

The investment opportunity in Australian retail property: a post-pandemic perspective

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Journal of
Property
Investment &
Finance

Received 29 November 2025
Revised 13 May 2026
Accepted 25 May 2026

Abstract

Purpose – The COVID-19 pandemic and subsequent rapid increase in interest rates have drastically altered the performance profile of commercial property, making it more important than ever for institutional investors to reassess the role of retail property in their portfolios. This paper examines the performance attributes of Australian retail property by assessing its risk-adjusted performance, diversification benefits and portfolio role relative to other major asset classes across the pre-pandemic, pandemic and post-pandemic periods.

Design/methodology/approach – The analysis uses the MSCI/PCA quarterly dataset for Australian direct retail property over 1990–2024, with returns de-smoothed and segmented across state location, regional designation and asset quality. Annualised returns, risk and Sharpe ratios are assessed for the full period and for the three sub-periods. Both inter-asset and intra-retail property correlations are then used to assess diversification potential. Finally, a constrained mean-variance portfolio framework is applied to a six-asset composition comprising stocks, bonds, listed property, retail, office and industrial property.

Findings – In the full-period analysis, retail property delivers competitive risk-adjusted performance compared with both office and industrial property and other asset classes, with particularly strong Sharpe ratios in the pre-pandemic period and a clear recovery in performance in the post-pandemic years. Correlation results indicate that retail offers meaningful diversification benefits, exhibiting only moderate co-movement with other direct property sectors and relatively low correlation with stocks and listed property. The optimum asset allocation analysis sees industrial property dominate the 10% direct property allocation. Retail property features prominently in higher return-risk pre-pandemic portfolios, contributed by its superior risk-adjusted performance and diversification profile during this period.

Practical implications – This study reinforces that Australian retail property is an investable, portfolio-relevant segment of the property asset class. Retail property adds the most value when it provides a distinctive risk-return trade-off that is not easily replicated by stocks, bonds or other property sectors. Thus, while retail property remains relevant to investment portfolios, future performance will be increasingly influenced by factors such as active management, format selection and vehicle selection. However, it is important to go beyond traditional performance metrics to gain a deeper understanding of the fuller strategic role that retail property plays within a portfolio. This broader perspective is important to fully understand retail property's long-term value and contribution to diversification.

Originality/value – While this is not the first study to analyse Australian retail property as an investment asset, it extends earlier work by using a much longer and more recent MSCI/PCA retail property series, providing sub-period analysis across the pre-pandemic, pandemic and post-pandemic timeframes. The results provide updated evidence on how Australian retail property can add value in mixed-asset portfolios in a post-COVID environment.

Keywords Australian retail, Allocation strategy, Investment performance, Diversification benefits, COVID-19 impact

Paper type Academic paper

Introduction

The \$281 billion retail sector (ARA, 2025) has an important role in supporting the economic activity and daily life of society. It is also a unique subset of Australia's \$787 billion commercial property (EPRA, 2024) as it operates as a demographically driven, GDP-linked



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Journal of Property Investment &
Finance
Emerald Publishing Limited
e-ISSN: 1470-2002
p-ISSN: 1463-578X
DOI 10.1108/JPIF-11-2025-0193

asset class influenced by consumer behaviour, tenant demand and overall economic conditions. In the period before the COVID-19 pandemic, the retail property sector was seen as adjusting to the steady growth of online retailing (e.g. Amazon, eBay, AliExpress, etc.) and changing household spending patterns (e.g. use of food delivery platforms such as UberEats, Doordash), which have changed consumer spending patterns and seen a reduction in foot traffic. These structural changes have caused uncertainties to the traditional bricks-and-mortar retail format, the future prospect of retail centres and the balancing needs between physical and digital retail. More significantly, the COVID-19 pandemic caused a significant shock to the retail property sector on a much higher scale. Strict measures imposed by governments globally to control the spread of COVID-19, such as lockdowns and restrictions on mobility as well as trading activities, caused significant pressure on both retailers and landlords, highlighting the sector's high sensitivity to disruptions that interrupt face-to-face activity. Consequently, rental income, occupancy and asset valuations were significantly affected at a scale not previously experienced in the retail property sector.

The immediate impact of the pandemic on Australian retail property has been well documented (e.g. reduced in-store spending, higher vacancies and declines in rents and asset values (RBA, 2021a) and will be discussed more fully in the next section; however, the longer-term post-COVID-19 implications are still being determined. Temporary government measures in the form of wage subsidy, rent and land tax relief, as well as stimulus packages, reduced the initial impact but extended periods of disruption in many retail property markets have adversely impacted the sector. Despite this, some segments of the retail property sector, especially retail centres with non-discretionary services and large format retail (LFR), showed some resilience during the pandemic. In the post-pandemic period, the retail property market experienced a period of gradual recovery supported by the return of mobility and an increase in household spending. However, this period of recovery has taken place in a very challenging macroeconomic environment revolving around issues such as sticky inflation, rapid increases in interest rates and a higher cost of capital. These factors have impacted the demand for retail assets and investor expectations, raising the question of whether retail property has returned to its pre-COVID role or has taken on a different position in institutional portfolios.

In a broader property investment landscape, many institutional investors have been increasing their exposure to alternative and emerging property sectors (e.g. farmland, data centres, healthcare and student accommodation) (Newell and Marzuki, 2018, 2023, 2024; Marzuki and Newell, 2019, 2022), as a way to diversify property-specific risk and provide protection against systemic shocks in their portfolios, but at the expense of allocations to the traditional core sectors such as retail property. Nevertheless, retail property remains an important income-producing property sector in Australia due to its contribution to the economy and established history of institutional investment. The current themes of changing consumer behaviour, asset repositioning and ongoing evolution of retail format highlight the need for a fuller assessment of how retail property fits into a modern investment strategy; this being the primary aim of the paper. Based on this premise, two research questions (RQ) have been formulated to guide this paper, as follows.

- RQ1. How have the investment attributes of Australian retail property changed across the pre-COVID, COVID and post-COVID timeframes?
- RQ2. What role does retail property provide in mixed-asset portfolio allocations across these timeframes?

By addressing these questions, this research offers an updated and evidence-based perspective on the current strategic position of retail property within institutional portfolios. The findings will be valuable to inform investors, fund managers and broader property industry stakeholders on how retail property has performed through a major global disruption and how it can contribute to investment portfolios going forward. The next section provides an

Australian retail property context

Retail property plays an important role in Australia's property landscape due to its societal and economic significance. It forms a key part of the fabric that supports consumer activity, local employment and the functioning of communities. The retail sector accounts for 18% of Australia's gross domestic product (GDP) (ARA, 2025) and employs approximately 1.35 million people (9.2% of the workforce), being Australia's third-largest employment sector after healthcare and construction (Jobs and Skills Australia, 2024). Retail property is highly influenced by an environment defined by evolving consumer preferences, demographic trends, demand and supply in the space market, supply-chain and transport logistics and broader macroeconomic conditions such as income growth, inflation and interest rates (GPT, 2025; HTW, 2025; Frontier Advisors, 2025). Unlike many other sectors that can easily transition to the digital delivery mode, retail has traditionally relied on physical space and foot traffic, making the retail property sector particularly susceptible to cyclical disruptions. Whilst the COVID-19 pandemic was seen as a challenging period for the Australian retail property sector, it had already been impacted by a gradual structural change due to the preference towards online shopping, the growth of mixed-use development and changing consumer habits that are increasingly prioritising an alternative format that offers more convenience and value.

Being part of the property asset class, the retail property sector can be categorised into several major segments that reflect different consumer functions and operational requirements (Guy, 1998; PCA, 2020a, b; HillPDA, 2025). These retail assets include.

- (1) *Regional and sub-regional shopping centres*, with major department stores as anchor tenants and discount department stores, offering a broad mix of fashion, food and discretionary retailers.
- (2) *Neighbourhood and convenience centres*, typically having supermarkets as anchor tenants supplemented by essential services, providing day-to-day goods and services to local areas.
- (3) *Large-format retail (LFR)*, including bulky goods retailers such as hardware, electrical and homewares operators, supported by extensive car-parking and accessibility.
- (4) *CBD retail precincts*, serving the broader CBD economy and responsive to office worker volumes, tourism activity and commuter flows.
- (5) *Specialty retail*, where the type of retail activities is based on location and demographics, offering services ranging from food and beverage to boutique retailers.

These categories offer a unique perspective on a retail property's tenant structure, lease profile, operating hours, consumer patterns and also its exposure to structural challenges such as online competition (PCA, 2023; Cushman and Wakefield, 2017). For example, supermarket-anchored retail centres have demonstrated strong resilience because of their essential role, while discretionary-type regional centres and CBD retail were more exposed to the downturn in consumer activity during COVID-19 (JLL, 2021). On the other hand, LFR-type assets have benefited not only from the increase in household spending on home improvement and lifestyle goods, but also from their strategic locations, large land parcels, strong ASX-listed tenant profiles (e.g. Bunnings, Officeworks, JB Hi-Fi) and long lease structures (Burgess Rawson, 2024). This sees retail property having a diverse type of assets with different drivers of demand; thus, the entire sector cannot be viewed as a single unified market, but it comprises a spectrum of assets with varying risk-return profiles and investment characteristics. [Table 1](#)

Table 1. MSCI/PCA Australia direct retail property asset classification

Classification	Description
Super regional	Large centres over 85,000 m ² with two department stores, discount stores, two supermarkets and ~250 specialties, offering comprehensive retail, entertainment, services, facilities, and full one-stop convenience
Major regional	Major centres (50,000–85,000 m ²) with department stores, discount stores, supermarkets and ~150 specialties, offering extensive retail, entertainment, services, and full one-stop amenities
Regional retail	Regional centres (30,000–50,000 m ²) with a department store, discount store, supermarkets and 100+ specialties, offering broad retail, services, and amenities, though less extensive than major regionals
Sub-regional	Medium centres (10,000–30,000 m ²) with a discount department store, major supermarket and 40+ specialties, offering broad sub-regional retail needs dominated by key anchor tenants
Neighbourhood	Local centres under 10,000 m ² with a supermarket and up to 35 specialties, serving nearby residents with extended hours and essential day-to-day retail needs
Bulky goods	Bulky goods centres over 5,000 m ² featuring large-format homewares retailers and few specialties, purpose-built in non-traditional locations with integrated designs, often near major regional centres
Metropolitan	Any retail centre located within the metropolitan boundary of a capital city
Country	Any retail centre located outside the metropolitan boundary of a capital city
Source(s): Authors' compilation from MSCI/PCA	

shows the MSCI/PCA Australia direct retail property asset classification and description used to classify retail property assets for index construction purposes.

Drivers and risk factors

As explained previously, a range of fundamental drivers influence the performance of Australian retail property. This includes population growth, household income, urban density, and demographic composition that can influence purchasing power and shopping behaviour. This is in addition to economic variables such as wages growth, interest rates and consumer confidence, which are important determinants of retailer profitability, consequently impacting retail asset’s rental performance. [Table 2](#) compares economic and demographic indicators for Australia during the pandemic (2020/2021) and post-pandemic (2024) periods. In particular, it highlights several post-pandemic improvements in population growth, income level and consumer conditions that are important demand drivers for Australian retail property in the current context.

Table 2. Economic and demographic context: Australia: 2020/2021 and 2024

Indicator	2020/2021	2024
Population growth rate	0.5%	2.1%
Population size	25.7 million	27.2 million
Median age	37.9 years	38.3 years
Share of population aged 65+	16%	17%
Average weekly income	\$1,713.90	\$1,923.40
Wage growth	1.4%	3.2%
RBA cash rate	0.10%	4.35%
Consumer sentiment index	75.6	92.8
Online retail share of total retail	11–13%	10–12%
Source(s): Authors' compilation from ABS (2024a, b, c, d) , AIHW (2025) , RBA (2025) , Melbourne Institute (2024, 2025)		

At the same time, several structural changes have introduced new challenges for retail investors. The emergence of e-commerce over the last decade has revolutionised how consumers purchase goods, with the use of online retailing platforms (e.g. Amazon, AliExpress, eBay) increasing steadily over the past decade and accelerating during COVID-19 (Australia Post, 2024). Further, food delivery platforms such as Uber Eats have changed food consumption behaviour by diverting spending away from physical restaurants and cafes to a delivery-based model. From an asset management perspective, the proliferation of online retailing has led to many retailers offering both physical and online operations, requiring changes to layout, operations and tenant mix in retail properties in order to remain competitive against online-only retailers (PWC, 2022). For example, there is more emphasis now on allocating areas for online orders such as click-and-collect counters and direct-to-boot pick-up.

The COVID-19 pandemic has made the dynamics in the retail property sector more pronounced. The prolonged lockdowns and trading restrictions in 2020–2021 resulted in a significant decline in retail spending, putting downward pressure on rents and asset values (RBA, 2021a). For example, CBD retail in the capital cities was particularly affected, as office workers stopped commuting to offices in the city and international border closures resulted in the collapse of overseas tourism. In response, both the state and federal governments introduced a range of stimulus support measures, partly helping to stabilise the retail sector and prevent a widespread fallout from COVID-19. These measures included: (1) the JobKeeper Payment programme, a federal wage subsidy that initially paid AUD \$1,500 per fortnight for each eligible employee; (2) consumer voucher schemes such as the NSW Dine and Discover programme, which encouraged spending in hospitality, entertainment and tourism; (3) commercial tenancy relief measures, which required landlords and tenants to negotiate rent reductions based on the tenant's loss of turnover; (4) land tax relief for landlords who reduced rent for affected tenants and (5) broader cash flow support and small business grants provided by federal and state governments (Treasury, 2020a, b, NSW Treasury, 2020a, b; Victorian Government, 2020a, b). Recent years have also seen a high level of uncertainty due to rising inflation, rapid increases in interest rates and the broader global uncertainties. This has some impact on the post-COVID-19 recovery of retail property due to an increase in the cost of capital for retail property investors and a decline in asset values as investors scrambled to formulate strategies to sustain their retail assets' performance, tenant retention and capital expenditure requirements (Dexus, 2023). Despite all of these challenges, the sector has shown some resilience and a gradual recovery. This will be highlighted in the next sub-section on the investment context and in the empirical analysis of this paper.

Retail property investment context

At the height of the pandemic, the retail property sector was significantly impacted. The average vacancy rate increased to the highest level in twenty years in 2020 to 5.1% (PCA, 2020a, b), with a significant decline in average gross rents between the 2020–2021 period across retail assets (Dexus, 2023). However, weighted average lease expiry (WALE) largely remained intact as supermarket-anchored and large format segments remained relatively resilient during this period. In 2024, the Australian retail property sector showed a significant improvement in fundamentals such as pricing and occupier aspects. This is against the backdrop of lower interest rates (RBA, 2025), higher consumer confidence (Melbourne Institute, 2025), rising wage growth (ABS, 2025a) and low unemployment rate (ABS, 2025b). For example, capitalisation rates have largely peaked with average yields around 5.7% in 2024; however, some variation exists across asset types, with both sub-regional and LFR yields recording marginal compressions of approximately 2–5 basis points. Overall, retail yields moved by only about 44 basis points over 2022–2024 compared to approximately 120 basis points for office and industrial property (Knight Frank, 2025).

Another important indicator of improved post-pandemic conditions is the decline in the average vacancy rate to 4.7% in 2024. This sees the CBD retail locations experiencing the

strongest recovery (vacancy rate: 2023: 11.6% to 2024: 10.0%) over the same period as foot traffic improved in major capital cities. Other retail sub-sectors recorded even lower vacancy rates, including neighbourhood shopping centres (4.9%), LFR (3.3%) and regional malls (1.7%) in 2024 (Dexus, 2025). Retail property’s WALE remained within the sector’s expected 3-5-year band in 2024. For example, several retail-focussed A-REITs reported an average income WALE of around 3.6 years (Vicinity Centres, 2025) and 4.4 years for LFR (BWP, 2025). This also sees rental growth for the sector marginally increase by around 1–2% in 2024 after several years of unchanged or negative rental growth during the pandemic and the 2022 interest rate shock (Colliers, 2024). It is also noteworthy that these improvements were observed in a high-interest-rate and sticky-inflation environment, suggesting that a fuller recovery may be more evident from 2025 onwards, particularly given tight vacancy conditions and supportive transaction markets (CBRE, 2025) in a growth-accelerating phase of the retail property sector (JLL, 2025).

The post-COVID improvement in retail property should also be assessed from a physical market perspective, as the improvement discussed above may reflect supply-side adjustments. For example, the RBA (2021b) indicated that retail floorspace construction commencements during COVID-19 were approximately 70% below the 10-year average, while later market evidence shows that new shopping centre supply was lower than that of historical levels (CBRE, 2024; Ark Capital, 2025). This is in addition to the lower vacancy levels across regional, sub-regional and neighbourhood centres as indicated above. Therefore, the post-COVID retail property market recovery may not only reflect stronger occupier demand but also be due to reduced excess supply and repositioning within the retail sector. However, consistent long-term data on floorspace, vacancy and withdrawn space by retail format are not available over the full sample period, thus, supply-side information on the retail property market should be treated as purely contextual.

The impact of the pandemic on retail property and the subsequent post-pandemic recovery of retail property can also be observed in the sector’s property transaction activity. Table 3 shows the annual commercial property transaction volumes in Australia over 2019–2024, particularly highlighting the change in capital flows in the property sectors during the pre-pandemic, pandemic and post-pandemic periods. The total property transaction volume decreased by 42% from \$31.7 billion in 2019 to \$18.4 billion in 2020 before recording a significant recovery in 2021 (total volume: \$42.3 billion) and 2022 (\$35.2 billion). In 2019, retail property’s \$5.9 billion transactions accounted for 19% of all commercial property volumes, but the volume was halved to \$2.9 billion (16% of total volume) at the height of the pandemic. The post-pandemic tightening cycle is visible in both 2023 and 2024 transaction volumes, contributed by the higher cost of capital and broader economic issues such as low wage growth and high inflation. Retail property recorded a decline of more than 50% (\$3.8 billion) in 2023 compared to 2022. By 2024, retail property showed a clear recovery, with transactions increasing to \$5.9 billion, making it the 2nd most sought-after property sector and comparable to its pre-pandemic 2019 volume. Similarly, retail property’s market share increased to 30%; this being the highest in the six-year period and comparable to both office

Table 3. Property transaction volume: Australia: 2019–2024

Sector	2019	2020	2021	2022	2023	2024	2019–2024
Industrial	16%	29%	35%	25%	29%	33%	28%
Retail	19%	16%	25%	24%	23%	30%	23%
Office	58%	40%	37%	43%	27%	30%	41%
Hotel	4%	4%	3%	5%	10%	4%	5%
Apartment	3%	12%	1%	3%	11%	4%	4%
Total volume	\$31.7 B	\$18.4 B	\$42.3 B	\$35.3 B	\$16.8 B	\$19.9 B	\$164.3 B

Source(s): Authors’ compilation from RCA (2025)

(30%) and industrial (33%) property. Overall, retail property accounted for approximately 23% of the six-year total transaction volume of \$164.3 billion, making it the third most-transacted sector over the period, behind office (41%) and industrial (28%) property (RCA, 2025).

From an institutional standpoint, retail property investment in Australia has historically been concentrated in major regional centres and large sub-regional assets and can be accessed through a broad range of vehicles, including direct ownership, non-listed property funds, joint ventures and listed A-REITs with retail mandates. Retail A-REITs are significant as it is estimated that they own around three-quarters of regional and sub-regional shopping centres (RBA, 2021b). These ASX-listed vehicles offer greater liquidity, transparency and accessibility but are more susceptible to the volatility of the capital market, while non-listed funds provide a more direct exposure to underlying retail assets with potentially lower volatility. Table 4 shows major institutional retail property owners, including Charter Hall, Scentre, Vicinity Centres, Region, Lendlease, amongst others, offering both listed and non-listed retail property investment opportunities. Major investors in the Australian retail property sector include the Future Fund, UniSuper, GIC and CPPIB, who typically gain retail property exposure through direct acquisitions, joint ventures or non-listed fund mandates with specialist retail property investment managers. Given Australia's position as the 4th most transparent property market globally (JLL, 2024), this provides confidence in investment decisions for retail property, making it an attractive choice for institutional investors. In terms of investor composition, the Australian retail property market is predominantly domestically owned. As shown in Figure 1, domestic investor categories comprising institutional investors, listed

Table 4. Major retail-focussed listed and nonlisted property funds in Australia*

Manager	Vehicle type	AUM (A\$)	No. of retail property assets
Charter Hall	Listed, non-listed	\$5.1 billion	702
Lendlease	Non-listed	\$2.8 billion	4
QIC	Non-listed	\$4.4 billion	9
GPT	Non-listed	\$3.5 billion	5
ISPT	Non-listed	\$2.7 billion	32
Scentre	Listed	\$32 billion	42
Region	Listed	\$5.2 billion	100
Vicinity Centres	Listed	\$15 billion	52
BWP	Listed	\$3.7 billion	82

Note(s): *: exclusive of convenience retail

Source(s): Authors' compilation from fund manager/REIT websites

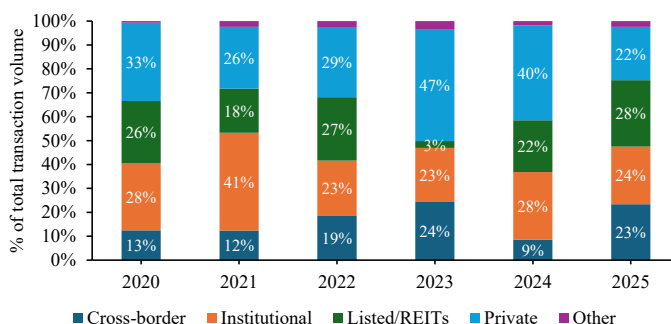


Figure 1. Australian retail property buyer composition: 2020–2025. Source: Authors' compilation/analysis from RCA (2025)

REITs and private investors have consistently accounted for most of the transaction activity, with their acquisition volume amounting from 77% to 91% of total transaction volume over the 2020–2025 period. Notably, the private investor has been the largest single category, with its acquisition activities contributing the highest to the total volume in 2023 at 47%, while the institutional investor has remained a consistent participant at 22–41% across the period. While cross-border participation has shown a gradual increase from 13% (2020) to 23% (2025), it remains an insignificant share of total acquisition activity. Given the predominantly domestic composition of the investor base across the study period, the Australian domestic coverage approach used in this study is considered methodologically appropriate. Nevertheless, the gradual increase in cross-border participation seen over the last few years is noteworthy, and a more globally oriented benchmark may become relevant if the trend continues.

Despite the challenges in the past decade, retail property remains a major institutional asset class in Australia and has made a gradual recovery over the last 12 months against the backdrop of improving economic, consumer and demographic fundamentals. Therefore, understanding its risk-return characteristics, particularly across the pre-COVID, COVID and post-COVID periods, is important in assessing its strategic institutional relevance and portfolio role. The next section reviews the existing retail property literature identifies the key knowledge gaps, and outlines the contribution of this study.

Literature review

Academic research on retail property covers a range of themes. This includes performance, diversification and valuation issues (Newell and Peng, 2007; Millington, 1996; Benjamin *et al.*, 1995; Eppli *et al.*, 1998), retail rents, spatial structure and accessibility (Benjamin *et al.*, 1990; Jackson, 2002; Hendershott *et al.*, 2013; Orr and Stewart, 2022; Hui *et al.*, 2007), tenant mix, leasing structures and shopping centre design (Bruwer, 1997; Wheaton, 2000; Chun *et al.*, 2003; Yiu and Xu, 2012; Netzell, 2013; Leung *et al.*, 2024; Zhang *et al.*, 2023), including centre format and attractiveness effects linked to size and anchor/entertainment components (Ooi and Sim, 2007), as well as broader commercial and retail pricing dynamics (Jackson and Watkins, 2007), post-COVID effects (Nanda *et al.*, 2021; Hoesli and Malle, 2023) and ESG considerations (Kunzle *et al.*, 2023). The structural change toward digitalisation and e-commerce has also been framed as a retail property risk channel, with evidence that investors can price e-commerce exposure into retail property returns (Kaiser and Freyboote, 2022). The listed property channel has also been examined at the sub-sector level, highlighting the short-run dynamics between retail A-REITs and direct property, as well as showing the distinction between listed pricing behaviour and underlying direct market fundamentals (Giannarelli and Tiwari, 2021). Retail asset management responses to structural change have also been examined, with Gardner *et al.* (2024) developing a framework for the management of retail assets that outlines the style of intervention (e.g., operational, transactional and innovative) used by managers to sustain performance in a more challenging retail environment. Collectively, this literature shows that the return dynamics of retail property are defined not only by macro factors and local space market fundamentals but also by asset-level elements such as leasing structures and tenant composition, which can affect rental resilience and risk exposures across retail formats.

The closest study to date in an Australian retail context is by Newell and Peng (2007), whereby the research uses the same MSCI/PCA dataset (formerly PCA/IPD), comprising Australian direct property indices and retail listed property trust (LPT) indices over the 1995–2005 period to examine the risk-adjusted performance and diversification role of retail property, segmented by type, size and region. The results from the study show that both direct retail property and retail LPTs delivered strong risk-adjusted performance, with retail property consistently ranked among the superior-performing direct property sub-sectors and providing attractive diversification benefits with stocks and bonds. However, Australian retail

property-focussed research is still concentrated in earlier sub-periods and does not fully capture the more recent structural changes that are influencing portfolio decision-making, particularly COVID-19 and the subsequent interest-rate hike cycle.

Whilst this paper is not the first study to analyse Australian retail property as an investment asset, it adds knowledge to the existing research in several ways: (1) it extends the analysis to a much longer and more recent sample period (Q1 1990-Q4 2024), covering more recent events such as the COVID-19 pandemic and the subsequent interest-rate hike cycle; (2) it uses de-smoothed MSCI/PCA direct retail property returns to more accurately examine risk-adjusted performance and diversification benefits in a mixed-asset portfolio setting; and (3) by segmenting the data into pre-pandemic, pandemic and post-pandemic sub-periods and applying mean-variance portfolio analysis. Therefore, this paper provides new evidence on how the portfolio role of Australian retail property has evolved in response to structural change in the retail sector over the last decade. The following sections provide an empirical evaluation of Australian retail property performance relative to the other major property sectors and mainstream assets, with a particular focus on its contribution to diversified investment portfolios.

Methodology

Data sources

This research uses quarterly data from Q1 1990 to Q4 2024 to examine the long-term investment performance, risk characteristics and diversification benefits of Australian retail property. The primary dataset for retail property data is sourced from the MSCI/PCA Australia Direct Property Index, which provides a comprehensive representation of institutional-grade Australian direct property assets. As at Q4 2024, the dataset comprises 224 income-producing retail property assets with a combined market value of \$61.2 billion. The Australian retail property index is classified using a number of criteria from which the various retail sub-sector indices are constructed. These classifications are based on state location, regional designation and asset quality. To provide a more comprehensive and granular analysis of retail property performance, this study includes seven retail sub-sector series in addition to the aggregate retail property index. These sub-sectors are: Metropolitan, Country, New South Wales, Victoria, Queensland, Prime and Secondary, collectively capturing the geographic and quality dimensions of the Australian institutional retail property market and enabling a richer assessment of how different segments of the sector have responded to the COVID-19 cycle. Not all available sub-indices are included in this empirical analysis due to the unavailability of consistent return data over the full study period. Table 5 shows the profile of the MSCI/PCA direct retail property index.

Another important methodological consideration is that the MSCI/PCA direct property index used in this study is constructed using valuation-derived market values rather than actual transaction prices. This is due to the fact that direct property is a thinly traded asset class, where transactions are infrequent and often take a long period to complete. As with most valuation-

Table 5. MSCI/PCA Australia direct retail property index profile: Q4:2024

Dataset summary

Time period: Q1:1990-Q4:2024
Total retail property assets: 224, market value at \$61.2 B
Location: Victoria (\$21.4; 35%), New South Wales (\$20.7 B; 34%), Queensland (\$12B; 20%), Western Australia (\$4.1 B; 7%), rest of Australia (\$2.2 B; 4%)
Region: metropolitan (\$48.6 B; 81%), country (\$11.1 B; 19%)
Quality: prime retail (\$40.3 B; 66%), secondary retail (\$20.8 B; 34%)
Source(s): Authors' compilation from MSCI (2025)

based indices, the method introduces statistical issues such as valuation-smoothing and temporal lag, where the appraised values adjust more slowly than movements in the real market. The side effects include understated volatility, a distorted risk-return relationship and artificially low correlations with the other asset classes. To mitigate this issue, [Geltner's \(1993\)](#) de-smoothing technique was applied using a smoothing parameter of $\alpha = 0.5$ to reconstruct a higher-fidelity retail property total return series. This procedure was consistently applied to all direct property series used in the study and has been utilised in several past research papers utilising similar Australian direct property series such as healthcare property ([Marzuki and Newell, 2022](#)) and farmland property ([Newell and Marzuki, 2024](#)). The de-smoothed retail property series forms the basis for the statistical investment analysis described in the next section, enabling a more accurate representation of the investment performance for direct property investment.

To benchmark retail property performance, this study includes the major Australian asset classes: direct property (composite, office and industrial property), listed property, stocks, bonds and cash. The proxy for the stock market is retrieved from the S&P/ASX 200 index, and the 10-year Australian government bond yield is used to represent the bond market. The composite listed property index is used instead of a listed retail property index (i.e. a retail A-REIT index) because a consistent listed retail property series is not available over the timeframe used in this study. Therefore, this study uses the broad MSCI Australia Real Estate Equities index as a proxy for listed property, which includes all listed property trusts across office, industrial, retail and diversified mandates. The risk-free rate is proxied by the 3-month bank term-deposit rate published by the Reserve Bank of Australia. All series are stated in quarterly total returns to ensure consistency across the analysis.

Statistical analysis

Given the major structural disruption caused by COVID-19, the timeframe for the analysis is divided into three specific sub-periods: pre-pandemic (Q1 1990-Q4 2019), pandemic (Q1 2020-Q1 2021) and post-pandemic (Q2 2021-Q4 2024). The pre-pandemic period captures long-run retail property performance before the impact brought by the COVID-19 pandemic, while the pandemic timeframe aligns with the initial phase in Australia characterised by border closures, lockdowns and restrictions. The post-pandemic period used reflects the transition into recovery conditions, as restrictions increasingly eased and broader economic conditions began to normalise. A supplementary five-year pre-pandemic window (Q1 2015-Q4 2019) is also presented in the performance analysis. This shorter window provides a more direct comparison with the pandemic (Q1 2020-Q1 2021) and post-pandemic (Q2 2021-Q4 2024) sub-periods. These three sub-periods are important to assess how the average return performance, risk level and diversification attributes of retail property underwent the pandemic cycle and enable a more direct comparison of its performance characteristics with other asset classes over these three distinct cycles. The post-COVID period is still relatively short and results should be interpreted with due consideration of this limitation; nevertheless, this sub-period analysis provides meaningful insights into the changing behaviour of retail property across different market conditions.

The statistical analysis in this study involves several key components. First, annualised average returns, risk and Sharpe ratios are computed for each asset class over the full study period. Second, correlation coefficients are used to assess the interaction of returns across assets and identify diversification potential between retail property and the major asset classes, as well as across the retail sub-sectors. The results are presented in inter-asset correlation tables to facilitate comparison and interpretation of results. Third, mean-variance portfolio analysis is applied to evaluate the contribution of retail property in a multi-asset portfolio context, particularly how retail property influences portfolio risk and return outcomes. It is important to note that the mean-variance framework employed in this study uses a static portfolio composition, whereby asset weights are held constant within each sub-period. While this may

not fully reflect real-world institutional investment behaviour, where portfolios are actively managed and rebalanced over time, the transaction volume data presented in [Table 3](#) provides important context for market-level transaction activity. This sees the relatively thin and infrequent trading in direct property markets limiting the scope for dynamic rebalancing strategies in practice. Results should therefore be interpreted as illustrative of the strategic allocation potential of each asset class rather than as a prescriptive buying or selling opportunity. Overall, the dataset and methodological approach adopted in this study provide a strong foundation for assessing the long-term investment role of Australian retail property.

Australian retail property performance analysis: full period: (Q1 1990-Q4 2024)

Risk-adjusted performance

As shown in [Table 6](#), Australian retail property demonstrates a strong investment proposition over the full sample period from Q1 1990 to Q4 2024. With an average annual return of 8.88% and an annualised risk level of 3.91%, retail property outperforms the broader investment market, while delivering lower volatility than the major investment assets included in this analysis. Relative to other major commercial property sectors, retail property offers a balanced and stable risk-return profile. Office property produced noticeably lower long-term returns (6.42% p.a.) and exhibited a higher risk level (5.22%). Industrial property recorded the strongest average return (10.21% p.a.), but with comparatively higher volatility (5.07%). Listed asset classes such as listed property and stocks generated relatively strong returns (8.36% and 9.11% p.a., respectively), but these were accompanied by significantly higher risk levels of 16.99% and 13.78%. This difference highlights the stability of direct property's income flows and its insulation from the day-to-day fluctuations of public markets.

From a risk-adjusted performance perspective, retail property consistently outperformed the other investment assets included in this study. Retail property's Sharpe ratio of 1.28 is significantly higher than that of other commercial property sectors, industrial (Sharpe ratio: 1.25) and office (0.49). It also exceeds the Sharpe ratios of the mainstream asset classes, including bonds (0.99), stocks (0.38) and listed property (0.26). Across the retail sub-sectors, performance was broadly consistent with the overall retail property index, and all sub-sectors delivered competitive risk-adjusted performance over the full period. In particular, secondary retail delivered the highest Sharpe ratio (1.42), contributed by its lower risk level (3.62%), while Prime retail, despite a comparable return, recorded a higher risk (4.56%) and a lower Sharpe ratio (1.09). This distinct performance profile across the retail subsectors reinforces the importance of sub-sector selection within a retail property allocation strategy.

Table 6. Risk-adjusted performance analysis of Australian retail property: full period: Q1-1990-Q4 2024

Asset classes	Average annual returns (%)	Annual risk (%)	Sharpe ratio
Retail property	8.88%	3.91%	1.28
Metropolitan	8.84%	3.95%	1.26
Country	9.00%	4.13%	1.24
New South Wales	9.07%	4.49%	1.16
Victoria	8.69%	3.82%	1.26
Queensland	8.70%	4.34%	1.11
Prime	8.82%	4.56%	1.09
Secondary	9.03%	3.62%	1.42
Office property	6.42%	5.22%	0.49
Industrial property	10.21%	5.07%	1.25
Listed property	8.36%	16.99%	0.26
Stocks	9.11%	13.78%	0.38
Bonds	5.31%	5.39%	0.99

Source(s): Authors' compilation/analysis

Overall, this full-period analysis highlights retail property’s strong long-term investment characteristics as a core institutional asset. The sector has delivered competitive returns with lower volatility, resulting in superior risk-adjusted performance compared with other property sectors and major asset classes. These findings reinforce the strategic relevance of retail property as a stable, income-reliable component of institutional investment portfolios over the long run.

Diversification benefits

Table 7 shows the correlation relationships between Australian retail property and the major asset classes over the full period from March 1990 to December 2024. Retail property shows strong diversification potential when compared with the broader asset classes. In particular, its moderate positive correlations with office property ($r = 0.44$) and industrial property ($r = 0.29$) indicate that retail property offers a distinct return profile that does not fully move in tandem with the other commercial property sectors. Retail property also exhibits relatively weak relationships with listed assets, with correlations of 0.20 with listed property and 0.15 with stocks. These results highlight the role of retail property as an effective diversifier when combined with publicly traded asset classes, which can be more sensitive to market volatility. Additionally, retail property’s low positive correlation with bonds ($r = 0.21$) further demonstrates its unique risk and return behaviour.

Across the retail sub-sectors, all series are strongly correlated with the overall Australian retail property, reflecting the common income-driven dynamics of institutional retail property. While geographic sub-sectors (Metropolitan, Country, state-level) are all highly integrated with each other, the most meaningful intra-retail diversification exists between Prime and Secondary retail ($r = 0.66$), highlighting the distinct return behaviour across quality tiers over the long run. This suggests that a quality-diversified retail portfolio combining both prime and secondary assets can capture some intra-sector diversification benefit.

The following section, using sub-period analyses, highlights changes in retail property investment dynamics due to the impact of COVID-19.

Australian retail property performance analysis: pre-pandemic (Q1 1990-Q4 2019) VS pandemic (Q1 2020-Q1 2021)

Risk-adjusted performance

Table 8 shows the pre-pandemic risk-adjusted performance of Australian retail property, while Table 9 highlights the impact of the COVID-19 pandemic on its performance characteristics. Before COVID-19, retail property delivered very strong and stable returns, averaging 10.07% p.a. with an extremely low risk level (2.64%), resulting in a high Sharpe ratio of 2.20. All retail sub-sectors reflected this strong pre-pandemic performance, with Sharpe ratios ranging from 1.61 to 2.21 across the geographic and quality sub-sectors. This saw retail property and all of its sub-sectors stand out as among the strongest performing and least volatile asset classes, significantly outperforming the commercial property sectors of office (0.66) and industrial (1.41), as well as listed property (0.31), stocks (0.37) and bonds (0.28). A supplementary pre-pandemic analysis was also performed over Q1 2015-Q4 2019 to provide a closer comparison with the shorter timeframe used in the pandemic and post-pandemic analysis (see Table 10). Over this shorter timeframe, retail property delivered a Sharpe ratio of 2.38, broadly consistent with the full pre-pandemic result (2.20), confirming that its strong risk-adjusted characteristics remained consistent in the period just before the pandemic. Across the sub-sectors, Victoria (3.31) and New South Wales (2.86) were the standout performers, while Queensland (0.83) and Country retail (1.20) recorded relatively lower risk-adjusted performance. Secondary retail (2.71) maintained its outperformance over Prime retail (1.79), which is consistent with the full pre-pandemic results.

Table 7. Diversification benefits of Australian retail property versus other major assets: full period: Q1-1990-Q4 2024

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Retail property [1]	1.00												
Metropolitan [2]	0.99*	1.00											
Country [3]	0.94*	0.89*	1.00										
New South Wales [4]	0.95*	0.95*	0.89*	1.00									
Victoria [5]	0.90*	0.91*	0.80*	0.83*	1.00								
Queensland [6]	0.90*	0.87*	0.90*	0.80*	0.74*	1.00							
Prime [7]	0.97*	0.96*	0.92*	0.92*	0.82*	0.89*	1.00						
Secondary [8]	0.82*	0.83*	0.75*	0.78*	0.86*	0.69*	0.66*	1.00					
Office property [9]	0.44*	0.45*	0.35*	0.43*	0.47*	0.34*	0.33*	0.58*	1.00				
Industrial property [10]	0.29*	0.29*	0.24*	0.33*	0.29*	0.22*	0.17*	0.47*	0.68*	1.00			
Listed property [11]	0.20*	0.20*	0.16	0.20*	0.21*	0.13	0.12	0.31*	0.15	0.26*	1.00		
Stocks [12]	0.15	0.16	0.11	0.15	0.18*	0.10	0.08	0.26*	0.11	0.14	0.71*	1.00	
Bonds [13]	0.21*	0.20*	0.25*	0.15	0.09	0.25*	0.29*	−0.01	−0.32*	−0.30*	−0.01	−0.02	1.00

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

Source(s): Authors' compilation/analysis

Table 8. Risk-adjusted performance analysis of Australian retail property: pre-pandemic: Q1 1990-Q4 2019

Asset classes	Average annual returns (%)	Annual risk (%)	Sharpe ratio
Retail property	10.07%	2.64%	2.20
Metropolitan	10.07%	2.63%	2.21
Country	10.04%	3.13%	1.85
New South Wales	10.22%	3.22%	1.85
Victoria	9.86%	2.81%	1.99
Queensland	9.84%	3.47%	1.61
Prime	10.15%	2.79%	2.11
Secondary	9.98%	3.08%	1.85
Office property	7.50%	4.87%	0.66
Industrial property	10.03%	4.10%	1.41
Listed property	8.93%	15.16%	0.31
Stocks	9.23%	13.28%	0.37
Bonds	5.73%	5.26%	0.28

Source(s): Authors' compilation/analysis

Table 9. Risk-adjusted performance analysis of Australian retail property: pandemic: Q1 2020-Q1 2021

Asset classes	Average annual returns (%)	Annual risk (%)	Sharpe ratio
Retail property	−6.56%	14.20%	−0.50
Metropolitan	−7.51%	14.30%	−0.56
Country	−3.03%	14.15%	−0.25
New South Wales	−5.78%	16.61%	−0.38
Victoria	−8.97%	11.91%	−0.80
Queensland	−4.12%	13.27%	−0.35
Prime	−8.15%	18.59%	−0.47
Secondary	−4.29%	8.91%	−0.54
Office property	3.75%	3.13%	1.02
Industrial property	14.99%	6.81%	2.12
Listed property	−3.83%	42.46%	−0.10
Stocks	3.14%	31.10%	0.08
Bonds	1.04%	0.86%	0.55

Source(s): Authors' compilation/analysis

However, the pandemic caused a severe deterioration in performance across all sub-sectors, although some sub-sectors' exposure towards essential services assets that maintained some operational continuity recorded a lesser impact. For example, Country retail (−3.03% p.a.) and Secondary retail (−4.29% p.a.) demonstrated relative resilience in terms of absolute return performance compared to Metropolitan retail (−7.51% p.a.) and Prime retail (−8.15% p.a.). Victoria recorded the most severe impact across all sub-sectors (Sharpe ratio: −0.80), consistent with the state's prolonged and stringent lockdown restrictions during 2020–2021. These results reflect the difficult conditions during the early onset of COVID-19, characterised by a significant reduction in discretionary spending, mandated store closures and economic uncertainty, with the severity of impact varying across geographic markets and quality sub-sectors.

Across the broader investment market, several other asset classes displayed different performance dynamics over the same period. Industrial property continued to perform strongly (Sharpe ratio: 2.12), as the demand for logistics and e-commerce infrastructure grew, while office property generated positive risk-adjusted performance (1.02), largely contributed

Table 10. Risk-adjusted performance analysis of Australian retail property: supplementary pre-pandemic: Q1 2015-Q4 2019

Asset classes	Average annual returns (%)	Annual risk (%)	Sharpe ratio
Retail property	7.36%	2.27%	2.38
Metropolitan	8.03%	2.29%	2.65
Country	4.95%	2.50%	1.20
New South Wales	9.06%	2.48%	2.86
Victoria	8.81%	2.07%	3.31
Queensland	4.74%	3.35%	0.83
Prime	6.35%	2.45%	1.79
Secondary	8.97%	2.59%	2.71
Office property	13.24%	3.12%	3.62
Industrial property	12.92%	4.32%	2.53
Listed property	11.19%	10.30%	0.90
Stocks	8.88%	11.89%	0.58
Bonds	2.32%	4.53%	0.08

Source(s): Authors' compilation/analysis

to by the relatively stable income and lower volatility over this short analysis timeframe. Listed assets, however, recorded lower average return performance and extremely high risk levels, with listed property (−0.10) and stocks (0.08) producing negative or weak risk-adjusted returns. Over this period, bonds remained the only asset class to offer defensive performance (0.55).

Overall, the contrasting results from the highly favourable pre-pandemic environment to the significantly weaker pandemic-period outcomes highlight the disproportionate impact of COVID-19 on the retail property sector compared with other commercial property sectors and major investment assets.

Diversification benefits

Table 11 shows the correlation analysis for the pre-pandemic period for retail property, while Table 12 illustrates the significant changes to the sector's diversification relationships during the COVID-19 pandemic. Prior to the pandemic, retail property showed moderate correlations with office ($r = 0.41$) and industrial property ($r = 0.48$), indicating that retail maintained a distinct return profile within the commercial property market. Its relationships with major asset classes, such as listed property ($r = 0.32$), stocks ($r = 0.25$) and bonds ($r = 0.09$), were also weak, indicating the strong diversification benefits that retail property provided in mixed-asset portfolios over the pre-pandemic period. Some of these relationships changed during the pandemic; for example, the correlation with industrial property ($r = 0.30$) remained relatively low, highlighting the structural resilience of the industrial sector and its distinct performance trend during the pandemic but significantly reduced diversification potential with office property ($r = 0.98$) over this period. At the same time, correlations with listed property ($r = 0.09$) and stocks ($r = 0.03$) decreased further, which is likely attributable to the extreme volatility in public markets rather than improved diversification with retail property.

Table 11 also shows the pre-pandemic diversification patterns across the retail sub-sectors. Prior to COVID-19, all retail sub-sectors exhibited moderate to strong correlations with each other, though some useful intra-retail diversification existed, most notably between Prime and Secondary retail ($r = 0.61$). Table 13 presents the diversification results for the supplementary pre-pandemic window. Retail property recorded strong diversifications with listed property (−0.05), stocks (−0.02) and industrial property (0.00) over this period. Notably, retail property showed a high positive correlation with bonds ($r = 0.72$), suggesting that retail property returns moved more closely with the low and declining interest rate cycle of

Table 11. Diversification benefits of Australian retail property versus other major assets: pre-pandemic: Q1 1990-Q4 2019

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Retail property [1]	1.00												
Metropolitan [2]	0.98*	1.00											
Country [3]	0.90*	0.81*	1.00										
New South Wales [4]	0.91*	0.91*	0.77*	1.00									
Victoria [5]	0.84*	0.84*	0.71*	0.73*	1.00								
Queensland [6]	0.82*	0.77*	0.83*	0.62*	0.59*	1.00							
Prime [7]	0.94*	0.92*	0.86*	0.83*	0.73*	0.82*	1.00						
Secondary [8]	0.84*	0.83*	0.74*	0.81*	0.82*	0.62*	0.61*	1.00					
Office property [9]	0.41*	0.45*	0.24*	0.42*	0.51*	0.21*	0.23*	0.63*	1.00				
Industrial property [10]	0.48*	0.51*	0.32*	0.52*	0.54*	0.27*	0.28*	0.70*	0.83*	1.00			
Listed property [11]	0.32*	0.31*	0.28*	0.34*	0.26*	0.20*	0.26*	0.32*	0.19*	0.27*	1.00		
Stocks [12]	0.25*	0.26*	0.21*	0.28*	0.21*	0.18	0.21*	0.26*	0.14	0.15	0.65*	1.00	
Bonds [13]	0.09	0.06	0.20*	0.04	−0.14	0.18*	0.27*	−0.21*	−0.48*	−0.34*	−0.02	−0.03	1.00

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

Source(s): Authors' compilation/analysis

Table 12. Diversification benefits of Australian retail property versus other major assets: pandemic: Q1 2020-Q1 2021

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Retail property [1]	1.00												
Metropolitan [2]	1.00*	1.00											
Country [3]	0.98*	0.97*	1.00										
New South Wales [4]	0.99*	0.98*	1.00*	1.00									
Victoria [5]	0.95*	0.97*	0.88*	0.91*	1.00								
Queensland [6]	0.99*	0.98*	1.00*	1.00*	0.90*	1.00							
Prime [7]	0.99*	0.98*	1.00*	1.00*	0.89*	1.00*	1.00						
Secondary [8]	0.79	0.82	0.66	0.71	0.94*	0.69	0.68	1.00					
Office property [9]	0.98*	0.98*	0.95*	0.96*	0.96*	0.96*	0.95*	0.83	1.00				
Industrial property [10]	0.30	0.30	0.28	0.27	0.31	0.28	0.26	0.36	0.48	1.00			
Listed property [11]	0.09	0.12	−0.06	−0.02	0.31	−0.04	−0.06	0.59	0.21	0.54	1.00		
Stocks [12]	0.03	0.07	−0.13	−0.08	0.26	−0.10	−0.12	0.55	0.19	0.63	0.96*	1.00	
Bonds [13]	0.27	0.30	0.16	0.21	0.45	0.18	0.18	0.53	0.30	−0.05	0.09	0.26	1.00

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

Source(s): Authors' compilation/analysis

Table 13. Diversification benefits of Australian retail property versus other major assets: supplementary pre-pandemic: Q1 2015-Q4 2019

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Retail property [1]	1.00												
Metropolitan [2]	0.99*	1.00											
Country [3]	0.91*	0.85*	1.00										
New South Wales [4]	0.89*	0.90*	0.78*	1.00									
Victoria [5]	0.82*	0.81*	0.74*	0.69*	1.00								
Queensland [6]	0.92*	0.90*	0.89*	0.78*	0.63*	1.00							
Prime [7]	0.93*	0.91*	0.89*	0.76*	0.76*	0.86*	1.00						
Secondary [8]	0.85*	0.86*	0.69*	0.86*	0.69*	0.77*	0.59*	1.00					
Office property [9]	0.23	0.27	0.03	0.27	0.39	0.04	0.00	0.50*	1.00				
Industrial property [10]	0.00	0.06	−0.22	0.13	0.16	−0.16	−0.19	0.29	0.63*	1.00			
Listed property [11]	−0.05	−0.06	−0.01	−0.09	−0.16	0.08	−0.04	−0.07	−0.05	−0.41	1.00		
Stocks [12]	−0.02	−0.04	0.04	0.05	−0.05	0.04	−0.03	−0.01	0.00	−0.38	0.73*	1.00	
Bonds [13]	0.72*	0.70*	0.68*	0.61*	0.61*	0.62*	0.76*	0.46*	0.16	0.05	−0.19	−0.25	1.00

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

Source(s): Authors' compilation/analysis

2015–2019 on direct property valuations. Within the retail sub-sectors, Prime and Secondary retail recorded the lowest intra-retail correlation ($r = 0.59$), reinforcing the quality-tier diversification benefit identified in the full pre-pandemic period.

However, as highlighted in Table 12, intra-retail diversification was not feasible during the pandemic, with all sub-sectors recorded correlations of $r = 0.95$ – 1.00 with the aggregate retail index. One exception is Secondary retail, which had meaningfully lower correlations with most sub-sectors, for example $r = 0.66$ with Metropolitan retail, $r = 0.68$ with Prime retail and $r = 0.69$ with Queensland. Victoria also showed comparatively lower correlations with several sub-sectors (e.g. $r = 0.88$ with Country and $r = 0.89$ with Prime). Overall, these results show clear evidence of convergence in retail property performance during COVID-19, both within the sector and relative to other asset classes, highlighting the importance of reassessing diversification dynamics across different market cycles.

Australian retail property performance analysis: pandemic (Q1 2020–Q1 2021) VS post-pandemic (Q2 2021–Q4 2024)

Risk-adjusted performance

Table 14 shows the risk-adjusted performance of Australian retail property during the post-pandemic period and highlights the extent to which the retail sector recovered after the disruptions of 2020–2021. While retail property (and its sub-sectors) experienced a severe deterioration in performance during the pandemic, including negative average returns, a large increase in the risk level and negative Sharpe ratios (see Table 9), the post-pandemic results indicate a substantial improvement across the sector. Retail property rebounded from the pandemic's negative performance (-6.56% p.a.) to strong positive average returns in the post-pandemic period (5.10% p.a.) and was supported by a noticeable decrease in risk (3.15% vs 14.20% during the pandemic). As a result, the retail property Sharpe ratio improved markedly to 1.03 , compared with the negative risk-adjusted performance (Sharpe ratio = -0.50) recorded during the pandemic.

This recovery is also seen across the retail sub-sectors, although the strength of recovery varied. Secondary retail (Sharpe ratio: 1.50) was the standout performer in the post-pandemic period, significantly outperforming Prime retail (0.75), indicating preference in essential services-anchored and neighbourhood-convenience assets in a higher cost-of-living environment. Across the geographic sub-sectors, positive risk-adjusted performance was also recorded. At a broader market level, retail property's risk-adjusted performance exceeded

Table 14. Risk-adjusted performance analysis of Australian retail property: post-pandemic: Q2 2021–Q4 2024

Asset classes	Average annual returns (%)	Annual risk (%)	Sharpe ratio
Retail property	5.10%	3.15%	1.03
Metropolitan	4.99%	3.14%	1.00
Country	4.98%	3.43%	0.91
New South Wales	5.28%	3.28%	1.04
Victoria	5.83%	2.51%	1.58
Queensland	4.24%	3.85%	0.62
Prime	4.51%	3.54%	0.75
Secondary	6.22%	2.91%	1.50
Office property	−1.01%	7.02%	−0.41
Industrial property	10.09%	9.85%	0.84
Listed property	8.08%	19.90%	0.31
Stocks	10.20%	10.41%	0.80
Bonds	3.43%	2.10%	0.75

Source(s): Authors' compilation/analysis

both industrial property (0.84) and office property (−0.41), which moved into negative territory. Overall, the post-pandemic performance of Australian retail property highlights the sector's ability to recover quickly once conditions stabilised. These results also demonstrate retail property's capacity to re-establish its long-term defensive characteristics, despite the severe downturn experienced during 2020–2021.

Diversification benefits

Table 15 presents the inter-asset correlation matrix of Australian retail property in the post-pandemic period. During the pandemic, the diversification structure of these assets changed substantially, with some deterioration in diversification potential (see Table 12). This reflected the widespread and simultaneous disruption across the commercial property sectors. In the post-pandemic period, however, these relationships began to normalise, as operating conditions improved and sector-specific fundamentals recovered. Retail property's correlations with office property ($r = 0.82$) declined from their pandemic levels ($r = 0.98$), indicating an improvement in diversification potential compared with the result observed in 2020–2021. Retail property maintained its diversification potential with industrial property, with the correlation between the two assets remaining relatively low in the post-pandemic period ($r = 0.34$). Importantly, correlations with listed asset classes shifted towards zero or slightly negative levels, with retail property showing negligible correlation with listed property ($r = 0.00$) and a weak negative correlation with stocks ($r = -0.07$). This indicates a clear differentiation between private-market retail property performance and the higher volatility of publicly traded markets. Bonds ($r = -0.23$) also provide stronger diversification benefits over this post-pandemic period, showing the effective defensive role relative to retail property.

Within the retail sub-sectors, intra-retail correlations have partially normalised in the post-pandemic period, reflecting the gradual improvement in retail-specific fundamentals. While correlations during this period remain high relative to the pre-pandemic period, diversification benefits exist in some scenarios, for example between Prime and Secondary retail ($r = 0.76$ post-pandemic vs $r = 0.61$ pre-pandemic). This is an important indicator for investors that sub-sector selection is becoming increasingly relevant again as the market continues to normalise. Overall, the post-pandemic results illustrate several meaningful improvements in diversification conditions, with retail property gradually regaining its role as a stabilising and diversifying component in mixed-asset portfolios, contrasting with the strong comovement observed during the height of the pandemic.

Australian retail property in mixed-asset portfolios

Table 16 highlights the performance attributes of Australian retail property across the three sub-periods. Retail property delivered strong risk-adjusted performance and provided useful diversification benefits with the major asset classes, while the pandemic resulted in performance deterioration with limited room for diversification. In the post-pandemic period, however, performance improved and more diversification potential was recorded, particularly with listed assets and bonds. This performance analysis context confirms that Australian retail property offers two key advantages for institutional investors: (1) competitive risk-adjusted performance, particularly in the pre-pandemic and post-pandemic periods and (2) meaningful diversification benefits relative to the major assets and other direct property sectors. These features reinforce the potential for retail property to play a strategic role in mixed-asset portfolio construction, which will be assessed in this section.

Figure 2 presents the asset allocation results from the mean-variance portfolio analysis for the six-asset composition of stocks, bonds, listed property, retail, office and industrial property. Several allocation constraints were imposed so as to reflect the way institutional investors allocate to the property asset class; typically 10–15% of total assets under management (AUM).

Table 15. Diversification benefits of Australian retail property versus other major assets: post-pandemic: Q2 2021-Q4 2024

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Retail property [1]	1.00												
Metropolitan [2]	1.00*	1.00											
Country [3]	0.96*	0.94*	1.00										
New South Wales [4]	0.97*	0.97*	0.92*	1.00									
Victoria [5]	0.93*	0.93*	0.86*	0.86*	1.00								
Queensland [6]	0.97*	0.96*	0.96*	0.94*	0.84*	1.00							
Prime [7]	0.98*	0.98*	0.93*	0.95*	0.92*	0.93*	1.00						
Secondary [8]	0.88*	0.86*	0.88*	0.85*	0.81*	0.89*	0.76*	1.00					
Office property [9]	0.82*	0.82*	0.80*	0.76*	0.69*	0.80*	0.84*	0.62*	1.00				
Industrial property [10]	0.34	0.33	0.36	0.42	0.15	0.35	0.29	0.38	0.51	1.00			
Listed property [11]	0.00	−0.02	0.12	0.06	−0.24	0.07	0.03	−0.07	0.05	0.16	1.00		
Stocks [12]	−0.07	−0.08	0.04	−0.03	−0.23	0.00	0.00	−0.21	0.00	−0.05	0.84*	1.00	
Bonds [13]	−0.23	−0.20	−0.35	−0.18	−0.12	−0.24	−0.16	−0.35	−0.50	−0.61*	−0.19	−0.12	1.00

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

Source(s): Authors' compilation/analysis

Table 16. Performance and diversification profile of Australian retail property across pre-pandemic, pandemic and post-pandemic sub-periods

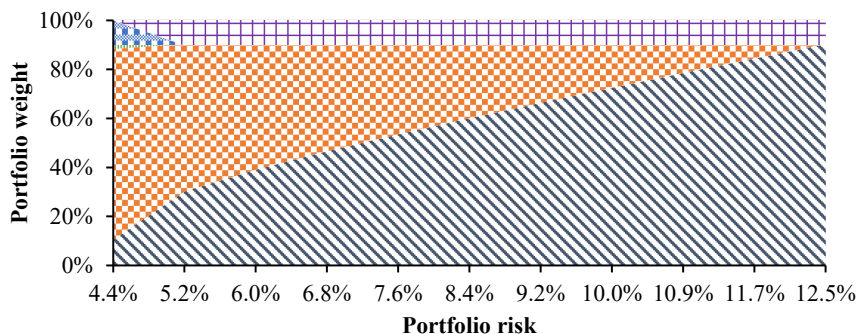
	Pre-pandemic	Pandemic	Post-pandemic
Average annual returns	10.07%	−6.56%	5.10%
Annual risk	2.64%	14.20%	3.15%
Sharpe ratio	2.20	−0.50	1.03
<i>Correlation</i>			
Office property	0.41	0.98	0.82
Industrial property	0.48	0.30	0.34
Listed property	0.32	0.09	0.00
Stocks	0.25	0.03	−0.07
Bonds	0.09	0.27	−0.23
Source(s): Authors’ compilation/analysis			

For example, the combined allocation to direct commercial property sub-sectors (office, retail and industrial) was capped at 10% of the total portfolio, while the allocation to listed property was limited to 5% throughout the entire efficient frontier. These constraints were also intended to avoid an unrealistic outcome where there might be single-asset exposure dominating the optimal portfolios. The portfolio analysis was not performed for the pandemic timeframe (March 2020–March 2021) due to the underperformance of most asset classes, as well as the very short time frame, which may not represent a realistic long-term allocation scenario. Thus, the portfolio analysis only focuses on the full-period, pre-pandemic and post-pandemic sub-periods, where the return and risk profiles reflect conditions faced by institutional investors.

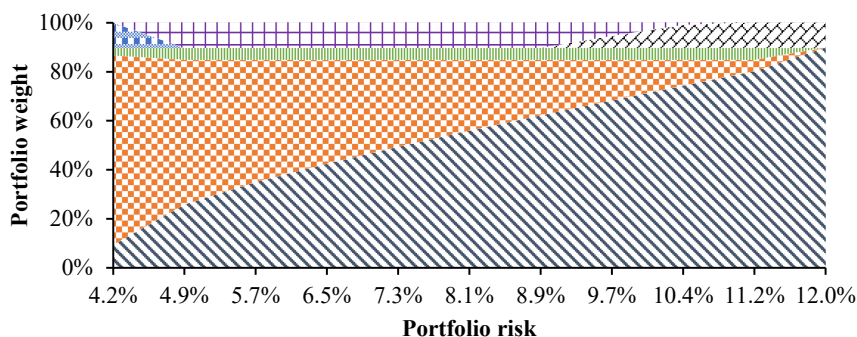
Panel A shows the optimal portfolio weights over the full sample period of March 1990–December 2024. In this full-period analysis, the efficient portfolios can be seen to be dominated by the traditional stocks-bonds mix, while the 10% direct property component is almost entirely filled by industrial property, with only a very small and sporadic allocation to office property and no allocation to retail property at any point of the risk-return spectrum. This is because industrial property, with its superior risk-return profile, offers a stronger combination of returns, risk and diversification benefits, making it the preferred choice within the constrained 10% direct property allocation. Panel B shows the pre-pandemic optimum allocation strategies. The 10% direct property allocation quota is fully utilised, with industrial dominating most of the allocation and a more prominent allocation to retail property appearing in the mid-high risk-return spectrum. This allocation is consistent with the previous risk-adjusted performance analysis, whereby retail property showed a stronger pre-COVID Sharpe ratio and diversification benefits, allowing it to contribute to the higher return-risk portfolios of the restrictive 10% allocation budget. Panel C shows the post-pandemic portfolio analysis results, where industrial property dominates the allocation, with effectively no optimal weight in retail or office property across the efficient frontier. Listed property also remains near zero despite the 5% cap. It should be noted that the 10% cap on direct property can be seen as restrictive, thus the three property sub-sectors are effectively competing for a very limited space of the overall portfolio. Because of this, only those sectors with the strongest combination of return, risk and diversification benefits can be efficiently included in the optimal portfolios. This means that industrial property tends to dominate the constrained 10% allocation, with retail and office property only appearing when performance attributes are sufficiently attractive to replace industrial property’s allocation.

Overall, the results of the analysis used in this research are based on past performance; therefore, they should be taken as illustrative rather than prescriptive. The retail property landscape is highly dynamic due to factors such as the ongoing growth of e-commerce,

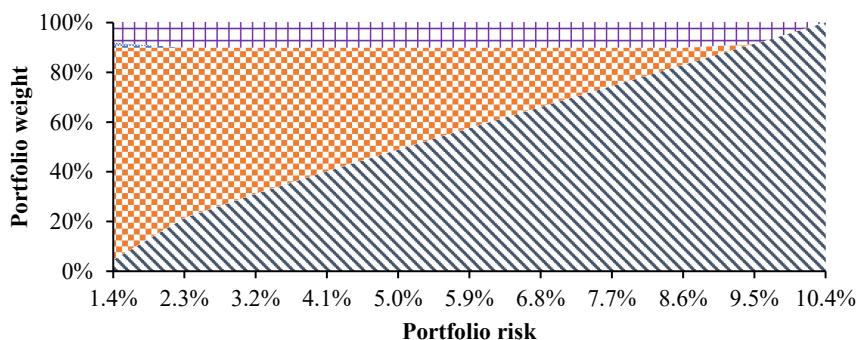
Panel A: Full period



Panel B: Pre-pandemic



Panel C: Post-pandemic



▨ Stocks
 ▨ Bonds
 ▨ Listed Property
 ▨ Retail
 ▨ Office
 ▨ Industrial

Figure 2. Australian retail property asset allocation diagram. Source: Authors' compilation/analysis

evolving consumer behaviour and changing retail formats that continue to reshape the market. This means that the historical performance of retail assets may not be evident in the future. The results of the empirical analysis presented in this paper should instead be used as a starting point for informed strategic decision-making rather than a definitive guide to future allocations. Nevertheless, the empirical evidence indicates that retail property can provide a valuable contribution to an investment portfolio when its risk-adjusted returns and

diversification benefits are the strongest, as observed in the pre-pandemic period. The results also highlight that the performance and role of retail property are dynamic, depending on the economic and investment environment. This has important implications for institutional investors when formulating post-COVID retail property allocation strategies.

Post-pandemic investment implications for Australian retail property

From a practical investment point of view, whilst this study reinforces that Australian retail property is an investable, portfolio-relevant segment of the property asset class, an important question remains, how can institutional investors effectively include retail property as part of their property allocation since its role is cyclical and influenced by structural changes. This is particularly relevant in a post-COVID investment environment, where retail property's fundamentals have been impacted by various factors such as the prevalence and ongoing impact of e-commerce, changing consumer spending preferences and a higher cost of capital due to high inflation and interest rates. For example, the analysis shows that retail property's defensive characteristics cannot be guaranteed when it goes through a period of disruption, highlighting an important implication for institutional investors in that it should be treated as a strategic allocation that requires some level of active management rather than a static "invest-and-forget" exposure.

From a real asset perspective, retail property can be said to be operationally more demanding than other property sectors because its rental income component depends on leasing quality, covenant and asset positioning, as well as the ability to respond quickly to structural changes. Because of these factors, institutional investors with limited retail-specific management capability often have to strike a balance between the need to have portfolio control and the need to delegate the operational complexity of managing retail assets to specialist fund managers who have the expertise to navigate the rapidly changing retail environment. In a post-pandemic context, investors should also be more selective at the retail sub-sector level, given that discretionary-reliant or CBD-exposed assets behave differently than essential services and convenience-based retail. This is also applicable to LFR since this sub-sector has its own demand drivers that are totally unique from ordinary retail assets. Further, the quality of a retail property asset is no longer limited to location or centre type/classification, as it also includes the ability of a retail property asset to quickly respond to changes to remain relevant to consumers through experience, services and convenience.

For institutional investors, retail property investment in a post-pandemic context will be increasingly driven not only by the effectiveness of asset management practices but also by the quality of the investment pathway. For larger institutional investors with a sizable AUM, the most effective pathway to retail exposure is typically through non-listed retail property funds, supplemented by joint ventures or co-investments in flagship retail centres. These pathways better reflect the underlying direct retail property income stream, while allowing for a more tailored retail investment strategy (e.g. asset type, geography, investment style). For institutional investors without the scale for direct access, a pooled approach via non-listed or listed retail property exposure through a fund of funds offers a more practical and diversified pathway, without the operational burdens. In addition, diversified A-REITs and non-listed funds often provide exposure to retail alongside other property sectors, such as office and industrial, allowing investors with lower AUM to achieve property diversification and gain exposure to a broader range of sectors for diversification purposes.

Overall, the practical implication from this study is clear in that retail property adds the most value when it provides a distinctive risk-return trade-off that is not easily replicated by stocks, bonds or other property sectors. Thus, while retail property remains relevant to investment portfolios, future performance will be increasingly influenced by factors such as active management, format selection and vehicle selection. However, it is important to go

beyond traditional performance metrics to gain a deeper understanding of the fuller strategic role that retail property plays within a portfolio. This broader perspective is important to fully understand retail property's long-term value and contribution to diversification.

Conclusion

Retail property plays a fundamental role in the efficient functioning of the fabric of Australian society. As a core segment of commercial property, it can be regarded as a demographic-driven, GDP-linked asset class. The prolonged disruption caused by the COVID-19 pandemic, followed by the rapid increase in interest rates, has significantly impacted the performance of the property asset class. For institutional investors, this has made it more important than ever to make strategic decisions about property allocations in order to achieve their investment objectives in a post-pandemic environment. This paper focuses on the post-pandemic investment context of the retail property sector and addresses two research questions (RQ1 and RQ2), (1) the risk-adjusted performance and diversification benefits of Australian direct retail property relative to the other major asset classes and (2) the evolving portfolio role of retail property across the pre-pandemic, pandemic and post-pandemic sub-periods.

In addressing these two research questions, this paper provides a detailed and updated investment assessment of Australian retail property as a key commercial property sector. The analysis has documented the changing investment landscape for retail and the post-pandemic recovery in various metrics of retail property and has also addressed critical issues regarding retail property to fill a research gap for a deeper understanding of its strategic role in a changing investment environment. Using a long quarterly returns dataset for direct retail property in Australia over 1990–2024, this research has shown that retail property has delivered a competitive return-risk profile over the full period, with particularly strong risk-adjusted performance in the pre-pandemic years and a gradual improvement in the post-pandemic period as investment markets stabilised. The diversification analysis has further highlighted that retail property exhibits only moderate correlation with the broader direct property sub-sectors and relatively low correlation with stocks and listed property. The results also confirmed the retail property sector's potential to enhance portfolio diversification when invested alongside mainstream assets.

In the context of the property allocation strategy, the optimum asset allocation analysis has provided additional insights into the competitive position of retail property relative to office and industrial property. Given the restrictive allocation to property, the results show that industrial property dominates the overall 10% direct property allocation, but retail property does enter the optimal mix in the pre-pandemic period at a higher risk-return spectrum, consistent with its superior Sharpe ratios and useful diversification characteristics over this period. In the post-pandemic period, while the constrained property allocation is almost fully utilised, industrial property occupies most of this limited direct property share. This is largely due to the strong focus on logistics assets, driven by the increase in e-commerce activity. As e-commerce continues to grow, the demand for distribution centres remains robust, making industrial property the prime beneficiary of this change in consumer behaviour.

Overall, the findings from this research are important in that they highlight the performance and portfolio role of retail property are dynamic and highly sensitive to changes in economic conditions and structural changes within the retail sector itself (e.g. online penetration, tenant mix, retail formats). Given the relatively short post-pandemic window covered in this analysis, and the fact that retail property has only recently moved into a recovery phase, the medium-to long-term prospects for the sector are increasingly positive. For institutional investors with relatively modest but important allocations to real assets, these results reinforce the need to treat retail property as a strategic, timeframe-dependent component of the property portfolio, with careful attention to sub-sector

selection and timing when formulating post-COVID retail property allocation strategies. While the results are framed within the Australian retail property context, there are also international implications for retail property that make this research relevant beyond the local market. An important area for future research is a more granular analysis at the individual retail format level by specifically examining how regional, sub-regional, neighbourhood, large-format and CBD retail formats have each performed across the pre-pandemic, pandemic and post-pandemic periods. As the MSCI/PCA dataset used in this study identifies assets on a prime/secondary quality basis rather than by format type, it limits the ability to perform retail format-level decomposition within the current analysis. A format-level study would provide considerable insights for investors seeking to make allocation decisions within the retail sector and provide an extension of the aggregate-level analysis presented in this study.

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