

Private Real Estate a Diversifier or More?

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A paper presented at the European Real Estate Society
Annual Conference
Milan 2022

Introduction:

A safe haven: is an asset that is unrelated or negatively related to other assets in highly uncertain or turmoil markets.

Therefore, a safe haven asset has the ability to mitigate risk and increase returns in extreme market conditions.

A hedge: is an asset that is negative related to other assets, on average, but does not have safe haven features during periods of market stress.

A diversifier: is an asset that has an imperfect positive correlation with other assets, on average, and like a hedge does not offer safe haven features.

Numerous studies find that institutional-quality private real estate provides significant diversification benefits in a portfolio.

Institutional-quality private real estate however also has the potential to be a safe haven asset as it is a hedge against inflation and the majority of real estate returns comes from rent payable in all market cycle stocks.

This study therefore aims to examine whether institutional quality private real estate is more than a diversifier in the US.

Introduction:

This paper makes three contributions to the literature.

First, we examine the safe haven or hedging potential of institutional-quality private real estate in the US for the first time.

Second, we use monthly transaction based institutional-quality private real estate data series, rather than appraisal-based or de-smoothed private real estate data, as there is some doubt about the efficacy of such methods and whether private real estate data should be de-smoothed at all.

Lastly, we follow a number of recent studies and use both Ordinary Least Squares (OLS) and quantile regression (QR) to examine whether institutional-quality private real is a hedge, a safe haven, or simply a diversifier.

Previous Studies of Real Estate as a Safe Haven

Chan et al. (2011) use monthly data from January 1987 to December 2008 and conclude that residential real estate (the Case-Shiller index) is **not** a safe haven asset.

Kopyl and Lee (2016) investigated 32 global asset classes including US residential real estate (the Case-Shiller index) to examine their possible linkages with S&P 500 using the approach of Baur and McDermott (2010), and find that residential real estate **cannot** be considered either a hedge or safe haven for US equity investors. In addition, since the GFC any potential for residential real estate to act as a safe haven or hedge has declined along with most other so-called safe haven assets.

Imran and Ahad, (2021) compare the safe haven properties of asset classes of real estate (house, plot and residential), gold, dollar, and oil against equity returns in Pakistan for the period January 2011-December 2020 and find that only a few assets are safe haven assets: First gold closely followed by residential property and then oil. Of the various forms of real estate, they find that residential property possesses a superior degree of risk diversification followed by house and plot, respectively.

However, no study has examined institutional-quality commercial real estate

Methodology: Diversifier or Hedge?

To test whether real estate is either a diversifier or a hedge we regress the total returns of real estate against stocks as follows

$$R_{re} = \alpha + \beta R_{stock} + \varepsilon$$

Where R_{re} is the total return of real estate, R_{stock} is the total return of the S&P500 index and ε a residual term.

The regression parameters estimated by OLS with Newey-West standard error corrections.

If the regression coefficient is **significantly negative**, then the asset is a **hedge**.

However, if the regression coefficient is **insignificantly** different from zero, Baur and McDermott (2010) consider the asset a “**weak hedge**.”

Methodology: Safe Haven?

To test whether real estate is a safe haven asset Baur and Lucey (2010) and Baur and McDermott (2010) introduce dummy variables into the above equation, to capture falling markets.

This is subjective somewhat and incomplete as the result hinges on the precise definition of a crisis period, as different definitions can affect the results.

Quantile regression (QR) can overcome this problem, as we obtain a complete understanding of the relationship between the two asset classes, as quantile regression is highly accurate in revealing the variable relationships in different market conditions (Baur, 2013, Bouoiyour, et al., 2018 and Miyazaki, 2019).

In other words, QR allows us to clarify the responses of real estate returns on stock returns in the tails of the distribution, not captured by OLS or robust regression methods (Miyazaki, 2019).

Methodology: Safe Haven?

The τ quantiles of equation 3 estimated as:

$$R_{re, \tau} = \alpha_{\tau} + \beta R_{stock, \tau} + \varepsilon_{\tau}$$

Quantile values below the median indicate the relationship between real estate and stocks in falling markets and so we use τ at the following quantiles:

50%, 40%, 30%, 20%, 10% and 5%

If real estate is a “**strong safe haven**” asset, it will show a **significant negative** relation with stocks in the lowest quantiles.

However, if real estate is a “**weak safe haven**” asset it will show an **insignificant** regression coefficient in the lowest quantiles.

Data:

We use the **Core Green Street** monthly transaction-based data not simply because the monthly frequency offers a greater number of observations and more precise statistics, than the quarterly appraisal-based data from NCREIF, but because transactions-based data mitigates the appraisal smoothing inherent in appraisal-based indexes, which leads to biased means, variances and correlations.

Table 1: Summary Statistics: Monthly Data 1998:1 to 2021:12

Panel A Overall	CORETR	CORECR	COREI	SPTR	SPCR	SPI
Mean	0.85	0.43	0.41	0.81	0.65	0.16
Std. Dev.	1.84	1.84	0.10	4.41	4.41	0.22
Skewness	-2.32	-2.31	0.20	-0.61	-0.61	0.40
Kurtosis	22.92	22.90	2.32	4.16	4.16	126.30
Jarque-Bera	5020.94	5009.11	7.58	34.08	34.18	182454.40
Probability	0.00	0.00	0.02	0.00	0.00	0.00
Panel B Quantiles	CORETR	CORECR	COREI	SPTR	SPCR	SPI
50%	0.80	0.38	0.42	-2.47	-2.61	0.13
40%	0.77	0.35	0.42	-3.31	-3.47	0.15
30%	0.60	0.16	0.44	-4.38	-4.52	0.15
20%	0.45	0.00	0.45	-5.79	-5.94	0.15
10%	-0.16	-0.62	0.46	-8.27	-8.43	0.16
5%	-0.77	-1.24	0.48	-10.09	-10.25	0.16

Results:

Table 2: OLS and QR Results: Monthly Data 1998:1 to 2021:12

Statistic	OLS	50%	40%	30%	20%	10%	5%
Constant	0.82	0.41	0.52	0.38	0.30	0.06	-0.76
T-stat	7.43	3.74	10.25	7.80	7.03	1.12	-2.75
S&P500	0.03	0.04	0.01	-0.00	-0.00	-0.01	0.07
T-stat	1.41	1.45	0.67	-0.12	-0.34	-0.71	2.06

Note 1: All constants are significant at the 1% level, except for the 10% quantile

Note 2: All regression coefficients are insignificant at the 5% level

OLS and QR results at the 50% and 40% quantiles indicate that Core intuitional-quality private real estate is a “weak hedge” for stocks when conditions are relatively stable.

The QR results at the 30%, 20%, 10% and 5% quantiles, indicate private real estate shows its potential as a “weak safe haven,” as it still offers attractive diversification benefit when most needed.

Conclusions:

This study used an monthly transaction based data and OLS and QR techniques to examine whether institutional-quality private real estate is more than a diversifier to stocks in the US.

Using data over the period from 1998:1 to 2021:12, the empirical results indicate that institutional-quality private real estate is both a “**weak hedge**” and a “**weak safe haven**” to stocks. In other words, private real estate is more than a diversifier.

Based on these findings, fund managers should look to institutional-quality private real estate as more than a diversifier, when capital markets experience drastic declines in value and increasing conditional risks.

However, the long time needed to purchase institutional-quality private real estate is a sever obstacle for fund managers and investors to take a necessary action to mitigate the increased risks in a stock market crash.

Therefore, it would be interesting to see whether Real Estate Investment Trusts (REITs) display similar safe haven or hedging characteristics, an area of research left for future.