

The significance and risk-adjusted performance of logistics real estate in Australia

Graeme Newell and Jufri Marzuki

School of Business, Western Sydney University, Penrith, Australia

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Abstract

Purpose – Logistics real estate is a major real estate sub-sector in Australia and internationally. This has seen industrial real estate being refocused in recent years, as well as with the increased global focus on on-line retailing seeing increased demand for logistics real estate. Institutional investors such as pension funds have been attracted to this key real estate sub-sector as part of their substantial commercial real estate portfolios. This paper assesses the importance, significance, risk-adjusted performance and portfolio diversification benefits of logistics real estate in Australia, and the added-value role of Australian logistics real estate in an Australian mixed-asset portfolio. The opportunities, drivers and challenges for institutional investors in considering logistics real estate are highlighted. The strategic implications of investing in Australian logistics real estate for institutional investors are also highlighted, with effective logistics real estate investment pathways identified.

Design/methodology/approach – Using total returns, the risk-adjusted performance and portfolio diversification benefits of Australian logistics real estate over 2003–2023 are assessed. An asset allocation diagram is used to assess the role of Australian logistics real estate in an Australian mixed-asset portfolio. To assess the robustness of these results over the short-term, medium-term and long-term, sub-period analyses are also conducted.

Findings – The Australian logistics real estate sector was shown to have important investment features concerning risk-adjusted returns and portfolio diversification benefits, highlighting its added-value benefits in a portfolio for institutional investors. This strong performance by logistics real estate was seen in the long-term, medium-term and short-term; particularly compared to the other major real estate sectors and other major asset classes. Stronger risk-adjusted performance and diversification benefits are seen via direct logistics real estate exposure than listed logistics real estate exposure. In particular, this paper highlights logistics real estate as providing the essential infrastructure needed for the efficient operation and delivery of the logistics sector, both in Australia and internationally.

Practical implications – This paper has highlighted the performance, portfolio diversification and added-value benefits of Australian logistics real estate in an institutional investor's portfolio. Clear pathways are identified for the inclusion of Australian logistics real estate in a portfolio. Strategies are identified that see institutional investors having effective real estate investment vehicles for including Australian logistics real estate in their portfolio, with both listed real estate and non-listed real estate channels as effective for delivering Australian logistics real estate exposure. The inclusion of Australian logistics real estate in the portfolio for institutional investors adds to their exposure already achieved via office and retail real estate in achieving high-quality real estate exposure in Australia. The practical implications concerning the growth in e-commerce and the impact on logistics real estate in Australia going forward are highlighted.

Originality/value – Logistics real estate is an important real estate sector for institutional investors. This paper is the first to assess the significance and importance of Australian logistics real estate, its risk-adjusted performance, portfolio diversification benefits and added-value role in an Australian mixed-asset portfolio. The strategic implications for investing in Australian logistics real estate for institutional investors are also highlighted.

Keywords Logistics real estate, Industrial real estate, Institutional investors, Risk-adjusted performance, Diversification benefits, Role of logistics real estate in a mixed-asset portfolio

Paper type Research article

Introduction

The logistics sector is an important part of the global economy. This sees logistics real estate being an essential component of the logistics process, providing the necessary infrastructure



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for the efficient delivery of online purchases and facilitating how modern retail business is done today via omni-channel distribution processes (CBRE IM, 2023b).

Logistics real estate involves buildings designed for the storage, handling and distribution of goods; this includes warehouses, distribution centres, cross-docking facilities and cold-storage facilities (Agora, 2023). Various structural and cyclic drivers have provided a very supportive environment for logistics real estate, combined with changes in the way consumers shop today. This sees logistics real estate as a key component in logistics activities, including last-mile delivery, reverse logistics and reshoring (or near-shoring) (CBRE IM, 2023a). In particular, e-commerce has been a key driver in the success of logistics real estate; with e-retailing now accounting for 19% of global retail sales and expected to rise to an e-retailing global penetration level of 25% by 2027 (CBRE, 2025). At an individual country level, this sees e-retailing penetration rates at significant levels in 2023; this includes China (47.0%; US \$3.0 T in online retail sales; #1 by \$ volume; #1 by % online market penetration), USA (15.8%; US\$1.2 T; #2; #5), UK (30.6%; US\$196 B; #3; #3) and Japan (13.7%; US\$193 B; #4; #8) (Statista, 2024). All of these factors have set a positive environment for logistics real estate investment in institutional investor portfolios at a global level and country-specific level (e.g. Australia), particularly with the negative issues seen for both office real estate and retail real estate during COVID-19. The use of robotic warehouse facilities and automated distribution centres have also supported the modern style of logistics real estate facilities needed today.

As such, the purpose of this paper is to assess the importance, significance, risk-adjusted performance and portfolio diversification benefits of logistics real estate in an Australian context over 2003–2023. This sees four specific research questions (RQs) concerning logistics real estate as the empirical focus of this research:

- RQ1. What is the importance and significance of logistics real estate; how did it evolve from industrial real estate in recent years?
- RQ2. How does logistics real estate compare to the other direct real estate sectors and the mainstream asset classes in Australia on a risk-adjusted performance basis?
- RQ3. How does logistics real estate provide added-value and diversification benefits in an Australian mixed-asset portfolio?
- RQ4. What are the long-term implications for logistics real estate as a real estate sub-sector for institutional investors?

These four research questions enable considerable insights into the evolution and role of logistics real estate in an Australian mixed-asset portfolio, the robustness of logistics real estate in difficult and uncertain environments and the ongoing strategic implications for institutional investors seeking to achieve effective Australian logistics real estate exposure. In particular, it highlights how logistics real estate has evolved from the more manufacturing-focused industrial real estate in recent years. Pathways via both listed and non-listed real estate vehicles are also identified for the effective inclusion of Australian logistics real estate in institutional investor portfolios. The following section drills into more specific details concerning logistics real estate at a global and Australian level.

Significance of logistics real estate

Significance of industrial real estate

Before discussing logistics real estate, it is important to put logistics real estate in a fuller context. Historically, industrial real estate was the traditional real estate sector reflecting industrial real estate as part of the commercial real estate space (i.e. office, retail, industrial real estate). It was largely focused on the earlier style of industrial real estate in many countries, including the developed real estate markets. This saw the fundamental role of industrial real estate as contributing to the manufacturing space via both heavy industrial and light industrial

activities. In more recent years, in the developed markets, this functional role has changed, with the manufacturing function largely being transferred to the emerging markets (e.g. China, India) and the developed markets focusing on the logistics real estate space involving storage, handling and distribution. This fundamental shift in industrial real estate to logistics real estate has been a common feature of the developed markets.

Significance of logistics real estate

Features of modern logistics real estate include high-quality logistics real estate assets, strong tenant covenants, low vacancy rates and stable income returns, with logistics real estate investment managers often having committed pipelines for projects on existing land holdings (Charter Hall, 2024). High levels of automation and the use of robotics are essential today in this modern logistics real estate environment for improved efficiency. This often sees the development of next-generation logistics facilities that are custom-designed for the tenant's specific business requirements. Typical features required in modern logistics real estate include large clear heights, generous truck access and turning facilities, enhanced concrete slabs, efficient column spacings, space for efficient product flow, advanced infrastructure support, smart storage configuration and automation/robotics integration, often being purpose-built for tenants. Many of the major players now have the necessary technical knowledge and development experience to create the sophisticated logistics real estate facilities needed today and going forward in this modern business environment, replacing industrial real estate in institutional portfolios (CBRE IM, 2023a; Goodman, 2024).

Logistics real estate being close to key infrastructure is also seen as being strategically important. This includes arterial roads, airports, ports and distribution hubs for the efficient and prompt delivery of product (Goodman, 2024) as well as being close to target markets. An increased focus on a "just-in-case" approach compared to a "just-in-time" approach has also seen increased demand for a more robust and resilient supply chain strategy to protect against unforeseen supply chain shocks and ensure faster product delivery (CBRE IM, 2023b). Examples of this modern style of logistics real estate in Australia are shown in Figure 1.

With high levels of e-commerce product returns (30% vs 10% for store sales), this has also seen a demand for space for increased levels of reverse logistics, with this often being done by third-party logistics providers to manage the returns process. Similarly, with increased geopolitical tensions and a retreat from globalisation, this has also seen further demands on logistics real estate for re-shoring and near-shoring manufacturing (CBRE IM, 2023a).

Key drivers behind the success of logistics real estate in recent years have included structural factors (e.g. impact of e-commerce, globalisation, technological innovation and technological adoption, cutting-edge facilities via automation and robotics, changes in consumer spending behaviour, increased urbanisation, reconfiguring of supply chains, under-supply of suitable logistics real estate stock and the increased institutional investor interest in logistics real estate) and cyclic factors (e.g. macroeconomic factors, economic growth, high employment and demographic trends) (BNP Paribas REIM, 2018; CBRE IM, 2023a, b; JLL, 2021; Westpac, 2022). These structural drivers will continue to see long-term demand for logistics real estate.

Environmental sustainability has also been an important factor in logistics real estate recently, embracing the global net zero carbon agenda and the need for reduced carbon emissions in the real estate sector. This has been driven by both investors and tenants requiring environmentally-friendly warehouse and distribution centres. This includes green building certification, energy conservation measures, water conservation measures, effective waste management procedures and use of renewable energy sources. With road freight vehicles accounting for 29% of global transport carbon emissions, there has been an increased focus on an electrified delivery fleet and on-site EV charging stations for logistics real estate tenants (CBRE, 2024a, b; CBRE IM, 2023a).



Goodman: Banksmeadow



Goodman: Minto



ESR: Chullora



ESR: Bankstown



Centuria: Warnervale



Centuria: Derrimut

Figure 1. Examples of Australian logistics real estate. Source: Authors' compilation

As institutional investors operate under strict regulatory and ESG mandates (both local and international), logistics real estate in Australia aligns strongly with these broad ESG requirements. This is reflected in institutional investors in Australia showing a strong alignment with prioritising a net zero carbon agenda and being seen amongst the global leaders in the ESG and real estate space. The use of high-calibre Australian rating schemes further facilitates this ESG agenda; this includes the National Australian Built Environment Rating Scheme (NABERS) and Green Star which function at the design, build and operational levels for buildings (e.g. energy efficiency, water usage, waste management). This is supported by the active involvement and leadership role by the Green Building Council of Australia (GBCA) developing rating schemes for specific real estate sectors and players (e.g. developers, investors, tenants and leasing agents) for achieving Green Star performance and identifying climate-positive pathways to give a clear set of targets to assist in delivering a climate-positive building. The Property Council of Australia (PCA) also takes a strong leadership role in the ESG space for commercial real estate in Australia. Importantly, logistics

real estate is a key beneficiary of these important sustainability rating schemes, particularly for the Green Star “design” and “as-built” rating categories (GBCA, 2024).

Despite this positive outlook, there are still challenges for the logistics real estate sub-sector going forward. This includes high investor/business demand, but limited supply of modern logistics facilities, increased construction costs, increased labour costs, increased transport costs, reduced discretionary spending by consumers in the current uncertain economic environment, tenants being more selective in logistics properties being leased and limitations with the effective use of out-dated “legacy” logistics real estate that do not meet tenant demand today for up-to-date logistics real estate facilities (CBRE IM, 2023a, b).

Going forward, critical factors for the ongoing success of the logistics real estate sub-sector include the use of smart technology, effective use of automation and robotics, requirements for external yard space, focus on worker well-being and a focus on sustainability requirements. These factors cover both the technology and people dimensions of logistics real estate (JLL, 2021). The growth in e-commerce is clearly a significant factor for logistics real estate going forward.

Clearly, logistics real estate is more than just storage and warehousing. It is an essential component of all aspects of logistics operations and supply chains in an increasingly sophisticated and automated logistics environment. Importantly, logistics real estate has attracted considerable institutional investor interest globally in recent years. The following sections will drill into logistics real estate from an institutional investor perspective and empirically demonstrate the performance, portfolio diversification benefits and added-value role of logistics real estate for institutional investors.

Global logistics real estate investment context

At a global level, logistics real estate is an essential element in the logistics process, providing the essential infrastructure needed for the effective operation of the logistics sector. Over 2019–2023, logistics real estate accounted for over US\$1.05 T in commercial real estate transactions globally, being 31% of global commercial real estate transactions over this 5-year period. This compares with office real estate transactions (42%) and retail real estate transactions (18%). Table 1 highlights the contribution of each of the real estate sectors to global transactions over 2019–2023. For each year over this five-year period, the contribution by logistics real estate to global real estate transactions increased; e.g. 23% (US\$176 B) in 2019 to 34% (US\$158 B) in 2023 (RCA, 2024). Globally, logistics real estate was also found to be the most resilient of the real estate sub-sectors in terms of global transaction market transactions (US\$) during the COVID-19 crisis. Over the COVID-19 period of 2019–2022, logistics real estate was the only real estate sector to increase its global level of capital transaction value (39% increase), compared to office real estate (27% decrease), retail real estate (3% decrease) and hotels (17% decrease) (Newell and Marzuki, 2023). This highlights the significant level of transaction activity for logistics real estate compared to the other real estate sectors.

Table 1. Global real estate capital flows: 2019–2023

Real estate sectors	Transaction volume (US\$)	Percentage of total transaction volume	Ranking amongst real estate sectors
Office	\$1,426 B	42	1
Retail	\$677 B	18	3
Logistics	\$1,048 B	31	2
Hotels	\$305 B	9	4
Total commercial RE	\$3,397 B	100	

Source(s): Authors’ compilation from RCA (2024)

Logistics real estate has figured prominently in recent global real estate transactions. This saw major logistics real estate transactions in over 15 countries including China, US, Japan, Germany, South Korea, Singapore, Australia, Netherlands, Spain and UK, often in excess of \$400 M. These logistics real estate transactions covered the various sub-sectors of warehousing, distribution and refrigerated storage. Leading buyers in this logistics real estate space included major real estate investment managers, including Blackstone, Brookfield, GLP, Allianz, AXA, Lasalle, M&G, Warburg Pincus, Mapletree, Abrdn, Segro, Deka and KKR. Strong international investor intentions towards investing in logistics real estate in 2024–25 have also been evident (ANREV, 2024).

Major real estate investment managers have established logistics real estate funds to build-up their logistics real estate portfolios and to satisfy this global institutional investor appetite for logistics real estate; see Table 2: Panel A. Major players globally include GLP, Prologis, ESR, CBRE, Clarion and PGIM (IPE, 2023), with each of these real estate investment managers having significant multi-billion dollar real estate portfolios, and being based in the United States, Europe and Asia–Pacific, reflecting this global appetite for logistics real estate exposure. Examples of major international logistics real estate funds are shown in Table 3: Panel A, often being at the pan-Europe level, as well as at the country-specific level. Typically, these logistics real estate funds include significant high-quality logistics real estate portfolios being managed by highly-skilled logistics real estate professional teams with significant logistics real estate experience and track records over multiple funds. These logistics funds have strong investor relationships, seeing co-investment by the fund manager and alignment of interest with the fund’s institutional investors. This has also been supported by Real Estate Investment Trusts (REITs) who have logistics real estate portfolios; this includes over 60 logistics real estate REITs in over 15 countries, in both the developed and emerging real estate markets; often with a significant number of logistics real estate assets and multi-billion dollar portfolios. These countries (and the leading logistics REITs) include United States (e.g. Prologis), UK (e.g. Segro), Japan (e.g. Nippon Prologis, GLP J-REIT) and Singapore (e.g.

Table 2. Major institutional investors with logistics real estate in funds/portfolio

Logistics investors

Panel A: Global real estate investment managers:

GLP	Prologis	ESR	CBRE
Clarion	PGIM	EQT	Nuveen
		Exeter	
BGO	Principal	Abrdn	CapitaLand

Panel B: Global institutional real estate investors:

Allianz	GIC	CIC	ADIA	GPFG
Ivanhoe	APG	CalPERS	Oxford Properties/	CalSTRS
Cambridge/CDPQ			OMERS	
Swiss Life	AXA	Generali	NPS	PGGM
QIA	Bayrische	CPPIB	QuadReal	Washington State
	Versorgungskammer		Property	Investment Board

Panel C: Australian real estate investment managers:

Goodman	ESR	Charter	Lendlease
		Hall	
Centuria	Dexus		

Panel D: Australian institutional real estate investors:

Australian	AustralianSuper	UniSuper	Future Fund	REST
Retirement Trust				
CBUS	Aware Super	Hostplus	Tcorp	

Source(s): IPE (2023, 2024)

Table 3. Major non-listed logistics real estate funds

Logistics funds

Panel A: Global non-listed logistics real estate funds

GLP CIF I, II, III

ProLogis European Logistics

AXA Logistics Europe

AEW Logistics

BNP Paribus Eurozone Logistics

CBRE Europe Logistics

Deka TargetSelect Logistics

Goodman Europe Logistics

Savills European Logistics 1, 2

Swiss Life ESG European Logistics

UBS Germany Logistics Property 1, 2

Warburg Deutschland Core Logistics

Macquarie European Logistics Real Estate Fund

Nuveen Retail Warehouse

Barings Pan-European Logistics JV

Fidelity European Logistics Real Estate

Garbe Logistics Fund Plus II

Patrizia Logistics-Invest Europe I, II, III

Panel B: Australian non-listed logistics real estate funds

Goodman Australia Industrial Partnership

APPF Industrial Fund

ESR Australian Logistics Partnership I, II, III

Charter Hall Prime Industrial Fund

Centuria Industrial Income Fund 1, 2

Dexus Wholesale Australian Property Fund

Source(s): Authors' compilation

CapitaLand, Ascendas, Mapletree Logistics). Importantly, these logistics real estate REITs offer exposure to the logistics real estate sub-sector with a high level of liquidity via their domestic stock market. These logistics REITs are also impacted by the volatility of the stock market, being listed on their respective stock markets.

These logistics real estate funds have been strongly supported by the leading global institutional investors (e.g. pension funds, sovereign wealth funds, insurance companies), see [Table 2: Panel B](#). These institutional investors typically have 5–10% of their portfolio in real estate. Amongst the top 20 institutional investors globally, all have multi-billion dollar real estate portfolios and all have logistics real estate as a key real estate sub-sector in their portfolio ([IPE, 2024](#)). Pension funds (e.g. APG, CalPERS, NPS), sovereign wealth funds (e.g. GIC, CIC, ADIA) and insurance companies (e.g. Allianz, AXA) are included amongst these leading institutional investors with logistics real estate in their significant real estate portfolios. This sees a very strong endorsement for logistics real estate in the portfolios of these leading global institutional investors. Typically, tenants include the leading players in the logistics space (e.g. in the United States, this includes Amazon, Home Depot and Walmart).

Overall, this sees a strong commitment to logistics real estate investment by the global real estate investment managers and global institutional investors.

Australian logistics real estate investment context

The context for Australian logistics real estate has continued to grow significantly in recent years, providing the essential real estate infrastructure needed for the successful operation of the logistics sector in Australia. [Table 4](#) provides details of the demographic, economic and real estate profile for Australia, seeing a positive context for the logistics real estate sector. In particular, Australia is

Table 4. Profile of Australia: 2023

2023 Australian profile
<i>Demographic:</i>
Population: 26.8 M
Age profile: 0–14 years: 18%, 15–65 years: 65%; 65+ years: 17%
Urban population: 86.6%
Urbanisation rate: 1.2%
Major cities: Sydney (5.1 M), Melbourne (5.2 M), Brisbane (2.5 M)
<i>Economic:</i>
Real GDP growth: 2.1% (2023), 1.3% (2024F)
Real GDP: US\$1.6 T
Inflation: 4.1%
Labour force: 14.5 M
Unemployment: 4.0%
GDP sectors: agriculture (4%), industry (25%), services (71%)
Share market: US\$1.7 T; #16 globally
Global competitiveness: #16 most competitive/141 countries
Corruption perception: #14 least corrupt/180 countries
Major pension funds: AustralianSuper (#1), Australian Retirement Fund (#2)
<i>Real estate:</i>
Real estate transparency: #4 globally; highly transparent
Commercial real estate transactions: US\$17.1 B; 2.7% of global transactions
REIT market: #4 globally; 7% of share market
Real estate in pension funds: typically comprises 5–10% of total portfolio
Source(s): CIA (2024), EPRA (2024), JLL (2024a, b), RCA (2024), TI (2023), WEF (2019, 2024)

seen as one of the most transparent real estate markets globally (#4 in 2024) (JLL, 2024a). This ensures high-quality real estate information and sophisticated real estate investment structures are readily available for informed real estate investment decision-making; this is essential for the real estate investors seeking to include logistics real estate in their portfolios.

In addition to the overall global drivers for the logistics real estate sub-sector mentioned previously, specific aspects from an Australian perspective give a more focused picture for logistics real estate in Australia. Firstly, the level of usage of e-commerce in Australia has increased significantly in recent years, increasing from a total retail spend of only 6.3% in 2019 to 11.6% in 2024. This increase is even more significant in the non-food sector, increasing from 10.1% in 2019 to 17.7% in 2024. This sees the e-commerce retail sector at AU\$38 B in 2023 (Australian Bureau of Statistics, 2024). Secondly, the Australian government has developed a modern manufacturing strategy in 2020 to harness the Australian manufacturing capability, drive economic recovery and provide future resilience; with an initial allocation of AU\$1.5 B (Department of Industry Science and Resources, 2020). These positive activities are expected to see the Australian freight and logistics sector increase from AU\$94 B in 2024 to AU\$123 B by 2030, being a 4% compound average growth rate (CAGR) over this period (Monitor Intelligence, 2024).

All of the above aspects concerning the operation of the logistics sector in Australia set a very positive context for institutional investment in the logistics real estate sub-sector in Australia. Over 2019–2023, transactions in the logistics real estate sub-sector accounted for over US\$42 B, being 30% of total commercial real estate transaction activity in Australia over this 5-year period. In comparison, office real estate accounted for 43% of transaction activity and retail real estate accounted for 22% of transaction activity; this reflects issues in the office and retail real estate sub-sectors during COVID-19. In some years, logistics real estate was an even more significant component of these total transactions (e.g. in 2020 (40%) and in 2023 (44%)). Over 2019–2023, Australian logistics real estate accounted for 4.0% of global logistics real estate transactions, reflecting its global stature as an international logistics real estate market (RCA, 2024). This transaction history for Australian logistics real estate sets a

very positive institutional investor context to their increasing commitment to investing in the logistics real estate sub-sector.

This transaction activity in the logistics real estate space has been focused on the warehousing, distribution and refrigerated storage areas, with typical logistics real estate transactions being of the order of AU\$150M to AU\$250 M. Major logistics real estate buyers have included local players (e.g. Charter Hall, Goodman, ESR, Lendlease, Mirvac) as well as international players (e.g. Brookfield, BlackRock, Mapletree, DWS, Gateway) (RCA, 2024). This interest from both local and international real estate investors confirms the strong institutional investor intentions towards investing in logistics real estate in Australia in 2024–25, particularly in the major centres of Sydney and Melbourne (ANREV, 2024).

Major real estate investment managers have established logistics real estate funds to build-up their logistics real estate portfolios and to satisfy this institutional investor appetite for logistics real estate; see Table 2: Panel C. Often, these real estate investment managers have significant successful track records, having set up multiple logistics real estate funds. Examples of major Australian logistics real estate funds are shown in Table 3: Panel B. Typically, these funds include significant high-quality logistics real estate portfolios; e.g. GAIP (113 logistics properties valued at AU\$15.6 B), CHPIF (118 logistics properties valued at AU\$11.9 B). This has also been supported by A-REITs on the Australian stock market who have logistics real estate portfolios. This includes logistics A-REITs by Goodman, Dexus, ESR, Charter Hall and Centuria, often with a significant number of logistics real estate assets and multi-billion dollar portfolios. Importantly, these logistics real estate A-REITs offer exposure to the logistics real estate sub-sector with a high level of liquidity via the Australian stock market. Figure 1 highlights examples of the high-quality logistics real estate in these Australian portfolios.

These logistics real estate funds have been strongly supported by the Australian institutional investors (e.g. pension funds); see Table 2: Panel D. These pension funds are amongst the largest pension funds globally and typically have 5–10% of their portfolio in real estate. Amongst the top 10 institutional investors in Australia (includes pension funds and sovereign wealth fund), all have multi-billion dollar real estate portfolios and all have logistics real estate as a key real estate sub-sector in their portfolio (IPE, 2024). This sees a very strong endorsement for logistics real estate in the portfolios of these leading institutional investors in Australia. Going forward, this has seen a continued reshaping of their industrial real estate portfolios, from industrial real estate to logistics real estate.

Importantly, these logistics real estate portfolios have been able to attract the leading players in the logistics space to utilise these high-quality logistics real estate assets. Major national and international tenants in this logistics real estate space in Australia include Fed Ex, DHL, Amazon, Microsoft, Coca-Cola, Toll, Bridgestone, Volkswagen, Coles, Woolworths, Linfox, Australia Post and Metcash; seeing high occupancy rates in these logistics real estate assets.

Overall, this sees a very positive context for Australian logistics real estate investment at all levels of stakeholders in supporting the logistics sector, as well as validating RQ1 concerning the importance and significance of logistics real estate and how it has evolved in many countries as the operational face of industrial real estate, reflecting the real estate requirements of an e-commerce-focused environment. The following sections will do an empirical analysis to undertake an evidence-based validation of this investment performance for the logistics real estate sub-sector in Australia over 2003–2023, and seeing the changing face and priority given to logistics real estate.

Literature review

Industrial real estate

Industrial real estate in the developed markets was previously focused on the manufacturing sectors, with this focus having changed over the last twenty years. Given this initial focus on industrial real estate in the context of the other commercial real estate sectors, the earlier literature for industrial real estate focused on the following themes:

- (1) Investment performance: e.g. [Benjamin et al. \(2003\)](#), [Tsolacos et al. \(2005\)](#).
- (2) Role in mixed-asset portfolio and diversification benefits: e.g. [Eichholtz et al. \(1995\)](#), [Lee \(2001\)](#).
- (3) Drivers: e.g. [Ambrose, 1990](#); [Thompson and Tsolacos \(2001\)](#).
- (4) Inflation-hedging: e.g. [Hartzell et al. \(1987\)](#), [Johnson and White \(2005\)](#), [Wurtzebach et al. \(1991\)](#).
- (5) Valuation issues: e.g. [Ambrose \(1990\)](#), [Fehribach et al. \(1993\)](#).
- (6) Supply and demand issues: e.g. [Wheaton and Torto \(1990\)](#).
- (7) Environmental considerations: e.g. [Jackson \(2002\)](#).
- (8) Industrial real estate stock performance: e.g. [Ling and Naranjo \(2002\)](#).
- (9) International comparisons: e.g. [Ling and Naranjo \(2002\)](#).
- (10) Market efficiency: e.g. [Atteberry and Rutherford \(1993\)](#).

In most cases, industrial real estate was seen to be an important commercial real estate sector, delivering significant risk-adjusted returns and portfolio diversification benefits in a mixed-asset portfolio (with stocks and bonds). Drivers for industrial real estate performance were identified, as well as evidence of inflation-hedging abilities. The roles of both direct industrial real estate and listed industrial real estate were assessed, with the dynamics of this relationship assessed. Evidence of industrial real estate performance in a number of international real estate markets was confirmed, further highlighting the international significance of these results.

Research concerning industrial real estate performance and dynamics in Australia has been limited; this includes [Kim \(2003\)](#) and [Newell \(2007\)](#). In particular, [Kim \(2003\)](#) considered the investment dynamics of Australian industrial real estate regarding economic and location factors over 1984–2002. This analysis considered cyclic patterns in Australian industrial real estate market performance. [Newell \(2007\)](#) considered the performance analysis of industrial real estate in Australia over 1995–2006. Both industrial real estate and industrial REITs were assessed and compared to the performance of the other major real estate sectors. Both the direct and listed pathways for industrial real estate were seen to provide consistent and well-performed risk-adjusted returns. Some loss of diversification benefits was seen at a property level and portfolio level in the later years of this timeframe of 1995–2006. Both [Kim \(2003\)](#) and [Newell \(2007\)](#) conducted these analyses prior to the establishment of the logistics real estate sector in Australia. This highlights the research gap in needing to empirically assess the next phase of industrial real estate in Australia, namely the logistics real estate sector.

In many developed countries (including Australia), the previous strong manufacturing focus for industrial real estate has been changed to a focus on storage, distribution and warehousing and an increased demand for logistics real estate. With industrial real estate making this fundamental transformation to logistics real estate, this is reflected in the body of knowledge for logistics real estate replacing industrial real estate in the last 10 years. This is particularly the case in the developed markets (e.g. US, UK, Australia), reflecting the style of industrial real estate being more fully reflected in logistics real estate portfolios today. These aspects concerning logistics real estate are examined below.

Logistics management

Given the importance of the logistics sector, there is an extensive literature regarding logistics management and operations across a wide range of journals in various discipline areas. This includes logistics drivers ([Bardham and Dangi, 2016](#); [Bayralatar et al., 2024](#); [Ekici et al., 2016](#)), global logistics services ([Marchuk and Harmash, 2020](#); [O'Connor et al., 2016](#)), technology adoption ([Mathauer and Hofmann, 2019](#)), spatial dynamics of logistics

(Guiliano and Kang, 2018; Sun *et al.*, 2018), benchmarking logistics facilities (Baglio *et al.*, 2020), logistics governance issues (Monios, 2015), port logistics management (Mangan *et al.*, 2008) and logistics operations in China (Li *et al.*, 2020). In many cases, strategic issues relating to modern logistics operations were assessed as being essential elements in the logistics management space. Fundamental to this successful logistics management is high-quality logistics real estate assets in effectively providing the physical logistics infrastructure needed for the effective delivery of all aspects of the logistics management process.

Logistics real estate

With logistics real estate being an essential element of the logistics process, research has recently considered issues relating to the importance of logistics real estate in facilitating the logistics process. This has largely focused on the current issues for logistics real estate, including the financialization of logistics real estate (Raimbault, 2022), integration of logistics real estate into the logistics process (Baglio *et al.*, 2022; Freichel *et al.*, 2019), investment performance of logistics REITs (Lin *et al.*, 2020; Mattarocci *et al.*, 2019), future directions for logistics real estate (Poleg, 2020), overviews of specific logistics real estate markets (e.g. Europe) (Bhutta and Migliorelli, 2015; Mattarocci *et al.*, 2019) and sustainability issues in logistics real estate (He *et al.*, 2018). Any empirical investment performance analysis for the logistics real estate sector has been limited to logistics REITs, which does not capture the performance of the underlying logistics real estate assets, but largely captures the performance of these listed logistics entities on the stock market, including the impact of stock market volatility. In the case of logistics REITs in Australia, Lin *et al.* (2020) assessed the added-value of logistics REITs in Australia over 2011–2018; being part of a larger Asia–Pacific study involving logistics REITs in the US, Japan, Singapore and Australia. Logistics REITs in Australia saw superior average annual returns compared to the other REIT sectors and compared to stocks and bonds. Logistic REITs were also seen to provide some level of portfolio diversification benefits. Similar superior performance by logistics REITs in the United States, Japan and Singapore were also seen. Importantly, direct logistics real estate was not considered by Lin *et al.* (2020), focusing only on logistics REITs in Australia. This further highlights the research gap for the need to also consider direct logistics real estate in Australia from a risk-adjusted performance analysis and mixed-asset portfolio perspective, particularly in the context of the dynamics of e-commerce and its impact on the investor demand for logistics real estate. This is the focus of this current research.

It is also important to note the preference of the major institutional investors to have direct logistics real estate exposure rather than via the listed logistics real estate pathway which also captures the volatility of stock market performance. Typically, investors would get this logistics real estate exposure via non-listed logistics real estate funds; see Table 3; panel B for examples of these Australian non-listed logistics real estate funds. The requirement for real estate investment vehicles that more closely align with direct logistics real estate performance is a critical factor in this preference for these non-listed logistics real estate pathways by institutional investors such as Australian superannuation funds and pension funds generally.

Logistics real estate investment and ESG

There is a significant literature regarding ESG and real estate investment; across all real estate sectors, including logistics real estate. Environmental sustainability is now seen as a fundamental component of real estate market transparency, being explicitly included in a country's GRESI rating by JLL (JLL, 2024a–e). It is a critical factor influencing institutional investor decision-making in real estate in both the developed and emerging real estate investment markets (Newell and Marzuki, 2022).

In particular, Newell *et al.* (2023a, b) examined the benchmarking of ESG in real estate investment, using 60 interviews with leading global real estate investment stakeholders. ESG issues were seen to be fundamentally important, particularly climate resilience, zero carbon

targets and climate risk management. This has seen ESG as a key part of the real estate investment decision-making processes for these stakeholders. The office and retail sectors were seen as the most aware of ESG issues, with the logistics real estate sector lagging. However, improved technology, standards and best practice guidelines have seen logistics real estate improving in the ESG space recently. Amongst the global leaders in ESG in the real estate investment space, several logistics real estate players are leaders in ESG and logistics real estate. This includes Prologis, Goodman and Hammerson.

Concerning climate risk and granular real estate portfolio issues in ESG, [Sayce et al. \(2022\)](#) examined climate risk and the implications for commercial real estate valuation. [Warren-Myers \(2016\)](#) also examined Australian valuers' comprehension, knowledge and understanding of sustainability reporting and their perceptions of the relationship between sustainability and value. This lesser depth of understanding by Australian valuers of ESG issues was clearly seen as inhibiting valuers' reports of ESG issues in their valuations.

Professional real estate industry reports

This academic research on logistics real estate has been supplemented by high-quality professional industry reports by leading real estate players into the features and benefits of logistics real estate to institutional investors (e.g. [BNP Paribas REIM, 2018](#); [CBRE IM, 2023 a, b, 2024](#); [Frontier Advisors, 2024](#); [JLL, 2021](#); [Westpac, 2022](#)), as well as up-to-date logistics real estate market information and recent trends (e.g. [CBRE, 2024a, b, 2025](#); [Colliers, 2024](#); [Cushman and Wakefield, 2024](#); [GBCA, 2024](#); [JLL, 2022, 2024 c, d, e, 2026](#)), often from an Australian logistics real estate investment perspective. In an Australian context, several of these recent industry reports (e.g. [CBRE, JLL](#)) have focused on e-commerce in Australia and its impact on logistics real estate going forward (e.g. [CBRE \(2025\)](#)). These professional industry reports have added a real richness to the practical discussion for logistics real estate in a real estate portfolio, at both the Australian level and international level. This mix of both academic research and practical research into logistics real estate has added depth to the academic discussion for the practical delivery of logistics real estate for institutional investors.

Overall, the research gap in the previous literature is that the empirical performance analysis for logistics real estate has only been conducted for logistics real estate REITs (e.g. [Lin et al., 2020](#)), rather than for direct logistics real estate which is more typically the style of logistics real estate exposure sought by major institutional investors, such as pension funds. This direct logistics real estate performance analysis in an Australian context over 2003–2023 is the focus of this paper and is explored in detail in the subsequent sections of this paper in addressing [RQ2](#) and [RQ3](#).

Methodology

Data sources

Total returns (in AUS\$) were assessed quarterly over the 21-year period of 2003–2023 using the MSCI Australian direct real estate indices. These total return indices are available at the logistics real estate sub-sector level, as well as for each of the office and retail real estate sub-sectors in Australia. These MSCI direct real estate performance indices are seen as the “gold-standard” for direct real estate performance globally. At December 2023, the MSCI global direct real estate database comprised 55,687 properties valued at US\$1.98 Trillion from 27 countries, including both developed real estate markets (e.g. United States, UK, Germany, Japan, Australia) and emerging real estate markets (e.g. China, South Africa, Malaysia) ([MSCI, 2024a](#)).

At December 2023, the MSCI Australian logistics real estate database portfolio comprised 623 logistics properties from 19 portfolios valued at AU\$45.8 B. For the other Australian real estate sub-sector indices, they comprised office (322 properties; 32 portfolios; AU\$92.9 B) and retail (241; 25; AU\$62.1 B). This sees the logistics real estate sub-sector accounting for

22% of this Australian real estate portfolio by value, compared to the office real estate sub-sector (44%) and retail real estate sub-sector (29%), resulting in sufficient depth in each Australian real estate sub-sector for a rigorous empirical analysis (MSCI, 2024b). Many of the major real estate investment managers contribute to this MSCI Australian logistics real estate performance index. To avoid valuation-lag issues, approximately 90% of this Australian real estate portfolio is re-valued quarterly by these real estate investment managers.

For the other main Australian asset classes, the benchmark performance metrics used were shares (MSCI Australian shares), A-REITs (FTSE/EPRA/NAREIT Australia REITs), bonds (government 10-year bonds) and cash (Australian 90-day bills).

To assess the impact of the timeframe on this logistics real estate analysis, analyses are conducted over 2003–2023 (long-term), 2013–2023 (medium-term) and 2019–2023 (short-term). This enables the robustness of the empirical analyses for logistics real estate to be assessed.

Statistical analysis

For the Australian logistics real estate sector (and the other asset classes), risk-adjusted returns were assessed over Q1:2003–Q4:2023. Average annual returns, as well as annual risk, were calculated, with average annual returns and annual risk calculated by annualising the quarterly results. Risk-adjusted returns were assessed using the Sharpe and reward-to-risk ratios. The Sharpe ratio and reward-to-risk ratio are the standard performance metrics used to assess risk-adjusted returns in mixed-asset portfolio analysis. The Sharpe ratio is excess asset returns per unit of risk, while the reward-to-risk ratio is the ratio of average asset returns to asset risk, with larger values for these ratios reflecting better performance. Significant differences in the Sharpe ratios between different real estate sectors and asset types were assessed using the Jobson and Korkie procedure.

Logistics real estate portfolio diversification benefits were assessed using correlation analysis, where inter-asset correlations close to zero or slightly negative are seen to represent diversification benefits between two asset classes. Correlations closer to one see lesser diversification benefits between two asset classes. The mixed-asset portfolio performance metrics provide the procedures to assess several of the research questions in this research (RQ2 and RQ3). The Australian direct real estate performance series were also de-smoothed as per Geltner (1993) (smoothing parameter = 0.5) to account for the use of valuations (instead of transactions) in assessing direct real estate performance. In selecting the most suitable de-smoothing parameter to be 0.5, sensitivity analysis for a range of de-smoothing parameters was conducted. De-smoothing parameters of 0.2, 0.4, 0.5, 0.6 and 0.8 were assessed, with the final selection of 0.5 being most suitable, as well as avoiding unnecessarily noisy results. Copies of this de-smoothing sensitivity analysis are available from the authors on request. The use of 0.5 as the de-smoothing parameter is consistent with previous studies involving de-smoothed real estate returns (e.g. Marzuki and Newell, 2017; Newell and Marzuki, 2018, 2023, 2024). This saw the final time-period for analysis being the period of Q1:2003–Q4:2023, as one-quarter of returns is initially lost in the de-smoothing process.

To examine the added-value role of Australian logistics real estate in a mixed-asset portfolio, constrained asset allocation diagrams were assessed. This involved the scenario where both the logistics real estate allocation, other real estate sub-sectors and listed real estate (A-REITs) were constrained to a maximum level of 10% in total. This 10% constraint is consistent at a practical level with that used by many institutional investors in addressing the illiquidity and indivisibility features of real estate.

Results and discussion

The following sections present the risk-adjusted performance analysis for Australian logistics real estate over the long-term (2003–2023), medium-term (2013–2023) and short-term

(20129–2023). These three timeframes will enable the assessment of the robustness of the performance of Australian logistics real estate.

Risk-adjusted performance analysis of Australian logistics real estate: long-term: 2003–2023

Table 5 presents the risk-adjusted performance analysis for Australian logistics real estate over 2003–2023. The logistics real estate sub-sector saw the highest average annual returns (11.05% p.a.) over this 21-year period, exceeding the performance of both office real estate (8.79% p.a.) and retail real estate (7.88% p.a.), as well as out-performing shares (9.21% p.a.), bonds (4.76% p.a.) and A-REITs (5.86% p.a.) over this 21-year period. Logistics real estate risk (5.72%) was marginally higher than the risk for office real estate (4.75%) and retail real estate (4.79%), but well below the risk for shares (14.62%) and A-REITs (19.84%). A-REITs take on this higher risk level due to being listed on the stock market and including stock market volatility.

Overall, on a risk-adjusted performance basis, the Australian logistics real estate sub-sector was the best-performed real estate sector (Sharpe ratio = 1.29), exceeding the performance of office real estate (1.08) and retail real estate (0.88). The Sharpe ratio for logistics real estate was seen to be significantly higher than for retail real estate, but not significantly different to that seen for office real estate in this long-term analysis. The Australian logistics real estate sub-sector also out-performed the main asset classes of Australian shares (0.38), bonds (0.14) and listed real estate (0.11) on a risk-adjusted basis. Clearly, this strong investment performance sees logistics real estate as well-suited to the investment expectations of institutional investors.

Portfolio diversification benefits of Australian logistics real estate: long-term: 2003–2023

Table 6 provides details of the portfolio diversification benefits of Australian logistics real estate. The Australian logistics sub-sector was seen to provide some portfolio diversification

Table 5. Risk-adjusted performance analysis: Australian logistics RE: long-term: 2003–2023

	Avg annual return	Annual risk	Return/risk ratio	Sharpe ratio
Direct property	8.90%	4.10%	2.17	1.28
Retail	7.88%	4.79%	1.64	0.88
Office	8.79%	4.75%	1.85	1.08
Logistics	11.05%	5.72%	1.93	1.29
Shares	9.21%	14.62%	0.63	0.38
Bonds	4.76%	7.93%	0.60	0.14
A-REITs	5.86%	19.94%	0.29	0.11

Source(s): Authors’ analysis and compilation

Table 6. Portfolio diversification benefits: Australian logistics RE: long-term: 2003–2023

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Direct property [1]	1.00						
Retail [2]	0.83*	1.00					
Office [3]	0.91*	0.59*	1.00				
Logistics [4]	0.66*	0.31*	0.61*	1.00			
Shares [5]	0.23*	0.20	0.19	0.18	1.00		
Bonds [6]	−0.06	−0.10	0.00	−0.04	−0.26	1.00	
A-REITs [7]	0.29*	0.22*	0.23*	0.34*	0.75*	0.01	1.00

Note(s): * – significant at $p < 0.05$

Source(s): Authors’ analysis and compilation

benefits with the other real estate sub-sectors, namely office ($r = 0.61$), retail (0.31) and A-REITs (0.34), with more diversification benefits with shares (0.18) and bonds (-0.04). A-REITs showed limited diversification benefits with shares ($r = 0.75$), as both are listed entities, and are subject to the volatility of the stock market. The strong diversification benefits of logistics real estate with stocks and bonds are particularly significant findings for portfolio design for institutional investors; particularly where the level of diversification benefit is not seen for listed logistics REITs. The linkages between the three real estate sub-sectors are expected, due to the similar macroeconomic drivers involved in these real estate sub-sectors. Each of the real estate sub-sectors showed diversification benefits with A-REITs; reflecting A-REITs being listed on the stock market and the direct real estate sub-sectors not being listed and more fully reflecting the performance of the underlying real estate assets. These diversification benefits for Australian logistics real estate further add to the investment appeal of logistics real estate for institutional investors.

Role of Australian logistics real estate in an Australian mixed-asset portfolio: long-term: 2003–2023

To assess the role of Australian logistics real estate in an Australian mixed-asset portfolio, [Figure 2](#): Panel A presents the optimal portfolio analysis, with all of the real estate sub-sectors and A-REITs constrained to a maximum allocation of 10% in total. This constraint reflects the practical limitation that most institutional investors impose in their exposure to real estate to a maximum level of 10%; reflecting the lack of liquidity in the real estate sub-sectors. The Australian logistics real estate sub-sector was seen to figure in the optimal portfolio across most of the portfolio risk spectrum at its maximum level of 10%. Neither the office nor retail real estate sub-sectors figured in this optimal portfolio at any level of significance, with only a small slice of retail real estate in the low portfolio risk space. The inclusion of logistics real estate at this maximum level of 10% across most of the portfolio risk spectrum reflects the genuine superiority of the performance of logistics real estate compared to the office and retail real estate sectors and logistics REITs. This constrained analysis gives each of these other assets the opportunity to “shine” within this 10% allocation across the portfolio risk spectrum. In this case, the superior performance of logistics real estate was the key determinant to logistics real estate dominating this 10% mixed-asset portfolio allocation, rather than being a function of this imposed 10% constraint in the portfolio. This highlights the important added-value role of the logistics real estate sub-sector across the various portfolio risk levels; particularly compared to the other two real estate sub-sectors. [RQ3](#) is further validated by this result. Shares made a higher portfolio contribution with increasing portfolio risk, with bonds making a more significant contribution in the lower portfolio risk space.

Role of income returns for Australian logistics real estate: long-term: 2003–2023

One aspect that is talked about from a real estate industry perspective is that logistics real estate is expected to deliver strong income returns compared to the other commercial real estate sub-sectors. Over the longer-term perspective of 2003–2023, logistics real estate delivered an average annual income return of 6.82% p.a., exceeding that for office real estate (6.14% p.a.) and retail real estate (6.07% p.a.) over this 21-year timeframe. This empirical analysis validates the real estate industry perspective for logistics real estate in the long-term and the effective delivery of strong income returns, relative to the other real estate sub-sectors.

Overall, this empirical analysis sees the Australian logistics sub-sector delivering strong investment performance, providing portfolio diversification benefits, and making an important contribution to the overall Australian mixed-asset portfolio across the full risk spectrum in the long-term. This will appeal to institutional investors with various levels of risk appetite. Whilst historic investment performance is no guarantee of future investment performance, it sets an impressive track-record and benchmark of long-term performance by

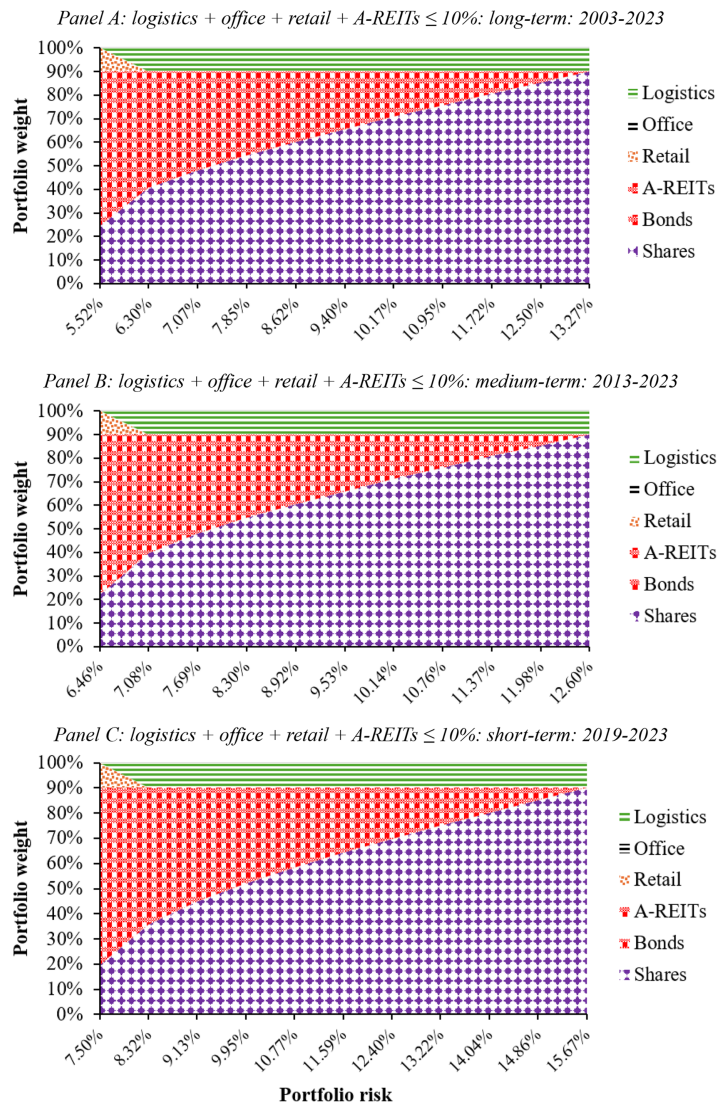


Figure 2. Australian logistics property’s constrained asset allocation diagrams. Source: Authors’ analysis

Australian logistics real estate, to the added-value benefit of institutional investors in their investment portfolios.

It is also important to show the robustness and integrity of this contribution by the logistics real estate sub-sector over different timeframes. As such, the following sections highlight the contribution by Australian logistics real estate over the medium-term of 2013–2023 and the short-term of 2019–2023.

Medium-term contribution by logistics real estate: 2013–2023

Table 7 presents the risk-adjusted performance analysis for Australian logistics real estate over the medium-term for the 11-year period of 2013–2023. As in the long-term analysis (2003–

Table 7. Risk-adjusted performance analysis: Australian logistics RE: medium-term: 2013–2023

	Avg annual return	Annual risk	Return/risk ratio	Sharpe ratio
Direct property	7.78%	4.00%	1.95	1.42
Retail	5.33%	5.30%	1.01	0.61
Office	8.21%	4.51%	1.82	1.36
Logistics	12.62%	6.63%	1.90	1.59
Shares	9.17%	13.94%	0.66	0.51
Bonds	2.66%	8.12%	0.33	0.07
A-REITs	8.97%	18.20%	0.49	0.38

Source(s): Authors' analysis and compilation

2023), logistics real estate was the best-performed real estate sub-sector (12.62% p.a.) in the medium-term, exceeding the other real estate sub-sectors and the other asset classes (e.g. shares (9.17% p.a.)). The risk level for logistics real estate (6.63%) was only marginally above that of the office and retail real estate sub-sectors, and well below that seen for shares (13.94%), and A-REITs (18.70%). This resulted in Australian logistics real estate being the best-performed on a risk-adjusted basis (Sharpe ratio = 1.59) of all the Australian asset classes over the medium-term of 2013–2023. The Sharpe ratio for logistics real estate was seen to significantly out-perform ($p < 5\%$) all other asset classes except for office real estate in the medium-term.

The portfolio diversification benefits of Australian logistics real estate are shown in Table 8. Logistics real estate showed some degree of diversification benefits with office and retail real estate ($r = 0.15$ and 0.48 respectively) in the medium-term, as well as strong diversification benefits with shares ($r = 0.00$), bonds (0.02) and A-REITs (0.14). A-REITs were again seen to provide minimal diversification benefits with shares ($r = 0.79$). Again, these medium-term portfolio diversification features for logistics real estate are strong measures for institutional investors to consider logistics real estate in their portfolios.

As seen in Figure 2: Panel B, the mixed-asset portfolio analysis again saw logistics real estate included in the portfolio in the medium-term at the maximum level of 10% over most of the portfolio risk spectrum.

Over this medium-term timeframe of 2013–2023, logistics real estate delivered an average annual income return of 5.91% p.a., compared to office real estate (5.46% p.a.) and retail real estate (5.55% p.a.) over this 11-year perspective. This further validates the income-protection view held by the real estate industry for logistics real estate in the medium-term.

Table 8. Portfolio diversification benefits: Australian logistics RE: medium-term: 2013–2023

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Direct property [1]	1.00						
Retail [2]	0.80*	1.00					
Office [3]	0.87*	0.49*	1.00				
Logistics [4]	0.57*	0.15	0.48*	1.00			
Shares [5]	−0.02	0.00	−0.04	0.00	1.00		
Bonds [6]	−0.01	−0.07	0.07	0.02	0.03	1.00	
A-REITs [7]	0.05	0.06	−0.01	0.14	0.79*	0.27	1.00

Note(s): * – significant at $p < 0.05$

Source(s): Authors' analysis and compilation

Again, this is an attractive and empirically-validated picture in the medium-term for the inclusion of Australian logistics real estate in an institutional investor portfolio.

Short-term contribution by logistics real estate: 2019–2023

Table 9 presents the risk-adjusted performance analysis for Australian logistics real estate in the short-term over the 5-year period of 2019–2023, covering the significant impact of the COVID-19 pandemic. Again, logistics real estate delivered the highest level of returns (11.57% p.a.), well above that seen for office real estate (3.43% p.a.) and retail real estate (0.67% p.a.), clearly showing the significant impact of COVID-19 on the office and retail real estate spaces. Only shares delivered a comparable level of performance (10.56% p.a.). The risk level for logistics real estate (9.37%) was above that seen for office real estate (5.22%) and retail real estate (7.19%), but well below that seen for shares (17.16%) and A-REITs (25.11%). This resulted in Australian logistics real estate being the best-performed asset class on a risk-adjusted basis (Sharpe ratio = 1.06) of all the Australian asset classes over 2019–2023, well ahead of that seen for office real estate (0.35) and retail real estate (−0.13), as well as for shares (0.52). In this case, logistics real estate gave a significantly higher Sharpe ratio ($p<5\%$) than all other assets in the short-term. Another impressive showing by Australian logistics real estate in the short-term, even with the significant impact of the COVID-19 pandemic, further reflecting the resilience of the Australian logistics real estate sub-sector in the short-term.

The portfolio diversification benefits of Australian logistics real estate are shown in Table 10. Logistics real estate showed some degree of diversification benefits with office and retail real estate ($r = 0.53$ and 0.15 respectively) in the short-term, as well as strong diversification benefits with shares ($r = 0.07$), bonds (−0.04) and A-REITs (0.15). A-REITs were again seen to provide minimal diversification benefits with shares

Table 9. Risk-adjusted performance analysis: Australian logistics RE: short-term: 2019–2023

	Avg annual return	Annual risk	Return/risk ratio	Sharpe ratio
Direct property	3.73%	5.08%	0.73	0.42
Retail	0.67%	7.19%	0.09	−0.13
Office	3.43%	5.22%	0.66	0.35
Logistics	11.57%	9.37%	1.23	1.06
Shares	10.56%	17.16%	0.62	0.52
Bonds	−0.35%	9.58%	−0.04	−0.20
A-REITs	6.08%	25.11%	0.24	0.18

Source(s): Authors’ analysis and compilation

Table 10. Portfolio diversification benefits: Australian logistics RE: short-term: 2019–2023

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Direct property [1]	1.00						
Retail [2]	0.78*	1.00					
Office [3]	0.84*	0.41	1.00				
Logistics [4]	0.62*	0.15	0.53*	1.00			
Shares [5]	−0.01	0.00	−0.04	0.07	1.00		
Bonds [6]	−0.09	−0.16	0.05	−0.04	0.09	1.00	
A-REITs [7]	0.02	0.04	−0.10	0.15	0.91*	0.19	1.00

Note(s): * – significant at $p < 0.05$

Source(s): Authors’ analysis and compilation

($r = 0.91$). Again, these portfolio diversification features for logistics real estate are strong measures for institutional investors to consider logistics real estate in their portfolios in the short-term.

As seen in Figure 2: Panel C, the mixed-asset portfolio analysis again saw logistics real estate included in the portfolio at the maximum level of 10% over most of the risk spectrum in the short-term. Based on the analysis in the three panels in Figure 2, this highlights the strong resilience of logistics real estate in Australia during the COVID-19 crisis compared to the office and real estate sectors. This resilience by logistics real estate was driven by e-commerce growth, tenant quality and a structural under-supply of logistics real estate in this challenging COVID-19 environment. All three drivers made important dynamic contributions to the success of logistics real estate during this COVID-19 period. This confirms the mixed-asset portfolio role and stature of Australian logistics real estate in the short-term, medium-term and long-term; an impressive showing to demonstrate the robustness by logistics real estate in all cases. The mixed-asset portfolio analysis over various timeframes provides further confirmation of RQ3 concerning the added-value benefits of logistics real estate.

Concerning income returns for logistics real estate in the short-term over 2019–2023, logistics real estate average annual income returns were 4.59% p.a., compared to the income returns for office real estate (4.62% p.a.) and retail real estate (5.12% p.a.) over this 5-year period. Whilst the income returns for logistics real estate, relative to office real estate and retail real estate, in the short-term were not as strong as that seen over the long-term (2003–2023) or medium-term (2013–2023), this reflects the significant yield compression seen in the logistics real estate sub-sector in the last five years.

Overall, these empirical analyses have highlighted the strong investment performance and potential portfolio contribution by Australian logistics real estate over the short-term, medium-term and long-term. In each case, investment features were clearly evident that would be attractive to institutional investors by including logistics real estate in their overall real estate portfolio. This includes Australian logistics real estate being the best-performed asset in each of these three time-periods, as well as providing strong portfolio diversification benefits with stocks and bonds in each of the three time-periods; an impressive and robust achievement by logistics real estate. Whilst this result does not mean that office real estate and retail real estate are not important to institutional investors, it does highlight the potential important added-value role and robust performance of Australian logistics real estate for institutional investors from a long-term, medium-term and short-term perspective. This is further support for the validation of RQ2 and RQ3.

Given the strong risk-adjusted performance by logistics real estate, the issue now is how can institutional investors include logistics real estate in their investment portfolios in an effective manner to capture these attractive investment dynamics, and what is the outlook for logistics real estate going forward. This practical delivery issue and outlook for logistics real estate is highlighted in the following section concerning the practical implications of this research.

Practical implications

This section concerning the practical implications for logistics real estate draws on insights both from the empirical analysis in the paper, as well as from the authors' detailed knowledge of logistics real estate investment dynamics and the role of real estate in institutional investors' real estate portfolio strategies.

The Australian logistics real estate sub-sector has been shown empirically to be an important real estate sub-sector; with Australian logistics real estate having the potential to be an important added-value component in an institutional investor's real estate portfolio. The real challenge for institutional investors is to determine the most effective manner to deliver this critical logistics real estate agenda. The options available are direct logistics real estate

investment, non-listed logistics real estate funds, listed logistics real estate exposure and using logistics fund-of-funds structures.

For the larger institutional investors with significant Assets Under Management (AUM), non-listed Australian logistics real estate funds will be the most effective investment pathway. Non-listed logistics real estate funds already have an impressive track-record with logistics portfolios in the Americas, Europe or with global mandates. Importantly, major Australian logistics real estate investment managers have already established non-listed Australian logistics real estate funds with high-quality logistics real estate portfolios, professional logistics real estate management teams and impressive investment performance track-records; this includes Goodman, ESR, Lendlease, Centuria and Charter Hall. This is in addition to the non-listed logistics real estate funds established globally by the leading global logistics real estate investment managers; this includes GLP, ProLogis, CBRE, PGIM, CapitaLand and Nuveen. Examples of these non-listed logistics real estate funds were given previously in [Table 3](#).

While non-listed real estate funds have the disadvantage of a lack of liquidity and limited redemption windows being available, they are preferred by the larger institutional investors due to their access to high-quality logistics real estate assets and experienced professional funds management/asset management teams. Other options for the larger institutional investors (e.g. sovereign wealth funds) include direct logistics real estate ownership (often in JV ownership arrangement with a player having local expertise and knowledge) or separate accounts, which are widely used non-listed vehicles in the real estate investment space. In particular, separate accounts are preferred by sovereign wealth funds where they have sufficient scale and AUM and seek to ensure control over the logistics real estate asset activities, rather than using a non-listed real estate fund structure that involves multiple stakeholders and lesser control of the fund's activities. Excellent examples of these separate account arrangements for logistics real estate exposure include the Goodman China Logistics (with CPPIB) and Prologis China Logistics (with HIP) to secure high-quality logistics real estate exposure in China for major institutional investors in this separate account structure.

For smaller institutional investors lacking significant AUM for non-listed Australian logistics real estate exposure, the most effective pathway to Australian logistics real estate exposure will be via the listed real estate pathway. This can be achieved via Australian logistics REITs, providing the added benefit of increased liquidity for these smaller institutional investors. Leading logistics A-REITs include those by Goodman, ESR, Centuria, Charter Hall and Dexus. Logistics real estate fund-of-funds will also be an option for the smaller institutional investors, providing opportunities for diversified logistics real estate exposure across a range of non-listed logistics real estate funds, that these smaller institutional investors would not be able to otherwise achieve unless via this pooled format. They also offer international logistics real estate exposure and access to logistics real estate held by major international logistics real estate investment managers.

Overall, this sees distinct pathways for the full range of institutional investors to meet their strategic requirements to achieve effective exposure to high-quality Australian logistics real estate assets. These pathways reflect different risk appetites and investment mandates. Risk factors are still present (e.g. concerns of recession, weaker consumption), but these risk factors can be managed via experienced logistics real estate asset management teams and diversified logistics real estate portfolios.

As well as these logistics real estate investment pathways, and the positive performance analysis seen in this paper on the potential role of Australian logistics real estate in a portfolio, it is essential for institutional investors to have a deep understanding of the critical issues for logistics real estate going forward, so that their logistics real estate decision-making is evidence-based. In particular, future forecasts for these drivers for logistics real estate are essential for their informed investment decision-making. Key structural and cyclic drivers will see a dynamic environment for logistics real estate going forward for both Australian and global logistics real estate, supported by strong institutional investor interest in the increasingly important logistics real estate sub-sector.

In particular, the current context for e-commerce in Australia in 2025 sees an e-commerce penetration rate of 14%, with a 36% increase in on-line sales seen over 2020–2024. The major areas of on-line sales in Australia are online market place (23%), food and alcohol (20%), fashion (14%), home and garden (13%) and consumer electronics (11%), with key online players being Amazon, eBay and Temu. The current e-commerce penetration rate for Australia is expected to increase from 14% in 2025 to 17% in 2029 (CBRE, 2025). Overall, this sees a very supportive e-commerce environment in Australia over the next five years.

In the case of Australian logistics real estate, there are clear drivers for this real estate sector arising from increased e-commerce usage. Firstly, Australia has seen significant urban population growth in recent years, with over 86% of the population in urban areas. This enables efficient last-mile delivery and logistics infrastructure to be used. Secondly, Australia has seen a high adoption of digital wallets in recent years and increased use of “buy-now, pay-later” services. This has seen the seamless integration of digital payments with e-commerce platforms (e.g. Alipay, Applepay, Googlepay), as Australians have actively embraced technology-oriented applications. Thirdly, there has been an expanding e-commerce ecosystem, offering enhanced delivery networks and faster shipping options. Fourthly, the increased use of personalisation and AI integration in terms of online shopping exposure will expand considerably as AI takes on a wider role (CBRE, 2025).

The implications of e-commerce on logistics real estate in Australia over the next five years are highly significant. Over 2026–2030, an extra 1.8 M square metres of e-commerce-dedicated logistics space is expected to be required, with logistics real estate rents expected to grow nationally by 4.1% p.a. over 2026–2030. The current supply pipeline is not expected to meet this future demand, seeing strong competition for high-quality logistics real estate facilities. Industry sources indicate going forward that an extra AUS \$1 B of e-commerce sales will see an additional demand for 70,000 square metres of logistics real estate space (CBRE, 2025).

The resulting changes in the nature of the logistics real estate space are expected to see more racking and picking zones in fulfilment centres, increased use of urban infill and last-minute hubs, need for more reverse logistics space, increased “in-case” footprint for safety stock, higher clearance levels and specialist design requirements in logistics real estate to meet tenant specifications and expansion of logistics networks (CBRE, 2025).

The e-commerce penetration rate globally for total retail sales is expected to increase in many global markets over 2024–2029, providing a supportive logistics real estate environment globally. This includes China (35% in 2024 to 45% in 2029), US (23%–30%) and UK (29%–32%). By 2030, e-commerce is expected to account for up to 33% of global retail transactions (CBRE, 2025). Overall, this sees a very supportive e-commerce environment globally, with similar trends, dynamics and drivers to that seen in Australia. In this section, RQ4, regarding the ongoing implications for logistics real estate, has been effectively highlighted.

All of the above critical factors and drivers are essential to be fully understood by institutional investors for more informed real estate investment decision-making regarding logistics real estate in their real estate portfolios to capture the e-commerce dynamics. This is expected to see an ongoing competitive environment amongst institutional investors to acquire high-quality logistics real estate assets, further highlighting the importance of being “up-to-par” on the dynamics of the logistics real estate space to be competitive in this environment. This applies to institutional investors seeking Australian logistics real estate, as well as international logistics real estate for those also seeking to capture this dynamic. Similarly, institutional investors may need to rethink their retail real estate strategy, as retail real estate experiences major changes as a consequence of this change in the nature of retailing.

Conclusion

Logistics real estate is the essential infrastructure needed for the effective delivery of all aspects of logistics. Importantly, logistics real estate is the new face of industrial estate globally. This paper has shown the strong evidence-based investment performance and

diversification benefits of Australian logistics real estate, relative to the other commercial real estate sub-sectors and other main asset classes such as shares and bonds. This evidence-based analysis, using a portfolio of 223 logistics properties valued at AU\$45.8 B over 2003–2023, sees the strong performance of logistics real estate in the short-term, medium-term and long-term, with this having seen logistics real estate become an attractive real estate sub-sector in institutional investor real estate portfolios, with clear portfolio diversification benefits.

Going forward, logistics real estate is more than just about e-commerce. The key structural and cyclic drivers are in place to ensure the ongoing significant role for logistics real estate in institutional investor portfolios, as well as providing the important infrastructure needed for the continued effective operation and delivery of the logistics sector. This is clearly reflected in the future projections and drivers for critical aspects of the logistics real estate space (as discussed in the previous Practical Implications section) from both an Australian and international perspective.

All of the above sets a very positive context for the continued growth of the logistics real estate sub-sector both in Australia and internationally, being the face of industrial real estate in developed real estate markets going forward. This growth is expected to continue to be supported by the major institutional investors in Australia and globally, driven by the continued growth of e-commerce.

Flowing from this research, and the strong role seen for logistics real estate going forward, it is important to identify future research opportunities. This includes the articulation of the role of specific drivers to the success of logistics real estate (including e-commerce), investment dynamics for logistics real estate in both the developed and emerging markets, and the analysis and deeper understanding of the effectiveness of the specific logistics real estate investment channels for institutional investors. This will be facilitated as more high-quality logistics real estate performance data becomes available from MSCI and other key real estate industry players.

References

- Agora (2023), *Logistics Real Estate*, Agora, New York.
- Ambrose, B. (1990), “An analysis of the factors affecting light industrial property valuation”, *Journal of Real Estate Research*, Vol. 5 No. 3, pp. 355–370, doi: [10.1080/10835547.1990.12090624](https://doi.org/10.1080/10835547.1990.12090624).
- ANREV (2024), *ANREV Investment Intentions Survey 2024*, ANREV, Hong Kong.
- Atteberry, W. and Rutherford, R. (1993), “Industrial real estate prices and market efficiency”, *Journal of Real Estate Research*, Vol. 8 No. 3, pp. 377–385, doi: [10.1080/10835547.1993.12090715](https://doi.org/10.1080/10835547.1993.12090715).
- Australian Bureau of Statistics (2024), *Retail Trade, Australia, 2024*, ABS, Canberra.
- Baglio, M., Perotti, S., Dallari, F. and Garegiola, E. (2020), “Benchmarking logistics facilities: a rating model to assess building quality and functionality”, *Benchmarking: An International Journal*, Vol. 27 No. 3, pp. 1239–1260, doi: [10.1108/bij-01-2019-0029](https://doi.org/10.1108/bij-01-2019-0029).
- Baglio, M., Perotti, S., Dallari, F. and Creazza, A. (2022), “How can logistics real estate support third-party logistics providers”, *International Journal of Logistics Research and Applications*, Vol. 25 No. 10, pp. 1334–1358, doi: [10.1080/13675567.2021.1908242](https://doi.org/10.1080/13675567.2021.1908242).
- Bardham, A. and Dangi, H. (2016), “Drivers and indicators of performance in relief chain: an empirical study”, *Global Business Review*, Vol. 17 No. 1, pp. 88–104.
- Bayralatar, E., Eryarooy, E., Kosanoglu, F., Acar, M. and Zaim, S. (2024), “Unveiling the drivers of global logistics efficiency: myths from cross-country analysis”, *Sustainability*, Vol. 16 No. 1, p. 2683.
- Benjamin, J., Zietz, E. and Sirmans, S. (2003), “The environment and performance of industrial real estate”, *Journal of Real Estate Literature*, Vol. 11 No. 2, pp. 279–324, doi: [10.1080/10835547.2003.12090130](https://doi.org/10.1080/10835547.2003.12090130).
- Bhutta, A. and Migliorelli, M. (2015), *European Real Estate*, Springer, New York.
- BNP Paribas REIM (2018), *The Investment Case for European Core Logistics*, BNP Paribas REIM, Paris.

-
- CBRE (2024a), *Australian Industrial and Logistics Market Report 2024*, CBRE, Sydney.
- CBRE (2024b), *The Green Transformation of Logistics Real Estate*, CBRE, Hong Kong.
- CBRE (2025), *Australia's E-Commerce and its Impact on Logistics Real Estate*, CBRE, Sydney.
- CBRE IM (2023a), *The Future of Logistics: The Long-Term Drivers and the Current Market Conditions*, CBRE IM, New York.
- CBRE IM (2023b), *The Case for Modern Logistics Facilities*, CBRE IM, New York.
- CBRE IM (2024), *Capturing the Logistics Opportunity in Japan, Australia and South Korea*, CBRE IM, New York.
-
- Charter Hall (2024), *Charter Hall Prime Industrial Fund: Fund Overview*, Charter Hall, Sydney.
- CIA (2024), *World Factbook 2024*, CIA, Washington.
- Colliers (2024), *Australian Industrial and Logistics Market Q2 2024 Overview*, Colliers, Sydney.
- Cushman and Wakefield (2024), *Logistics and Industrial Australian Capital Markets*, Cushman & Wakefield, Melbourne.
- Department of Industry, Science and Resources (2020), *Make it Happen: Australian Government's Modern Manufacturing Strategy*, DISR, Canberra.
- Eichholtz, P., Hoesli, M., MacGregor, B. and Nanthakumaran, N. (1995), "Real estate portfolio diversification by property type and region", *Journal of Property Investment and Finance*, Vol. 6 No. 3, pp. 39-59, doi: [10.1108/09588689510101676](https://doi.org/10.1108/09588689510101676).
- Ekici, S., Kebuk, O. and Ulegin, F. (2016), "Linking to compete: logistics and global competitiveness interaction", *Transport Policy*, Vol. 48 No. 1, pp. 117-128, doi: [10.1016/j.tranpol.2016.01.015](https://doi.org/10.1016/j.tranpol.2016.01.015).
- EPRA (2024), *Monthly Statistical Bulletin*, December 2023, EPRA, Brussels.
- Fehribach, F., Rutherford, R. and Eakin, M. (1993), "An analysis of the determinants of industrial property valuation", *Journal of Real Estate Research*, Vol. 8 No. 3, pp. 361-376, doi: [10.1080/10835547.1993.12090717](https://doi.org/10.1080/10835547.1993.12090717).
- Freichel, S., Annika, N. and Wartge, J. (2019), "The role of logistics real estate in last-mile deliveries: opportunities, challenges and success factors for integration", in *Business Logistics in Modern Management*, Efos, Croatia.
- Frontier Advisors (2024), *Market Insights- Industrial and Logistics Update*, Frontier Advisors, Melbourne.
- GBCA (2024), *Green Star in Focus: The Case for Sustainable Industrial Buildings*, GBCA, Sydney.
- Geltner, D. (1993), "Estimating market values from appraised values without assuming an efficient market", *Journal of Real Estate Research*, Vol. 8 No. 3, pp. 325-345, doi: [10.1080/10835547.1993.12090713](https://doi.org/10.1080/10835547.1993.12090713).
- Goodman (2024), *Goodman Group FY24 Results*, Goodman, Sydney.
- Guiliano, G. and Kang, S. (2018), "Spatial dynamics of the logistics industry: evidence from California", *Journal of Transport Geography*, Vol. 66 No. 1, pp. 248-258.
- Hartzell, D., Hekman, J. and Miles, M. (1987), "Real estate returns and inflation", *Real Estate Economics*, Vol. 15 No. 5, pp. 617-637, doi: [10.1111/1540-6229.00407](https://doi.org/10.1111/1540-6229.00407).
- He, M., Shin, J., Wu, X. and Luo, J. (2018), "Logistics space: a literature review from the sustainability perspective", *Sustainability*, Vol. 10 No. 8, p. 2815, doi: [10.3390/su10082815](https://doi.org/10.3390/su10082815).
- IPE (2023), *Top 150 Real Estate Investment Managers*, IPE, London.
- IPE (2024), *Top 150 Real Estate Investors*, IPE, London.
- Jackson, T. (2002), "Environmental contamination and industrial real estate prices", *Journal of Real Estate Research*, Vol. 23 No. 1, pp. 179-200, doi: [10.1080/10835547.2002.12091073](https://doi.org/10.1080/10835547.2002.12091073).
- JLL (2021), *The Future of Global Logistics Real Estate*, JLL, New York.
- JLL (2022), *Valuing ESG and Net Zero Carbon in Industrial and Logistics*, JLL, London.
- JLL (2024a), *Global Real Estate Transparency Index 2024*, JLL, Chicago.

- JLL (2024b), *Asia-Pacific Office Market Q1 2024*, JLL, Singapore.
- JLL (2024c), *European Logistics Market Update Q1: 2024*, JLL, London.
- JLL (2024d), *Australian Logistics and Industrial Market Overview Q4 2023*, JLL, Sydney.
- JLL (2024e), *Australian Logistics and Industrial Market Review and Outlook 2024*, JLL, Sydney.
- JLL (2026), *Industrial Real Estate Market Analysis Q1 2026*, JLL, Sydney.
- Johnson, C. and White, M. (2005), "Inflation and rental change in industrial property: a multi-level analysis", *Journal of Property Investment and Finance*, Vol. 23 No. 3, pp. 342-363.
- Kim, J. (2003), "The dynamics of the Australian industrial property market", *Pacific Rim Property Research Journal*, Vol. 9 No. 4, pp. 398-408, doi: [10.1080/14445921.2003.11104150](https://doi.org/10.1080/14445921.2003.11104150).
- Lee, S. (2001), "The relative importance of property type and regional factors in real estate returns", *Journal of Real Estate Portfolio Management*, Vol. 7 No. 2, pp. 159-167, doi: [10.1080/10835547.2001.12089638](https://doi.org/10.1080/10835547.2001.12089638).
- Li, G., Sun, W., Yuan, Q. and Liu, S. (2020), "Planning versus the market: logistics establishments and logistics parks in Chongqing, China", *Journal of Transport Geography*, Vol. 82 No. 1, 102599, doi: [10.1016/j.jtrangeo.2019.102599](https://doi.org/10.1016/j.jtrangeo.2019.102599).
- Lin, Y., Lee, C. and Newell, G. (2020), "The added-value role of industrial and logistics REITs in the Pacific Rim region", *Journal of Property Investment and Finance*, Vol. 38 No. 6, pp. 597-614, doi: [10.1108/jpif-09-2019-0129](https://doi.org/10.1108/jpif-09-2019-0129).
- Ling, D. and Naranjo, A. (2002), "Commercial real estate return performance: a cross-country analysis", *The Journal of Real Estate Finance and Economics*, Vol. 24 No. 2, pp. 119-142.
- Mangan, J., Lalwani, C. and Fynes, B. (2008), "Port-centric logistics", *International Journal of Logistics Management*, Vol. 19 No. 1, pp. 29-41, doi: [10.1108/09574090810872587](https://doi.org/10.1108/09574090810872587).
- Marchuk, V., Harmash, O. and Ovdiienko, O. (2020), "World trends in warehouse logistics", *International Logistics Supply Chain Management*, Vol. 2 No. 1, pp. 32-50, doi: [10.46783/smart-scm/2020-2-3](https://doi.org/10.46783/smart-scm/2020-2-3).
- Marzuki, J. and Newell, G. (2017), "The significance and performance of US commercial property in a post-GFC context", *Journal of Property Investment and Finance*, Vol. 35 No. 6, pp. 575-598, doi: [10.1108/jpif-02-2017-0018](https://doi.org/10.1108/jpif-02-2017-0018).
- Mathauer, M. and Hofmann, E. (2019), "Technology-adoption by logistics service providers", *International Journal of Physical Distribution and Logistics Management*, Vol. 40 No. 4, pp. 416-434, doi: [10.1108/ijpdlm-02-2019-0064](https://doi.org/10.1108/ijpdlm-02-2019-0064).
- Mattarocci, G., Pekdenir, D. and Mattarocci, G. (2019), *Logistics Real Estate Investment and REITs in Europe*, Springer, New York.
- Monios, J. (2015), "Identifying governance relationships between intermodal terminals and logistics platform", *Transport Reviews*, Vol. 35 No. 6, pp. 767-791, doi: [10.1080/01441647.2015.1053103](https://doi.org/10.1080/01441647.2015.1053103).
- Monitor Intelligence (2024), *Australian Freight & Logistics Market*, Monitor Intelligence, Hyderabad.
- MSCI (2024a), *MSCI Global Annual Property Index 2023*, MSCI, New York.
- MSCI (2024b), *MSCI Australian Annual Property Index Q4 2023*, MSCI, New York.
- Newell, G. (2007), "The significance and performance of industrial investment property in Australia", *Pacific Rim Property Research Journal*, Vol. 13 No. 3, pp. 361-388, doi: [10.1080/14445921.2007.11104238](https://doi.org/10.1080/14445921.2007.11104238).
- Newell, G. and Marzuki, J. (2018), "The emergence of student accommodation as an institutionalised property sector", *Journal of Property Investment and Finance*, Vol. 36 No. 6, pp. 523-538, doi: [10.1108/jpif-01-2018-0007](https://doi.org/10.1108/jpif-01-2018-0007).
- Newell, G. and Marzuki, J. (2022), "The increasing importance of environmental sustainability in global real estate investment markets", *Journal of Property Investment and Finance*, Vol. 40 No. 4, pp. 411-429, doi: [10.1108/jpif-01-2022-0005](https://doi.org/10.1108/jpif-01-2022-0005).
- Newell, G. and Marzuki, J. (2023), "The impact of the COVID-19 crisis on global real estate capital flows", *Journal of Property Investment and Finance*, Vol. 41 No. 5, pp. 553-573, doi: [10.1108/jpif-04-2023-0031](https://doi.org/10.1108/jpif-04-2023-0031).

- Newell, G. and Marzuki, J. (2024), "The risk-adjusted performance and drivers of French healthcare property", *Journal of European Real Estate Research*, Vol. 17 No. 2, pp. 189-211, doi: [10.1108/jerer-04-2022-0014](https://doi.org/10.1108/jerer-04-2022-0014).
- Newell, G., Marzuki, J., Hoesli, M. and Lai, R. (2023a), "The performance of non-listed opportunity real estate funds in China", *Journal of Property Investment and Finance*, Vol. 41 No. 6, pp. 583-600, doi: [10.1108/jpif-09-2021-0075](https://doi.org/10.1108/jpif-09-2021-0075).
- Newell, G., Nanda, A. and Moss, A. (2023b), "Improving the benchmarking of ESG in real estate investment", *Journal of Property Investment and Finance*, Vol. 41 No. 4, pp. 380-405, doi: [10.1108/jpif-10-2021-0084](https://doi.org/10.1108/jpif-10-2021-0084).
- O'Connor, K., Derudder, B. and Witlox, F. (2016), "Logistics services: global functions and global cities", *Growth and Change*, Vol. 47 No. 4, pp. 481-496, doi: [10.1111/grow.12136](https://doi.org/10.1111/grow.12136).
- Poleg, D. (2020), *Rethinking Real Estate*, Palgrave MacMillan, London.
- Raimbault, N. (2022), "Outer-suburban politics and the financialization of the logistics real estate industry: the emergence of financial conditions in the Paris region", *Urban Studies*, Vol. 59 No. 7, pp. 1481-1498, doi: [10.1177/00420980211014452](https://doi.org/10.1177/00420980211014452).
- Real Capital Analytics (2024), *Global Capital Trends 2023*, RCA, New York.
- Sayce, S., Clayton, J., Devaney, S. and van de Wetering, J. (2022), "Climate risks and their implications for commercial property valuations", *Journal of Property Investment and Finance*, Vol. 40 No. 4, pp. 430-443, doi: [10.1108/jpif-02-2022-0018](https://doi.org/10.1108/jpif-02-2022-0018).
- Statista (2024), *E-Commerce as Percentage of Total Retail Sales Worldwide*, Statista, Hamburg.
- Sun, B., Li, H. and Zhao, Q. (2018), "Logistics agglomeration and logistics productivity in USA", *The Annals of Regional Science*, Vol. 61 No. 2, pp. 273-293, doi: [10.1007/s00168-018-0867-4](https://doi.org/10.1007/s00168-018-0867-4).
- Thompson, B. and Tsolacos, S. (2001), "Industrial land values- a guide to future markets", *Journal of Real Estate Research*, Vol. 21 No. 1, pp. 55-76, doi: [10.1080/10835547.2001.12091048](https://doi.org/10.1080/10835547.2001.12091048).
- Transparency International (2023), *Corruption Perception Index 2023*, TI, Berlin.
- Tsolacos, S., McGough, T. and Thompson, B. (2005), "Affordability and performance in the industrial property market", *Journal of Property Investment and Finance*, Vol. 23 No. 4, pp. 311-328, doi: [10.1108/14635780510602390](https://doi.org/10.1108/14635780510602390).
- Warren-Myers, G. (2016), "Sustainability evolution in the Australian property market: examining valuers' comprehension, knowledge and value", *Journal of Property Investment and Finance*, Vol. 34 No. 6, pp. 578-601, doi: [10.1108/jpif-04-2016-0025](https://doi.org/10.1108/jpif-04-2016-0025).
- Westpac (2022), *The Outlook for Industrial & Logistics Commercial Real Estate*, Westpac, Sydney.
- Wheaton, W. and Torto, R. (1990), "An investment model of the demand and supply for industrial real estate", *Real Estate Economics*, Vol. 18 No. 4, pp. 530-547, doi: [10.1111/1540-6229.00536](https://doi.org/10.1111/1540-6229.00536).
- World Economic Forum (2019), *Global Competitiveness Report*, WEF, Geneva.
- World Federation of Exchanges (2024), *Focus*, WFE, London.
- Wurtzbach, C., Mueller, G. and Machi, D. (1991), "The impact of inflation and vacancy on real estate returns", *Journal of Real Estate Research*, Vol. 6 No. 2, pp. 153-168, doi: [10.1080/10835547.1991.12090643](https://doi.org/10.1080/10835547.1991.12090643).

Further reading

- Miteku, M., WoldSilase, B. and Dawed, E. (2022), "Boosting operational performance through logistics drivers: evidence from manufacturing industry", *Journal of Future Sustainability*, Vol. 2 No. 3, pp. 85-96, doi: [10.5267/j.jfs.2022.9.008](https://doi.org/10.5267/j.jfs.2022.9.008).

Corresponding author

Graeme Newell can be contacted at: graeme.newell50@gmail.com