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Economic Policy Uncertainty and Commercial Property Performance: An In-Depth Analysis of Rents and Capital Values

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Abstract: Economic uncertainty has steadily increased in response to a series of unforeseen shocks, notably the Global Financial Crisis, Brexit, COVID-19, and the Russia–Ukraine war. This study examined the impact of economic uncertainty on rents and capital values in Australia's office, retail, and industrial property sectors. The reactions of these performance indicators to national uncertainty shocks were assessed through reduced-form vector autoregressive (VAR) models, using quarterly data from 2001Q1 to 2022Q3. Overall, there is an inverse relationship between uncertainty and commercial property performance, with notable variations in magnitude and persistence across the different subsectors. Rents are more sensitive to external shocks across all three subsectors, highlighting their role as signals of short-term performance. Following one standard deviation shock in uncertainty, rents steadily declined for approximately three years in the office and retail subsectors. Industrial rents, however, exhibited muted reactions and recovered quicker, typically within five quarters. This resilience to external shocks displayed by the industrial subsector positions it as a compelling option for defensive investment strategies and portfolio diversification. Capital values are less reactive than rents, showing minimal responses to uncertainty shocks and little long-term persistence.

Keywords: economic uncertainty; commercial property; rents; capital values; office; retail; industrial; impulse response; Australia

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1. Introduction

The strength of the property market is generally considered a reliable indicator of the broader economy's health, as evidenced by the strong correlations between Gross Domestic Product (GDP) growth, interest rates, employment rates, demand, and property prices (Baum 2009). These links make sustained property performance a topic of significant interest for researchers, policymakers, and investors. The property market is inherently complex, but the commercial property sector is even more intricate due to its unique financing structures, capital requirements, illiquidity, and information asymmetry (Clayton et al. 2009; Marcato and Nanda 2016). These inefficiencies make the commercial property space particularly susceptible to external economic conditions (Gholipour et al. 2022; Ling et al. 2010).

Over the past few decades, economic uncertainty has soared in response to a series of unexpected external shocks to the global economy, such as the Global Financial Crisis (GFC) of 2007–2008, Brexit, US–China trade tensions, the coronavirus pandemic (COVID-19), geopolitical concerns, supply chain disruptions, and the Russia–Ukraine war in early 2022 (Ahir et al. 2022; IMF 2022). Although these concerns are relevant across the global economy, uncertainty levels are further exacerbated in Australia due to a year of consecutive cash rate hikes by the Reserve Bank of Australia (RBA), rising inflation, and the fact that COVID-19 originated in the Asia–Pacific region (Allan et al. 2021; Gholipour et al. 2022; RBA 2023). In the immediate aftermath of these shocks, preliminary evidence suggests widespread implications for transaction volumes (Allan et al. 2021), vacancy rates (Gholipour et al. 2022),

and reduced capital deployment in the commercial property industry (JLL 2023). Given the long-term nature of commercial property leases, the financial impact of these shocks will remain significant for years to come (Gholipour et al. 2022). The benefits of assets and geographical diversification for property portfolios are well researched (Eichholtz et al. 1995; Newell and Peng 2006), but recent market disruptions necessitate further examination, and the unique effects of the COVID-19 pandemic may only become apparent in the long term. Due to the varied effects of the pandemic and the subsequent capital reallocation from retail especially (Allan et al. 2021; Nanda et al. 2021), the findings of this study further highlight the temporal dynamics caused by economic policy uncertainty.

While the susceptibility of commercial property performance to external macroeconomic shocks is widely acknowledged, a notable gap exists in scholarly research regarding the extent of this impact on performance indicators. In the aftermath of the COVID-19 pandemic, research has increased on how rent levels, liquidity, and vacancy rates are affected (Allan et al. 2021; Gholipour et al. 2022; Ling et al. 2020). However, the existing literature lacks a comprehensive study investigating the relationship between uncertainty and crucial performance indicators that reflect the overall well-being of the commercial property market, such as rents and capital values. For instance, the increase in vacancy rates post-COVID-19 may directly result from lockdown restrictions, not necessarily economic uncertainty. Moreover, previous studies have predominantly concentrated on examining the impact of uncertainty on specific performance indicators within specific sectors, limiting the comparability and generalisability of their findings. There have also been divergent findings indicating no significant effects of uncertainty (Allan et al. 2021), or long-term implications for asset performance and portfolio construction (Che et al. 2023; Gholipour et al. 2021).

Motivated by growing concerns about economic uncertainty levels and the limited literature on how commercial property performance is impacted, this study addressed a notable gap by delving into the dynamic relationship between economic uncertainty and commercial property performance within the specific context of Australia. By investigating the response of rents and capital values to unit shocks in national uncertainty in the office, retail, and industrial subsectors, these findings offer further evidence of the dynamic nature of commercial property performance and the importance of subsector variations for overall investment strategies and portfolio management. For commercial property investors and portfolio managers, this focused examination also reflects the need for a more tailored understanding of the asset class, ultimately enhancing decision-making processes and contributing to the resilience and adaptability of commercial property portfolios in the face of economic uncertainty.

2. Literature Review

2.1. Property Investment Decision-Making

Property investment decision-making is a complex multi-stage process that requires investors to assess the current market performance and future expectations to maximise returns (Roberts and Henneberry 2007). Due to several distinct features and market inefficiencies, accurate performance assessment is more challenging in the commercial property markets than in residential or listed property markets (Ling et al. 2010; Marcato and Nanda 2016). Longer leases, low liquidity, higher transaction costs, lack of transparency, and information asymmetry all represent significant sources of inefficiency (Baum 2009). According to Marcato and Nanda (2016), these market inefficiencies increase search costs and encourage speculative purchasing behaviours, particularly under suboptimal market conditions and uncertainty. The performance of commercial property investment is also influenced by subjective factors such as investor sentiment and market trends, which often contribute to periods of sustained mispricing and market distortions in response to an external shock (Clayton et al. 2009; Heinig and Nanda 2018). These inefficiencies and distinct features make commercial property performance highly susceptible to broader macroeconomic forces (Nayar et al. 2023).

Investment decisions rely on future expectations, making it the most volatile component of aggregate demand in response to a significant exogenous shock (Carrière-Swallow and Céspedes 2013; Sah et al. 2010). Due to the forward-looking nature of property investment decisions, uncertainty about the future movement of the economy further complicates the decision-making process (Chmielewska et al. 2020). Knight (1921) originally distinguished uncertainty from risk by explaining that the former represents a situation where decision-makers have no probabilistic information on how external events may influence the outcomes of their decisions. According to Jackson and Orr (2019), significant economic shocks lead to fluctuations in perceptions and activity, ultimately impacting economic activity and other asset classes, such as commercial properties. Uncertainty can impact asset performance through various transmission channels. In the case of the property market, there is a well-established connection between macroeconomic uncertainty and performance due to the intrinsic linkages between the two domains (Akinsomi and Mkhabela 2016; Gabauer and Gupta 2020).

2.2. The Threat of Rising Uncertainty on Property Performance

Long-standing economic principles indicate that all investment decisions are invariably made under some level of uncertainty (Hargitay and Yu 1993). However, recent trends and events have steadily increased uncertainty levels (Ahir et al. 2022; Bloom et al. 2022). From 2016 to 2022, the global economy experienced a series of significant disruptions that steadily increased uncertainty: Brexit, the 2016 US presidential election, trade tensions between China and the US, the outbreak of COVID-19, and the Russia–Ukraine war (Ahir et al. 2022; Bloom et al. 2022). On a global scale, the International Monetary Fund (IMF) recognises the growing threat of uncertainty and the exacerbating effects of events such as the Russian invasion of Ukraine (IMF 2022). In addition to globalisation, improvements in information transmission channels, and an increased reliance on data-heavy decision-making models, these events have made uncertainty a primary concern of property investors (Baker et al. 2016; Christiaens and Macharis 2021).

The interplay between broader economic movements and property performance has been the subject of an extensive body of research, the consensus highlighting an inverse relationship between uncertainty and performance (Bird and Yeung 2012; Gholipour 2019; Jackson and Orr 2019; Nguyen and Lee 2021). High levels of uncertainty reduce investor confidence and impact decisions related to property investment, development, and financing (Jackson and Orr 2019; Wu et al. 2020). The sensitivity to uncertainty may vary across different sectors, for instance, with office markets potentially experiencing more pronounced effects compared to industrial or retail markets (Gholipour et al. 2022; Milcheva 2022). Additionally, the global nature of EPU shocks implies that shifts in major economies can have notable repercussions on international commercial property markets. Understanding the nuanced relationship between economic uncertainty and commercial property performance is crucial for stakeholders navigating these dynamic markets.

Although the threat of uncertainty is pervasive globally, the unique composition of each country's property sector and diverse policy responses to these shocks lead to varying impacts (Schätz and Sebastian 2009; Wu et al. 2020). In the Australian context, several factors have elevated uncertainty levels for private markets like the commercial property space. First, the fact that COVID-19 originated in the Asia–Pacific region and lasted so long means that countries in this region have experienced more intense investor reactions (Allan et al. 2021). These concerns have been further exacerbated due to recent monetary policy decisions by the RBA and rising inflation (Chong 2023). Between May 2022 and May 2023, the RBA implemented a consistent series of cash rate target increases to address rising inflation, leading to notable impacts on interest rates and uncertainty levels (Chong 2023; RBA 2023). Consequently, uncertainty has emerged as the primary concern for most commercial property investors. JLL's (2023) survey of top investment managers worldwide showed that over 70% of investors regard economic uncertainty as the biggest challenge to capital deployment in the commercial property sector.

2.3. Uncertainty and Commercial Property Performance: Market Implications

Previous studies in other developed property markets, such as the UK and the US, affirm that sustained periods of economic uncertainty increase property price volatility (Andre et al. 2017), reduce returns (Gholipour et al. 2021), and limit investment activity (Meinen and Roehe 2017). Uncertainty is also a key determinant of foreign direct investment (FDI) volumes because investors generally prefer to allocate funds to countries exhibiting lower levels of uncertainty (Lieser and Groh 2014). In the first six months of 2020, property transaction volumes in the Asia–Pacific region dropped by 32% as investors reeled back spending due to increased risk perceptions and the volatile landscape of the property market (Allan et al. 2021). High levels of uncertainty often lead to tighter credit conditions and increased borrowing costs, further constraining investment activity and dampening property prices (Bloom 2009).

Gholipour et al. (2022) examined the impact of COVID-19 on the Australian office market, reporting a positive relationship between uncertainty and vacancy rates that remained significant for at least three years after the initial shock. COVID-19 also impacted the resilience of the retail asset class through changes in spending patterns and the rise of online retail (Che et al. 2023; Nanda et al. 2021). Lang et al. (2022) also found causal links between uncertainty and excess returns in the commercial property market, reporting a significant positive relationship, which implies that investors demand higher premiums due to increased risk perceptions amid conditions of uncertainty. Similarly, Newell and Marzuki (2023) showed the impact of COVID-19 on global capital cashflows to the commercial property space by examining risk dynamics due to rising inflation concerns, geopolitical concerns, and supply chain issues. Beyond the performance metrics, the existing literature has also linked uncertainty to changes in investor attitudes and risk perceptions, which further influence investment strategies and capital deployment (Abdallah et al. 2020; Jackson and Orr 2019).

The outbreak of COVID-19, geopolitical tensions, and changes in monetary policies have all contributed to increased uncertainty in the Australian commercial property market, impacting investor sentiments and property performance. Despite reported negative responses of performance indicators to rising uncertainty, there remains a limited body of literature examining commercial property performance under these conditions. As uncertainty emerges as a primary concern for commercial property investors, the need for in-depth research into its effects on investment decisions and market outcomes is pertinent. Thus, this study addressed this gap by assessing how performance indicators such as rents and capital values react to exogenous shocks across different subsectors of the commercial property sector: office, retail, and industrial. These findings highlight the growing impact of economic uncertainty on commercial property performance and the varied responses in different subsectors to provide valuable insights into effective investment strategies for navigating periods of high uncertainty.

3. Results and Discussion

This study examined the impact of perceived economic uncertainty on commercial property performance in Australia, specifically focusing on rents and capital values in the office, retail, and industrial sectors. Using reduced-form VAR models, the discussions draw on the IRFs to trace the responses of commercial property performance indicators to shocks in national uncertainty levels.

3.1. Impact of Uncertainty in the Office Sector

As shown in Figure 1a,b, generalised IRFs were examined to trace the responses of office rents and capital values to one standard deviation (SD) in national uncertainty shocks. Overall, the findings show that office rents react negatively to positive national uncertainty shocks in the short term. Specifically, one SD shock in the EPU results in significant rental declines after the second quarter. This finding aligns with the delayed responses observed in the commercial property sector due to exogenous shocks such as

the GFC of 2007–2008 and COVID-19 (Antonakakis et al. 2015; Gholipour et al. 2022). The decline continues for three years, following which rents reach a steady state and begin recovering. Gholipour et al. (2022) reported similar results based on office vacancy rates, although the authors observed that vacancy rates only react after a year. The discrepancy between rents and vacancy reactions indicates that rents are more sensitive to national uncertainty shocks in the short term, possibly due to the annual rental reviews that make rents more volatile to market disruptions, whereas vacancy rates are inherently tied to long-term commercial leases.

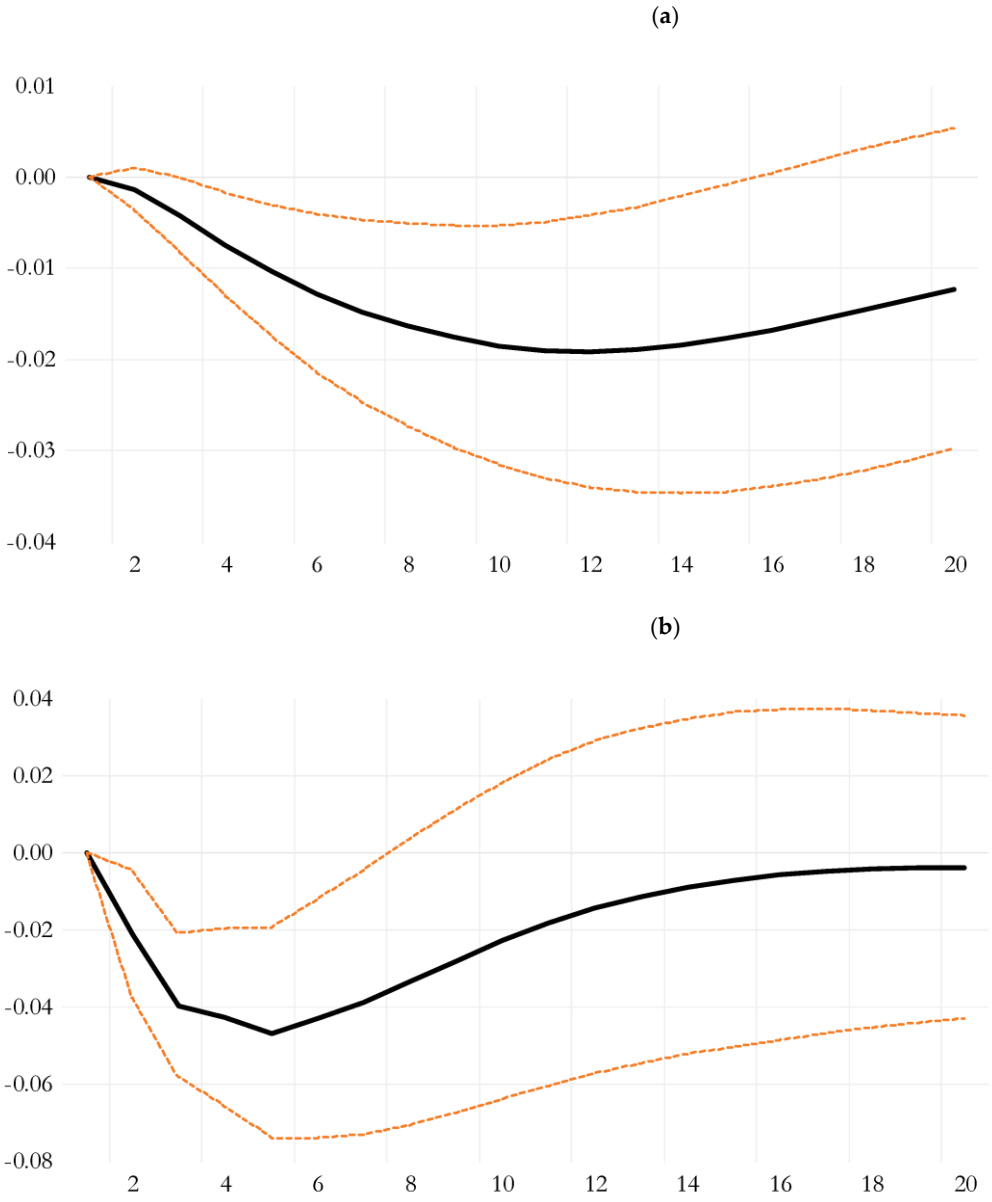

Figure 1. (**a**,**b**) Response of office rents and capital values to EPU shocks. (**a**) IRF of Office Rents to EPU. (**b**) IRF of Office Capital Values to EPU. Note: These charts represent the impulse response functions of office performance indicators to national uncertainty shocks (EPU). Uncertainty shocks (1 standard deviation) were applied to rents and capital values. The x-axis reflects time (quarters after the first-moment shock to uncertainty levels), while the y-axis reflects the magnitude of variation created by the uncertainty shock. The bold line tracks the IRF of the indicators within standard error confidence bands of ±2, which are represented by the broken lines.

Practically, the sensitivity of office rents to external uncertainty shocks sheds light on the implications of broader economic movements for property investment strategies and portfolio management. The observed negative reactions of office rents to positive national uncertainty shocks underscore the importance of a dynamic investment strategy in the short term. Investors and portfolio managers should be prepared for significant rental declines in the aftermath of such shocks, with the impact becoming notably pronounced after the second quarter and persisting for three years (Lang et al. 2022). As the decline stabilises over the three-year period, opportunities emerge for strategic portfolio adjustments and potential repositioning to take advantage of higher returns as the market recovers (Gholipour et al. 2022; Newell and Marzuki 2023). This nuanced understanding of the temporal dynamics can inform investors and portfolio managers in tailoring strategies that balance short-term resilience with long-term recovery prospects, thereby enhancing the adaptability and resilience of commercial property portfolios.

Office capital values also respond negatively to unit shocks in economic uncertainty, although the magnitude is more significant than rents in the short term. Following one SD shock in perceived uncertainty, office capital values decline for up to six quarters, followed by a near-return to steady-state levels by the end of the fourth year. Given the dynamic relationship between yields and capital values (Baum 2009), the declines in capital values suggest that national uncertainty represents a substantial risk factor for which investors demand a premium (Tsolacos et al. 2018). This premium could be reflected in yields, through which capital values are impacted in the aftermath of an unexpected market disruption. Although both rents and capital values decline in the short term in response to national uncertainty shocks, the magnitude of the reaction and recovery reveals practical implications for investment strategies amid conditions of uncertainty. Capital values begin recovering after approximately six quarters, distinctly shorter than rents, which keep declining for up to three years. Allan et al. (2021) reported similar effects across the Asia–Pacific region, providing further evidence that rents are more volatile in the short term. Considering the susceptibility of rents and capital values to uncertainty shocks in the short term, investors and portfolio managers could pivot to long-term strategies to exploit opportunities that arise as markets recover after an unexpected exogenous shock (Allan et al. 2021; Milcheva 2022; Newell and Marzuki 2023).

3.2. Impact of Uncertainty in the Retail Sector

Following recent disruptions such as COVID-19, lockdown restrictions, and the rise of online retail, Australia's retail sector has experienced significant capital reallocation and reduced performance (Allan et al. 2021; Nanda et al. 2021). In the immediate aftermath of the pandemic and subsequent lockdown restrictions, rents dropped by up to 32% in the Asia–Pacific region (Allan et al. 2021; Nanda et al. 2021), the resilience capabilities of retail assets were altered (Che et al. 2023), and capital was reallocated to different asset classes (Allan et al. 2021; Newell and Marzuki 2023). The IRFs presented in Figure 2a,b indicate why the post-pandemic transformation of the retail landscape is a crucial consideration for investment strategies and long-term capital allocation (Bitterman and Hess 2021).

In response to national uncertainty shocks, retail rents exhibit minimal reactions in the first quarter. After two quarters, there is a substantial decline in retail rents, which continues until an initial levelling off by the fourth quarter. In the subsequent two years, there are alternating periods of rises and declines, but retail rents notably do not return to a steady state over a five-year horizon. These declines reach a nadir by the tenth quarter, after which a gradual recovery begins. Notably, the declines in retail rents were lower than office and industrial assets, indicating resilience to market disruptions (Allan et al. 2021). Despite the well-reported effects of recent pandemic-related disruptions in this asset class, the diverse mix of essential services could explain this muted reaction through consistent demand even after significant market disruptions and uncertainty. Although some previous studies found no significant impact of uncertainty on retail performance

(Allan et al. 2021), Che et al. (2023) suggested different retail clusters exhibit varying levels of resilience, in part due to their adaptability.

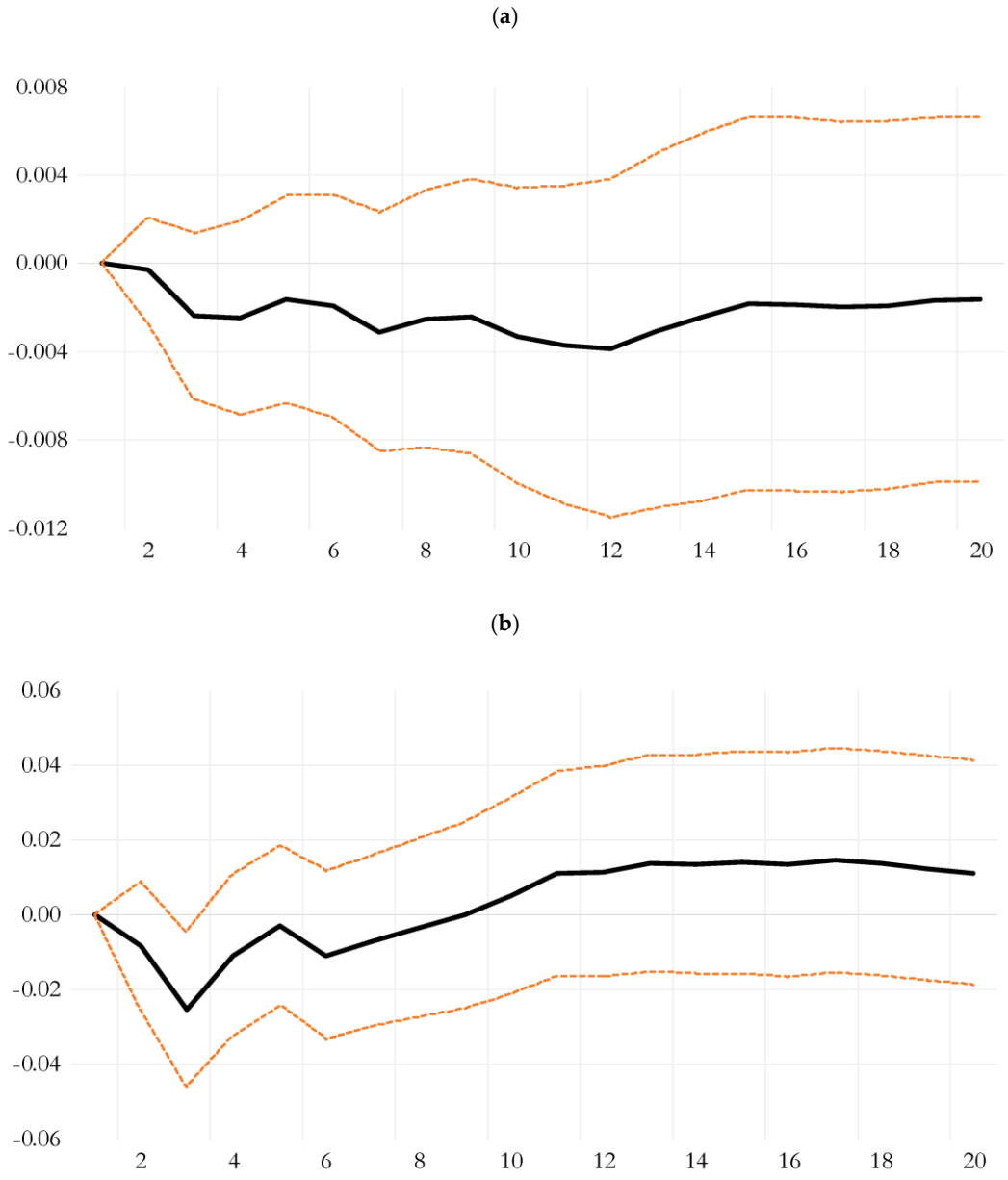

Figure 2. (**a**,**b**) Response of retail rents and capital values to EPU shocks. Note: These charts represent the impulse response functions of retail performance indicators to national uncertainty shocks (EPU). Uncertainty shocks (1 standard deviation) were applied to rents and capital values. The x-axis reflects time (quarters after the first-moment shock to uncertainty levels), while the y-axis reflects the magnitude of variation created by the uncertainty shock. The bold line tracks the IRF of the indicators within standard error confidence bands of ±2, which are represented by the broken lines. (**a**) IRF of Retail Rents to EPU. (**b**) IRF of Retail Capital Values to EPU.

This pattern underscores the need for investors and portfolio managers to anticipate a delayed but significant impact on retail rents, necessitating strategic adjustments to mitigate potential losses (Allan et al. 2021; Jackson and Orr 2019). The subsequent two years, marked by alternating periods of rises and declines, indicate a prolonged period of volatility and emphasise the challenge of achieving stability within the retail sector in the aftermath of uncertainty shocks. Despite this volatility, Che et al. (2023) suggested that different subclasses may exhibit varying levels of resilience to exogenous shocks. Portfolio managers

should consider incorporating flexibility and diversification strategies to navigate the extended periods of volatility in the retail sector, particularly as opportunities for strategic repositioning become apparent after the initial uncertainty shock.

In contrast to rents, retail capital values display less volatility in response to perceived uncertainty shocks. This discrepancy can be attributed to the nature of rents, which tend to reflect short-term market signals, while capital values incorporate expectations for the future. Specifically, following a national uncertainty shock, retail capital values experience a decline for three quarters. However, after this initial period, they begin to recover and return to pre-shock levels within approximately three years. The resilience of capital values to these external shocks demonstrates retail's role in strategic decisions and the muted reactions to exogenous shocks (Allan et al. 2021; CBRE Research 2021).

This divergence suggests that investors and portfolio managers may find retail capital values to be more resilient indicators of long-term value, allowing for a more strategic and measured approach to decision-making (Allan et al. 2021). The real options theory becomes particularly relevant in this context, as the resilience of retail capital values allows investors to exercise flexibility in their choices, considering the option to wait and observe market dynamics before committing to irreversible capital allocation decisions (Bird and Yeung 2012; Gholipour et al. 2022; McDonald and Siegel 1986).

3.3. Impact of Uncertainty in the Industrial Sector

The findings regarding industrial rents, as illustrated in Figure 3a,b, highlight the resilience of the industrial property subsector compared to office and retail, carrying significant practical implications for investment strategies, portfolio management, and repositioning. The recent literature highlights the growing significance of the industrial property subsector and last-mile logistics, attributable primarily to lockdown restrictions and the surge in online retail activities (Carson et al. 2021; Nanda et al. 2021). In response to one SD uncertainty shock, industrial rents immediately decline, but the recovery commences after approximately three quarters. Rents return to their steady-state levels by the fifth quarter, fully rebounding from the initial shock and displaying minimal long-term persistence.

This resilience aligns with the evolving landscape of the industrial property subsector, which has gained increased significance due to lockdown restrictions and the surge in online retail activities, making industrial assets pivotal components within investment portfolios (Allan et al. 2021; CBRE Research 2022). The muted reactions of the industrial assets also suggest that they could play a key role in enhancing portfolio resilience during periods of uncertainty. Investors and portfolio managers may consider allocating a proportion of their portfolios to industrial assets to mitigate the impact of exogenous shocks on overall portfolio performance. Allan et al. (2021) reported similar flight-to-safety trends amid the COVID-19 pandemic, as shown by significant capital reallocation from retail to industrial assets in the Asia–Pacific region. Similarly, Jackson and Orr (2019) reported higher resilience in the industrial sector in the UK compared to the retail and office sectors. Milcheva's (2022) investigation of the US commercial property space also aligns with these findings, noting that the COVID-19 pandemic exacerbated the struggles of some subsectors, such as retail, and provided new opportunities for industrial and residential assets. It is telling that many commercial investors in the Australian commercial property space pivoted from other assets to industrial and logistics in the immediate aftermath of the COVID-19 pandemic, thus increasing the industrial market share (Allan et al. 2021; CBRE Research 2022).

Similarly, industrial capital values exhibit minimal sensitivity to national uncertainty shocks. Capital values decline in response to national uncertainty shocks, reaching their lowest point around one year after the shock but subsequently recovering and returning to pre-shock levels within six quarters. From an investment strategy perspective, the minimal sensitivity of industrial capital values implies that investors may consider allocating a portion of their portfolios to industrial assets as a hedge against external shocks (Milcheva 2022). This allocation can contribute to overall portfolio resilience and mitigate the impact of uncertainty on the investment portfolio's value. The observed recovery within six quarters

suggests that industrial capital values have the potential for relatively swift rebounding, providing opportunities for strategic adjustments and repositioning. Considering the increased importance of industrial and last-mile logistics assets in commercial property portfolios (Carson et al. 2021; Lashgari and Shahab 2022), this resilience also provides a basis for more defensive strategies during periods of economic uncertainty.

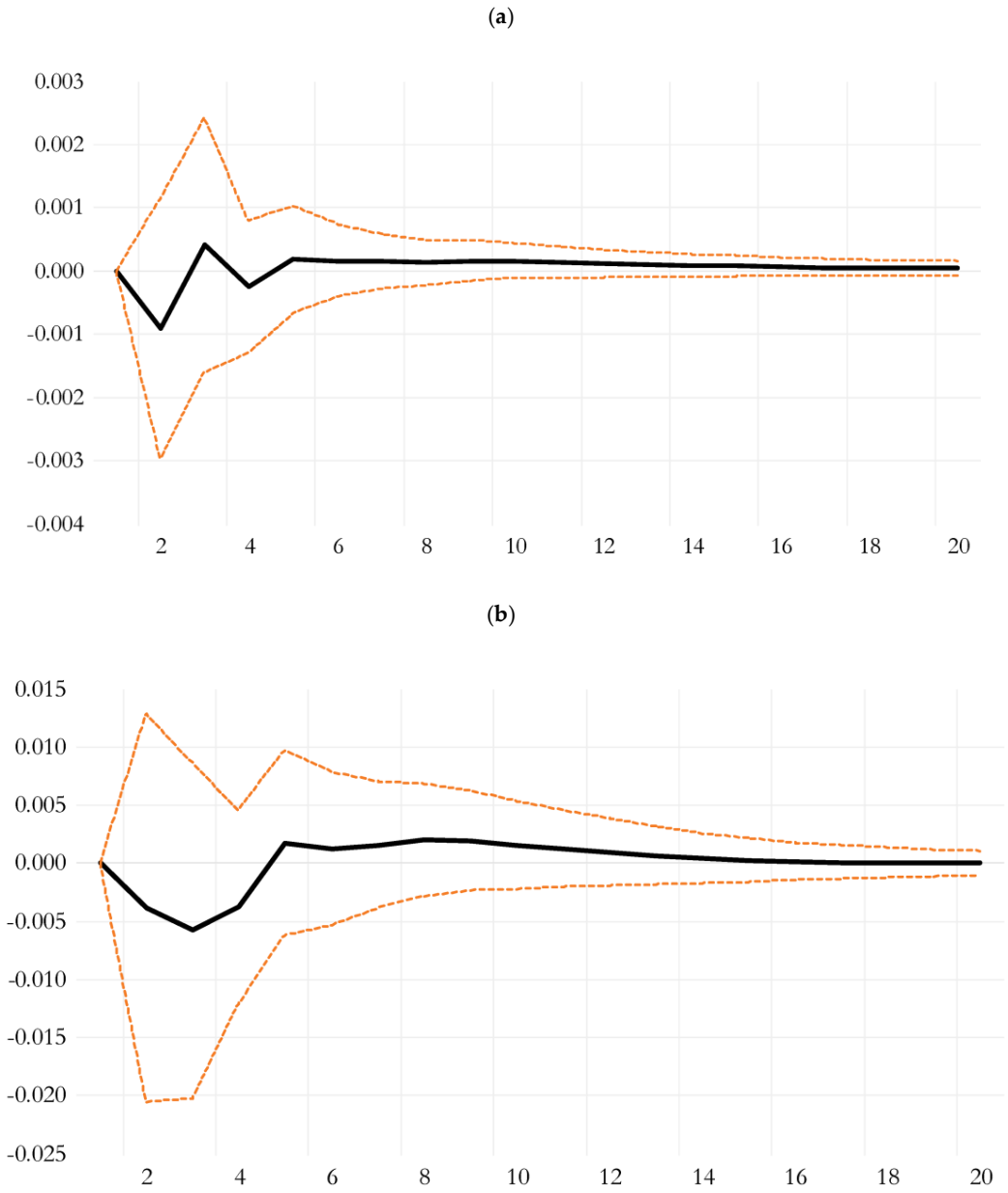

Figure 3. (**a**,**b**) Response of industrial rents and capital values to EPU shocks. Note: These charts represent the impulse response functions of industrial performance indicators to national uncertainty shocks (EPU). Uncertainty shocks (1 standard deviation) were applied to rents and capital values. The x-axis reflects time (quarters after the first-moment shock to uncertainty levels), while the y-axis reflects the magnitude of variation created by the uncertainty shock. The bold line tracks the IRF of the indicators within standard error confidence bands of ±2, which are represented by the broken lines. (**a**) IRF of Industrial Rents to EPU. (**b**) IRF of Industrial Capital Values to EPU.

4. Materials and Methods

4.1. Data

With a total capital value of AUD 226.6 billion, Australia's commercial property sector is composed of three main subsectors: office (45.1%), retail (28.8%), and industrial (19.9%) (MSCI 2023). This study examined the impact of economic uncertainty on Australia's office, retail, and industrial sectors using quarterly data from 2001Q1 to 2022Q3. Table 1 briefly describes the variables and data sources.

Table 1. Variable Description.

Variable	Description	Source
Off_Rent	Prime office net face rents	CBRE Research
Off_Cap	Prime office capital values	
Ret_Rent	Regional retail net face rents	
Ret_Cap	Regional retail capital values	
Ind_Rent	Super-prime industrial net face rents	
Ind_Cap	Super-prime industrial capital values	
EPU	Economic policy uncertainty index (Australia)	Economic policy uncertainty www.policyuncertainty.com (accessed on 8 April 2024)
CPI	Consumer price index (quarterly % change)	Australia Bureau of Statistics
GDP	Gross domestic product (quarterly % change)	
UNEM	Unemployment rate (expressed in %)	
HP	Real house price index, deflated by CPI	

Proprietary data on net rents and capital values were provided by CBRE, a global leader in commercial real estate services and investment. The dataset includes aggregated national data on premium offices, regional retail centres, and super-prime industrial properties. Prime office spaces mainly refer to landmark office buildings in major CBD markets with first-grade design and functionality, regional retail comprises shopping complexes serving a distinct city or state, and the super-prime industrial subsector includes facilities of superior design, functionality, and location (Property Council of Australia 2023). The values presented in the dataset are based on per square meter measurements, ensuring a standardized comparison across the different property types. This coverage allows for a comprehensive analysis of prime real estate markets across major cities in Australia.

To resolve potential issues of data smoothing, which is prevalent in appraisal-based indices for private investment, the capital values were desmoothed using the first-order autoregressive (AR1) process proposed by Geltner (1993) and adopted in similar studies testing commercial property performance (Bond and Hwang 2007; Hoesli and Oikarinen 2016; Lee 2008; Lee et al. 2022). Smoothing originates from temporal aggregation bias and the anchoring bias of appraisers acting in an imperfect market characterised by limited transactions and incomplete information (Bond et al. 2012; Geltner 1993; Quan and Quigley 1989). Although different desmoothing parameters have been used in previous studies, Clayton et al.'s (2001) findings provided an empirical basis for adopting 0.8 to represent the weight given to new information by appraisers. As such, the capital values were unsmoothed with an alpha value of 0.8 to generate the true capital values using Equation (1), as proposed by Geltner (1993):

$$r_t = \frac{1}{1-\alpha}\left(r_t^* - \alpha r_{t-1}^*\right) \quad (1)$$

where r_t denotes the actual underlying return, r_t^* is the reported valuation-based return at t, and α represents the smoothing parameter—a weight given to information about the prior valuation, $\alpha \in (0, 1)$. In this study, 0.8 was adopted as the desmoothing parameter. Variations of this parameter within the range of ± 10 percentage points were also tested.

Further tests were also conducted to verify the consistency of results due to the potential sensitivity of results to variations of the desmoothing parameter. Following the recommendations of Hoesli and Oikarinen (2016), the direction and magnitude of impact remained relatively unchanged, even with desmoothing parameters of 0.7 or 0.9.

The Economic Policy Uncertainty (EPU) index for Australia was adopted as a proxy for perceived uncertainty. This index is constructed following the methods outlined in "Measuring Economic Policy Uncertainty" by Baker et al. (2016) (available at https://www.policyuncertainty.com; accessed on 8 April 2024). The process counts the number of articles containing the term 'uncertainty' and its variants in eight Australian newspapers: *Daily Telegraph, Courier Mail, The Australian, The Age, The Advertiser, Mercury, Sydney Morning Herald, and The Herald Sun*. These raw counts are then scaled by the number of all articles in the same newspaper and month, standardised, averaged by month, and multiplicatively rescaled to a mean of 100 from January 1998 to December 2012. Although the index is published monthly, the end-of-quarter values were taken to maintain consistency with other variable frequencies.

Despite the availability of alternative uncertainty measures, such as stock market volatility and forecast dispersion, the EPU index is advantageous because it incorporates topics of fiscal, monetary, regulatory, and trade policy relevance (Moore 2017). The text-based methodology also captures the prevailing perceived uncertainty among market participants and is regularly updated (Gholipour et al. 2022; Moore 2017). Consequently, the EPU index has become an established and popular measure of economic uncertainty in the extant literature (Andre et al. 2017; Gholipour 2019; Gholipour et al. 2022; Jackson and Orr 2019; Wang et al. 2020; Wu et al. 2020).

The final set of control variables includes macroeconomic indicators and the house price index to account for the influence of broader economic factors and the systemic effects on commercial property performance (Hoskins et al. 2004; Ling and Naranjo 1997). These macroeconomic variables include quarterly CPI, GDP growth, and unemployment rates (UNEM). Given the intrinsic links between house prices and commercial property performance (Baum 2009; Lan 2019), the real house price index also proxies the performance of the Australian housing market. The coverage of this index contains new and existing dwellings in the eight state capitals across Australia, deflated by CPI. Table 2 presents the descriptive statistics of all the variables.

Table 2. Descriptive Statistics.

	Statistics					Normality			ADF Test		
Variable	**Mean**	**Median**	**Min**	**Max**	**Std. Dev.**	**Skew.**	**Kurt.**	**JB-Stat**	**Prob.**	**Lags**	**Level**
Off_rent	6.430	6.487	6.017	6.796	0.245	−0.376	−1.078	6.144 **	0.014	3	I (0)
Off_cap	9.225	9.215	8.558	9.890	0.401	−0.053	−1.147	4.782 *	0.063	3	I (0)
Ret_rent	7.260	7.295	6.906	7.404	0.144	−1.075	0.107	16.413 ***	0.026	1	I (0)
Ret_cap	10.108	10.153	9.580	10.484	0.215	−0.960	0.513	13.758 ***	0.085	0	I (0)
Ind_rent	4.615	4.667	4.317	4.909	0.143	−0.964	−0.068	13.756 ***	0.024	0	I (1)
Ind_cap	7.314	7.298	6.652	8.224	0.351	0.375	−0.006	1.853	0.000	0	I (1)
EPU	4.533	4.581	3.338	5.743	0.542	−0.156	−0.243	0.665	0.013	1	I (0)
CPI	2.603	2.500	−0.300	7.300	1.258	1.243	2.676	51.026 ***	0.004	3	I (1)
GDP	0.708	0.700	−6.700	3.900	1.096	−3.152	25.419	2132.99 ***	0.001	3	I (0)
UNEM	5.403	5.391	3.486	6.962	0.739	−0.128	0.106	0.226	0.079	1	I (0)
HP	4.580	4.573	4.061	4.955	0.199	−0.322	−0.157	1.153	0.022	3	I (0)

Note: This table presents the descriptive statistics of all variables adopted for this study. The dataset contains 87 observations (2000Q1 to 2022Q3). Normality assumptions were tested with skewness (Skew.), kurtosis (Kurt.), and the Jarque–Bera test (JB-stat). The *p*-values of the JB-stat are denoted by asterisks; ***, **, and * indicate statistical significance at 1%, 5%, or 10%, respectively. Stationarity assumptions were also tested with the Augmented Dickey–Fuller (ADF) test. The ADF test reports the *p*-value of the statistic for the first lag with a significant value (as suggested in the 'Lags' column, determined by the Akaike Information Criterion). I (0) is integrated of order zero, denoting that the variable is stationary at level. I (1) is integrated of order one, denoting that the variable is stationary after taking the first difference.

4.2. VAR Model

The responses of commercial property performance to national uncertainty shocks were tested using reduced-form vector autoregressive (VAR) models. Without an established theory of causal relationships, VAR estimations are ideal because all variables in the system are treated as endogenous (Sims 1980; Stock and Watson 2001). This model specification overcomes the limitation of imposing strict relationships between independent and dependent variables (Marcato and Nanda 2016). In a reduced-form VAR specification with two variables and one period, the time path of one sequence, y_t, is influenced by the current and past (one period lag) realisations of a different sequence, x_t, and vice versa (Gholipour et al. 2022; Stock and Watson 2001). Different VAR systems were specified for each performance indicator—office rents and capital values, retail rents and capital values, and industrial rents and capital values. Each of these systems tested the response of the commercial property performance indicators to unit shocks in national uncertainty levels. Equation (2) shows the matrix representation of the VAR model:

$$\begin{bmatrix} y_t \\ x_t \end{bmatrix} = \begin{bmatrix} a_1 \\ a_2 \end{bmatrix} + \begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{bmatrix} \begin{bmatrix} y_{t-1} \\ x_{t-1} \end{bmatrix} + \begin{bmatrix} u_t \\ v_t \end{bmatrix} \quad (2)$$

This model specification is particularly well-suited for the study due to its ability to capture the dynamic interrelationships among multiple time series variables without imposing restrictive theoretical assumptions (Pesaran and Shin 1998; Stock and Watson 2001). This approach has been effectively employed in similar studies within the property market context. For instance, Marcato and Nanda (2016) also leveraged the VAR model to explore the interplay between economic conditions and property market performance, further validating its appropriateness for this type of analysis. Gholipour et al. (2022) also applied a VAR framework to analyse the effects of economic uncertainty on vacancy rates and liquidity in the commercial property sector, demonstrating the model's robustness in capturing temporal dynamics. By adopting a VAR model, this study aligns with established methodologies in the field, ensuring a rigorous and comprehensive examination of the dynamic relationships between economic uncertainty and commercial property performance in Australia.

These results were interpreted through generalised impulse response functions (IRFs), which represent the dynamic response of a system to an instantaneous input signal, providing insights into the system's behaviour over time (Pesaran and Shin 1998). According to Pesaran and Shin (1998), impulse responses in a VAR model provide a more scientifically rigorous framework for interpretation than individual coefficients. These IRFs show the direction, magnitude, and significance of uncertainty shocks to the property market over a 5-year time horizon after the first-moment shock. The estimating method can be expanded to include a variety of variables and multiple lags. In practice, choosing pertinent factors and the appropriate lag length must be aided by economic theories (Marcato and Nanda 2016; Sims 1980; Stock and Watson 2001). As such, the lag length in these model specifications was determined via the three primary information criteria for model selection: Akaike, Schwarz–Bayesian, and Hannan–Quinn, in addition to Akaike's final prediction error (FPE) procedure and the sequential modified Likelihood Ratio (LR) test. The LR test examined the hypothesis that the coefficients on a predefined lag are collectively zero, utilising a X2 (Wald) statistic (Marcato and Nanda 2016). Starting from the maximum lag, the lag length was gradually reduced by one period until rejection at the 5% significance level was validated.

Diagnostic tests of stationarity and white-noise disturbances were conducted before the interpretation of outputs to maintain the basic assumptions of the VAR model. First, the stability of each VAR model was checked with the Inverse of AR Characteristic Polynomial test. As shown in Appendix A, all models are stable since the roots have moduli less than one and lie within the unit circle. The Augmented Dickey–Fuller (ADF) test was also conducted to confirm the stationarity of the variables, utilising the Akaike Information

Criterion (AIC) to identify the suitable lag length, followed by the differencing of non-stationary variables. The results of these unit root tests are presented in Table 2. Further, Lagrange Multiplier (LM) tests were conducted to determine the presence of autocorrelation in all model residuals, and are presented in Appendix B. The tests returned p-values above 0.05, which were jointly rejected to establish the reliability of the estimations and the absence of omitted variables (Johansen 1995). Thus, the residuals of all VAR estimations exhibit no systematic patterns or dependence over time (Gholipour et al. 2022; Johansen 1995; Sims 1980). Appendices C–E also detail the variance decomposition of all the VAR systems, showing the contributions of different variables in explaining the rents and capital values over the 5-year horizon after the first-moment shock in national uncertainty (Pesaran and Shin 1998).

5. Conclusions

This study examined the impact of national uncertainty shocks on the performance of the commercial property sector in Australia, specifically focusing on the office, retail, and industrial subsectors. The primary motivation behind this research stems from the unprecedented levels of uncertainty triggered by various shocks such as COVID-19, Russia's invasion of Ukraine, disruptions in global supply chains, and geopolitical tensions. Within the Australian context, the surge in inflation and recent monetary policy decisions by the RBA to consistently increase the cash rate target has further compounded the issue of uncertainty, resulting in significant declines in investment volumes and a reduction in the overall performance of the commercial property sector.

The response functions of rents and capital values were tested through reduced-form VAR models, using quarterly data from 2001Q1 to 2022Q3. To present comprehensive insights into these relationships in the Australian commercial property market, the response of these performance indicators to national uncertainty levels was estimated in all three major subsectors: office, retail, and industrial. In addition to including several control variables, including quarterly changes in CPI and GDP, unemployment rates, and the real house price index, several diagnostic and robustness checks were conducted to ensure the validity of the results. These findings were then discussed based on IRFs, which assessed the response of rents and capital values to unit shocks in the EPU.

Rents emerged as the most sensitive indicator to uncertainty shocks in the Australian commercial property sector, indicating that rents provide performance signals in the short term. Both rents and capital values exhibited muted reactions in the initial two quarters following the shocks, confirming the long-standing notion of a lagged response of the property sector to external disturbances. In the case of office rents, national uncertainty shocks lead to declines starting after two quarters and persisting for three years. This finding contrasts with recent research on other indicators like vacancy rates, which only begin to react after a year. Uncertainty also affects capital values in the short term, which suggests that investors in office, retail, and industrial properties demand a premium to compensate for the significant risk associated with uncertainty. Across all three subsectors, capital values exhibit minimal reactions to uncertainty shocks; office and retail capital values recover after three years, while industrial capital values recover within a year.

Across the different subsectors, distinct reactions to uncertainty affect investment strategies, portfolio management, and repositioning. Office and retail assets are more sensitive to unexpected uncertainty shocks, demonstrating the relative resilience of the industrial sector. While all sectors initially react similarly within the first year following an exogenous shock, the industrial sector's responses are smaller compared to office and retail. Moreover, the industrial sector recovers faster for all three performance indicators, typically starting within a year. In contrast, office and retail require approximately three years to return to pre-shock levels. The industrial property sector's recovery speed and relative stability make it an attractive choice for defensive strategies, risk-averse investors, and capital reallocations during uncertain economic conditions, providing a potential flight-to-safety destination.

These insights also emphasise the need for a nuanced approach to portfolio management, recognising the varying sensitivities of different property subsectors to uncertainty shocks. In particular, the changing landscape of office and retail habits requires agile strategies to navigate short-term volatility. Overall, understanding the increased resilience of industrial assets provides valuable insights for investors seeking to navigate uncertain market conditions and optimise the performance of their portfolios. Not all property subsectors respond similarly to external uncertainty shocks, and the distinct characteristics of the industrial sector contribute to its resilience. Investors may leverage this understanding to optimise their portfolios, tailoring their investments to align with the specific dynamics of different subsectors.

Regardless of these insights into the relationship between uncertainty and performance in Australia's commercial property sector, certain limitations inhibit the generalisability of the results. First, employing a larger dataset or panel data would enhance the robustness of the findings and allow for a more comprehensive examination of the relationship between uncertainty and commercial property performance. Notably, this study underscores the need for future research to delve into investor repositioning strategies under conditions of uncertainty, exploring how stakeholders adapt and optimise their portfolios in response to dynamic economic environments. Moreover, an intriguing avenue for exploration lies in assessing whether economic uncertainty has become an increasingly influential factor driving commercial property performance over time, considering the evolving global economic landscape. The limitations of the EPU index, which measures the prevalence of uncertainty in the news, could also be addressed by adopting alternative uncertainty proxies such as stock market volatility and forecast disagreement. A more comprehensive understanding of these dimensions can contribute to refining real estate investment strategies and bolstering the resilience of portfolios in an ever-changing economic climate.

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Appendix A

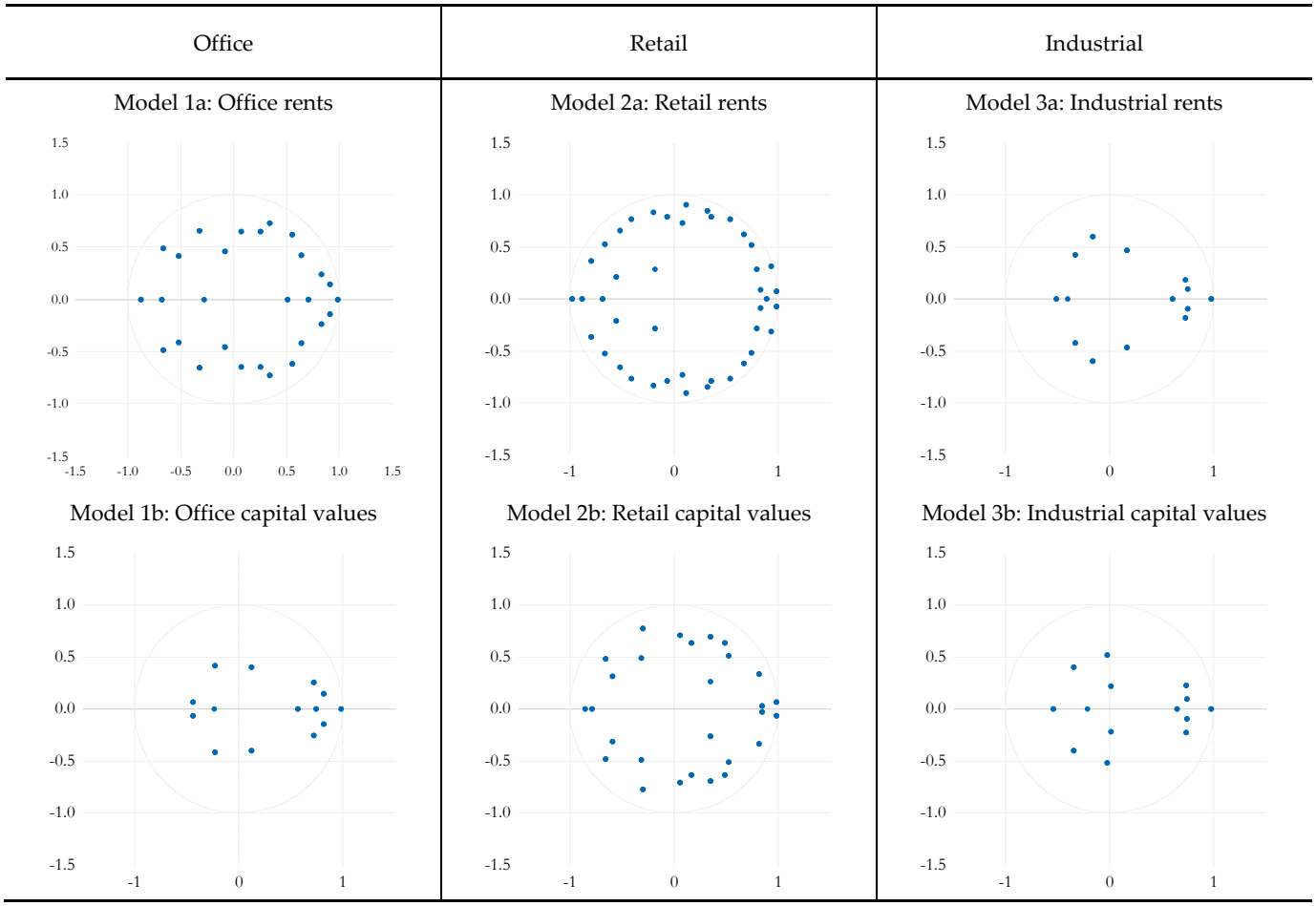

Figure A1. Model Stability Tests: Inverse of AR Characteristic Polynomial. Note: This figure shows the inverse of AR characteristic polynomial tests conducted to determine the stability of our VAR models. Lag specifications were made based on the SC criteria. No roots are outside the unit circles, indicating that all the model specifications are stable.

Appendix B

Table A1. VAR Residual Serial Correlation LM Tests.

	Off_rent	Off_cap	Ret_rent	Ret_cap	Ind_rent	Ind_cap
Lag						
1	0.006	0.116	0.268	0.161 *	0.002	0.040
2	0.706 *	0.313 *	0.143 *	0.037	0.019	0.509 *
3	0.669	0.000	0.005	0.001	0.003	0.004
4	0.062	0.213	0.372	0.270	0.364 *	0.183

Note: This table shows the results of VAR residual serial correlation LM tests conducted for all model specifications. The null hypothesis of the tests is that there is no serial correlation at lag 'h'. * indicates the lag order selected by the criterion for each model specification, based on the Schwarz information criterion.

Appendix C

Table A2. Variance Decomposition of VAR Systems (Office Performance Indicators).

Variance Decomposition of Office Rents								Variance Decomposition of Office Capital Values							
Period	**S.E.**	**Off_rent**	**EPU**	**CPI**	**GDP**	**UNEM**	**HP**	**Period**	**S.E.**	**Off_cap**	**EPU**	**CPI**	**GDP**	**UNEM**	**HP**
1	0.010	100.000	0.000	0.000	0.000	0.000	0.000	1	0.072	100.000	0.000	0.000	0.000	0.000	0.000
2	0.019	98.186	1.538	0.103	0.038	0.133	0.001	2	0.089	92.166	5.784	0.689	0.491	0.067	0.802
3	0.027	93.103	6.150	0.248	0.211	0.271	0.017	3	0.109	78.654	14.373	4.175	0.329	0.140	2.329
4	0.035	86.622	11.710	0.467	0.673	0.352	0.175	4	0.127	66.016	20.522	8.033	0.252	0.829	4.348
5	0.043	79.664	17.244	0.831	1.218	0.380	0.663	5	0.146	54.250	24.528	12.751	0.385	1.915	6.171
6	0.050	72.892	22.132	1.366	1.626	0.360	1.624	6	0.166	44.902	25.709	17.517	0.932	3.292	7.648
7	0.057	66.429	26.236	2.074	1.861	0.311	3.089	7	0.184	37.811	25.334	21.822	1.656	4.676	8.701
8	0.064	60.295	29.556	2.987	1.932	0.255	4.975	8	0.201	32.402	24.130	25.758	2.457	5.891	9.362
9	0.070	54.561	32.108	4.127	1.871	0.212	7.121	9	0.218	28.258	22.573	29.318	3.243	6.897	9.712
10	0.076	49.299	33.947	5.495	1.723	0.204	9.332	10	0.233	25.052	20.966	32.524	3.939	7.689	9.830
11	0.082	44.565	35.161	7.070	1.535	0.245	11.424	11	0.247	22.537	19.453	35.417	4.522	8.287	9.786
12	0.088	40.390	35.857	8.055	1.350	0.345	13.252	12	0.259	20.536	18.097	38.021	4.989	8.724	9.634
13	0.093	36.773	36.155	10.638	1.199	0.504	14.732	13	0.271	18.925	16.918	40.360	5.348	9.032	9.418
14	0.098	33.687	36.168	12.498	1.097	0.714	15.836	14	0.281	17.615	15.908	42.453	5.615	9.241	9.168
15	0.103	31.090	35.999	14.321	1.047	0.959	16.584	15	0.291	16.537	15.053	44.321	5.805	9.376	8.907
16	0.108	28.929	35.730	16.049	1.043	1.224	17.025	16	0.300	15.645	14.333	45.979	5.936	9.458	8.649
17	0.112	27.150	35.426	17.641	1.072	1.490	17.221	17	0.308	14.900	13.728	47.446	6.021	9.502	8.403
18	0.116	25.699	35.131	19.069	1.119	1.744	17.238	18	0.315	14.273	13.222	48.738	6.073	9.521	8.174
19	0.119	24.528	34.873	20.318	1.173	1.975	17.133	19	0.321	13.744	12.799	49.870	6.099	9.522	7.965
20	0.122	23.592	34.667	21.385	1.224	2.176	16.957	20	0.327	13.294	12.447	50.859	6.109	9.513	7.777

Note: This table presents the variance decomposition of the VAR systems specified for office rents and capital values. The variance decomposition displays how much variability in the dependent variable is explained by its own shocks and shocks in other variables. Each 'period' represents a quarter after the first moment shock in economic policy uncertainty, and 'S.E' denotes the standard error.

Appendix D

Table A3. Variance Decomposition of VAR Systems (Retail Performance Indicators).

Variance Decomposition of Retail Rents								Variance Decomposition of Retail Capital Values							
Period	**S.E.**	**Ret_rent**	**EPU**	**CPI**	**GDP**	**UNEM**	**HP**	**Period**	**S.E.**	**Ret_cap**	**EPU**	**CPI**	**GDP**	**UNEM**	**HP**
1	0.008	100.000	0.000	0.000	0.000	0.000	0.000	1	0.075	100.000	0.000	0.000	0.000	0.000	0.000
2	0.015	93.130	0.205	2.582	2.550	1.460	0.073	2	0.092	96.576	1.337	0.098	0.948	0.162	0.879
3	0.021	87.340	1.069	4.237	4.217	3.069	0.067	3	0.106	92.018	4.544	0.647	0.847	0.122	1.823
4	0.026	82.792	1.836	5.512	5.851	3.963	0.045	4	0.116	88.814	6.194	1.053	0.748	0.215	2.976
5	0.030	79.259	2.700	6.215	7.252	4.493	0.082	5	0.125	84.882	7.788	2.098	0.780	0.441	4.011
6	0.034	76.714	3.526	6.596	8.146	4.823	0.196	6	0.132	81.149	8.391	3.508	1.172	0.866	4.914
7	0.037	74.725	4.246	6.881	8.744	5.034	0.372	7	0.139	77.971	8.367	4.857	1.758	1.420	5.628
8	0.040	73.033	4.887	7.107	9.189	5.197	0.587	8	0.145	75.248	8.001	6.126	2.513	2.009	6.103
9	0.043	71.539	5.464	7.288	9.546	5.341	0.822	9	0.150	72.969	7.514	7.199	3.376	2.584	6.359
10	0.046	70.186	5.991	7.434	9.859	5.471	1.058	10	0.155	71.125	7.053	8.033	4.254	3.103	6.431
11	0.048	68.950	6.482	7.545	10.146	5.591	1.286	11	0.159	69.676	6.681	8.638	5.093	3.545	6.367
12	0.050	67.825	6.944	7.624	10.411	5.699	1.498	12	0.163	68.581	6.404	9.041	5.857	3.904	6.213
13	0.052	66.806	7.380	7.676	10.655	5.795	1.688	13	0.167	67.798	6.205	9.277	6.524	4.183	6.012
14	0.005	65.888	7.794	7.707	10.878	5.879	1.855	14	0.171	67.281	6.054	9.387	7.089	4.393	5.796
15	0.056	65.065	8.185	7.720	11.080	5.952	1.998	15	0.174	66.979	5.929	9.405	7.554	4.546	5.587
16	0.057	64.332	8.554	7.720	11.262	6.013	2.118	16	0.177	66.848	5.812	9.360	7.928	4.651	5.401
17	0.058	63.681	8.902	7.710	11.425	6.065	2.217	17	0.180	66.841	5.695	9.275	8.224	4.721	5.245
18	0.059	63.107	9.227	7.692	11.570	6.107	2.297	18	0.182	66.922	5.577	9.165	8.452	4.763	5.121
19	0.060	62.602	9.529	7.669	11.697	6.142	2.360	19	0.184	67.057	5.460	9.043	8.625	4.784	5.031
20	0.061	62.160	9.809	7.643	11.808	6.170	2.410	20	0.186	67.221	5.347	8.917	8.754	4.791	4.970

Note: This table presents the variance decomposition of the VAR systems specified for retail rents and capital values. The variance decomposition displays how much variability in the dependent variable is explained by its own shocks and shocks in other variables. Each 'period' represents a quarter after the first moment shock in economic policy uncertainty, and 'S.E' denotes the standard error.

Appendix E

Table A4. Variance Decomposition of VAR Systems (Industrial Performance Indicators).

Variance Decomposition of Industrial Rents								Variance Decomposition of Industrial Capital Values							
Period	**S.E.**	**Ind_rent**	**EPU**	**CPI**	**GDP**	**UNEM**	**HP**	**Period**	**S.E.**	**Ind_cap**	**EPU**	**CPI**	**GDP**	**UNEM**	**HP**
1	0.009	100.000	0.000	0.000	0.000	0.000	0.000	1	0.072	100.000	0.000	0.000	0.000	0.000	0.000
2	0.015	96.849	0.433	1.468	0.783	0.002	0.465	2	0.095	95.016	0.331	3.179	0.128	0.006	1.341
3	0.022	90.071	0.963	4.017	3.025	0.359	1.566	3	0.116	90.382	0.944	5.027	0.136	0.552	2.959
4	0.030	82.108	1.745	6.410	5.361	1.226	3.150	4	0.132	83.228	1.570	9.178	0.185	1.460	4.379
5	0.037	74.359	2.566	8.190	7.673	2.187	5.024	5	0.157	75.473	1.731	13.431	0.750	2.913	5.701
6	0.045	67.764	3.464	9.067	9.659	2.965	7.082	6	0.175	68.321	1.693	17.073	1.489	4.536	6.887
7	0.052	62.611	4.384	9.209	11.036	3.439	9.321	7	0.192	61.808	1.558	20.274	2.411	6.044	7.905
8	0.058	58.628	5.267	8.909	11.829	3.627	11.740	8	0.207	56.142	1.383	22.902	3.388	7.383	8.802
9	0.064	55.504	6.082	8.372	12.126	3.606	14.311	9	0.221	51.371	1.224	25.008	4.285	8.509	9.603
10	0.068	52.986	6.800	7.743	12.037	3.452	16.982	10	0.233	47.382	1.104	26.699	5.081	9.418	10.316
11	0.072	50.885	7.400	7.121	11.685	3.232	19.677	11	0.243	44.066	1.032	28.043	5.767	10.139	10.952
12	0.075	49.073	7.871	6.570	11.179	3.002	22.306	12	0.252	41.323	1.009	29.107	6.340	10.703	11.518
13	0.078	47.468	8.208	6.130	10.618	2.802	24.775	13	0.260	39.055	1.031	29.947	6.812	11.136	12.020
14	0.080	46.019	8.418	5.819	10.083	2.661	27.000	14	0.267	37.180	1.089	30.607	7.198	11.464	12.461
15	0.082	44.701	8.515	5.638	9.630	2.593	28.923	15	0.273	35.630	1.177	31.125	7.510	11.711	12.847
16	0.084	43.504	8.520	5.571	9.295	2.600	30.510	16	0.278	34.349	1.286	31.529	7.761	11.893	13.183
17	0.085	42.427	8.459	5.591	9.087	2.671	31.765	17	0.283	33.288	1.408	31.844	7.961	12.026	13.473
18	0.086	41.475	8.355	5.668	8.995	2.791	32.716	18	0.287	32.410	1.538	32.088	8.122	12.121	13.722
19	0.087	40.651	8.233	5.771	8.995	2.938	33.411	19	0.290	31.682	1.670	32.276	8.249	12.187	13.936
20	0.088	39.959	8.108	5.876	9.057	3.094	33.906	20	0.293	31.078	1.800	32.422	8.350	12.233	14.118

Note: This table presents the variance decomposition of the VAR systems specified for industrial rents and capital values. The variance decomposition displays how much variability in the dependent variable is explained by its own shocks and shocks in other variables. Each 'period' represents a quarter after the first moment shock in economic policy uncertainty, and 'S.E' denotes the standard error.

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