Office Buildings Market in São Paulo: The Balance Between Sustainability and Investment Attractiveness

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Key words: investment analysis, planning systems, decision process, office market.

Abstract

The office market in São Paulo has been in recession since the year 2.000. This situation has come up due to two principals factors: [i] – the very aggressive attitude of developers during the period that comprehends the year 1.999 until 2.000. At that time there was a very strong perception among investors that a new expansion era for new office buildings in São Paulo was about to begin and, moreover the Brazilian economy had started its recovering; [ii] – The intense retraction of the Brazilian economy along the political transition in 2.002, which was caused mainly by the deterioration of the expectations related to the economic politics that would be driven by the new government.

The recovery of the economic activity in the office market firstly depends on the macroeconomic growth in Brazil and within the São Paulo metropolitan area. On the other hand, the expansion of the activity in the office buildings sector relies not only on the developers expectations of how and when the current vacant units will be rented, but also on the potential risk-return composition of new buildings to be developed in the next years.

In this paper we describe the economic scenery in which investment decisions are made to build new office buildings for rent in our local market and we also simulate both the necessary period of time for investments in the São Paulo sustainable office buildings market to regain attractiveness and the time interval needed for the investment related to conventional office building to become attractive again. These simulations have taken place based on projections for the Brazilian's GNP increase.

1. Introduction

The development of office buildings presenting an upper ecological sustainability attributes in São Paulo office market, in the early future, depends on their capability on offering attractive return on investment rates.

It is easy to admit that the budget required for developing a sustainable office building should be greater than that to develop a conventional one.

As the development costs in sustainable buildings are greater than those of conventional ones, when the construction is over, the financial exposure (see Rocha Lima [1]) in sustainable buildings also will be greater than that observed in conventional ones.

On the other hand, it's reasonable to admit that on embodying the buildings with sustainable technologies and systems, their operational costs should be shrank if compared to those in conventional buildings. Thus, on operating sustainable office buildings, the owner should attain best earnings on renting office spaces, even maintaining actual market prices, in São Paulo.

Therefore, investments on sustainable office buildings only could perform attractive returns on investment rates if as far as financial exposure grows, the earnings derived from the space rents should be improved, as well.

In this study, we used the results obtained in Kats [2], when comparing the performance in sustainable office buildings with the conventional ones. According to his study, sustainable buildings should enhance the financial exposure in about 15% when compared to conventional ones, while the operational costs could be reduced in 30% when operating sustainable buildings, during the whole exploring period, in this study, admitted to be 20 years long.

Besides, the actual oversupplied market in São Paulo is contributing on discouraging new investments because of the non-attractive results that can be expected, caused by both the diminishing of prices and the increasing of vacant areas.

In this way, this paper first simulate the lag of time needed to the rental office building market to regaining its attractiveness, according to the evolution of Brazilian GNP, that is expected to be enlarged in the next years, the same occurring to the rental prices in São Paulo. This simulations are produced in despite of the existence of sustainable systems in the office buildings.

Then, using the market references first obtained, and taking into account parametric costs for developing and operating sustainable buildings, the second simulation is about the expected results that can be produced by renting those office spaces designed to attend sustainability concepts, and the new lags of time demanded to regain market attractiveness, like first studied for the conventional buildings. The discussions and conclusions that arouse from the simulations results, related to the balance between investment attractiveness and sustainability in office buildings, are presented in the following items.

2. Times for Recouping Investment Attractiveness Levels in the Markets of Office Buildings for Rental in São Paulo

From an international perspective, the most dynamic real estate markets and especially the office building market, have developed in those greatest and most sophisticated economies, in such a way that it can be realized, even instinctively, a patent link between the behaviour of office buildings for rental markets with the macroeconomic performance itself of the most developed countries.

Nevertheless, in the specialised literature published in the last decade, a series of studies that were developed mainly from the behaviour of markets in the USA, the UK and some Southeast Asian countries, such as D'arcy *et al*. [3], Dobson and Goddard [4], Rosen [5], Wurtzeback *et al*. [6], in effect substantiated and emphasised the strong connection that exists between the performance of the office markets and the expansion rate of the Gross National Product in those countries.

In those economies, which are strongly based on and regulated by market mechanisms, the awareness of production and the availability of information about the market behaviour is far greater than in the Brazilian markets, to the point that it is possible to treat market information with such a degree of sophistication that allows the validation of explanatory or prediction[1] models, which would not be currently feasible in Brazil like was done by D'arcy *et al*. [7], for instance, moreover to apply Green *et al*. [8] proposal.

In Brazil, public time series of real estate markets' behaviour are nonexistent or very unreliable. The information related to the actual transactions, concerning office buildings for rental is usually not transparent and is, most of the time, restricted to the agents directly involved in the business deal.

However, it is important to point out that according to the developing stage of the Brazilian economy, it is possible to conceive that the correlation coefficients between macroeconomic expansion and performance of the office building market for rental can fluctuate. , if the economic structure is based on activities that demand fewer office areas. In the same way, the historic standard of the correlation of this sector with the macro-economy can change over time in function of technological and managerial advancement of economy, that can result, for the same GNP growth rates, in different historic periods in a given urban region, different demands or absorptions of office areas for rental.

For the purposes of projection used in this study, the correlation coefficients collected from the data of reference of this work are considered valid. The recent history of the absorption of the supply for office buildings for rental in São Paulo vis-à-vis the development curve of Brazilian GNP is presented at the following figure.

In this study, the arbitrage of the GNP growth follows two references: the goals established in the Pluriannual Plan (PPA) of the Federal Government of 4.5% a year and 2% a year, this being the average level in the period between 1995 and 2002.

Therefore, according to the present levels of average costs for developing office buildings for rental in the major commercial regions in the city of São Paulo[2] and further considering the general costs for managing

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[1] Taking into account all the reservations that the subject *forecasting* may cause, a theme so many times used and worked out with biases originated from the understanding, which lacks necessary critical filtering, that it is possible to predict future behaviour through the replication of market behaviours of the past.

[2] The transaction values of the purchase price of new office buildings can be estimated today at the level of R$

the enterprise of the order of 12% of the gross operational income, the extent of the sector attractiveness rate of 10% annual demands the practice of rental prices of approximately R\$ 65.00 per sq. meters, which was the level of the average price practiced in the year 2001.
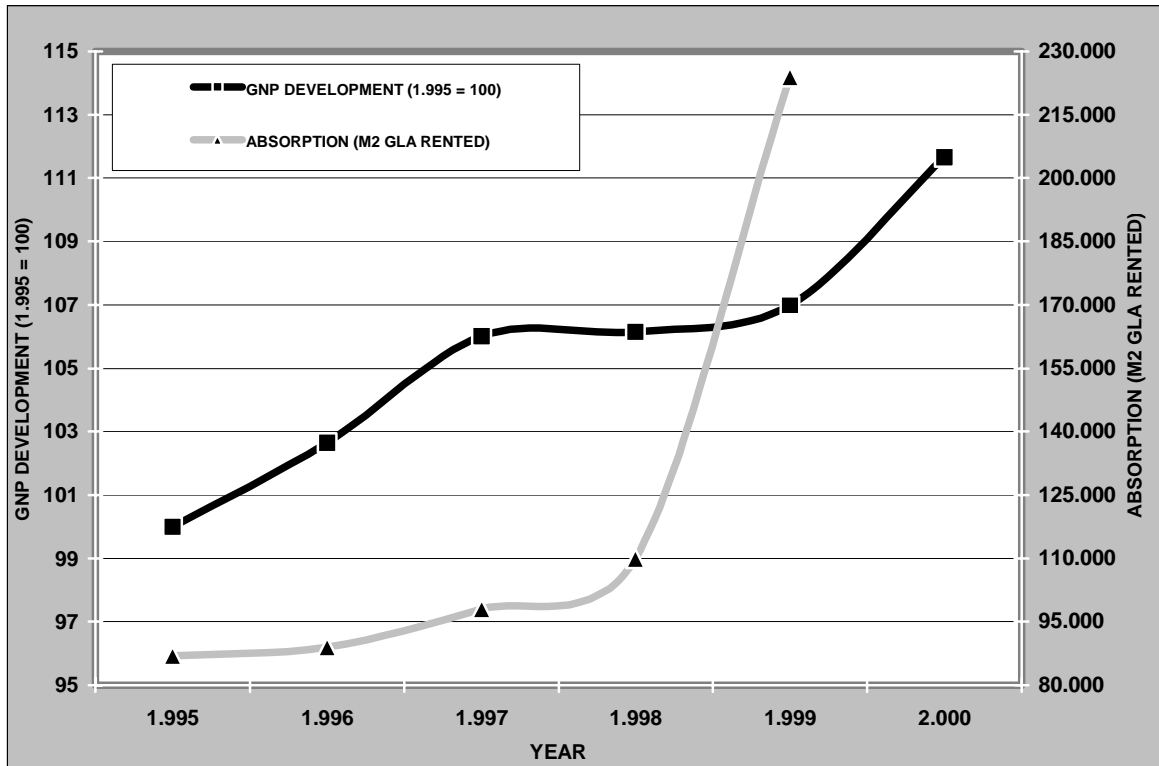

Figure 1 - Curves of GNP development and absorption of rental areas in high-standard office buildings in São Paulo

Supposing that these historic correlations will hold valid for the period to be predicted in this study, thus, one can based on the GNP growth, identify the time needed for recouping the different levels of actual rental prices for office buildings as well as the time needed for recouping the historic levels of occupation of the vacant buildings[3].

It is obvious that the projection should consider as a premise that a new excessive supply in the market will not take place, due to a biased perception of the developers in relation of the market potential when it starts to warm up. This biased perception results from a certain overestimation that spreads in the market in relation to the potential rates of return that is thought likely to obtain.

5,700.00 per square metre of Gross Leaseable Area.

[3]   That is, as long as there are no new supply bubbles of spaces to rent that are not within the actual capacity of absorption of the markets.

In figure 2, it is shown, based on the current average cost indicators of building developing, the remunerations that investments in high standard office buildings would obtain with the levels of prices historically practised in São Paulo.

In the figure, it can be seen that the rates of return in the most attractive office market are between 1.999 – 2.000, the very period when a great expansion in the supply of new office buildings took place, in conjunction with an dramatic volume of new buildings construction, which enter the market over the years 2.002 e de 2.003.
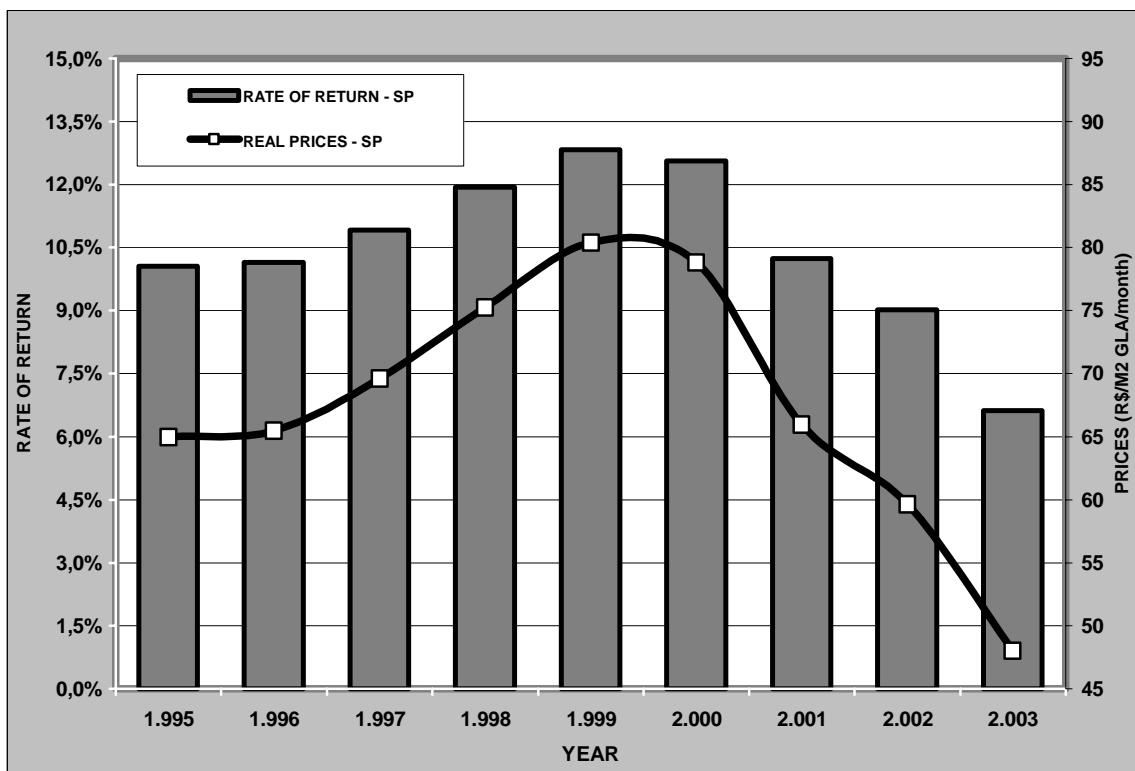

Figure 2 - Remuneration of high-standard office buildings in São Paulo's market

For a scenario of GNP annual growth of 4.5%, which is the PPA's goal, we have as a prospective projection, according to what is shown in figure 3, the following levels of behaviour development of average actual prices and rates of return in São Paulo City's markets.

With a GNP annual growth equivalent to 4.5%, in 4 years (2007), the price levels leading to a annual average effective remuneration of 10% could be attained, rate which is considered in this study as being the attractiveness rate for São Paulo' markets.

The fulfilment of this situation can only be attained as long as no new market bubbles occur in the period. It is reasonable to assume that the risk of such bubbles is low, since the average remunerations projected are below the attractiveness level.

However, it should be taken into consideration the likeliness of the occurrence of new supplies, regardless of the current inadequate binomial [risk x return], because it is a known fact that the decision-making in

the office business is carried out without using high quality information and that there are almost no diffusion and transparency of market's index. Around the year 2007, investments may be resumed in the office building market due to the prospects of more attractive remunerations that are expected from that time. Then, the risk of excessive supply could be enlarged, compromising the level of average remuneration in office building market in the years to follow. The risk of the excessive supply would be reduced if it will be possible to make available consistent indicators and expectations of the market behaviour in a transparent way, since unrealistic perceptions will be discouraged.
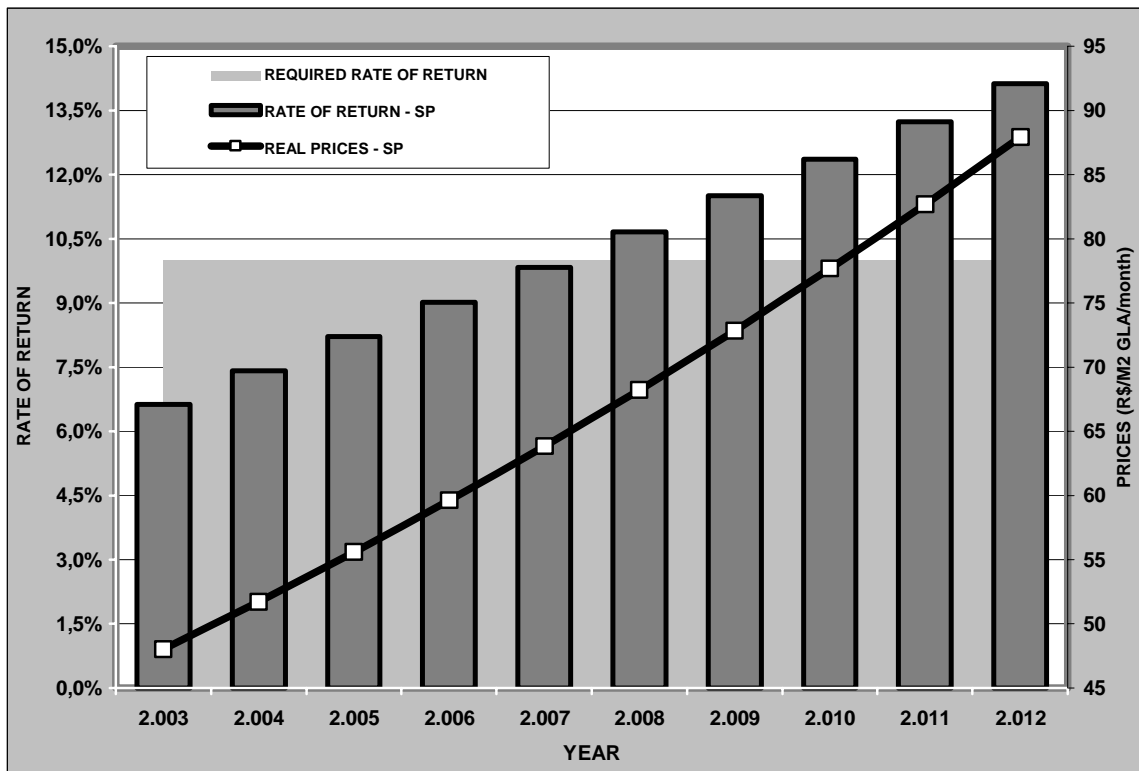

Figure 3 - Remuneration of high-standard office buildings in São Paulo's market – GNP development of 4,5 % a year

3. Investing on sustainable office building market in São Paulo

Four different courses of analysis are developed:

- The rate of return to be expected when investing on office building for rental, in actual São Paulo market;

- In actual market, what rental price would bring about attractive return on investment rates for investments in sustainable office buildings and, in addition, in what lag of time it will be possible, according to the expected GNP evolution?

- In what concerns the competitiveness of sustainable office buildings over the conventional ones, in what extent the development cost could be enlarged keeping investments still attractive?

- The same, in what extent the operational cost should be reduced keeping investments still attractive?

It's useful to recover that, the premises here adopted for the cost was that the development of sustainable buildings were 15% more expensive than the conventional office buildings; on the other hand, the reduction in the operational costs were 30% cheaper, what allows the earnings to be enlarged. In addition, the market attractiveness rate is of 10% annual, in real terms.

The chance of reducing operational costs in sustainable buildings derives from at least one of the following factors:

- The reduction in energy demand;

- The reduction in water demand;

- The reduction in waste production;

- The increasing of productivity in project management.

Different studies conducted by *California's Sustainable Building Task Force* are conclusive in what related to the three first factors above, while empirical results related to the fourth factor are not yet large enough. Thus, it was the arbitrated scenery adopted to produce the cash-flows used in the prototype over which the conclusions came up.

Therefore, simulating using a prototype of an office building for rental, with parametric developing and operational costs already mentioned, taking into account the present rent performed in São Paulo market of R$ 50 per square meter of GLA, the expected rate of return would be of 6% a year, in effective terms, with a 14-yeared pay-back. Observing figure 3, the results for an office building for rental would be of 7% a year for the internal rate of return and 12-yeared pay-back.

In both cases, the attractive patterns for the sector were not reached, as far as the historical reference for the sector is about 10% a year, in effective terms.

In table 1 above, the rates of return expected when investing in office market buildings are presented, each one related to a different value for the rent.

We can conclude that the rent value capable of producing the attractiveness for the investment in sustainable building system in actual São Paulo market, would be about R$ 70 per square meter of GLA.

Table 1

SENSITIVITY ANALYSIS (i)	
rent prices R$/m2 GLA	rate of return (%) a year
50	6,1%
55	7,1%
60	8,0%
65	8,9%
70	**9,8%**
75	**10,7%**
80	11,5%
85	12,3%
90	13,1%
95	13,9%
100	14,6%

According to the expectations for the GNP first adopted in this paper and assuming as valid the correlations of this macroeconomic variable with the prices behaviours in office building market, either conventional or sustainable ones, according to Figure 4, the attractive for investments would be reached only for buildings that would be entering the market about the year of 2009.
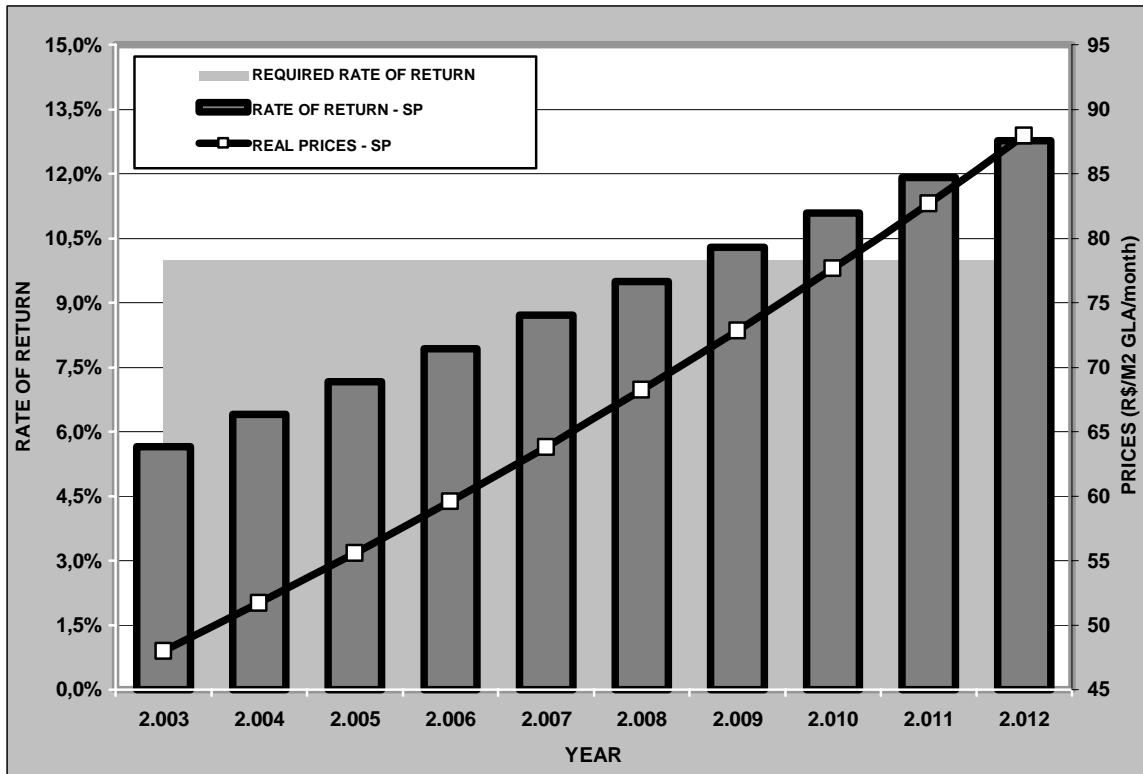
Figure 4 - Remuneration of sustainable office buildings in São Paulo's market – GNP development of 4,5 % a year

In the following tables 2 and 3, the fluctuations of the rates of return are presented. The first one relates different incremental degrees in financial exposure caused by the incorporation of sustainable systems while the second one deals with the decrease of the operational costs caused by the presence of the sustainable systems.

Table 2

SENSITIVITY ANALYSIS (ii)	
finanacial exposure increase (%)	**rate of return** (%) a year
15%	6,1%
14%	6,1%
13%	6,2%
12%	6,3%
11%	6,4%
10%	6,5%
9%	6,6%
8%	6,7%
7%	6,8%
6%	6,9%
5%	7,0%

Table 3

SENSITIVITY ANALYSIS (iii)	
operational costs decrease (%)	**rate of return** (%) a year
30%	6,1%
35%	6,1%
40%	6,2%
45%	6,3%
50%	6,4%
55%	6,4%
60%	6,5%
65%	6,6%
70%	6,6%
75%	6,7%
80%	6,8%

Analysing tables 2 and 3 we can conclude that using present rental values in São Paulo office market, it is not possible to reach attractive return on investment rates, neither by diminishing development costs, nor by reducing operational costs in sustainable buildings.

The only way to decide on investment in new office building market for rent in São Paulo is accepting to reduce attractive patterns.

4.   Final remarks

As a first conclusion that can be obtained using the simulations is that in both conventional and sustainable buildings, the attractiveness is very low.

The historical attractiveness level would only be regained in 2007 when referring to conventional office buildings and in 2009 for the sustainable ones, according to the GNP behaviour admitted in this study for the period. Those lags would be reduced as far as economic activities could be enlarged, recouping the price level in the next years.

On the other hand, it would be possible to practice rental values higher for the sustainable office buildings than those of the conventional ones, as a payment for the inside sustainability, a condition not discussed in this study.

The acceptance of such a practice will still depends on the maturity of the market agents, for both developers and users. For the developers the maturity will be achieved, not only in using better information to support investment decisions, but also in repositioning the attractiveness reference; for the users, the maturity would be related to the acceptation of higher prices. As processed in the simulation, a better way to reach attractiveness in sustainable office buildings would be by paying higher fees.

Obviously, in spite of those conclusions are linked to the scenery adopted premises, based on average market performance, it will always be possible to develop sustainable office buildings presenting the relation between development costs and operational costs better than the market average pattern, that would demand further studies.

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