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Tel: +48 226 0 227 03
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JOURNAL	International Journal of Innovative Technologies in Economy
p-ISSN	2412-8368
e-ISSN	2414-1305
PUBLISHER	RS Global Sp. z O.O., Poland

ARTICLE TITLE	STRATEGIC MANAGEMENT OF PROPERTIES
AUTHOR(S)	Francesco Carlier
ARTICLE INFO	Francesco Carlier. (2021) Strategic Management of Properties. International Journal of Innovative Technologies in Economy. 2(34). doi: 10.31435/rsglobal_ijite/30062021/7549
DOI	https://doi.org/10.31435/rsglobal_ijite/30062021/7549
RECEIVED	05 April 2021
ACCEPTED	15 May 2021
PUBLISHED	21 May 2021

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STRATEGIC MANAGEMENT OF PROPERTIES

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DOI: https://doi.org/10.31435/rsglobal_ijite/30062021/7549

ARTICLE INFO

Received 05 April 2021

Accepted 15 May 2021

Published 21 May 2021

KEYWORDS

Real estate market, capital allocation strategies, derivatives.

JEL Classifications:

G11; R3; M1

ABSTRACT

This paper is dedicated to the study of strategic management techniques for improving the return on investment of a real estate company with techniques of increasing the financial leverage and reduction of systematic risk and specific risk of this kind of companies. Some strategies are proposed with different capital allocation hypothesis and related results are provided.

Citation: Francesco Carlier. (2021) Strategic Management of Properties. *International Journal of Innovative Technologies in Economy*. 2(34). doi: 10.31435/rsglobal_ijite/30062021/7549

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1. **Introduction.** Real estate investment trust (REIT) are quoted companies that buy and rent out real estate for making a profit. They are like a real estate fund with the differences that the first is quoted and traded like a stock and is obliged to give to the shareholder more than 75% (depending on country) of the taxable income as a dividend, while the second usually gain value with capital appreciation. The high tax efficiency and the possibility of a high diversification with a high number of real estate grant the presence of those kinds of products in a lot of investor's portfolio, also because of the high divided, usually significant. (Alcock, J., Steiner, E., and Tan, K.J.K., 2014; Fisher, Jeffrey, and William Goetzmann, 2005) REITs are usually used by investors who haven't the will, the time, the skills to get one or more investment properties, but want to maintain a position in this field. Buying an investment property has a lot of hidden risks and often investors prefer to pay a group expert with a management fee in the face of doing on their own. Nowadays, there are three types of REITs: those who buy properties, those who buy mortgages and gain from the interest rate and those who are a mix of the first and the second. A lot of REITs for reducing specific risk have some different policies: some buy only a single kind of building, for example industrial buildings, in different places to diversify and to protect their capital from a fast depreciation that could happen. Others buy luxury buildings or hotels, or houses in high density places... Those kinds of actions lead to the creation of numerous REITs, each specialized in a different field with experts groups that assess specifically every opportunity before entering the market. (Bers, M., and T.M. Springer. 1997) Others kind of REITs to maximize diversification buy every kind of buildings. (Allen, M.T., J. Madura and T.M. Springer, 2000) Market nowadays let the investor, even the smallest one, have the possibility of being exposed to such a sector, enjoying the benefits and the drawbacks. (Ang, A., J. Chen, and Y. Xing 2006) Another important element to keep in mind is the kind of renting contract that the REIT makes to the tenant, sometimes it hasn't a fixed price, but it could fluctuate, for example in the case of changing interest rate, or in the case of a commercial building could be provided a fixed part and a percentage on the revenue of the tenant.

The biggest problem related to REITs is that they are somehow correlated with SP500 (beta 0.8 in 5 years) so they aren't effective in diversifying the portfolio of an investor because if the SP500 goes down so the REITs. (John B. Corgel, Chris Djoganopoulos 2019; Case, B., Y. Yang, and

Y. Yildirim, 2012) Properties don't keep the same value forever, but their value will go up (down) according to the place's economy. Leveraged REITs often use derivatives to grow the leverage and if the economy keeps growing, in some cases, they could be a better opportunity than an unleveraged REIT. Leveraged REITs are usually more costly than unleveraged, making them attractive only for special kinds of investors. (Giacomini, E., D. C. Ling, and A. Naranjo, 2015) For the author now is the time to implement new strategies in the management of buildings in companies maximizing the return on investment and managing systemic risks with options. Those kinds of derivatives have been demonstrated to be useful in trading (Carlier 2021, Doran, James and Fodor, Andy 2006). Risk shouldn't be seen as a harm for the investor, but as an opportunity that could lead to big gains. (David C. Ling, Andy Naranjo, Benjamin Scheick, 2018) More risk is equal to more gains.

2. **The strategy.** The strategy proposed is well suited in a European environment and need leverage to be done correctly and need a group of expert in the field able to evaluate correctly the buildings: the example now explained is proposed with only one building, but in a real world scenario a big diversification should be applied to remove the specific risk of this kind of investments.

Suppose an investor would like to buy a building with a 5:1 leverage and with a starting capital of 20,000 euros could buy a 100,000 euros building. Let say that the mortgage has an 1% interest rate (April 2021) and a net profitability (rent) of 6%. We will have the following possibilities:

-10 years mortgage, 700 euros per month, calculated with the constant rate method, with a 634 starting capital and 66 starting debt, the rent give us a 500 euro so with this possibility we have a negative result

- 15 years mortgage, 478 euros per month, 412 starting capital and 66 starting debt, the rent give us a 500 euro so with this method we can have a positive cash flow of 264 euros in one year.

- 20 years mortgage, 367 euros per month, 301 starting capital and 66 starting debt, the rent give us a 500 euro so with this method we can have a positive cash flow of 1596 euros in one year.

Calculating the annual yield we can see that in short time it dramatically drops ending at the end of the mortgage to a 6%. Let continue the example: after the first year of activity we will have taken 6000 from the rent, 720 c.a. of expenses for interest rate, 4944 capital gain for a net profit of 26% calculated on the 15 years mortgage example and with a starting capital of 20,000. At the end of the second year the yield pass from a 26% to a 20.8%, in the third year 17.3%, fourth 14.8% fifth 13% so an investor can see his yield dramatically going down, his capital will grow, if the building doesn't lose value, but in 5 years we have cut half the yield from 26% to 13%. The answer to this lose of yield is to renegotiate the mortgage after 5 years to get a big liquidity buying a new building at 20,000 so doubling the investment, obtaining more leverage and risks and gains. The biggest problem with this kind of activity could be the over exposition to the systemic risk of the market and the risk is that with a liquidity crisis or a market risk in which buildings value go down, if the rent goes down the company will suffer extremely high loses. To reduce this kind of risk we can use derivatives to hedge against systemic risks, swaps, futures, options could help the investor. (Gyourko, J., and E. Nelling. 1996) Suppose an investor would like to sell a call after 5 years and buying a put, building a collar to the investment already done. An investor can sell options, futures or swaps on total return real estate indexes. They could even enhance yield. Real estate investments are beta correlated with SP500 and if it isn't possible to sell futures on real estate indexes an investor can sell a correct quantity of futures on SP500 hedging the systemic risks. An investor could do a strategy that use 50% of his capital on a simple buy and hold, and the other 50% using a renegotiation strategy. In the next paragraph I will explain different scenarios with all the different gains and lost for every capital allocation strategy.

3. **Methods.** The starting capital for the examples is 20,000 euros. The monthly payment of the mortgage has been calculated with the constant rate method and with a 1% interest rate, (April 2021). Acquisition fees have been calculated as 8% and the net annual yield of the renting is 6%. The results are calculated with a mortgage of 25 years at fixed interest rate. Three methods of capital allocation are illustrated:

- no leverage capital, consist of buy a building and simply rent without mortgage
- 5:1 leverage, consist in buying a building, renting and doing a mortgage giving to the seller 20% of the value of the building and 80% as a mortgage
- 5:1 leverage with renegotiation, same as before, but with a renegotiation after 5 years.

Methods are calculated supposing the price of the building remain the same during the years. Discussion follows the result of the example.

4. Results

Zero leveraged:

Starting capital: 20,000

Property bought valued = 18,400

Buying expenses: 1,600

Yield annual: 6% = 1,104

Capital after 10 years = 29,440

Time for 100% = 18,11 years

25 years = 46,000

Zero leveraged is the test example that shows a capital grow linearly and could be, in the case of an investor completely adverse to risk, a good choice. This method net in ten years 47.2% (29,440 euros after ten years) and in 18,11 years investor will have 100%. In 25 years c.a 130% (Table 1).

5:1 leveraged

Starting capital: 20,000

Property bought valued= 92,000

Buying expenses= 8,000

Annual yield 6%

Mortgage payment= 368 Interest rate expenses= 66 (starting rate)

Monthly yield= 460

Capital after 10 years= 38,002 (paid mortgage)+ 92,000(property bought valued) +11,040 (Monthly yield- mortgage payment *120)=141,042 -mortgage to be paid(41.664)= 99,378

25 years = 80,000 (mortgage paid)+ 92,000+ 27,600= 199,600

5:1 leveraged is the most common example for an investor who buy a building with a mortgage, the yield is higher than the previous example because of the bigger value of the building acquired. This kind of method keep a good high yield in the early years but after a while yield decrease granting an excellent 396.9% after ten years and a 898% in 25 years. (Table 1)

Mortgage renegotiation

Starting capital 20,000

Property bought valued= 92,000

Buying expenses= 8,000

Annual yield 6%

Mortgage payment= 368 interest rate expenses 66(starting rate)

Monthly yield= 460

After 5 years renegotiation

Capital= 18,526 (mortgage paid) + 5,520 (cashflow monthly yield)= 24,046 (92,000 building bought)

Second property bought = 92,000

Buying expenses =8,000

Cash remained after expenses= 4,046

Mortgage to be paid =160,000

Mortgage payment = 368*2 Interest rate expenses 66(starting rate)*2

Monthly yield= 460*2

After 10 years = 236,139-mortgage to be paid (122,313) = 113,826

capital = (92.000*2) + 4,046 (cash remained) + 11,040 (cashflow monthly yield *2)+mortgage paid 37,053= 52,139

Cash after buying 3 and 4 building = 52,139-40,000= 12,139

Buying expenses 16,000

Total properties valued =92,000*4

Total mortgage= 320,000

Mortgage payment = 368*4 interest rate expenses 66(starting rate)*4

Monthly yield= 460*4

After 15 years= mortgage paid 74,106+cash remained 12,139+(cashflow monthly yield*4) 22,080 = 108,325 +92,000*4 – 244,627 mortgage to be paid= 231.698

Cash = 108,325

Cash after buying 5 new buildings= 8,325

Total properties valued=92,000*9

Total mortgage= 720,000
 Mortgage payment = 368*9 interest rate expenses 66(starting rate)*9
 Monthly yield= 460*9
 After 20 years = 224,743 +92,000*9- mortgage to be paid 550,411=502,332
 capital= 166,738 mortgage paid + cash remained 8,325 +(cashflow monthly yield *9) 49,680= 224,743
 Cash after buying 11 new buildings=4,743
 Total properties valued =92,000*20
 Total mortgage= 1,600,000
 Mortgage payment = 368*20 interest rate expenses 66(starting rate)*20
 Monthly yield = 460*20
 After 25 years = 4,743 cash remained + 370,530 mortgage paid+ (cashflow monthly yield *20)110,400 = 485,673+1,840,000-1,229,469 = 1,096,204

The last strategy is the best from the yield point of view, but is either the riskiest one. Calculating LTV (loan to value) it can be seen that after five years it comes back to its initial value. In the case of a big drawdown in the economy of the buildings and in the case of a reduction of the rents, or either in a situation where a lot of tenants are in bankrupt, the investor could be in real trouble because he couldn't be in the possibility of lowering mortgages payments that could lead to bankrupt of the investor. In some cases, the bank could even ask more money to the investor if the LTV grow after an established value to hedge against an investor bankrupt. In some negative cases the investor could be forced to sell the asset (like a common margin call). In this kind of strategy is really important risk management and the use of derivatives to protect capital and hedging and reducing risks. In the specific case selling call, on a 5 years timeframe, creating a synthetic short put, could help to reduce the losses if the market goes strongly against the investor. Other strategies as highlighted before could be creating a collar, or selling futures or swaps. The yield of this strategy confirm starting hypothesis having a high yield in ten years 469.1 % and an astonishing 5,381% in twenty-five. (Table 1)

Table 1. Statistics for strategies

	10 Years	%	25 years	%
Zero leverage	29.440	47,2	46.000	130
5:1	99.378	396,9	199.600	898
Mortgage reallocation	113.826	469,1	1.096.204	5381

In the strategies explained the building value over the time was considered equal in years, but it isn't what happens in the real world where the price follows the economy of the place. The Mortgage reallocation strategy need to be adapted in some way, for example if properties lose or gain value leverage shouldn't be over 5:1.

5. Conclusions.

Three different way to allocate capital were developed in the real estate market with three different risk profiles that space from a totally risk-adverse investor to a risk-taker one. The optimal strategy for the author is to use the techniques already explained in a global portfolio vision, without owning too many assets Beta correlated to reduce systemic risks, that could give the investor a dramatic lost in case of a black swan event.

For the management of the properties it could be used a strategy that use 50% of the capital in the first or in the second strategy (depending on the risk tolerance of the investor), and another 50% in the mortgage renegotiation strategy to optimize yield over time with the renegotiation strategy without having a huge leverage to manage and the hedging against adverse events. Another way to manage money could be using a longer time in mortgages letting the investor accumulate less money in the mortgage thus keeping the yield high for a longer time. This strategy will lead to a bigger cash flow in the investor bank giving him the opportunity to further diversify his portfolio.

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