

Chapter 5

Investors and Investment Strategies

Abstract There is a close relationship between the risk attitude of the investor and investment choices. This means that the relationship between perceived risk and expected return is just as close. The concept of risk is therefore associated with the particular investor who in any case, regardless of a personal special aptitude, behaves in such a way as to minimize the uncertainty related to the activity to be undertaken. In this sense, the strategy of the investor becomes paramount. For this purpose, this chapter shows the basic steps of decision-making and the analysis activities that should guide the choice of the investor along this path.

5.1 Classification of Investors

The investor is the person or institution that engages in real estate resources with the aim of making a profit. Investors may be active or passive. Active investors acquire the ownership of the property in which they invest their own resources, directly. They supervise its administration or hire the professionals responsible for this task. They make decisions, select the staff to be hired, conclude contracts for the design, maintenance and construction, establish the rents and do everything that has a direct effect on the operating results. Passive investors do not take decisions but they delegate them to others. Investors may be of a different nature: building contractors, agencies, real estate funds, private. Each of them has constraints, motivations and different goals, but they all have, as common roots, the expectation of a financial return as a reward for the commitment of human resources and compensation for the risk incurred. The amount of compensation expected and acceptable level of risk depends on the specificities and attitudes of the individual investor.

Another distinction is between pure and real investors. The real investor is an economic entity, which basically performs the function of building (in practice the typical construction company). The pure investor, very often an abstract, is the one who is not directly involved in the operations of transformation of the

building product, but decides to engage in an investment with the function of promoter and manager of economic activities in real estate in order to derive a profit.

5.2 The Behaviour of the Investor and the Risk Appetite

Risk appetite plays an important role in the choice of the investor. Some investors are inherently able to face the risk; they not only accept it but also seek it voluntarily. Other investors avoid it, they sacrifice the expected income in order to limit the most insignificant risks. The latter category of investors is inclined towards those products with a low return but of which they have a high warranty. Probably the majority of investors have an intermediate behaviour between these two extremes.

The investor behaviour has been studied extensively in economic literature and almost all the experts agree on a correlation between expected gain and perceived risk as shown in Fig. 5.1.

The investor tends to maximize profit for a given perceived risk, and he prefers to minimize the risks associated with fixed profits. The curve in Fig. 5.1 shows that, when the level of risk increases, the investor is willing to accept additional risk only if it is accompanied by, more than proportional, expected returns. At some point, a risk limit will be reached beyond which the investor will not go, whatever the extent of the possible but uncertain reward. Of course, the quantitative performance of this report will change depending on the risk appetite of the individual investor. The curve tends to rise with a lower gradient and will be associated with a person whose behaviour is characterized by a greater appetite for risk.

A greater appetite for risk does not mean ‘bravery’ or ‘irresponsibility’. The investor is not a gambler and if his perception of the risk curve is flatter than average; probably he has information, experiences and additional analysis regarding the type of operation that he is going to undertake.

The concept of risk must therefore always be associated with the behaviour of those who invest. There are many studies in psychology that show the importance of the way in which risk is perceived and the relationship between risk and return in investment decisions in the stock market. These studies show results that are sometimes in contradiction; they point out that in relatively short periods, investors behave as irrational traders led by their “mixed feelings” or by so-called irrationality.¹

¹ Mertz et al. (1998) and Slovic (2000) have shown that individuals rarely conceive risk as something objective and measurable. In addition, people have a tendency to avoid riskier alternatives. Ganzach (1999) stated that the report risk/return varies from subject to subject and in relation to particular situations, it may occur, therefore, that in some cases a higher risk does not correspond to a higher return. Otherwise MacGegor et al. (1999) assert that the equation risk/return is one of the decisive factors in the choice of investment, even if they demonstrate the existence of an asymmetry in the way in which the risk and the return affect this decision. People seem more willing to invest on the basis of expected returns rather than on the basis of the degree of risk inherent to a certain financial activity.

Fig. 5.1 Indifference curve
risk-return



In the long run, any irrational deviation is filled and their behaviour, led by “common sense and economic rationality”, once again reconverges with the results laid out by the studies and methods of Fundamental Analysis.

The behaviour of the investor, which is normally constrained to a significant financial commitment and long waiting periods in order to achieve the objectives, is consistent with this type of analysis. It is obvious that in this case the risk grows in proportion to the commitment of these resources: capital and time.

The generic investor in any case, regardless of his particular mind-set, has the duty to minimize the uncertainty of the activity to be undertaken, and if possible to transform the remaining uncertainty in risk.

While under conditions of uncertainty, the economic operator is not able to associate a probability to future events taking place, the risk is, instead, the measure of the probability that the future event takes place.²

The risk control passes through the respect of some general rules, which all investors should follow before committing money:

- Specify the objectives of the investment and in particular the minimum expected profitability, the maximum time to obtain the return of the invested capital and the level of acceptable risk;
- Identify the main sources of risk and try to quantify them;
- Remove unnecessary risks, transfer some to other parties (insurance, tenants, lenders, etc.) and constrain those who remain within acceptable limits;

² Knight F.H. in the 20s published, in his book *Risk, Uncertainty and Profit*, the first economic definition of risk: The uncertainty should be considered in a sense radically distinct from the familiar notion of risk, [...]. The essential fact is that “risk” means in some cases a quantity which can be measured, it will be understood that measurable uncertainty, or properly “risk” is so much different from a non-measurable uncertainty, which in fact is not an uncertainty.

- Make the final decision verifying that the expected profits justify the risks borne, or that the investment meets the objectives.

These rules are formalized in a decision-making model to help those promoters of a real estate project, who must deal with very complex problems.

5.3 The Real Estate Development Process

Each category of property has, from the point of view of economic characteristics, some general concepts, which are common to all types of projects. Figure 5.2 shows the diagram of the typical real estate development process.

This process is generally applicable to most of the interventions. The promoter, according to its peculiarities, may decide to carry out all, or only a part of the phases of the scheme. More frequently, the process in its various stages is implemented by a variety of subjects. The operations to be carried out are essentially:

- The acquisition of the property (land, building, etc.);
- Transformation of the site and construction of buildings;
- Completion of the external areas and preparation of space to rent them;
- Property Management at the end of the rent phase;
- Total or partial sale of the structures built.

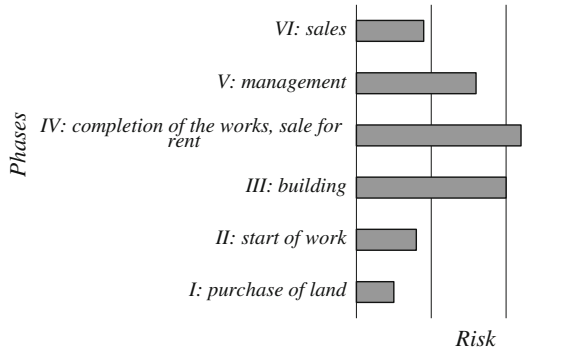
In theory, the promoter may choose to sell the project at any time. Such decisions depend on the activity carried out mainly by the operator, by his financial significance and, therefore, his business strategies.³

Some entrepreneurs undertake a building project with the intention of maintaining the property and administering it for many years after its completion. They consider the rent and the administration as integral parts of their business. On the other hand, other operators, who are more similar to small-sized building companies, build in accordance to the specific requests of a customer. In between these extreme categories, there are the promoters with intermediate characteristics and slightly different objectives. Most of them specializes their activities within one or more phases of the previous diagram. Those who intend to sell immediately after construction rely on external professionals, such as architects, real estate brokers and agents, to achieve many of the stages from III to VI. On the other hand, large companies consider most advantageous to carry out all the stages of the process, using outside contractors only when it is most advantageous.

Figure 5.2 illustrates a typical risk scenario in a “normal” market, in which it is expected that the demand for rented premises is sufficient to justify intervention.

³ For example, the typical building contractor is a “real” promoter (in fact he mainly carries out the construction activity), and is generally directed to selling the property directly after completion.

Fig. 5.2 The risk in the phases of the real estate development process



The risk begins with the acquisition of land and grows linearly during the construction phase until the first proceeds are realized. In the early stages, the main risks are related to construction delays, increases in the price of materials and/or the interest rate. Once the properties have been rented, the administrative procedure starts. At this point, different scenarios may arise therefore outlining conditions of greater risk. A favourable situation occurs when an increase in the demand for space produces revenue anticipated, but not expected. Obviously, the case where the demand and therefore the expected revenue decreases, would be unfavourable, and so would an unexpected protraction of the time needed to put up for rent.

The analysis of the market becomes therefore essential to reduce the risk of an investment.

For example, it is important to assess the viability of the construction industry, by estimating the demand for space (with reference to the destinations one wants to make or buy), through the detection and analysis of a series of parameters, such as the rate of employment, rents, or the volume of rents (or sales).

The demand for space should be assessed with reference to a rather distant future time horizon: if this were to go down, even after all the spaces are leased, the rental fees would decrease and the tenants would re-enter the market to find the best solutions. Therefore, a project is vulnerable to competition throughout its life cycle. This is one of the reasons why many promoters, who are unwilling to bear the risks of long-term management, prefer to sell immediately.

The risks arising from fluctuations in demand and from the administrative activity are not the only ones to encumber on a real estate development project. In addition, the location of the site to be purchased for the project is of paramount importance. Spatial proximity to other structures, or in the centre of the activities of an urbanized area, has a significant effect both on demand and on the final value of the project.

Investors should also carefully examine the demand for space in qualitative as well as quantitative terms. In turn, this demand depends on the characteristics of the potential tenants (or buyers). Only by knowing the economy of a particular

place and the nature of its working world, a promoter can accurately predict demand and satisfy it by providing spaces with the right combination of quality and quantity and therefore at the right price.⁴

5.4 Objectives and Strategy of the Investor

Contingency planning should include a range of alternative uses of the buildings in the event of failure of the plan. In the planning phase of the intervention, it is appropriate that the design complies with the principles of convertibility (functional flexibility and adaptability) and the substitutability of the building components. The ex-ante substitutability dictates the use of items, materials, equipment that can be replaced without compromising the functionality of the property and without excessively impacting on future maintenance costs.

The specific objectives of an intervention in real estate development, and the macro-strategies to achieve them, change depending on the characteristics of the client. Notwithstanding that, the main purpose of any private operator remains the identification and development of “opportunity” able to offer a profit higher than the normal rate of return expected. All decisions, typical of business strategies, could diversify greatly, being influenced by different peculiarities of the operators (financial dimension, type of function mainly carried out, etc.). On the other hand, the previous standardization of subjects that operate in the real estate market helps to understand the mechanisms underlying the initiatives and the decisions taken by different promoters.

For example, in the case of a “real” entrepreneur, the layout of the plan should consider that:

- The construction activity manufactured in-house is the component of greater importance, in fact one has the best information about it (e.g. construction costs);
- It is preferable to minimize the financial exposure (especially if the business is small in size);
- The minimum threshold of profitability is probably less than that of a pure promoter.

However, a promoter with greater financial capacity will invest in relatively more complex and extended operations. In fact, considering that the bureaucratic process for obtaining all approvals by the Public Administration, in the case of large projects, is often burdensome and involves a significant expansion of the times for the onset of the works, this type of investment can be undertaken only by those who are able to

⁴ Please note that in countries where labor mobility is common (e.g. the USA), the decision of a family to transfer their residence depends not only on job prospects but also on the relative cost of the house (Zabel 2012).

expose themselves financially, in the face of uncertain temporal prediction (assuming that the risks are outweighed by a sufficiently high yield).

Many of the strategies, used by investors in the real estate market, trust the inefficiency of the market. Inside, the most cunning individuals, those who are able to anticipate market trends, manage to gain profits that would not be possible in conditions of efficiency and balance.

In an efficient market (that is, one in which all relevant information is immediately available at a limited cost), the higher offers come from those who derive the greatest benefit from the property to buy. This does not happen in the real estate market.

In a balanced market, companies earn enough to maintain a certain level of production but not enough to be able to expand. The situation in which, in an atomistic and efficient market, companies can gain more profit than is required to keep them in business is to be considered provisional.

In the real estate market, characterized by continuous fluctuations, what is to be considered “temporary” is the equilibrium condition instead. In this situation, the difference between success investments and disastrous operations can be determined by the ability of adaptability of companies, or by the ability to occupy market niches vacated in periods of transition, exploiting in their favour, the moments of general disorientation.

Of course, information research plays a fundamental role for those looking to take full advantage of periods of confusion. Consider, for example, the case that a company operating in the rental market discovers, through investigation, the possibility of inducing tenants to pay a higher fee by equipping apartments with a new air conditioning system. The marginal cost of this intervention would therefore be less than the marginal revenue generated by it, and this would result in an extra profit.

In an efficient market, the competitors would rapidly follow the demand and the new air conditioning system would soon become a standard feature. This would lead to an increase in supply, which in turn, by pushing down rents, would ultimately cancel the extra profit. The example above shows that entrepreneurs exploit the inefficiency of the market during the time needed to reach a new equilibrium; in fact, they take advantage of the premium related to innovation. The continuous search for innovation allows them to position themselves in a niche inefficient market where they can act in conditions of temporary monopoly.

Investors, who have preferential access to information (being able to obtain it more quickly or at lower prices than the others) do not need to use innovation to gain profits.

An excellent knowledge of the market is the key to improving the outcomes of long-term investments such as those in the real estate market. At a macroeconomic level, it is important to understand the rules that govern the fluctuations of supply and demand, while at a local level it is essential to upgrade the cognitive framework of the condition (building structure, demography, urban planning, economics, etc.) for the specific market area. In this way, one can identify the most profitable investment opportunities and reduce the margin of error.

The pursuit of profit can also pass through the instrument of marketing. The fundamental purpose of marketing is to inform the public and, in particular, potential clients about the market entry of the new vendor products and services. However, one should not think that this type of advertising exhausts the promotional phase. In some cases, being successful in real estate investment can be very complex. For this reason, professionals such as brokers (brokerage) carry out a promotional function; they are hired to perform most of the activities related to the alienation of the property. The brokers sell a service to property owners and generally operate in areas of a limited market of which they have an excellent knowledge. In their activities, they resort to the media or to direct contact. In order to get advantageous leases or sales, it is definitely necessary to advise all potential buyers or tenants through advertising channels, but it is equally important to use the advertising message to highlight those characteristics that can address the choices.⁵ Market participants know that the customer is a lot more sensitive to price differences rather than to minimal “differences” in the characteristics between products joined by a chain of substitutability. To fill this different sensitivity, the characteristic aspects such as architecture, the quality of the building materials or the luxury accessories should be emphasized. It should be noted, moreover, that the physical differences might have less weight compared to those that exist only in the perception of demand.

Competitors can duplicate the design, quality and functional features of a property. The same cannot be said for the image (reputation), it is a unique element of a property, which is sometimes consciously created in order to affect a specific market segment. By defending the reputation of a property, one can have the option to rent or sell it at higher amounts than the competition. In this way, one catches part of those monopolistic advantages that result from characters of the uniqueness of the property (the position, for example), decreasing the vulnerability to competition.⁶

⁵ It may happen that the brokers are forced to mediation efforts and particular strategies, which obviously require a longer contract period (increase in the time of sale), from sellers that impose starting bid prices higher than the normal market values. This situation triggers a mechanism that brings—in normal cyclical phases—to higher selling prices (Anderson et al. 2013).

⁶ Proof of the quality as a driver of demand can be provided by measuring the standard deviation of the real estate prices. This measure of the variability of prices in the cities is an indicator of the selectivity determined by the quality, with an increase in the demand for quality, so does the variability of prices. With reference to the last expansion cycle of the real estate market, to which an intense recovery and urban regeneration corresponds with projects often implemented through the work of famous architects, it can be seen that prices tend to differentiate more and more around their average values and for all types of real estate (Adair et al. 2003).

5.5 Choice of Type of Intervention and Location

Even if bound by building regulations and planning instruments, the choice of the location where to carry out an intervention in real estate development is first and foremost a business decision. This is why the model of urban development, despite the overlap of political restrictions, is an expression of economic forces. One of these forces, which becomes more and more evident as the city grows, is the functional specialization of areas. This trend can be seen not only among the general categories of use—residential, industrial and commercial—but also within the categories themselves. In the choice of a home, for example, one may notice a fragmentation into social and economic classes: there are distinct neighbourhoods depending on the size and quality of housing. Something similar happens to the commercial districts. The specialization of use dictated by the market is never final; variations in the level of economic activity, combined with the perpetual change of technology and lifestyles, leads to the passing of the old positional choices and the need to adapt, even at considerable cost to the new conditions.

Ultimately, the use of land is affected by the efforts to produce an economic advantage and is subject to anomalies due to errors of judgment and irrational elements. In this condition, there is a general rule that is always valid: the properties are purchased or rented by those who can pay the highest price (or charge). The consequence is the formation of a pattern of land use rules that, at least in theory, generates the highest economic benefit to the entire community.

Of course, not all potential users directly compete for the same space. For example, although the railways and highways reduce the desirability of the adjacent residential neighbourhoods, large warehouses and industries benefit from proximity to these transportation networks. Similarly, if on one hand affordable housing is constructed preferably on flat land to minimize construction costs, on the other, wealthy buyers are willing to pay a premium to enjoy the excellent view of an apartment located on a hill just outside town.

However, in general for some functions direct competition exists. When the competition is based solely on economic considerations, the pattern of land use is logically dictated by the highest paying capacity, or by choices that tend towards the maximization of profits.

Although a merger is a natural fit to the needs and the desire to minimize transport costs, decentralization remains a necessity for some productive activities. Those who, by taking greater benefits from close proximity to the city centre, can afford to pay higher prices move these activities to areas with a lower building density. The building density tends to be higher in the centre of the market activity and lower as one moves away. All this is in agreement with the theory developed about 190 years ago by Von Thünen about the use of land.

He theorized the concept of rent by linking it to the demand for the location of an economic activity and to a consequent recognition of it as criterion for the spatial distribution of these activities. Taking as a model an isolated economic area formed by an urban core surrounded by a uniform plain, Von Thünen showed that,

under certain conditions, the choice of use is directly attributed to changes in transport costs; he also showed how, under equal conditions, lands closer to the central market were the most intensively exploited. One can consider, therefore, an urban development model made up of concentric rings with homogenous uses, with a lower building density for the outer areas. In the early sixties, the model of Von Thünen was taken up and adapted to an urban context by Alonso (1964).

Alonso adapted the Von Thünen model to the urban case and generalised it by overcoming the hypothesis that only the shipping costs are expression of spatial impedance and of preference for more central locations. The land rent in this case is defined as residual and the entrepreneur determines it. The land rent therefore constitutes a transfer of income/profit from the transformer manufacturer to the owner of the land, after production costs, including costs of transportation and a certain profit that the contractor is not willing to give up, which are subtracted from the sales proceeds of the products of transformation.⁷ This model is very consistent with the reality of American or Australian cities and this situation is common to every urban area, with the obvious limitations to the ring structure due to the topography and preferential transport corridors. Each city has its own downtown district where there are financial offices, and all activities that attract customers from the surrounding areas. The rents and the densely populated areas are very high.

Business activities are located outside the centre: some of them benefit most from their position along major traffic arteries (creating a radial or axial model of development).⁸ Others, however, take advantage of the mutual neighbourhood: These activities are grouped by creating multiple nuclei and small towns scattered throughout the metropolitan area. Some stores seek to position themselves close to other similar businesses in order to capture the customers of their neighbours. Those stores, that offer the same kind of products, obtain and in fact benefit from the formation of commercial districts: collectively they are able to attract a greater number of customers than if they were more isolated. Once formed the nuclei they generate locally peaks in land values. Subsequently, the first cities expand along transport corridors and then occupy the spaces between these nuclei with residential projects and other commercial projects.

Below, are the principles underlying the choice of location of economic activities.

Firstly, consider the productive activity. Each company tends to optimize the production or minimize the cost of production. Among the elements of cost, which has a direct impact on the location, there is transportation. The need to move

⁷ The model was then developed by Wingo who added, to the underlying assumptions, the hypothesis relating to the effect of the "free time" marginal variable on the budget as well as on the level of satisfaction (Wingo 1961).

⁸ The models of Alonso and Wingo have been refined over the years, starting from the original town of concentric ring, the newer models make reference to the case of two or more independent centers of equal or different sizes, competing or complementary: the urban form results from these analyses dependent both on the transport network and the relationships between the different urban centers.

people and things creates costs that reduce the desirability of the sites. The ideal condition is one for which the activities are more closely related in the production process and are positioned in the same area. Yet, this is not always possible. Transport costs are both explicit (cost per km of the chosen mode of transport and the cost of time spent on the trip) and implicit (connected to the dangers and the general disutility of transport).

The location of a business can impact, both the transport costs, and the production costs which are relatively low for example, for a farm located on fertile land and on an area with a favourable climate. This can save a considerable amount of money compared to a less fertile location. The choice should therefore seek to minimize the costs of production and transport.

Figure 5.3 illustrates this situation.

In the absence of loads due to lease, the remaining operative costs as a function of the distance from the ideal, are obviously increasing. The ideal location, which coincides with the centre of economic activities of a city, is defined as the place where the net benefit is the highest in the absence of expenses for rent. Assuming further that the revenues are not influenced by the position, the place that minimizes the cost would coincide with the ideal (perfect) location.

The differentiation of rents is determined by the competition for spaces closer to the centre of economic activities. Simply speaking, one can therefore assume that a straight line descending represents the relationship between the level of rents and the distance from the ideal. If costs and rent are added, then the position that minimizes the total cost will be found at a certain distance from the ideal one (bottom graph in Fig. 5.3).

Companies that are able to obtain higher profits from the ideal position are able to coerce their competitors towards less attractive areas, but cheaper.

With regards to commercial property, the choice of a site involves the analysis of more complex variables. For example, fundamentals are the cost of transfer of potential customers: whoever goes shopping and has to decide which stores to visit considers the disutility (time, inconvenience, and cost) of travel towards the shopping area. Unlike the productive sector, for the commercial activities, the profit obtained from the sales are a function of the distance from the ideal position. This condition is illustrated in the graph of Fig. 5.4.

Curve A in Fig. 5.4 shows, as an example, the potential profit of a commercial company before the expenses of rental property as a function of distance from the ideal location. This curve also determines the maximum rent that a company can tolerate without endangering its survival. In practice, if the profit curve is below rent B (represented by a straight course and descending with increasing distance from the ideal), the company will be out of the market by those who are able to achieve from that position a greater profit. Therefore, only the areas corresponding to the segment of the curve that lies above the straight-line rents, represent choices for a possible positioning of the company.

The optimal position, which corresponds to the maximization of the net profit, is also, in this case, at a certain distance from the ideal one. In the absence of rental demand from other sectors of the economy, the commercial sector would be

Fig. 5.3 Positional decisions of an industry

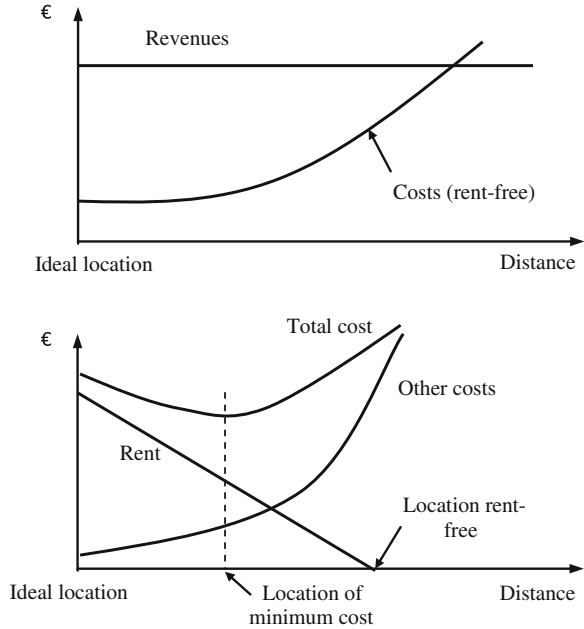
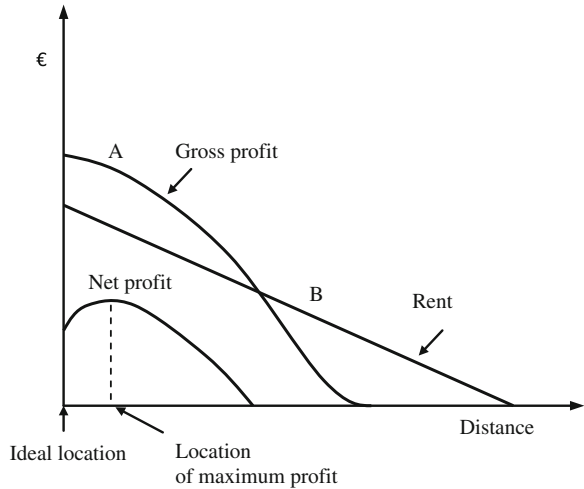
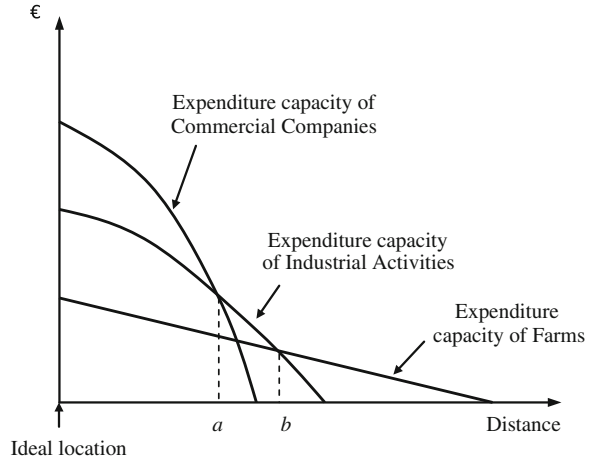


Fig. 5.4 Positional decisions of commercial activities



extended to the intersection between the curve of the net profit and the x -axis. However, bear in mind that in reality there are, in addition to the commercial activity, other activities such as industrial or agricultural which are competitors in relation to land use. All of these activities give rise to an equal demand curves corresponding to an offer of rent equal to the difference between revenues and

Fig. 5.5 Expenditure capacity on rent and zoning



costs (excluding the cost of rent and a profit margin). Figure 5.5 shows a possible representation of such demand curves.

One can see that industrial activities, by not having the need for an exasperated centralization, submit offers that, in central areas, are lower than those from the service sector. Beyond the point (a), the demand from the industry becomes more competitive at least until the corresponding curve is not surpassed by that of the agricultural sector (b).

Gross profits (before subtraction of the rent) of industry and agriculture are less sensitive to distance from the ideal, compared to what happens in the commercial sector. In areas closer to the city centre, industry has a capacity of spending less on rent than that of a commercial company. This spending power, in the proximity of the city, is even lower for farms, but since this capacity is less elastic to changes in the distance becomes greater than other industries for more distant sites.

This allows us to understand that, regardless of the zoning imposed by planning instruments, first and foremost economic considerations generate a different location between the various activities. In the complete absence of constraints the ideal location (the city centre) will therefore be occupied by commercial companies, the more remote areas will see the prevalence of farms, while in the intermediate areas the winning bids will come from the industrial sector. Since the market is never a perfect distributor of resources there will always be an overlap of uses in places of transition between predominant destinations.

In the programming of real estate development, one should not forget that the choice of site (or building to be redeveloped) and the quality of the project are dependent issues. It would be unreasonable to suggest the construction of a residential building of high quality within a popular neighbourhood. The probable and potential end user or the family who decides to reside in that neighbourhood has a lower-middle income, which forces them to steer demand towards a less refined but cheaper accommodation.

5.6 The Decision-Making Process

5.6.1 *The Layout of a Pattern*

The preliminary analysis of the technical, territorial, economic, financial and administrative-management of an operation real estate is the best guarantee of its future profitability.

During this phase, variables that may have an impact on the final decision are defined, measured or estimated. It is therefore essential to build a valuation model that allows for the identification of critical parameters, the quantification of parameters considered relevant to decision-making, processing of the information and ultimately the interpretation of the results to which it leads.

The choice of investment in real estate involves a preliminary analysis of information related to the specific market, the property that one intends to acquire and finally the desires of the end-users. The characteristic features of any investment are, first of all, the immediate commitment of economic resources that could have alternative uses, and secondly the prospect of possible but not certain future benefits. To an already generally complex problem, in the case of investment property, there is the added difficulty of working in an environment that has little or incomplete information. The previous chapters have identified the main elements that can affect the success of an investment property. One way to control these many interrelated variables is the implementation of a decision making process that highlights the fundamental problems of the intervention, in order to facilitate the definition of possible solutions and indicate the more affordable design alternatives.

A proposal is “feasible” if the analyst identifies the existence of a reasonable possibility that the results of the project are related to the objectives formalized by the investor in respect of the choices made in a context of limited resources.

The feasibility analysis, in the context of economic evaluations, is not to be confused with the exercise of the estimate. The latter is addressed to the determination of the property value. The evaluator does not consider the ordinary use for which the property is intended, but aims to identify the highest and best use for the property being valued, especially in relation to his management skills and economic capabilities. This implies that although in both cases the analyst estimates the flow of net revenue that the property can generate, feasibility analysis and estimation employ similar models but produce fundamentally different data.

A model of decision-making process relating to the generic investment is expressed in Fig. 5.6. Despite its complexity, the analysis of real estate investments is not fundamentally different from that relating to other types of investments, with regard to the decision-making process. The methodology used in the

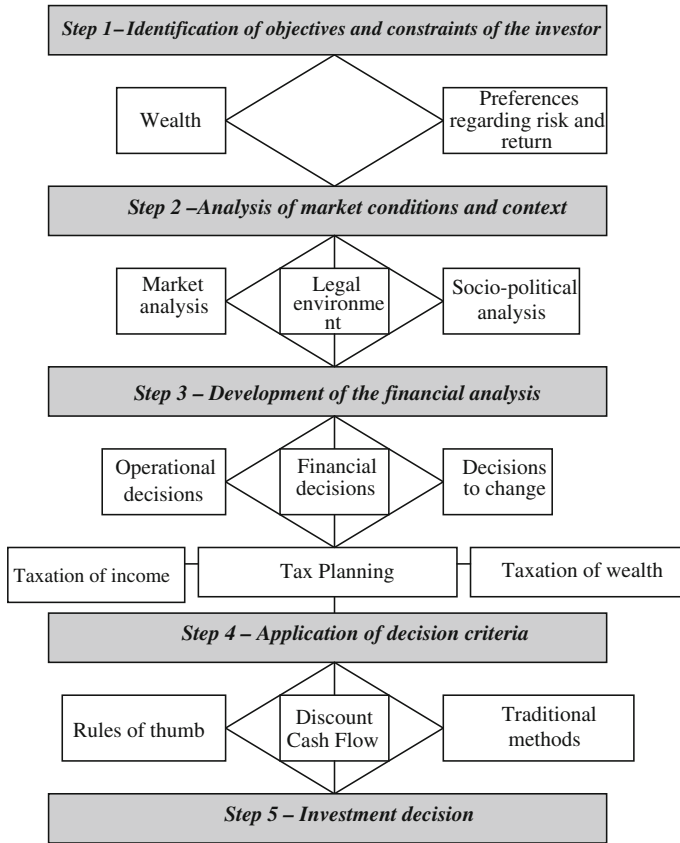


Fig. 5.6 A model of decision-making process relating to the generic investment

analysis, which is applicable to any type of investment and investor, can be divided into the following phases:

1. The definition of the objectives of the promoter;
2. The objectives are turned into development assumptions involving the implementation of analyses aimed at defining the market potential (to be related to the size of the project);
3. Economic verification and concept design; operations which are closely interlinked and require iteration to produce a solution: on the first design assumptions one operates a synthetic verification that, if positive, leads to the definition of the preliminary project and the final economic verification;
4. Obtaining government approvals with possible negotiation.

In fact, at every step of the way identified, an unsatisfactory outcome involves the redefinition and revision of the inputs of the previous steps.

The process then comes to the final decision in an iterative manner, by successive approximations.

In the particular case of an investment property, the decision-making process takes on characteristics depending on the type of intervention and strategies of the specific investor. In any case, it is always possible to recognize the activities, and the corresponding actions described in Table 5.1.

5.6.2 *The Feasibility Study*

The feasibility study can be defined as a technical-economic project to verify the existence of a reasonable chance of meeting the objectives of an investment through a selective action of mutual adaptation between solution implementations and limited financial resources.

The feasibility study can take many shapes and sizes but always and in every case, it has a multidisciplinary nature. Numerous skills regarding various disciplines converge in it, such as urban planning, architectural design, structural design, real estate appraisal, investments valuation, and with them the techniques that investigate and analyse the market. Although it cannot be excluded that one person can perform a feasibility study, competent in all these matters, normally a feasibility study is carried out by a group of experts from the disciplines mentioned under the guidance of a coordinator.

The feasibility analysis, of course, should not be seen from a purely financial perspective. The presented scheme shows in fact that a proposal is feasible if it:

- It is physically implemented, given the constraints of a technical nature;
- It is legally feasible, given the constraints of an administrative nature;
- It is financially sustainable.

In fact, there are numerous uses physically possible, but one can define feasible only those that are simultaneously feasible from both an administrative and financial standpoint (Fig. 5.7).

The proposed definition of the feasibility study includes some elements that require clarification.

When talking about a reasonable probability, it is intended that the absolute security of investment success never exists, that for the investor/owner there is always a risk that legitimates income or profit.

The term satisfaction means the attainment of the objectives within the margins of variability indicated by the study and accepted by the investor.

Investment objectives are usually the maximization of profitability, but investors can also specify different objectives, such as political, social, environmental, tax, etc. These objectives need to be clarified in advance between developers and executors of the study and, if there is more than one, they should be given with a specific priority order, and possibly with its own specific weight. The final solution of a feasibility study is therefore dictated by the objectives.

Table 5.1 Activities of the decision-making process for an investment property

Analysis of the technical sustainability and urban planning	Structuring of objectives
	Analysis of constraints and opportunities of the territory
	Defining the contents of project alternatives
	Comparison and verification of the alternatives dealt with the thematic areas of reference
Analysis of the economic and financial sustainability	Representation of spatial and socio-economic context within which the project will be realized with the identification of the objective, or system of the objectives that the project seeks to achieve
	Identification and quantification of existing and potential demand. Analysis of temporal dynamics, hypothesis formulation for its future performance, estimates of willingness to pay for goods or services obtained from the implementation of the project
	Analysis of the context of the financial resources available or enabled as well as the ways in which these resources will be granted (time and condition)
	Construction of a model of financial analysis that allows to perform, for the various design alternatives, the estimation of the cost-benefit, the calculation of the cash flows and the main indicators on the quality of financial management, the formulation of managerial hypotheses that imply the financial model, the verification of financial sustainability in a sufficient time period given the technical, economic and management characteristics of the project
	Construction of a model of economic analysis (cost-benefit), able to assess the suitability of the investment from the point of view of the public interest
	Development of an adequate system of simulations (sensitivity analysis and risk analysis), able to verify the financial and economic weaknesses of the project, estimating the likelihood of unsustainable economic and financial conditions
	Forecast models on the performance of the real estate market in a particular field, in a well-defined geographic area, with the use of macro-and microeconomic variables, qualitative and dummy variables: macroeconomic variables (e.g., inflation, GDP, unemployment, etc.)
	Microeconomic variables (e.g., migratory movements, companies and/or population, etc.). Qualitative variables (e.g., recovery projects of particular areas), dummy variables (e.g. regional and/or municipal regulations, etc.)

(continued)

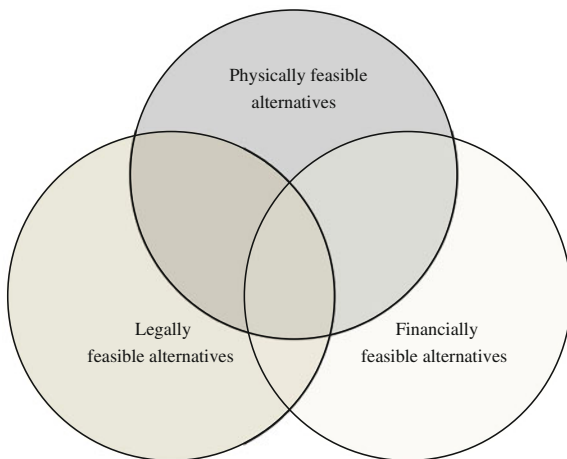
Table 5.1 (continued)

Analysis of management sustainability	Mechanisms, procedures and organization of the system of implementation of the project
	The timetable and the procedures to be followed to activate all the contents of the project
	The identification of institutional and financial partners involved in the implementation and management of the project
	The procedures and operational instrumentations that are intended to be used in order to ensure efficient financial and administrative technical circuits, including any patterns of administrative acts that may be required by the Public Administration
	The means to ensure conditions of transparency and verifiability of the implementation phase; the procedures and systems of control and accountability, in analogy with the EU guidelines provided at the level of programming, to be considered in relation to the progress of the project

In the case of real estate investments, the study is normally aimed at finding a solution to one, or a combination, of the following problems, which is related to the fulfilment of objectives:

1. The site is predetermined: the objective is to select the best possible use of those. The investor must select those alternatives that best meet the utilization goals. Its physical and legal characteristics and its location (and thus the economic environment) constitute the starting point of the analysis.
2. The destination is predetermined: one must identify the location. It is imposed on the type of use of the property and one needs to identify the most appropriate site for its implementation. In this case, the initial data is the final destination and the characteristics of the economic environment.

Fig. 5.7 Criteria of project feasibility



3. The funds available are predetermined: the objective is to find the best investment opportunities. The investor tries to identify which alternative or combination is more satisfying.

The study aims to determine the location, the typological, functional, economic and operating features of the project and the eligible variants.

The cost estimate is particularly difficult and delicate. On the one hand, it should be based on design assumptions which are still embryonic and then resort to synthetic procedures, but on the other hand it should pursue the most possible accuracy, as the amount of financial resources to be mobilized depending on the cost of construction.

Implementing solutions include, in addition to the above features, the timing of the project that affects the structure of the corresponding financial plan.

The financial resources correspond to the amounts that will be engaged in case of realization of the investment program. These amounts are to be divided into gross and net, that is inclusive or not of revenues, and they should be exposed to the various years of implementation of the program. In relation to the possible variations in design and marketing, corresponding variants of the financial plan should be drawn up.

In relation to the definitions shown and in accordance with the pattern of decision-making, a feasibility study on a real estate investment should be structured according to the following items:

1. Summary;
2. Goals and constraints;
3. Administrative feasibility;
4. Technical feasibility;
5. Analysis of the market (demand);
6. Analysis of the competitive framework (supply);
7. Choice of design features;
8. Estimate of production costs;
9. Estimated time of production;
10. Choice of financing (leverage);
11. Magnitude and timing of revenues;
12. Financial Analysis;
13. Conclusions and recommendations.

The parts from 3 to 11 must propose, in addition to the solutions considered optimal, the analysis and the comparison with the main variants compatible with the objectives.

1. *Summary.* It consists of the usual Executive Summary of all research reports, prepared for the use of the highest decision-making spheres of the client. It should be brief and lacking in detail. The objectives of the clients, the articulation of the study and the main conclusions, which have been reached, are summarized in it.

2. *Goals and constraints.* This chapter identifies the goals of the client. It illustrates the main hypothesis, if there is one, along with variants and alternative hypotheses considered acceptable. The preparation of a plan for real estate development always involves the definition, by the promoter, the specific objectives of the operation and macro-strategies to achieve them. These are typical decisions of corporate strategy that depend on both the financial dimension of the operator, and the type of function which is mainly carried out. Typically, the investor always includes, in the goals to achieve, a minimum acceptable performance in relation to a certain level of risk.

At the same time, together with the definition of the objectives, one proceeds to the completion of an analysis of “pre-feasibility” through the urbanism verification and a first synthetic economic verification.

The pre-feasibility study is a simplified procedure (therefore, less expensive and shorter than the complete feasibility study) where those projects that do not deserve to be subjected to further analysis can be discarded. Consequently, the feasibility analysis should be seen as an ongoing process that becomes progressively more intense as the investor approaches the final decision.

3. *Administrative feasibility.* The first test to be performed is the adequacy of the project with the planning. It aims to ensure all aspects of the approval of the project:
- (a) The destinations referred by general or executive planning instruments (current and ongoing);
 - (b) Constructible areas and/or volumes;
 - (c) Areas to be divested;
 - (d) Infrastructure expenses and charges on the cost of construction;
 - (e) Existing urbanization;
 - (f) Estimated time needed to obtain the concession.

This verification is extremely simple for small to medium size projects, consistent with the current instrumentation. In these cases, the estimate of the time needed to obtain the concession is not subject to large fluctuations. The situation is very different for larger complex projects, which requires the preparation and approval of urban planning executives that should be concerted in detail with the Public Administration, and when the projects relate to areas included in variations on the general planning instrument or relating to instruments still in progress without final approval. The estimate of the time for the concession is particularly difficult in these cases, even beyond the stage of public consultation between the operator and the private operator. The bureaucratic process unfortunately does not allow any reliable prediction of time, because it is subject to various approval levels and unpredictable events (fall of local or regional governments, the number of practices lying, etc.).

It is obvious that this indeterminacy about the start-up time of an investment, given the weight that has the time variable in the outcome, generally results in a

precautionary approach: a complex operation is considered acceptable if the performance is such that it covers the risk of a significant expansion of the schedule.

The examination of the urban situation involves the preliminary check about when, what and how much is possible to build. If the outcome of this examination shows that, at least at present, on that territory, one cannot build anything, one cannot build what planned, or one cannot build a minimum volume that ensures profitability, then it is useless to achieve the successive phases of the feasibility study. The object of verification may be slightly different when the site is not specifically identified but the potential investor only has a good idea about the profitability of a certain type of real estate investment in a certain area. The subject of the study is then the identification, in that area, of land that may be transformed as expected. In any case, a careful examination of the status and prospects of the relevant urban planning instruments at a supra-municipal, municipal and intra-municipal level, should be carried out.

To ensure the suitability for building of the areas as planned, it is very important to know at what stage the various planning tools are: at the design stage, adoption, approval or if they are fully enforceable. In this way, it is also possible to make predictions about the timing of implementation of the program.

4. *Technical feasibility.* It considers, at a preliminary stage, the compatibility between the physical characteristics of the site (geotechnical parameters, topography, services, etc.) and the alternative uses to which one planned to use for it.
5. *Analysis of the market.* The market analysis is preliminary and essential for any kind of economic initiative. This study is all the more important as the investment initiative is extensive and innovative. As for the analysis of the urban situation, it is appropriate to use a specialist also for market analysis or, a specialized research institute for the more important projects. Market research has already been discussed and the multiplicity of available methodologies has been highlighted. The sources of information and analysis tools are necessarily different depending on the destination of the buildings and thus their potential users (e.g. residential buildings intended for primary residence or for holiday homes, industrial buildings, office spaces, hotels, resorts, etc.).

The market analysis should confirm or refute the assumptions of investors, and in the latter case, advise realignment. If possible, it should also suggest, in the case of complex interventions, the best mix between practicable destinations, provide architects guidance on the building typology on the functional or aesthetic characteristics and give information to the financial experts on maximum prices and forms of payment.

6. *Analysis of the competitive framework (Supply).* Other important guidelines are those relating to the competitive scene. It is necessary to estimate the degree of current and future competition in order to determine the current level and the possible evolution of the vacancy rate.

7. *Choice of the characteristics of the project.* If the urbanism and the market investigations provide the expected information, at this point there is enough material to make an initial project proposal. The constructible volume is in fact known, there is the information needed to define the right mix for intended use or size of the individual units and the general standard of quality. Architects can then propose a preliminary design with realistic assumptions about the main structural, architectural and technological elements. These design assumptions should be naturally considered provisional due to the need for further investigation and because this phase should be completed in a relatively short time in order to allow the execution of subsequent phases of the study. The design documentation should be quantitatively and qualitatively adequate for the subsequent estimation of the costs of construction and urbanization.
8. *Estimate of production costs.* The knowledge of the urbanism condition and preliminary design should allow the establishment of a preliminary estimate on the implementing cost of the program. These result from the sum of the costs:
- Acquisition of the area, if not already owned;
 - Urbanization, these costs should be estimated with synthetic procedure by analogy with similar projects;
 - Construction, always with synthetic procedure, taking into account the cost of any special works;
 - Contributions to building permit;
 - Charges related to the planning and development process (including the feasibility study, design, construction management, consulting, testing, legal fees, taxes, marketing).
9. *Estimate of production times.* The correct prediction and realistic timeframes of the program is of great importance for a proper assessment of the economic performance of the investment. This provision must be made with the concurrence of all the experts involved in the various sections of the feasibility study. In particular, it is necessary to assess the time required for:
- The eventual approval of planning instruments and the granting of concessions;
 - The design;
 - The procurements;
 - The construction and testing;
 - The grant of any administrative licenses.

For each of these phases, the main sub-phases should be suitably highlighted. The full time program can be translated graphically in a Program or Project Evaluation and Review Technique (PERT) or similar chart where the commercialization phase is also placed. In many cases this phase begins even before the end of the construction phase, but it is still important that between the two there is a precise chronology.

10. *Choose the right financing.* The preliminary analysis of the financial feasibility combines the needs of both the investor and the institute who grants the loan. Financing is activated only if the project meets the needs of both parties. As noted above, the loan must be analysed as a function of various possible combinations of equity and capital funded. There are many parameters to consider in order to obtain full control of the loan. Some of the most important are, for example, the interest rate, the amortization period, the costs of start-up and termination of the loan and the impact on taxation.

Firstly, the lender needs to ensure, that the project is able to generate a cash flow that allows for the return of the loan, and secondly, that the most likely selling price of the project is sufficient, should the investor fail to cover the debt if not yet extinct.

11. *Magnitude and timing of revenues.* In view of the cost and time of production previously assessed, it is necessary at this point to estimate the likely revenues, together with their temporal distribution. The amount of revenues over time must be in line with:

- Expected time of sale or lease, possibly distributed over time, when the building initiative covers more than one unit (e.g. apartment or office);
- The temporal development of unit prices in relation to the nominal rate of inflation and the trend of supply and demand;
- The expected payment formulas, particularly with regards to delays and discounts on payment, for example, in the case of a sale in advance done by simply looking at the plans.

In any case, in addition to the most likely scenario considered, it is always advisable to submit less favourable scenarios that define the minimum acceptable condition.

12. *Financial Analysis.* The market analysis provides the data to perform the projection of future cash flows of the project. The cash flow summarizes, in one or more tables, the temporal dynamics and the possible outcome of the investment. For each year, the table shows:

- The production cost, divided into the main items;
- Interest on capital committed, at the current rate;
- Revenues from sales;
- The net balance between revenue and expenditure;
- The total balance at the end of the marketing stage.

With regard to the suggestion above, alternative prospects can be presented corresponding to sub-optimal or minimal conditions. The tables relating to cash flows must be properly commented, recalling the assumptions and the options below to both the main prospect and possible complementary or alternative prospects.

This section of the study should define, with the use of specific techniques, the indices necessary to evaluate the convenience of the investment. The calculations must take into account the risk element.

13. *Conclusions and recommendations.* The final chapter illustrates both the main results of the various phases of the study, and the conclusions summarized in the table relative to cash flows. It distinguishes the evidence provided by the promoters or their experts from those acquired directly. It presents both the results considered most likely and both those considered sub-optimal or minimal. It may include recommendations about certain phases of the investment deemed to be particularly important or sensitive. The clients of a Feasibility Study may be expected to incorporate within it a complementary study aimed at optimizing the economic program. The aim is to maximize or increase the difference between the market value (MV) of the product of the transformation and the cost value of the same (CV). The possible ways to achieve this result are:

- Leave the MV unchanged, but decrease CV;
- Increase MV and leave CV unchanged;
- Decrease MV and, in even greater measure, the CV;
- Increase MV and, to a lesser extent, CV;
- Increase MV and decrease CV.

5.6.3 The Investment Value

The process of the investment property analysis is nothing but an adaptation to this field of capital budgeting techniques used by financial analysts in investment securities. These techniques go through the following key points:

- Estimate of the expected net benefits;
- Chronological adjustment, with respect to timing differences in cash flows resulting from the investment alternatives;
- Quantification of the risks associated with possible alternatives;
- Ranking of alternatives based on the relative risk-return combinations.

The first three elements—the amount of net benefits, their distribution in time and the degree of confidence relative to their occurrence—determine the relative value of investment alternatives. The result of these analyses, therefore, is no more than the estimate of what has been indicated with the term “investment value.”

In the previous chapter, the investment value was defined as the estimated value of a property with respect to the specific investor who commissioned the evaluation. Investors are looking to buy only if the value of the investment is higher than the market value of the property, and the owners, on the other hand, are willing to sell the property if they obtain a greater amount than the value they attach to the property as part of their portfolio.

In the light of the concepts introduced in the previous paragraphs, it is therefore possible to define investment value in a form technically more correct. It corresponds to the maximum amount that an investor is willing to pay for the purchase of a property, given the cash flows expected from the management of the property and the minimum rate of return acceptable by the investor himself.

From an operational point of view, the presented scheme requires to make predictions about the future cash flows. Then, to make comparisons between alternatives, it is necessary to adjust and correct the results because they are mutually commensurable incorporating the differences in terms of timing and risk associated with cash flows. Finally, the alternatives are ordered according to their attractiveness (as measured by the risk-yield ratio).

It recognizes, foremost, the need to formulate a prediction on the amount of net benefits that the investment can generate. This step is the most delicate because, despite the amount of data and experience available, unless one does not have gifts of clairvoyance, future events can never be predicted with absolute certainty. Keep in mind that one has to estimate the revenues, operating expenses, the terms of financing, sales prices, the tax burden, the times in which these elements will materialize; each of these entries is a variable of the decision-making process which is be associated with a more or less comprehensive level of certainty (uncertainty).

Easier task operationally is related to the second step of the scheme, namely the chronological alignment of the cash flows. The formulas of financial mathematics must be applied to make comparable benefits and costs that accrue at different times. Of course, even in this case, subjectivity plays a fundamental role: the expectation of profit in fact differs between investors. The investment value depends on the choice of discount rate.

On a specific property, it is possible to evaluate alternative strategies. Holding constant the amount of the loan, the investor can change the other factors and check the result by measuring the value of new investment. The investor chooses the alternative that produces the highest degree of utility per unit of money invested, if all the alternatives have the same degree of perceived risk.

Everyone interprets the information on the basis of personal references, which in turn are the result of personal experiences. For this reason, every individual reaches different conclusions from the same information. It is likely that there is disagreement, for example, about the estimate of the future flow of income from rent and about the operating expenses associated with a property. The fiscal conditions may not be comparable across different investors and because of this; their net revenues may be different even when flows are similar before tax. Investors may also not have the same risk tolerance; furthermore, the preference about the waiver for immediate consumption in order to obtain greater benefits from the same resources in the future may vary between individuals. Those who prefer immediate consumption choose higher discount rates able to reward transactions with a value of short-term recovery than those requiring longer waiting times. In practice, the investment value is different from investor to investor.

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