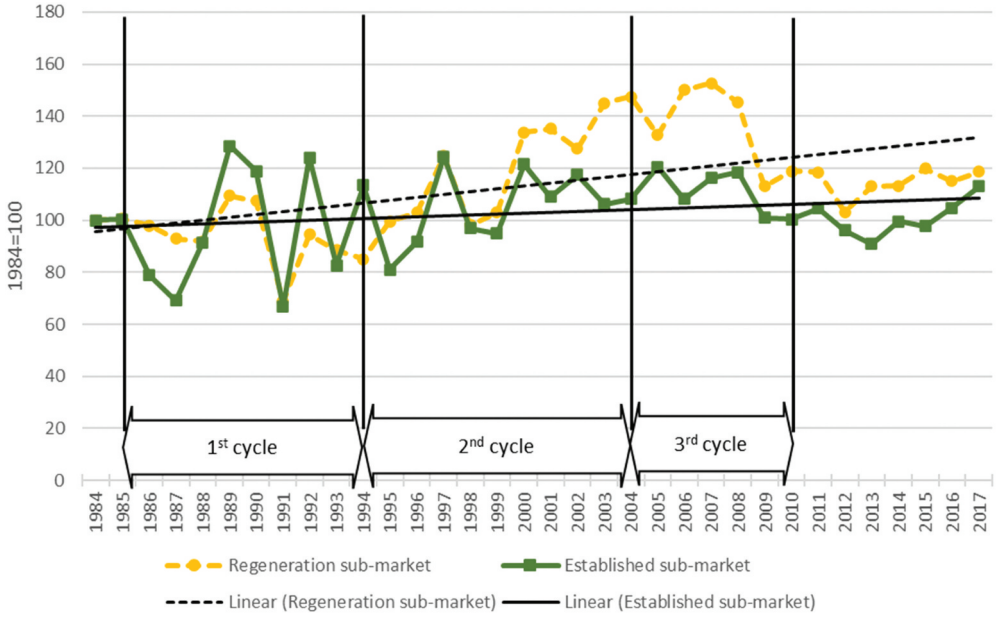


**Figure 6.** Real rental indices for the two sub-markets.

indices clearly diverge, and the rental values of regeneration properties have consistently outperformed established properties, albeit with the difference narrowing towards the end of the study period but, despite this, with growth in real rental levels for the regeneration sub-market showing a far more notable upwards trend.

The mean absolute rental levels £psf confirm this outperformance, as shown in Table 2.

Within this broad pattern, finer patterns of covariance can be seen, albeit the sample size is small until around the mid 2000s, as set out in Table 2, and so changes must be interpreted with caution. The sub-markets seem to move together over the market upturn and subsequent crash of 1988–1991, but the recovery from 1992 shows a mixed picture, with the sub-markets initially rising together, but then moving in opposing directions around 1994–95, before coming back together over the 1996–98 period. Once the two sub-markets diverge from 1999 onwards, and the sample size improves, there are three clear 'bulges' between the two indices, with highly negative co-movements 2000–02, 2002–05 and 2005–08, before the markets fall together during the GFC.

In terms of market maturity, rental values for the regeneration sub-market index exceed the established sub-market index every year from 1999 onwards, including during the GFC and the aftermath. Following C. Jones and Watkins (1996), when compared to the established sub-market, this outperformance suggests that the long-run rental level makes development viable and further suggests that the regeneration sub-market would be characterised by the involvement of institutional investors and acceptance of the market as an investment product.

Looking at the differences in the indices across the three property cycles, for the first property cycle, the gap between rental indices for the two sub-markets is relatively small, grows towards the end of the second cycle around 2000; then grows even wider during the third cycle, before narrowing from the GFC of 2008 onwards. When the indices start to diverge from 1999, the regeneration sub-market appears to show an up-lift at the supposed downturn at the end of the second cycle. The implication could be that the regeneration sub-market was still emerging, unstable and less mature, despite the outperformance. Volatility and resilience are explored in the next section.

### 4.2. Economic resilience

As established in the literature, a market with economic resilience has the capacity to 'bounce back' after recession in the business and property cycles (Cowell, 2013; C. Jones & Watkins, 1996). It is also able to adjust flexibly in both the short- and long-run (Keogh & D'Arcy, 1994). This 'strength' and adjustment can be assessed through market performance metrics, such as rental levels and volatility, key factors for investor confidence in

**Table 4.** Market indicators over property cycles[a].

| | Mean nominal rental levels (£psf) | | Standard deviation | |
|---|---|---|---|---|
| | Regeneration sub-market | Established sub-market | Regeneration sub-market | Established sub-market |
| 1st cycle: 1985–1994 | 8.50 | 9.25 | 1.37 | 2.96 |
| 2nd cycle: 1994–2004 | 15.71 | 13.90 | 3.50 | 2.41 |
| 3rd cycle: 2004–2010 | 21.23 | 18.07 | 2.39 | 1.21 |
| Final period: 2010–2017 | 22.21 | 20.18 | 1.83 | 2.16 |
| Study period: 1984–2017 | 15.68 | 14.36 | 6.20 | 4.94 |

[a]Within each cycle, the last date is the bottom of the trough (following Jadevicius & Huston, 2017), therefore the start of the following cycle uses data for the following year.

the resilience of the market, and here the data are grouped into different timeframes based on the three property cycles identified by Jadevicius and Huston (2017).

Table 4 shows the mean rental level for each sub-market over each cycle, as well as for the remaining period to 2017 and, finally, for interest, over the entire study period. This is repeated for the standard deviations in rental levels, to provide information about the comparative volatility or stability of market movements during each period, testing the perception of institutional investors that regeneration markets have high levels of risk, as noted by Haran et al. (2011).

It is interesting to see that after the first cycle, the mean rental value of the regeneration sub-market quickly becomes higher than for the established sub-market and remains so. While the sample size was small initially, the levels of transactions during the third cycle and thereafter provide confidence in the findings.

Comparing the standard deviations in rental levels for the two sub-markets is less straightforward. The first two cycles will be beset by sample size issues, so the focus is from the mid-2000s onwards. It is clear that although there was greater volatility in the regeneration sub-market during the third cycle, the relativities reversed for the final period. Overall, the indicators in Table 4 show a mixed picture, but the consistent outperformance of the regeneration sub-market over the 2004–10 and 2010–17 periods in terms of rental levels, combined with increasing certainty, suggests a market with growing resilience to cycles.

More detail can be seen in Figure 7, where annual rental change is plotted for the two sub-markets, against their linear trends or long-term averages, to provide a visual depiction of relative volatility or stability. As shown in Figure 7, the period up to 2000 was

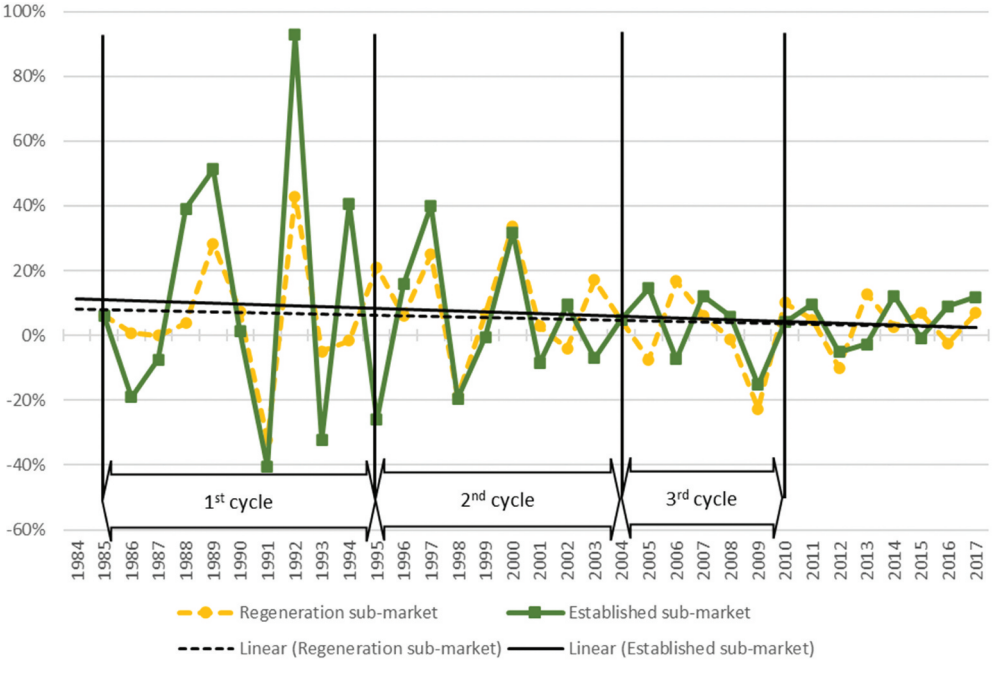


**Figure 7.** Nominal rental change for the two sub-markets.

characterised by significant volatility for both sub-markets, but markedly more so for the established sub-market. Thereafter, while smaller fluctuations for both markets could reflect the larger sample size with the mean less impacted by outliers, it could also indicate market stabilisation and maturity. The movement of rental growth during the first cycle appears to be the most volatile for both markets and the last cycle the least. The possible explanation could be that the market has become more mature and resilient to the changes of economic circumstances and market behaviour. The linear trends have clearly converged, both showing that while rental growth remains positive, the rate of change has slowed over the study period.

### 4.3. Competitiveness for investment

As established above, rental indices allow an assessment of competitiveness to be made. Figure 8 presents rental indices for the three established city-wide markets of Manchester, Birmingham and Glasgow, alongside the Manchester regeneration sub-market.

Before exploring the trends shown in Figure 8, it is important to acknowledge the differences between the two types of market data. The three indices for the city markets are, as expected, far smoother than the regeneration sub-market index, as they are developed using appraisal-based data from MSCI and will therefore be affected by valuation smoothing, known to show lower levels of volatility than transaction-based indices (Devaney & Diaz, 2011), used for the regeneration sub-market index. They are also based on far larger samples, as set out in Table 3 which will further explain the comparative smoothness. Finally, the characteristics of the underlying properties are

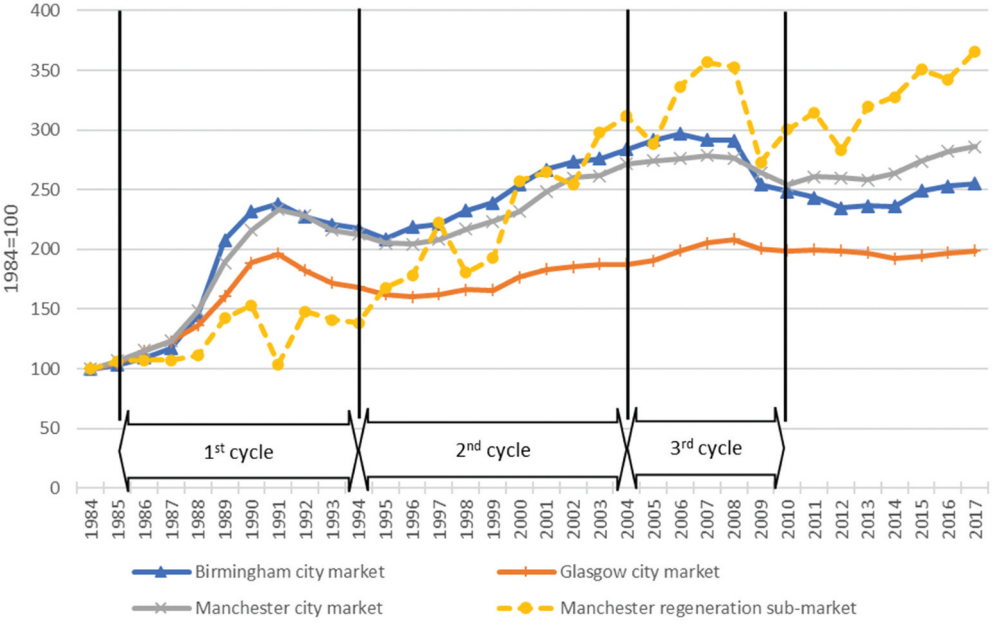


**Figure 8.** Rental indices for Manchester, Birmingham and Glasgow.

unknown and while they may be assumed to be of comparable investment-grade to those in the regeneration sample, this cannot be verified. This is also true of the location, which again may reasonably be assumed to be prime as is typical of the type of institutional investors captured by the MSCI database, but this cannot be verified.

Despite these differences, the relativities and movement in relativities between the three city-wide indices and the regeneration sub-market are absolutely clear. As shown in Figure 8, movements in rental levels for the three city-wide markets are highly similar (correlation coefficients of 0.92–0.97). All three show a marked rise and peak at the start of the 1990s, with Glasgow rising less than the other two, and thereafter closely tracking the Manchester city-wide market in terms of relativities (the highest correlation coefficient of 0.97 is between these two markets). Glasgow also has the least change in rental levels over the study period overall, including during the GFC from 2007–08. While Manchester and Birmingham show near identical jumps in rental levels in the first cycle, throughout the second cycle and the first half of the third cycle, Manchester is consistently below Birmingham. This changes during the GFC, with rental levels in Birmingham falling far more markedly than in the other two cities and recovering later, while rental levels in Manchester recovered quickly and showed a marked increase from 2014 onwards, showing clear outperformance from 2009 onwards. Comparing these patterns with the regeneration sub-market rental index, it is clearly below the city markets through the first property cycle. During the second cycle, it is clearly showing a rising trend, but broadly appears comparable to the city markets. However, over the course of the third cycle, and beyond, the regeneration sub-market rental index not only continues its upward trajectory overall but outperforms the three city markets almost entirely. Crucially, while it shows a more marked fall during the GFC, a pattern also found by Haran et al. (2011) in their analysis of total returns in regeneration markets, rental levels rebounded significantly during 2010 and 2011, convincingly outperforming even the highest rental levels of the three city-wide markets, that of Manchester.

This outperformance by the regeneration sub-market cannot be attributed to differences in the starting point of the nominal rental levels in the city markets versus the regeneration sub-market, with the latter simply 'catching up'. While rental levels are not available for the three city markets, examining the Manchester city market and the established sub-market indices, the relativities are reasonably consistent throughout. Given that the regeneration and established sub-markets have near identical rental levels at the start of the period (Table 2), the outperformance of the regeneration sub-market compared to the city markets (and indeed the established sub-market as shown in Figure 5) indicates its competitiveness for investment. Indeed, in the post-GFC period, as Cowell (2013) and C. Jones and Watkins (1996) describe, where a market can be seen to have this sort of capacity to 'bounce back' after a recession in the business and property cycles, it can be seen as more resilient and therefore with higher levels of competitiveness for institutional investment. This suggests that the concerns anticipated by Haran et al. (2011) for the sustainability of regeneration markets after the GFC, were not borne out.

## 5. Conclusion

Market sustainability can be seen where a real estate market is able to withstand economic downturns and exhibits the capacity to 'bounce back' without state

intervention and public funding, due to ongoing institutional investment activity. Notwithstanding the debate surrounding the financialisation of real estate, market sustainability is argued to be highly desirable given the juxtaposition of local authority funding and the vital role of economic sustainability and financial stability underpinning economic growth and providing the condition for the fair and equitable provision of social, environmental and cultural amenities. In contrast, where market failure is seen, urban regeneration policies have been used as a tool to remedy such failure. These policies seek to attract private-sector investment, which serves to 'kick-start' and revitalise those areas. This paper has focused on exploring the emergence of such a market, by examining indicators of maturity, resilience and competitiveness, to assess whether market sustainability can be said to have been achieved. This has been undertaken using the case study city of Manchester, and the development of two new transaction-based rental indices, for regeneration and established sub-markets, over the period 1984–2017, encompassing three complete property cycles.

Exploring each concept in turn and briefly teasing out the overarching findings, the data indicating the regeneration sub-market has become a mature market. This is evidenced through the long-term outperformance of rental levels, from around 1999 onwards, providing conditions for institutional investment and recognition as an investment product. The results for economic resilience are less compelling, although falling levels of volatility are seen for the regeneration sub-market from the 2004–10 cycle to the final period of the study, 2010–17. While this is the opposite pattern observed for the established sub-market, the results are somewhat tentative. Much clearer evidence for the comparative competitiveness of investment for the regeneration sub-market is seen, however, with rental growth convincingly and consistently overtaking that for three selected comparative city markets. Furthermore, the 'bounce-back' of the regeneration sub-market post-GFC is clear.

Taking these three findings together, and through reference to the conceptual framework developed in the paper, it appears that there is clear evidence that the regeneration sub-market is moving convincingly towards market sustainability. While there are indications that the level of volatility in the regeneration sub-market is above that for city-wide markets, as shown for the period 2010–17 in Figure 8, there can be no definitive or long-lasting test of market sustainability, as real estate is a complex and evolving phenomenon, and the analysis here is beset by the ever-present data limitations of highly granular exploration of the direct market. The lack of transactions during the first part of the study period cannot be taken as a sign of immaturity and the substantial uncertainty that Adams and Tolson (2019) state characterises less mature markets per se, as it is matched for the established market studied here. Thereafter, however, the marked increase in transactional data indicates greater economic activity and market information, suggesting growing market maturity and sustainability. The regeneration policies of the 1960s were the starting point for the study and set out the boundaries of the regeneration areas. The results presented here clearly suggest the positive impact of the policy environment on the regeneration sub-market, across all three indicators and, thus, market sustainability overall. Since the identification of the regeneration areas in the 1967 map, the scale of the market has seen expansion, with positive real rental growth and outperformance of both the established sub-market and comparable city-wide markets. This suggests the efficacy of the policy environment in building self-sustaining markets,

with economic growth and thus income generation observed throughout market cycles and periods of austerity.

The research presented here is important for two reasons. First, it represents a new and innovative exploration of the complex phenomenon of market sustainability that has applicability across comparable post-industrial cities globally, with arguably important findings that can be used to inform the direction of policy for other international markets that may be on the cusp of experiencing similar decline. Cycles of growth and then decline, or market failure, are evident globally, sometimes with common triggers, such as deindustrialisation and the GFC. The conceptual framework developed here provides a clear novel diagrammatic representation of market sustainability that has not only provided the basis for the subsequent empirical analysis but can be used to inform further studies and the targeted development of policy. In addition, the development of new transaction-based rental indices for carefully defined sub-markets represents a new approach to market analysis, which tends to rely on much more highly aggregated secondary market data, which masks the differences in market composition explored here.

Secondly, austerity measures introduced in the UK in the post-GFC period have effectively continued in the post-Brexit and post-COVID pandemic periods, highlighting the ongoing challenge of government funding for public services and 'softer amenities'. Although there are debates around the limitation of property-led regeneration in delivering social objectives for local communities (Adams et al., 2017; Gray, 2022; O'Callaghan, 2024), wide-spread examples of market downturn and, in some instances, market failure mean that there is a consequent lack of economic growth needed to fund services. This paper presents useful evidence that benefits derived from property-led regeneration policies can make an important contribution to fostering a sustainable property market, strengthening economic sustainability and growth, and enabling the provision of amenities for social, cultural and environmental objectives.

At present, however, the effectiveness of policies to address this area is largely overlooked in property research. This paper is focused on redressing this gap. It found that local urban regeneration policies can lead to real estate market sustainability. There are, of course, caveats. The extensive work required to develop the rental indices used in the analysis has negated further exploration of the case study city. One example of an influencing factor for both sub-markets might be the much-lauded Commonwealth Games held in Manchester in 2002, which could be a trigger for the higher level of market activity beginning in the early-to-mid 2000s. This type of exploration is outside the scope of the paper and further research is needed to explore both the impact of such potential triggers, but also whether increased market activity was only possible due to the increased stock of property emanating from the urban regeneration policies. It is hoped that this paper provides a sound starting point for these important investigations.

In a similar vein, while the downturn in office markets in the more recent post-pandemic period, from around 2020, has been driven by concerns over a long-term rationalisation of occupier space requirements due to work-from-home patterns, the degree to which these patterns will remain is, as yet, unclear. Some occupiers are signalling a majority move back to office-based work, while others are repurposing space to provide wellness facilities. While the cause and characteristics of this market downturn can be distinguished from previous downturns, it is not yet clear what any

longer-term effects will be, and whether evidence will emerge of differing market consequences across regeneration and established areas. Future research is encouraged to usefully explore this, to further assess the effectiveness of regeneration policies across periods of market change and their impact on economic growth.

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