COVID-19 Effect on Real Estate Investment Trust Returns

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Using an extended Fama–French model for real estate investment trust (REIT) returns, this paper examines how the net impact of the COVID-19 pandemic differs from that of recessions. The authors find that, as anticipated, recessions have a negative net impact on office and residential REIT returns but that the COVID-19 pandemic has a positive net influence on industrial REIT returns because of e-commerce and the demand for storage, distribution, and shipping. Contrary to what are anticipated, there are no negative net effects of the COVID-19 pandemic on office and residential REIT returns, perhaps caused by both existing office and residential leases, the percentage rent clause for commercial properties, and the grace period for residential properties during the COVID-19 pandemic. In contrast to moving solely during recessions and the COVID-19 pandemic, the research finds that retail REIT returns fluctuate along with ongoing macro/asset-pricing conditions throughout the boom and bust cycle.

Keywords: real estate investment trusts ; COVID-19 ; portfolio management

1. Introduction

The coronavirus pandemic, also known as the COVID-19 pandemic, was first discovered in Wuhan, China in December 2019, albeit its exact origin is still unknown. The U.S. reported the first case in January 2020 and declared the pandemic a public health emergency on 31 January 2020. On 11 March 2020, the World Health Organization (W.H.O.) declared the COVID-19 pandemic a global pandemic. (see https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline, accessed on 12 October 2021.) Governments around the world started to implement urgent measures to combat the spread of disease. Temporary closures of non-essential businesses, mask-wearing and social distancing requirements, and travel restrictions have resulted in substantial decreases in economic activity and employment. According to the Organization for Economic Co-operation and Development (OCED), the quarterly growth rate of real gross domestic product (GDP) in the U.S. experienced a dramatic decline from 0.5% in Q4 2019, to −1.3% in Q1 2020, to −8.9% in Q2 2020. (See https://stats.oecd.org/Index.aspx?QueryName=350, accessed on 12 October 2021.) The main drivers of these declines were substantial reductions in private final consumption and gross fixed capital formation. (Gross fixed capital formation refers to the value of acquisitions of new or existing fixed assets less disposals of fixed assets.) Meanwhile, the S&P 500 index fell about 32% between 10 February 2020 and 16 March 2020. (See https://ca.finance.yahoo.com/, accessed on 12 October 2021.)

Schnure et al. (2020) note that equity REITs offer greater compound annual returns compared to the S&P 500 Index over the 20-, 25-, and 30-year investment horizons through boom-and-bust circles. REITs are used as an effective hedge against inflation because the dividend growth of REITs would exceed inflation. Further, REITs are proven to be an asset class that can be added to a portfolio of stocks and bonds to enhance the return, and reduce the risk, of the resulting portfolio.

Would REITs behave differently this time during the COVID-19 pandemic from general recessions? In the literature on the COVID-19 pandemic and real estate investment trust (REIT) returns, Ling et al. (2020) perhaps represents the first study on how regional exposure to the COVID-19 pandemic affects the U.S. REIT returns and find that the property type focus of a REIT, the geographic allocation of its properties, and the interaction between these two factors are the main contributors to this REIT's return. Returns on retail, office and residential REITs are negatively correlated with regional exposure to the pandemic while healthcare and technology REITs are positively correlated with regional exposure. Milcheva (2022) assesses how the COVID-19 pandemic affects the risk-return relationship in the developed Asian (Hong Kong, Japan, China, and Singapore) and U.S. markets and finds sharp declines in average returns as well as a dramatic increase in the market and idiosyncratic risks because of the COVID-19 pandemic. In the U.S. markets, REIT returns vary

considerably across the property types but, in the Asian markets, REIT returns vary little across the property types. With this overall finding, the most significant under-performers are retail REITs in the U.S. and office REITs in Asia.

What the literature has omitted is the net impact of the COVID-19 pandemic relative to general recessions. The net impact is of interest because the recession induced by the COVID-19 pandemic is very different from the previous recession caused by the Global Financial Crisis (the GFC) during 2007–2009. First, to contain and fight the pandemic, policymakers restricted or suspended some economic activities immediately to prevent virus transmission and accelerated some other economic activities swiftly to provide essential goods and services. This would undoubtedly affect different economic activities abruptly across various real estate properties. Second, the policymakers needed to adapt quickly as they had gained better knowledge about the coronavirus and develop more effective vaccines and treatments. Third, the participation and cooperation of the public in policy measures were essential beyond the usual monetary and fiscal policy measures. Fourth, during the COVID-19 pandemic, the stock market fell from the peak in February 2020 to the trough in March 2020 and recovered literally in the same month. The rapid fall and recovery took a much shorter time relative to the historical stock market cycles. To fill the void, the researchers attempt to examine how the net impact of the COVID-19 pandemic differs from that of general recessions.

Since required by law, equity REITs must earn at least 75% of gross income from the rent generated from real estate properties, the policy measures such as travel bans, remote working, the percentage rent clause for commercial properties, the grace period for residential properties, social distancing, and business lock-downs resulted in reductions and delays in rent collection. For example, hotel and motel and retail REITs were worst affected because of travel bans. The greater systematic risk for retail and residential REITs partially resulted from the percentage rent clause and grace period because landlords needed to share the risk of disruptions of cash inflows with their tenants (Gyourko and Nelling 1996). In addition, REITs are also required to distribute at least 90% (95% prior to 2000) of net income to shareholders in the form of dividends to maintain the tax-exempt status. The requirement could reduce retained earnings and increase debt-financing without the tax-deductibility benefit considerably (Alhenawi 2011). (As shown in Feng et al. (2007), the debt ratio on average in the REITs industry increased from 50% (at IPOs) to 65% in 10 years. This could repeat itself during the COVID-19 pandemic.) The decline in cash flow affected the distribution of dividends and debt servicing in the short run. Consequential changes in cap rate, discount rate, and future cash flows had a significant impact on the fair value of real estate properties. The study in Akinsomi (2021) compares the year-to-date returns of REIT sectors in the U.S. in March and April 2020 relative to those in 2019 and finds that hotel and motel REITs experienced the greatest loss (−51.31%), followed by retail REITs (−48.74%). Office REITs and residential REITs both suffered a loss of around −20%. A loss of −10% was seen in industrial REITs. Data center REITs were the only REITs that witness gains of 8.8% in March and 17.66% in April 2020 because data connectivity became essential when social distancing, remote working, and movement restrictions were widely practiced.

According to the National Association of Real Estate Investment Trust (NAREIT), commercial (office, retail, hotel and motel, industrial, data centers, etc.) real estate properties experienced a rising vacancy rate and falling rent growth in 2020, but exhibited considerable variation across the property types, geographic locations, and qualities of properties. Office and retail REIT vacancy rates increased, respectively, from 9.9% and 4.7% in Q1 2020 to 10.7% and 5.0% in Q3 2020. (See https://www.reit.com/data-research/research/nareit-research/2021-reit-outlook-economy-commercial-real-estate, accessed on 12 October 2021.) However, unlike office and retail REITs, the increase (30 basis points) in industrial REIT vacancy rates was due to the elevated pace of construction and excessive supply despite the great demand for logistic spaces from the booming e-commerce transactions. Residential REIT vacancy rates were flat when the population had migrated from urban cores to suburbs and smaller cities because of the concerns about the pandemic and the practice of working from home (WFH). Valuation in the office and retail REITs fell by 3.8% and 3.2%, respectively, in Q3 2020 relative to Q3 2019. However, a steady rise was witnessed in multifamily residential and industrial REITs in the same quarter.

2. The Determinants for Asset Prices and Returns During the COVID-19 Pandemic

There exists a considerable body of literature on the determinants of asset prices and returns. Ross (1976), Chen et al. (1986), and Roll and Ross (1995) view general economic variables as the determinants for asset prices and returns. Chan et al. (1990) show that the unexpected changes in inflation, term spread, and credit spread consistently drive equity REIT returns during the period of 1973–1987. Apparently, REITs as a special asset class are also exposed to these general economic variables. Redman and Manakyan (1995) examine the linkage between the risk-adjusted performance of REITs and financial and property characteristics during the period of 1986–1990 and find desirable geographic locations, ownership of health care properties, and investment in securitized mortgages can positively affect REIT returns.

Fama and French (1992, 1993) show that the stock return can be predicted by the market portfolio's excess return (Rm-Rf), (The market portfolio's excess return (Rm-Rf) is the value-weighted return on all NYSE, AMEX, and NASDAQ stocks minus the one-month Treasury bill rate.) the size factor (SMB—Small Minus Big), (SMB is the difference between the return on small and big stock portfolios and captures the return attributable to the size factor.) the value factor (HML—High Minus Low), (HML is the difference between the return on high and low BE/ME portfolios and captures the return attributable to the value factor.) term spread (TSpread), (TSpread—the difference between the long and short bond interest rates.) and credit spread (CSpread). (CSpread—the difference between the low- and high-rating bond interest rates.) These factors are referred to as the macro/asset-pricing variables. Using the five-factor Fama-French model as in Fama and French (1993), Peterson and Hsieh (1997) find that returns on equity REITs are significantly correlated with Rm - Rf, SMB, and HML during the period of 1976–1992.

The literature also records a historical structural change in REIT pricing. The Revenue Reconciliation Act of 1993 was the dividing point between the vintage REITs eras during 1980–1992 and the new REITs eras starting from 1993 (Chiang 2015). Since 1992, an increase in analyst following and greater involvement of institutional investors help REIT share prices better reflect the performance of the underlying assets (Clayton and MacKinnon 2003). The correlation between REIT returns and the large-cap stock factor (the S&P 500 index) falls but that between REIT returns and the small-cap stock factor (the Russell 2000 index) or the real estate factor (the unsmoothed NCREIF total return index) rises in the 1990s. Emmerling et al. (2022) show that the performance behavior of RETs (Real Estate Trusts) is similar to that of REITs, especially with respect to financial crises (such as the Great Depression and the Great Recession). For REIT returns, the researchers may extend the Fama–French model to include both the net impact of recessions and that of the COVID-19 pandemic. This allows the researchers to infer if the net impact of the COVID-19 pandemic is more severe than that of recessions.

It is known that the financial position of a REIT mirrors its real business. Therefore, the expectations based on a REIT's accounting data could affect its return. Chiang (2015) utilizes the conventional dividend discount model and shows a positive relationship between dividend yields (The dividend yield (or current yield) on an REIT is calculated by dividing the annualized dividends by its current REIT price.) and REIT returns. Although the contractual nature of rental leases has historically enabled REITs to pay dividends even during recessions, widespread dividend cuts during the GFC in 2008 indicate that the distribution of REITs dividends is not guaranteed and it depends considerably on the financial leverage and expected dividend payout ratio. (Leverage can enlarge gain and loss but higher leverage comes with a higher risk. Shareholders have the residual claim on earnings and assets and higher leverage means higher interest and principal payments, less financial flexibility, and a greater probability of default during recessions. The debt-to-total market capitalization and debt-to-tangible book value ratios are two commonly-used leverage metrics. The payout ratio is defined as the proportion of net income a company pays out to its shareholders as a dividend. The REIT's expected dividend payout ratio is obtained by dividing the current annualized dividend by an estimate of next year's expected fund from operation (FFO) per share. The dividend/FFO payout ratio signals the ability of an REIT to pay its current dividend.) For REIT returns, the researchers may extend the Fama–French model to include relevant firm accounting variables.

Some unique accounting metrics are often used by REIT investors. Funds from Operations (FFO) and Net Income (NI) are two earning metrics used in analyzing REITs. FFO, a proxy for the REIT's free cash flow, is defined as NI excluding gains (or loss) from sales of properties, plus non-cash depreciation and amortization, and adjusted for unconsolidated partnerships and joint ventures.17 FFO has been strongly promoted by NAREIT because of the implicit assumption that the value of real estate assets diminished predictably over time is embedded in the calculation of the GAAP performance metric NI (NI—historical cost depreciation). To supplement FFO, Adjusted Funds from Operations (AFFO) is regarded as a better metric for evaluating a REIT's ability to pay dividends than FFO because non-cash amortized expenses are added back to, and recurring capital expenditures are subtracted from, NI. Schnure et al. (2020) indicate that REITs use the change in FFO, rather than in earnings per share (EPS) employed by non-REIT corporations, to measure earning growth. However, FFO and AFFO are not governed by the GAAP and are not audited. Vincent (1999) analyzes how changes in FFO and EPS affect market-adjusted returns and finds that both FFO and EPS consistently provide incremental information content. Using the long historical data, Emmerling et al. (2022) show that dividend growth rather than the discount rate drives real estate trust (RET) valuations. For REIT returns, the researchers extend the Fama–French model to include firm accounting variables for profitability, liquidity, financial risk, and asset management.

This rich literature represents a framework in which the authors analyze the net impact of the COVID-19 pandemic on REIT returens.

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