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REAL ESTATE INVESTMENT IN ITALY: THE ALPHA CASE

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SUMMARY

Introduction

The following paper aims to analyze the process of investing in real estate, targeting the Italian market. Five chapters compose it.

Chapter 1 is purely descriptive. Its scope is to examine the functioning of real estate market. In the first paragraph are defined real estate and its features, then we spot the market characteristics and we segment the market. In the last paragraphs, we introduce a microeconomic model to describe the market functioning, and then we analyze the concept of real estate cycle and its implication for investors.

In chapter 2, we examine the current trends of the Italian market, to recognize the actual phase of the market cycle. We segment the market in residential and non-residential. For the residential sector, we analyze transaction volumes and prices, together with mortgage market development and the national macroeconomic trend. For the non-residential market we study investment volumes, net absorption, rents and yields of the segments that compose the market (offices in Milan and Rome, retail, logistics, hotels and alternative assets).

The aim of chapter 3 is to examine real estate as an investment. We start looking at the financial characteristics of real estate investment. We order the investment process in phases (market research, feasibility study, financial analysis and sensitivity analysis) and we individuate the models that suit best any investment type. We spot the professional figures in the market, with a focus on the asset manager and its role in the investment process. We investigate the optimal allocation of real estate in efficient portfolios and the risk/return profile that best suits real estate. The last paragraph deepens the topic of market indexes and their implications for managers.

Chapter 4 focus on the main vehicle provided by the Italian legislator to invest in real estate, the real estate fund, and the asset management company: the SGR. This instruments are examined by a normative point of view to identify the limits within professional operators can move. It is also explored the topic of the optimal structure for a fund. Then, we analyze the current market trends for Italian real estate funds. In the last paragraphs, the SGR is confronted with the two main alternatives in the country: SIIQ and SICAF.

Chapter 5 contextualizes the concepts expressed before in a practical case. Its object is the financial evaluation of a recent deal. A banking group started to dismiss its real estate portfolio, including a complex in the center of Rome. The bank made a public offer. The goal of our analysis is to find if the ask price is in line with the bid price, given the target IRR dictated by a hypothetical investor.

The scope of this work is to contextualize the topics expressed by financial theory in a real market environment and understand how professional operators approach real estate investments.

CHAPTER 1: THE REAL ESTATE MARKET

Defining real estate

Every market has its own characteristics, which are direct function of the characteristics of the goods traded in that market. This statement could appear obvious, but it is important to be aware of the features of the good in which it is investing. Object of this analysis is real estate and its attributes, which are:

- Fixity
- Heterogeneity
- Land indestructibility
- Physical indivisibility
- High value per unit
- Long production process

Land is fixed, so it is the property on it. Direct consequence is the uniqueness of each property, which is given by location. The design of an edifice can be replied, but not its position. The result is the heterogeneity of each asset. Therefore, the value of a building have to consider its location and its specificities. Another feature is the land indestructibility: an edifice can be demolished, but not the ground under it. A land can become unadapt to construction, because of planning policies or other issues (for example pollution). Buildings cannot be divided, but the ownership can be shared among multiple owners. Normally an edifice has a high value and the significant investment constitutes a barrier to entry for many operators in the market. Financial institution can help to overcome the problem. The last attribute of real estate is the length of production process, which can require several months or even years. The timing to market contribute to the constant disequilibrium of the market and it is one of the primary causes of its inefficiencies.

In defining real estate, we implicitly gave its value drivers. The first is location. Value given by location differs by property type. For instance, for a residential building central location is more valuable than periphery, for a warehouse the value determinant is the proximity to major communication arteries, and so on.

The other determinant of value are the features of the building: construction quality, space, obsolescence grade, technological accessories and other elements. For example, a research of the Polytechnic of Milan (*Come sviluppare l'e-business nel real estate: esperienze a confronto, 2001*) found that the value of a residential property with optical fiber installed increase its value between 2% and 7%. Correspondingly, a property with garden has a premium respect to a property without it. Affective attributes or historical prominence of a building can increase the value perceived by a client, but these characteristics vary by client. In general, only objectively measurable elements should be included in a building evaluation.
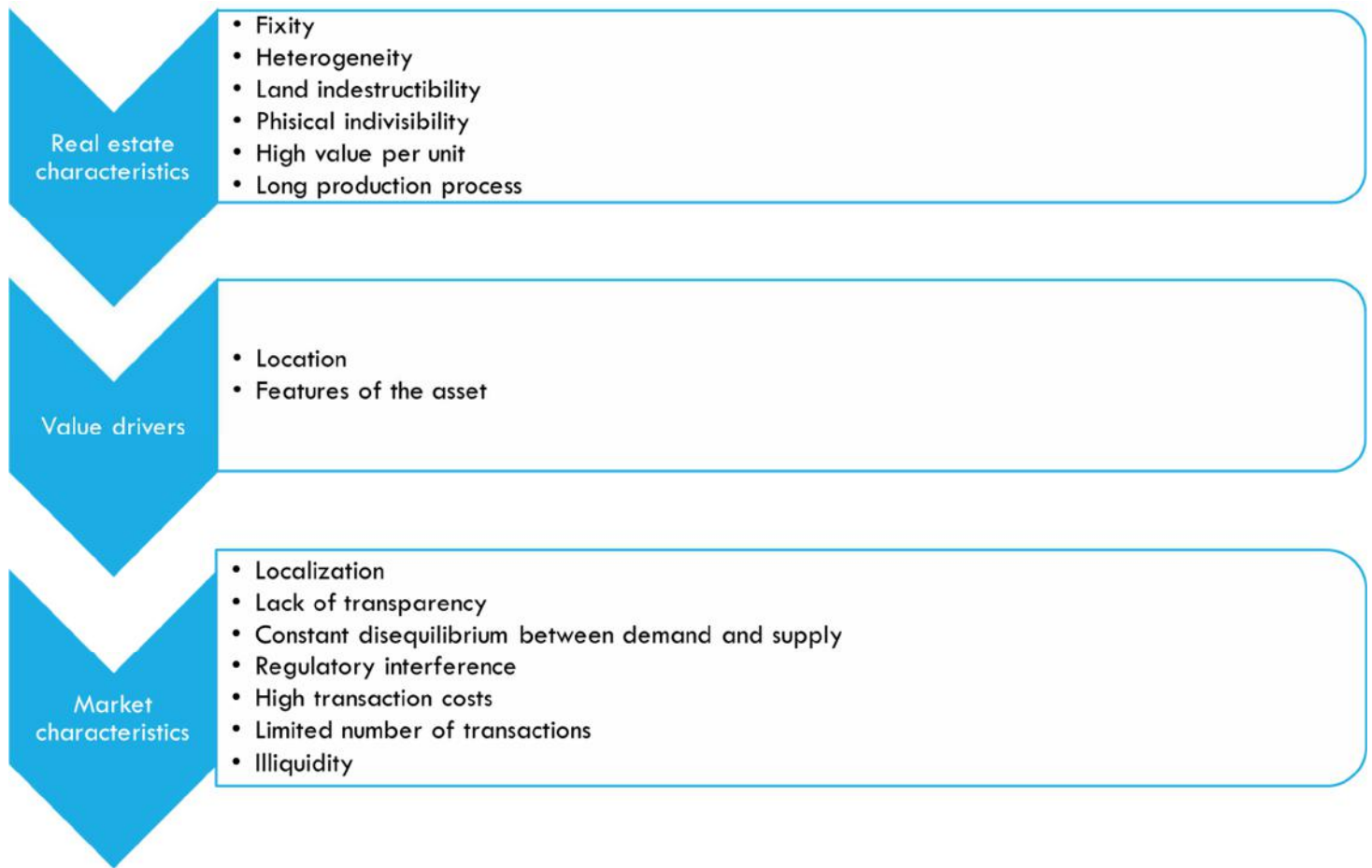
Figure 1, Real estate characteristics, value drivers and market characteristics

Real estate market characteristics

Once defined the characteristics of real estate, we can identify a market. This market differs from other asset classes (bonds and stocks) and it has its own features, which are:

- Localization
- Lack of transparency
- Constant disequilibrium between demand and supply
- Regulatory interference
- High transaction costs
- Limited number of transactions
- Illiquidity

Unlike the stock or bond market, real estate is not centralized. It doesn't exists a stock exchange where goods are traded at a specific price in a given moment. The market is defined in function of the type of property and the geographic location. The market is mainly local. It varies by city: a building technically equivalent to another in a different municipality can have a completely dissimilar price. Therefore, there is not an objective price like the market price of a stock. Price is function of the specificities of the local market. Therefore, a successful investment decision must rely on a deep knowledge of local market.

The other attribute is the low transparency. It is difficult to obtain the real transaction prices, because there are no incentives to disclose them and because they can be distorted by transaction costs and taxes. The result is the difficulty in constructing an objective and measurable index to measure market trends. Additionally, a real estate transaction involves asymmetric information: the seller of a building is better informed of relevant aspects than the buyer. In fact, every deal involves some uncertainty, which can be minimized by an accurate due diligence.
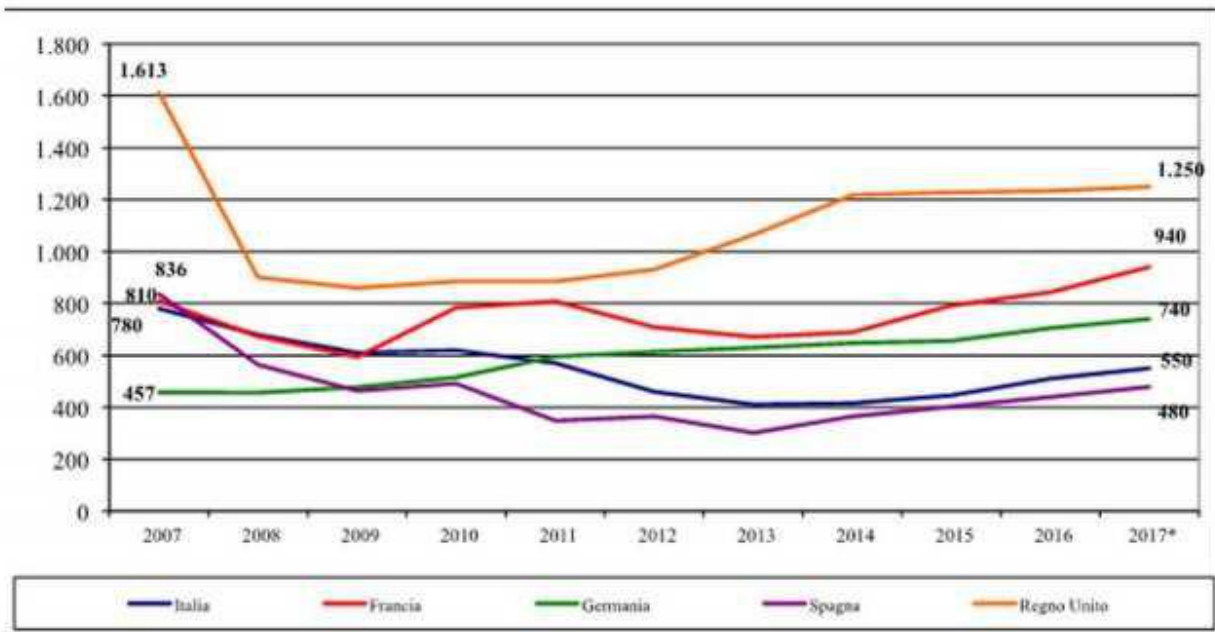
An ulterior aspect is the constant disequilibrium of the market, which is a direct consequence of the length in the construction process. Demand is influenced by macroeconomic variables, as the GDP growth or the employment rate. An increase in demand never corresponds to an immediate increase in supply, and when the constructions are completed the economy can be in recession, causing a slowdown in the absorption of excess supply.

A relevant characteristic of the market is the strong presence of public regulations. Normally a municipality directs the city expansion through a plan (in Italy *Piano Regolatore Generale*), which assigns to every zone a destination of use. Consequently, a zone would be industrial, another residential, another commercial, and so on. This instrument avoids disorders and permits an harmonic growth of the city. The State also define the amount of space that can be occupied by a construction, assigning a coefficient (*indice di utilizzazione territoriale*), which is the ratio between buildable space and total land. Another intervention field by public body are the taxes related to transaction, calculated as a percentage of the purchase price. In Italy these are called *imposte di registro, imposte ipocatastali* and *spese notarili*. The latter are a compensation for a specific professional category (*notai*). These costs, together with the commission of an intermediary and due diligence costs, raise the transaction costs. In fact, one of the relevant features of the market are the high transaction costs, which can increase significantly the price of real estate. In Italy the *imposta di registro* is 10% for physical people, 4% for juridical people and 2% for funds. Legal costs are above 0,5% of the price.

Another attribute of the market is the limited number of transactions. This is a direct consequence of the high price per unit. The underlying chart (figure 2) shows that Italian residential transactions lag behind other major economies in Europe. Their number is almost one third less than Germany, almost the half of France and more than the half of UK. If we assume the number of transaction as measure of efficiency of the market, it means that Italian market is only more efficient than Spanish market.

Compravendite di immobili residenziali in Europa
(migliaia)

Figure 2, Transactions of residential assets in Europe, Source: Scenari Imoobiliari

The last characteristic of real estate market is illiquidity. This is the direct cause of the high value per unit of real estate. It is not easy to sell a property in a reasonable amount of time. According to Il Sole 24 Ore (*Dai tempi di vendita alla determinazione dei prezzi, i consigli degli esperti per vendere bene casa*, 2016), in Italy time to market for residential is on average 7-8 months. The direct effect is that real estate is sold at discount respect to its book value. Several studies tried to quantify this discount. The mixed evidences show that it varies by destination of use and by the conditions of the building, but it's not possible to measure it objectively, because it depends on the ability of the seller and the bargaining power between counterparties. The only evidence is that the discount rises during recession periods because selling the assets become more difficult.

A useful comparison is with the efficient market. A market is efficient when there are no transaction costs, there is perfect concurrency and informational efficiency (prices reflect all the information, public and private) and all players act in a rational manner. Stock market is very close to a perfect market. Real estate is the opposite. One of its characteristics are the high transaction costs, especially in Italy. Concurrency is far from perfect, because same prices suppose same products, but every property is different. Informational asymmetries are the norm: sellers know more than buyers do. Only some actors act rationally. Firms do a cost-benefit analysis between cost

of renting or buying a property. A person who buy house tend to give a subjective value to a building, so the rationality affects only some players in the market.

Real estate market segmentation

We defined the object real estate, we identified its value drivers and we spot the main characteristics of the market. But real estate is a broad sector, with different dynamics for different segments. Now we have to divide this market, for a better understanding of its internal mechanisms.

The first distinction is between market of space and market of property. In the first, it is exchanged the utilization of real estate: the owner grant his property to a tenant in return of a periodic rent. In the second, the property of the asset is traded.

Another distinction lie in the view of real estate as a good for consumption or an investment. Normally households consider real estate as a consumption good that serves its primary needs, and firms considers it as an investment. Nowadays the trend for companies is outsourcing real estate to specialized operators. In that way, firms free financial resources to invest in their core activities, especially industrial firms. In fact, their core activities returns have a positive spread respect to real estate returns. On the other way real estate assets are managed more efficiently by a professional operator, which has real estate as core activity.

A third distinction is between primary and secondary market. Primary market is composed by the stock of new buildings, realized by specialized construction companies, and it represents the supply in the market. The already existing edifices compose the secondary market.

The most important segmentation is by destination of use. We distinguish between residential, offices, industrial, retail and receptive. The description of the segments is intuitive and a detailed explanation would go beyond the scope of this work. More interesting is their relative size. As we can note from the table below (figure 3), residential sector is the broadest one. For what concerns Italy, the market share of residential sector is significantly above the European average. The explanation is that Italian households have a greater ownership rate than other countries, because it is a tradition to keep the ownership of house and real estate is considered a protection against inflation. Receptive sector is the opposite: market share significantly lags behind the one of other countries. That is because the financial crisis hits particularly the touristic sectors and investments stopped suddenly in 2009. Office sector is also below the European average, because of the lack of relevant size projects compared to other markets. An interesting cause for reflection is the link with the employment rate, which is considerably lower respect to countries in the table, except for Spain. Industrial sector is also under the average and this low figure is linked to the industrial production, which declined since the 90' in Italy, causing a slowdown in production facility

investments. Even retail share is significantly below the average. The explanation in this case is the small consumption per capita of Italian households respect to comparable countries.

country	residential	receptive	offices	industrial	retail	total
France	50,4%	14,2%	19,6%	1,9%	13,9%	100%
Germany	58,6%	4,0%	16,0%	4,0%	17,4%	100%
UK	40,6%	3,1%	23,4%	7,7%	25,2%	100%
Spain	49,4%	12,7%	17,1%	3,8%	17,1%	100%
Italy	81,4%	1,6%	6,6%	3,4%	7,0%	100%
total	56,4%	6,8%	16,6%	4,1%	16,1%	100%

Figure 3, Real estate revenue shares by sector in Europe, 2009, Source: Scenari immobiliari

In summary every sector of real estate is linked to trends in the correspondent economic sector and related macroeconomic variables: GDP per capita for residential, employment rate for offices, industrial production for industrial and consumption per capita for retail and receptive. Obviously, these are not the only variables to consider in investing decisions, but they are a good predictor of the overall appeal of a sector. Analyzing these variables is effective at national level, and fundamental at local level. Remember what said before: real estate market is local, and a deep analysis of local economy is the base of an effective investment strategy.

Keeping the notion of localization, a country is segmented in first tier and second tier cities. In Italy Rome and Milan are first tier, other relevant cities second tier. Primary markets generally bare lower risk than secondary markets, which are often more susceptible to market cycles and fluctuations in demand. Imagine the difference in demand for an apartment or office property in downtown Milan or Rome when compared to smaller, less densely populated markets in more remote areas. The core, highly desirable markets will often see a smaller fluctuation in rents and vacancy rates in a declining economy due to the high level of demand drivers and dense population in the area.

A city is segmented in luxury, central and suburbs. The municipal plan decide the zoning by destination of use. Other kinds of segmentations are based on building state (new, used, refurbished) or the availability (vacant, occupied), but they are more useful to asset evaluation, not for defining the market.

Now that we saw the relevant segments, we can focus on the functioning of the market and the variables that determine its movements.

Real estate market functioning: a microeconomic model

Real estate is a complex market and its functioning it is not easy to understand, given the high number of correlations in the variables involved. Morri developed a microeconomic model (*Ferrero and others, Analisi finanziaria: finanza delle operazioni immobiliari, 2002*), that simplifies the mechanisms of the market and the relationships between its variables (figure 4).

The first element of the model is the market for space, which we defined above. Price for space is rent and it is given by the equilibrium between supply and demand for space. The supply is constituted by the stock of constructions (stock of m²), which in the short term is fixed, so a vertical line represents it. Demand for space is influenced by elements specific to every sector, like the production productivity for firms and GDP per capita for families. The demand has an inverse relationship with the existing stock of building, so rent increase as stock of m² diminishes, and vice versa. The first square of the graph (N-E) illustrates this relationship.

Second square (N-O) shows the value of the assets. Any asset value lie in the ability of the same to generate future benefits. In our case, the benefits are the future rents and the asset value is computed discounting future rents for an appropriate yield, using the perpetuity formula. Therefore, there is a direct relationship between rent and asset value. For simplicity, we can assume in our model that the assets value is the price at which they are exchanged.

Third square (S-O) tells us that when the price of constructions is greater than the production cost, construction companies will build new edifices. Even here we have a direct function: greater is the price-cost spread, more assets will be added to the existing stock of buildings (stock of m²).

The forth square (S-E) simply tells us that if new building are added to the existing stock, the stock of m² increase. In summary, it all starts from the rent. The actual rent determine assets value. When this value is greater than construction costs, new constructions start, increasing the existing stock of m². The process isn't immediate: as we highlighted before, new completions require time, contributing to the constant disequilibrium of the market. In fact, the supply of space will change in the medium-long term and the result is the cyclicality of the market, as we will examine.
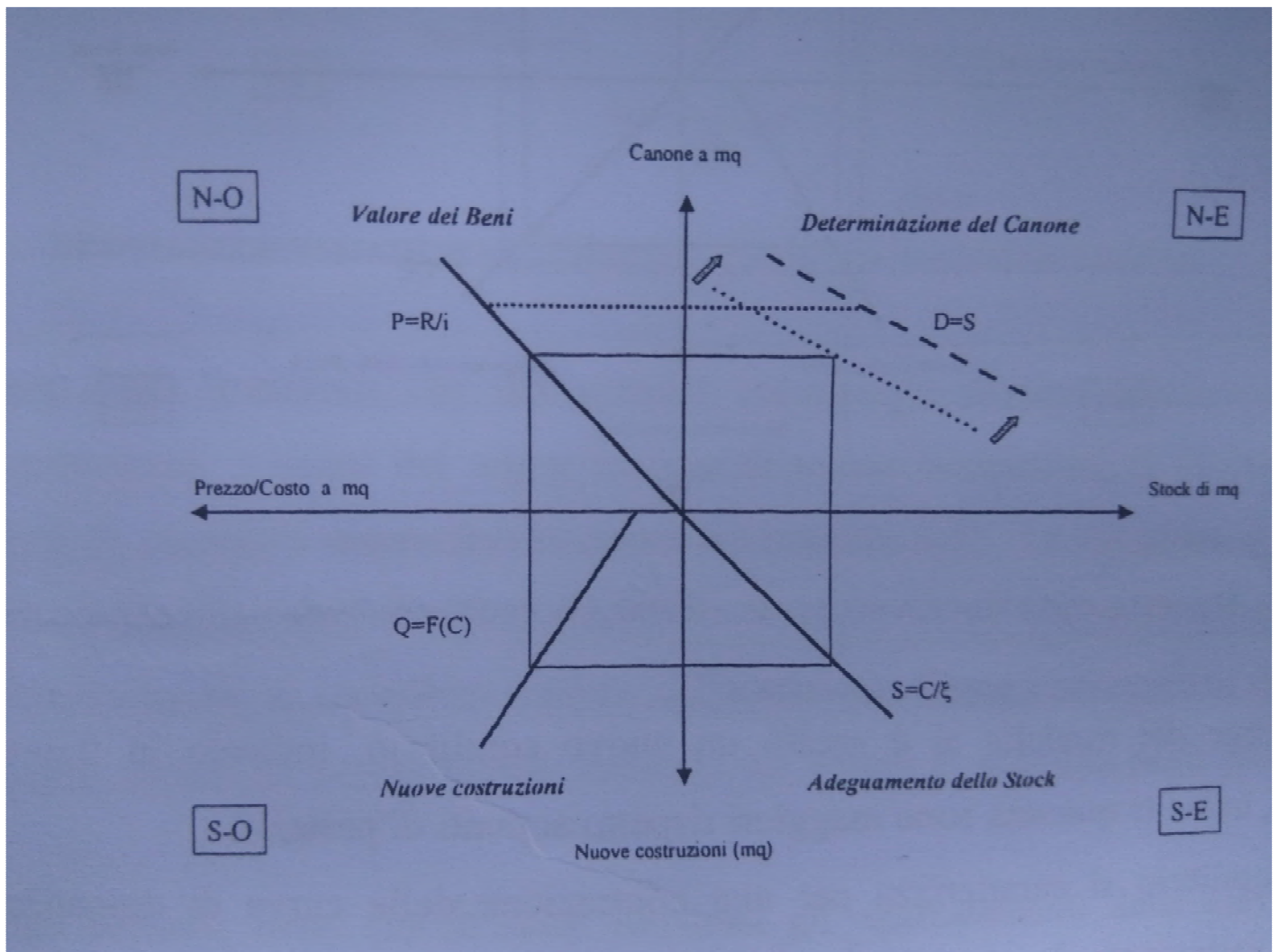
Figure 4, Microeconomic model, Source: Ferrero, Analisi finanziari: finanza delle operazioni immobiliari

The variables that impact the model are economic growth (or recession) and changes in interest rate or taxes. Economic growth cause a rise in the demand for space: rent increase, value of buildings increase and in medium term the stock of m² rises. A recession has the opposite effect. A reduction in interest rates decreases the yield that discounts the asset value. Graphically it implies a rotation to the left of the curve of assets value, with a consequent boost in price. That stimulates new construction and it lift the stock of m² in the medium-long term, followed by a decrease in rent.

A change in regulation that cuts the tax rate has the same effect, because it affects directly the price of assets. An additional variable could be a destruction of the stock of m², given for example by a natural disaster. It causes the increase of rent and values, so new construction projects are undertaken.

The magnitude of these changes depends by the curves elasticities, which depends by location and destination of use. For example the demand for luxury housing is inelastic respect to the demand for residential in periphery, but the same is not valid for a firm, which is very sensitive to price changes in every location.

In conclusion, every economic model is a simplification of reality. The market is more complex: a recession is normally coupled with public policies that cuts the cost of capital, and actually, this is what the European Central Bank did recently. It is difficult to quantify the effect of both variables on the market. However, this model remain a powerful tool to identify a process in the market and to identify the effects of macroeconomic changes on the market. The model also introduces the concept of market cycles, which will be explained in the next paragraph.

The real estate cycle

We identified the main cause of cyclicality in the market: the lagged supply and demand for physical space. However, we haven't described the mechanism of a real estate cycle. Every cycle differs in term of geographic location and length. These cycles are not regular and neither predictable. They are linked to the real economy, so when GDP is in expansion real estate is in expansion and when economy is in recession real estate activity is decreasing. A cycle consists in four phases: recovery, expansion, hyper-supply and recession (figure 5).

Recovery phase starts when the market has reached its bottom (point 1 of the figure): at that point, the supply from the previous cycle stops. Demand then starts to absorb the excess supply and vacancy rates decline. Once excess space is absorbed (this is measured by a fall in vacancy rate), rent begin to increase. The optimistic expectations of owners contribute to rents rise, until rental growth rate reach the level of inflation (point 6).

Here it starts the expansion phase: demand growth continue to increase, until the occupancy rate reach long term average. That means supply is tightening in the market, and when operators realize that, rents increase rapidly (and so does assets value). Constructors start new edifices and supply starts to rise. Until demand growth is greater than supply growth, occupancy rates increase. Once demand and supply growth match, the market reaches its equilibrium (point 11).

The hyper-supply phase starts when supply grows more than demand. At that point, occupancy rates fall below long-term average and new buildings begin to compete for tenants, so rent growth slows down. It is still positive, but declining. Then participants could understand that market turned down and stop constructing, or not.

In that case, new supply would grow much faster than demand, and cause the last phase of cycle: the recession (point 13). The magnitude of the crisis depends on the gap between supply and demand growths. Rental growth reaches the inflation. Then owners start to compete on price to capture tenants: market rent decline until it reaches marginal cost, which are operating expenses plus costs to recruit tenants. The cycle reaches its bottom when constructions stop.
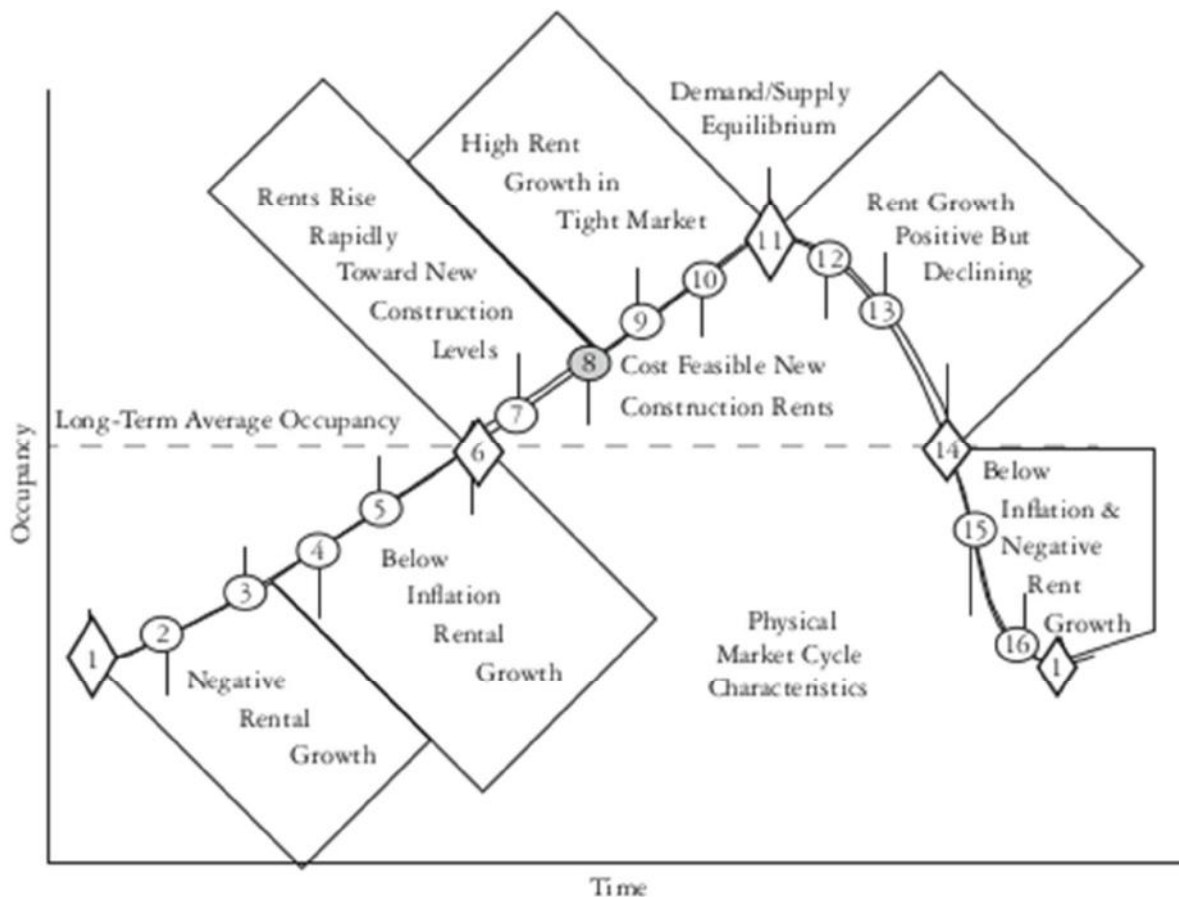
Figure 5, The real estate cycle, Source: Baker and Chinloy, Private real estate markets and investments

The implication for investors is simple: buy at the bottom of the cycle and sell at peak. Theoretically, it is true. Successful investment strategies identify when the market is in recovery and found a buyer before the downturn. However, cycles are quite long. Brown and Liu (*A global perspective on real estate cycles*, 2001), using data from International Property Databank, found that their length is from 4 to 12 years. Therefore, an investor who operates only in its national market is constrained to wait for a long period before finalizing a deal. It would be useful for international investment strategies to verify if some markets behave similarly. Goetzmann and Wachter (*The global real estate crash: evidence from an international database*, 2001) investigate the behavior of office markets of 21 countries. Data are from the International Commercial Property Associates. Countries are Australia, Belgium, Canada, Denmark, Finland, France, Germany, Holland, Hong Kong, Ireland, Italy, Malaysia, Norway, Singapore, Portugal, Sweden, Spain, Switzerland, Taiwan, UK and US. They grouped means and standard

deviations of historical returns and they found 7 clusters that behave similarly. A cluster contains Belgium, Denmark, France, Germany, Holland, Ireland, Italy and Portugal. Another one Canada and US. All four Asian countries (Hong Kong, Singapore, Taiwan and Malaysia) split in 4 different clusters. Last group contains Australia, Finland, Spain, Sweden, Norway, Switzerland and UK. The research did not took in consideration major Asian economies like China or India because of the scarcity of data available for those locations. Moreover, Europe is divided in two different clusters. Even some members of Euro-area belong to two different groups. The reason is that at the time of the research, European economies were not converging at the same rate like when they adopted euro. However, the research show that countries with similar economies have also similarities in real estate cycles, and international real estate operators should keep that in mind when formulating an investment decision.

CHAPTER 2: ITALIAN REAL ESTATE MARKET OUTLOOK

Macroeconomic outlook

Italian economy is experiencing a slow but steady growth after a severe recession period. GDP grew of 1% in 2016 at it is expected to continue at this pace, with internal demand as the main driver of recovery.

The increase in households disposable income (1,9% respect to 2015) and labor market improvements had a positive effect on private consumption, despite the steadiness of employment growth rate, which remains at the same levels of 2015 (0,6%).

The investments continue to increase (2,7% in 2016, respect to the 0,6% of previous year), due to the incentives provided by recent Stability Laws, but constraints on the availability of bank credit impede a faster recovery. Italy is still a net importer.

The new government renewed its commitment to fiscal consolidation and structural reforms. To generate the fiscal space for a necessary increase in public investment and avoid a surge in indirect taxes in 2017, it plans to use EU budget flexibility rules and to contain public spending. Debt/GDP is stable and should decrease from next year.

Current inflation remains weak, due to low energy price and EU monetary policies. Change in prices stands at 0,2%, according to the *Harmonized index of consumer prices* (0,8% excluding food, energy, alcohol and tobacco). Analyst consensus has confidence in a modest inflation growth in the upcoming year.

The investments fall during the crisis worsened the main issue in Italian economy: the long-term labor productivity slowdown. To raise productivity, the government has to accelerate the resolution of non-performing loans in the banking system, to improve the efficiency of public expenditure through a better management of public infrastructure projects and a rationalization of public administration, and to reinforce private firms' dynamism and innovation.

Figure 6, GDP of Italy, Source: Tradingeconomics

	2014	2015	2016	2017	Fourth quarter 2015	2016	2017
	Current prices EUR billion	Percentage changes from previous year, volume (2010 prices)					
GDP at market prices	1 612.9	0.6	1.0	1.4	1.1	1.2	1.3
Private consumption	989.5	0.9	1.3	1.3	1.3	1.3	1.3
Government consumption	312.6	-0.7	0.6	-0.2	-0.2	0.1	-0.5
Gross fixed investment	267.9	0.6	2.7	3.7	1.6	3.3	3.9
Final domestic demand	1 569.9	0.5	1.4	1.4	1.0	1.4	1.4
Stockbuilding[1]	- 3.8	0.5	-0.2	0.0			
Total domestic demand	1 566.1	1.0	1.2	1.4	1.7	1.4	1.4
Exports of goods and services	476.1	4.1	2.1	3.8	2.6	2.8	4.1
Imports of goods and services	429.3	5.8	3.2	4.3	5.4	3.6	4.7
Net exports[1]	46.8	-0.3	-0.2	0.0			

Note: Detailed quarterly projections are reported for the major seven countries, the euro area and the total OECD in the Statistical Annex.
1. Contributions to changes in real GDP, actual amount in the first column.
Source: OECD Economic Outlook 99 database.

	2013	2014	2015	2016	2017
Employment[1]	-1.8	0.1	0.6	0.6	0.9
Unemployment rate[1,2]	12.1	12.6	11.9	11.3	10.8
Compensation of employee[3]	0.8	0.2	0.9	0.9	1.0
Unit labour cost	0.8	0.7	1.1	0.9	0.4
Household disposable income	0.4	0.1	0.9	1.9	2.0
GDP deflator	1.2	0.8	0.8	0.7	0.9
Harmonised index of consumer prices	1.2	0.2	0.1	0.2	0.9
Core harmonised index of consumer prices[4]	1.2	0.7	0.7	0.8	0.9
Private consumption deflator	1.2	0.2	0.1	0.2	0.8

1. Data for whole economy employment are from the national accounts. These data include an estimate made by Istat for employment in the underground economy. Total employment according to the national accounts is higher than labour force survey data indicate, by approximately 2 million or about 10%. The unemployment rate is calculated relative to labour force survey data.
2. As a percentage of labour force.
3. In the total economy.
4. Harmonised index of consumer prices excluding food, energy, alcohol and tobacco.
Source: OECD Economic Outlook 99 database.

	2013	2014	2015	2016	2017
Household saving ratio, net[1]	3.5	3.0	2.9	3.3	3.1
General government financial balance[2]	-2.9	-3.0	-2.6	-2.3	-2.0
General government gross debt[2]	145.5	159.1	160.2	160.3	159.4
General government debt, Maastricht definition[2]	129.0	132.4	132.8	132.8	131.9
Current account balance[2]	0.9	1.8	2.2	2.1	2.2
Short-term interest rate[3]	0.2	0.2	0.0	-0.2	-0.3
Long-term interest rate[4]	4.3	2.9	1.7	1.5	1.5

1. Net saving as a percentage of net disposable income. Includes "famiglie produttrici".
2. As a percentage of GDP. These figures are national accounts basis; they differ by 0.1% from the frequently quoted Excessive Deficit Procedure figures.
3. 3-month interbank rate.
4. 10-year government bonds.
Source: OECD Economic Outlook 99 database.

Figure 7, Macroeconomic aggregators, Source: OECD Economic Outlook 2016 (2017 data are forecasted)

Real household purchasing power is driving private consumption higher

Index 2010=100

- Real private consumption
- Net real household disposable income

Price inflation remains low

Y-o-y % changes

- Core inflation¹
- Headline inflation²
- Producer price inflation³

1. All items less food and energy.
2. Headline refers to the harmonised index of consumer prices and core excludes food, energy, alcohol and tobacco.
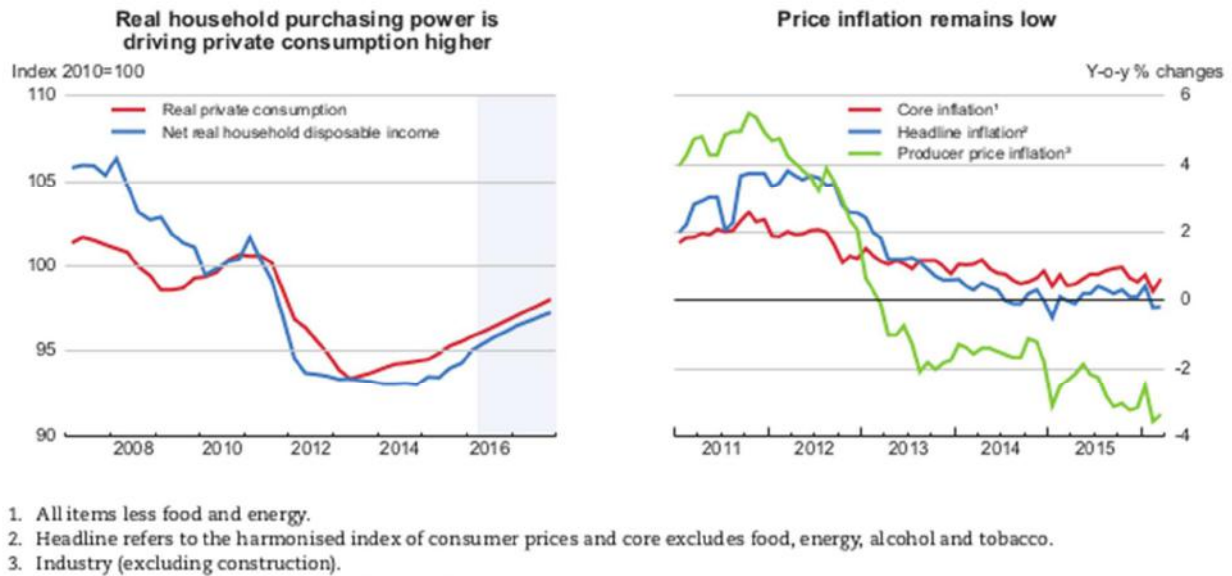3. Industry (excluding construction).

Figure 8, Households purchasing power and price inflation, Source: OECD Economic Outlook 2016

In summary, the main macroeconomic aggregators highlight that the country is in a recovery phase. A private investor has to analyze the opportunities and the risks to do business in such environment. The positive factors for the investment are the rising consumer confidence and the low interbank interest rates, which decrease the cost of capital for firms. The issues are the limits in the lending capacity of financial institutions and the stagnation of labor productivity, which still lags beyond European larger economies.

Residential sector

Real estate transactions

To measure the dynamic of the market, *Osservatorio del Mercato Immobiliare*, a public agency which monitor the market since 2004, developed an index called NTN (Number of Normalized Transactions). This index measure the market volumes, which are the number of real estate units exchanged in a given period (normally on a quarterly, semiannual or annual basis). Its components are transactions weighted for the relative share on property rights, which means that if a 50% share on a property is sold, NTN index increases by 0,5.

Real estate market experienced a significant growth in 2016, when 1.141.012 NTN were traded: around 177 thousands more than 2015, for an overall increase of 18,4%. Every sector shows a positive trend: residential units sold were 18,9% more than the year before, offices 12,5%, commercial 16,6%, industrial 22,1%, appurtenances 19,2% and other real estate not included in previous types 14,8%.

NTN	I trim 2016	II trim 2016	III trim 2016	IV trim 2016	Anno 2016
Residenziale	115.194	143.298	123.476	146.896	528.865
Terziario	2.025	2.413	2.510	3.000	9.946
Commerciale	6.776	7.598	7.188	9.024	30.586
Produttivo	2.121	2.897	2.565	3.704	11.287
Pertinenze	87.554	110.015	94.007	119.427	411.003
Altro	30.828	38.687	35.719	44.090	149.324
Totale	244.498	304.908	265.465	326.141	1.141.012

Var %	I trim 15-16	II trim 15-16	III trim 15-16	IV trim 15-16	Anno 15-16
Residenziale	20,7%	23,0%	17,5%	15,2%	18,9%
Terziario	1,4%	14,9%	31,2%	5,9%	12,5%
Commerciale	14,5%	13,0%	23,4%	16,2%	16,6%
Produttivo	7,2%	28,8%	24,6%	25,4%	22,1%
Pertinenze	17,3%	23,3%	17,3%	18,4%	19,2%
Altro	8,5%	16,1%	18,4%	15,5%	14,8%
Totale	17,3%	21,9%	17,9%	16,4%	18,4%

Figure 9, Total NTN divided by destination of use, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

The table (figure 9) focuses only on 2015 and 2016. If we analyze a longer period, we can observe the historical trend of real estate transactions in Italy.

Graph below (figure 10) shows the yearly NTN, relatively to a base period, the first quarter 2004, where the NTN is 100. The subsequent NTN are a proportion of the base period.

Since the peak in the fourth quarter 2006, the market exhibit a prolonged bearish trend, interrupted by a small increase in last semester 2011. The bottom was reached in third semester 2013. Since then, volumes were only upward. The current NTN is 85,7% respect to base period, which means that the market is far from its full potential.

Figure 10, Total NTN respect to base year, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)
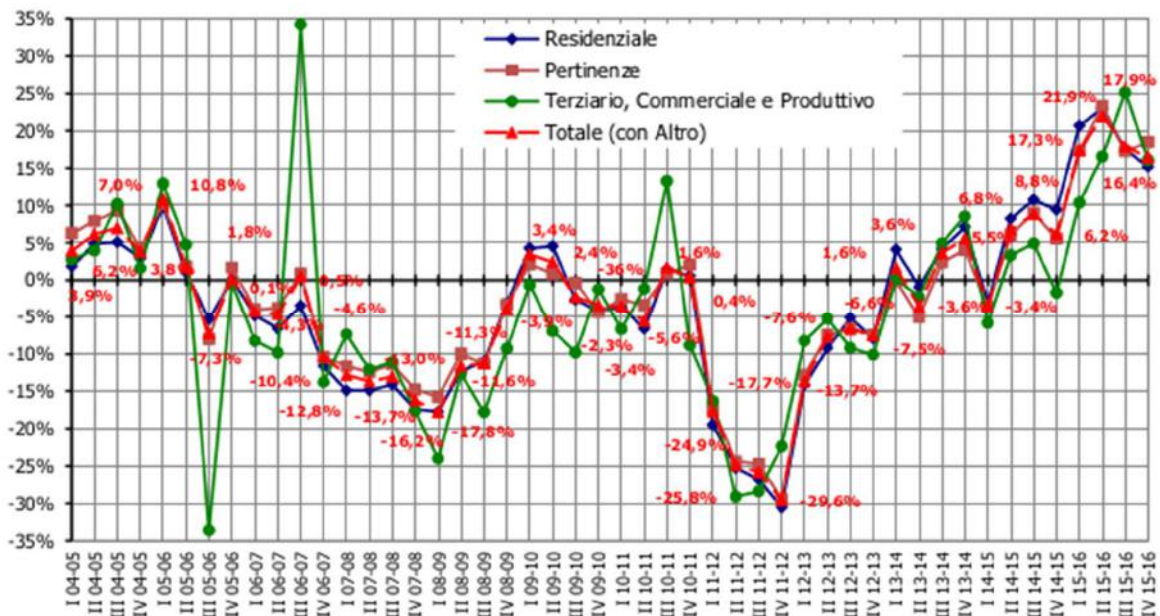
Figure 11, Total NTN yearly variations, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

Graph above (figure 35) shows the percentage NTN variations in every quarter since 2004. It is evident the negative trend from third semester 2006, interrupted by two positive variations in the first two quarters of 2010 and last two of 2011. The worst movements occurred concurrently to the 2008-2009 global financial crisis and the 2012 European sovereign debt crisis. The bottom was reached in the fourth quarter 2012 (-29,6%). The 2014 opened positively, with a negative variation in the second quarter, to finish with an upsurge. Once absorbed the

effects of the fiscal reform in the first quarter, 2015 ended with positive results, with the exception of non-residential sector. In 2016 the overall trend is bullish, with peaks in the second quarter for residential and third quarter for non-residential.

It is interesting to notice that the historical trend of real estate transactions is in line with the overall GDP movement. Therefore, as theorized before, real estate sector follows the economic development of a country.

The graph below (figure 36) indicates the residential sector trend for geographical areas (north, center and south), during 2014, 2015 and 2016. The general movement is bullish. As we can observe, the north register the highest number of transactions, with a pronounced upward slope. Center and south have a flatter pattern and together they do not reach the NTN in the north.

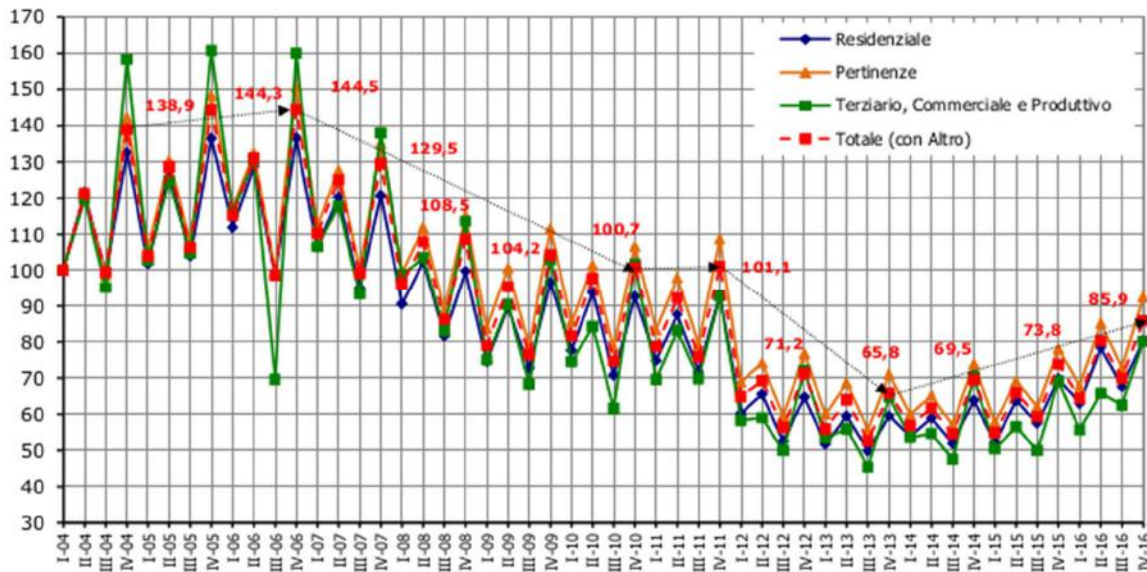*Figure 12, NTN by macro-areas, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)*

The long-term trend is displayed in the underlying charts (figure 13). Generally, the first graph is similar to figure 10. We can observe that the north line exacerbate the overall sector trend: when market is bearish the north show the smallest transaction number, when it's upward it is above the sector average.

Second graph follow the development of figure 11: two recession periods concurrently to the two financial crisis, with a final recovery, towed by north.

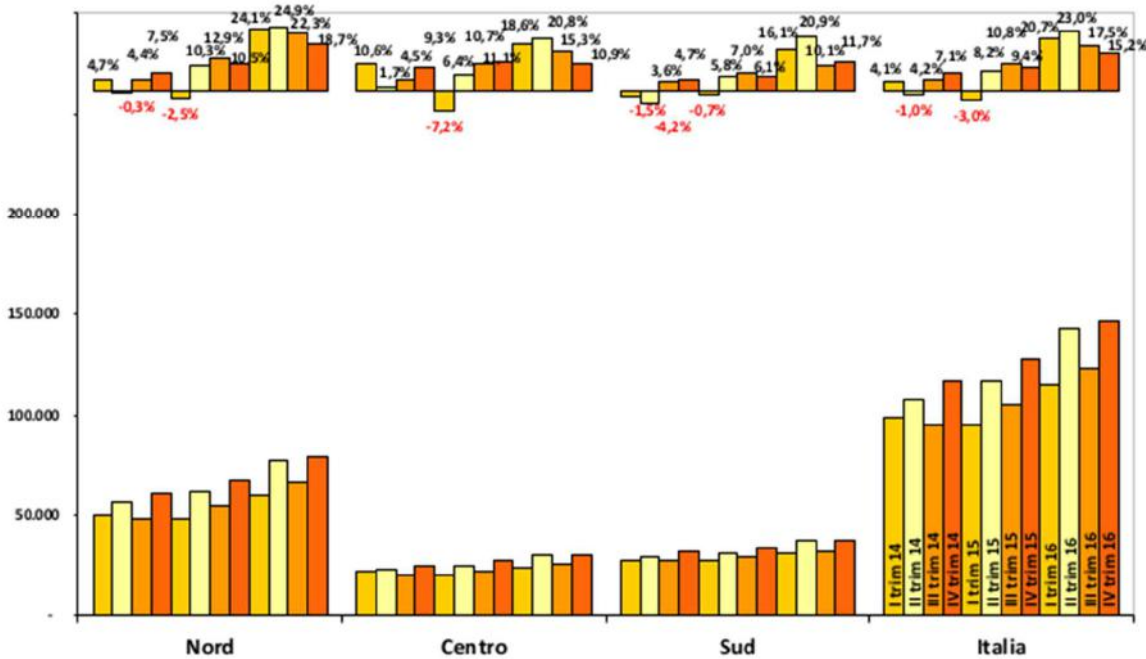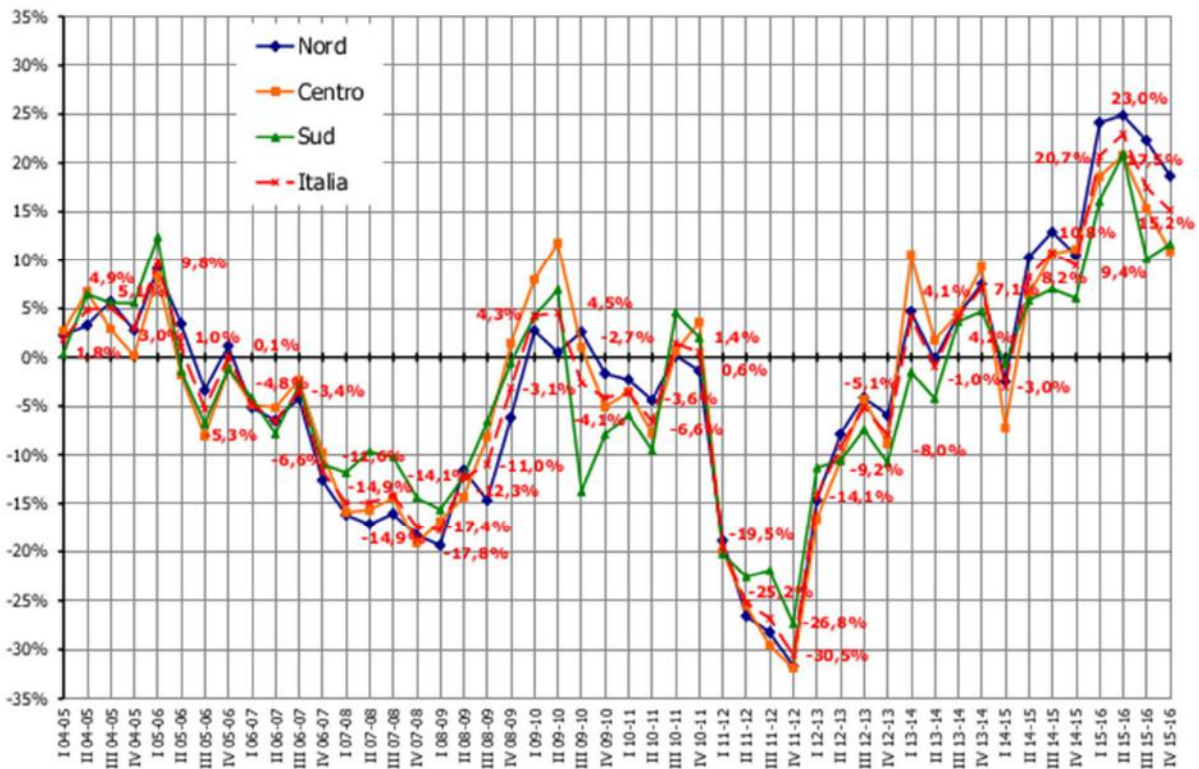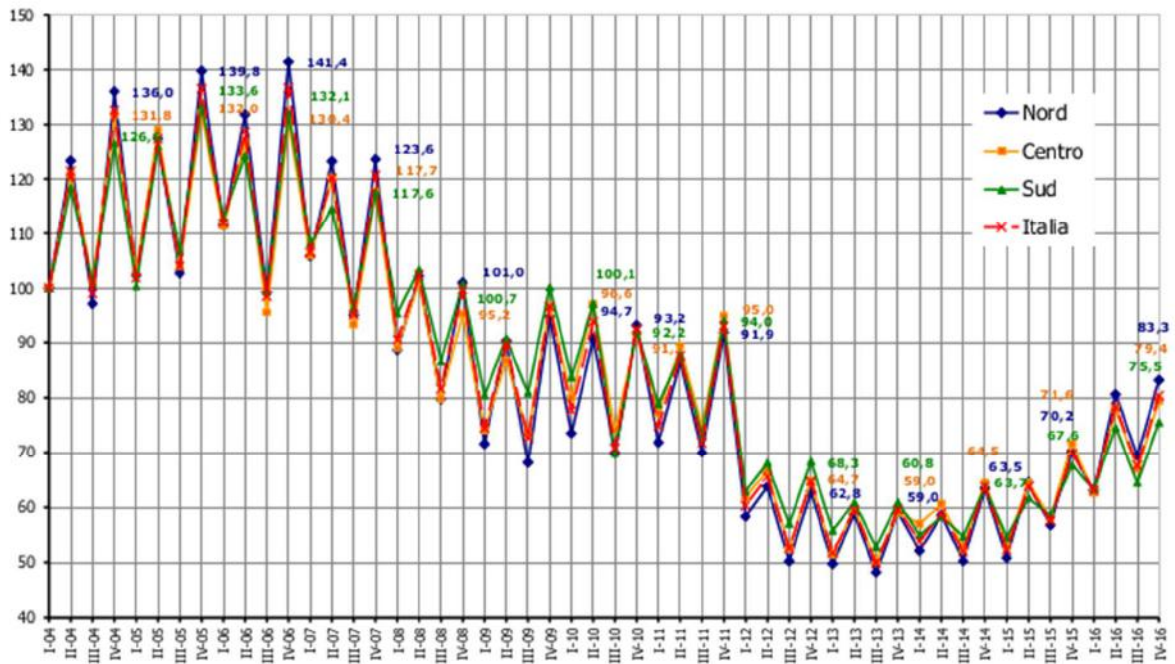*Figure 13, Total NTN by macro-areas respect to base year and yearly variations, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)*

The eight biggest cities by population confirm the residential sector upturn in 2016, with growth rates of 17,4% for cities and 20,9% for the underlying provinces. Total NTN are respectively 93.069 and 90.230. In the cities group, Turin achieve the best result, with a percentage increase of 26,4%. Above the average there are also Milan, Geneva and Bologna. Naples and Florence are just below the mean. Rome and Palermo obtained the worst results, respectively 10,6% and 9,2%, which underline the minor dynamism of these market. The provinces substantially confirm the cities results, with Turin and Palermo as maximum and minimum in variations (respectively 24,2% and 6,5%). The eight biggest cities and their underlying provinces represents more than 1/3 of the total residential transactions for 2016 (528.865).

Città	III trim 2016	IV trim 2016	Anno 2016	var % III trim 15-16	var % IV trim 15-16	var % Anno 15-16
ROMA	6.906	8.524	30.253	8,9%	8,7%	10,6%
MILANO	5.090	5.933	21.978	23,9%	10,4%	21,9%
TORINO	2.733	3.356	12.342	20,5%	25,2%	26,4%
GENOVA	1.581	1.755	6.631	25,1%	12,7%	22,9%
NAPOLI	1.404	1.873	6.714	2,5%	17,4%	17,1%
PALERMO	1.051	1.323	4.795	6,0%	11,7%	9,2%
BOLOGNA	1.262	1.496	5.568	21,5%	19,7%	23,7%
FIRENZE	1.105	1.236	4.788	13,3%	6,8%	16,0%
Totale città	**21.132**	**25.495**	**93.069**	**15,1%**	**12,6%**	**17,4%**

Resto Provincia	III trim 2016	IV trim 2016	Anno 2016	var % III trim 15-16	var % IV trim 15-16	var % Anno 15-16
ROMA	3.213	3.919	14.111	19,5%	16,9%	20,3%
MILANO	6.946	8.928	31.067	19,1%	21,5%	21,8%
TORINO	3.531	4.531	15.338	23,5%	25,1%	24,2%
GENOVA	746	865	3.109	19,2%	9,0%	20,0%
NAPOLI	2.334	2.819	10.283	25,1%	13,2%	19,8%
PALERMO	942	1.024	3.730	13,4%	4,7%	6,5%
BOLOGNA	1.549	1.956	6.800	15,2%	15,9%	19,0%
FIRENZE	1.389	1.587	5.792	31,4%	16,1%	24,1%
Totale resto provincia	**20.651**	**25.630**	**90.230**	**20,7%**	**18,4%**	**20,9%**

Figure 14, NTN of most populated cities and provinces, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

The chart below exhibit the historical trend of NTN in the first-tier cities (Rome and Milan), from 2004 to 2016. We can notice a prevalence of transactions in Rome respect to its province from 2012. The same occurs in Milan, with less relevance. In the previous period the opposite it's true: NTN was substantially higher in the province respect to the city.

The absolute values graph and the percentage increase follow the national trend: two sever downturns during crises and a subsequent rise.
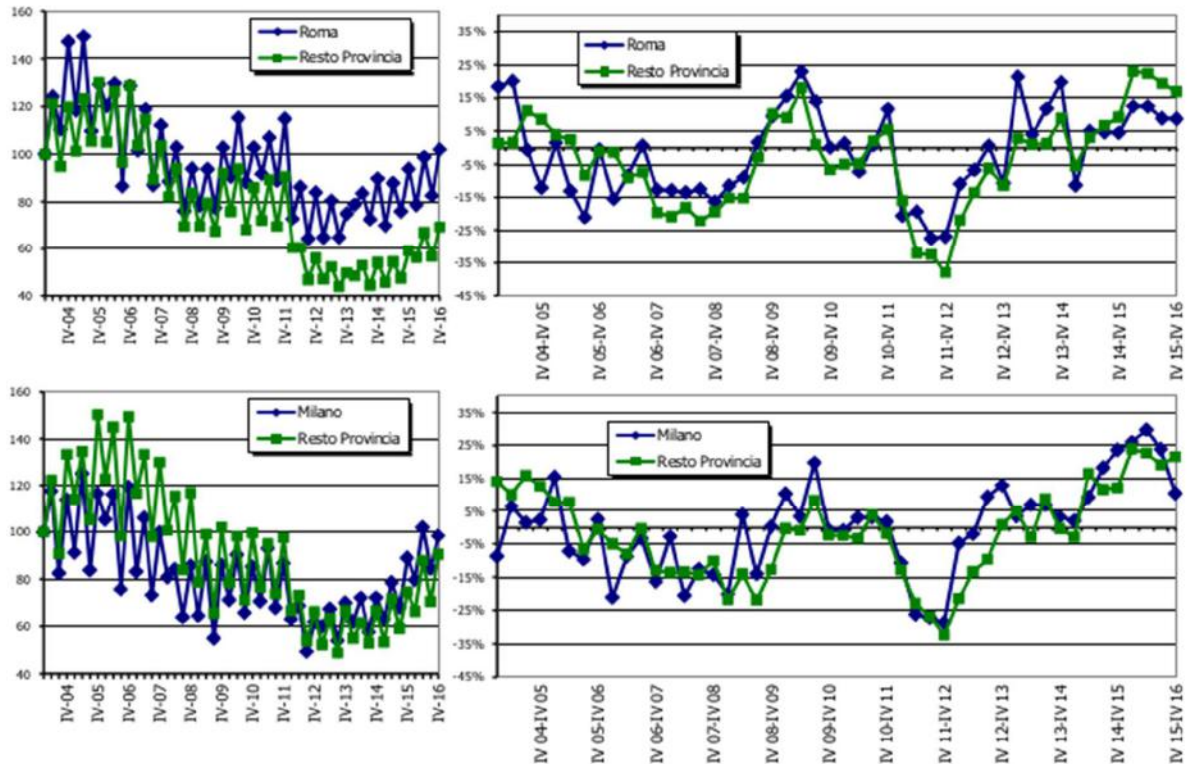
Figure 15, Total NTN respect to base year and yearly variations of first-tier cities and provinces, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

Residential mortgages

To measure the properties acquired with the help of a mortgage, *Osservatorio del Mercato Immobiliare* developed an index called NTN IP. The concept is the same of the NTN, but the index include the transactions of residential assets covered by a mortgage.

NTN IP displays a relevant increase from previous year (27,3%), with an incidence on the total transactions of 48,5%, respect to the 45,5% of 2015. The capital granted in 2016 was € 29.451 million, with a yearly increase of 27,8%. The interest payment on the first instalment decreased by 44 basis points and the first instalment amount declined by 4%. The average length of a mortgage remains unchanged from the last period (22,5).

ITALIA	2015	2016	2015-2016
NTN IP	193.350	246.182	27,3%
Capitale erogato totale (milioni €)	23.050	29.451	27,8%
Capitale medio per unità abitativa (migliaia €)	119,2	119,6	0,4%
Tasso interesse medio I rata[5]	2,75%	2,31%	-0,44
Durata media (anni)	22,5	22,5	0,00
Rata media iniziale (€)	592,0	568,3	-4,0%
Incidenza % su NTN PF	45,5%	48,5%	3,05

Figure 16, NTN IP and capital granted, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

The chart below (figure 41) exhibit the development of NTN IP and capital granted for mortgages since 2004, with a geographical division of the country. We observe that the number of assets bought through a mortgage declined from the half of 2006 to 2013, with two severe downturns correspondent to the two financial crises. During the last three years, the NTN IP just increased. The capital granted to buy residential assets follow the same path.
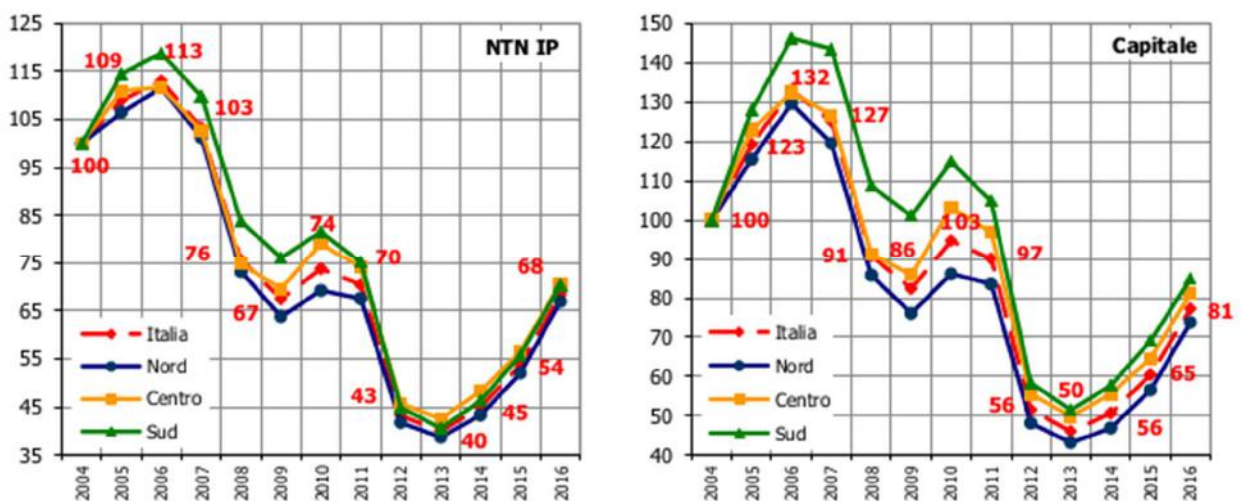
Figure 17, NTN IP and capital granted respect to base year, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

The table below (figure 42) show the NTN IP in the three macro-regions. The total transactions covered by a mortgage in 2016 are more in the north (142.087) respect to the south and center combined (53.317 and 50.779, respectively). Even the highest percentage increase is registered in the north (28,6%).

The NTN IP incidence on total residential transactions is higher in north and center (52,7% and 50,5%) than south (38,4%). The first instalment amount diminished with crescent prominence from south to north (-7% to -2,8%). The interest declined of 41 basis points in north and 47 in south and center and its value reflects the different risk profile of the areas.

The numbers show that the credit crunch is ending, mostly because of the renewed stability of the banking system. Bank accounts are healthier than the past, even if more work have to be done for speeding up the resolution of non-performing loans.

The residential market follow the trend of mortgage market. If more loans are granted, more houses will be bought and the market will increase its volumes. The amount of capital borrowed is a measure of the overall development of the financial market, which is directly linked to the residential market. If banking system is in recovery, it means that also residential market is in a growing phase.

| Nord	2015	2016	2015-2016
NTN IP	110.479	142.087	28,6%
Capitale erogato totale (milioni €)	13.064	17.031	30,4%
Capitale medio per unità abitativa (migliaia €)	118,2	119,9	1,4%
Tasso interesse medio I rata[4]	2,59%	2,18%	-0,41
Durata media (anni)	22,4	22,4	-0,01
Rata media iniziale (€)	579,4	563,4	-2,8%
Incidenza % su NTN PF	50,2%	52,7%	2,49
Centro	2015	2016	2015-2016
NTN IP	42.622	53.317	25,1%
Capitale erogato totale (milioni €)	5.744	7.207	25,5%
Capitale medio per unità abitativa (migliaia €)	134,8	135,2	0,3%
Tasso interesse medio I rata[4]	2,93%	2,46%	-0,47
Durata media (anni)	23,3	23,3	0,00
Rata media iniziale (€)	665,6	635,8	-4,5%
Incidenza % su NTN PF	47,2%	50,5%	3,26
Sud	2015	2016	2015-2016
NTN IP	40.250	50.779	26,2%
Capitale erogato totale (milioni €)	4.242	5.214	22,9%
Capitale medio per unità abitativa (migliaia €)	105,4	102,7	-2,6%
Tasso interesse medio I rata[4]	2,98%	2,51%	-0,47
Durata media (anni)	21,9	21,9	0,00
Rata media iniziale (€)	546,0	507,8	-7,0%
Incidenza % su NTN PF	35,0%	38,4%	3,41

Figure 18, NTN IP and capital granted by macro-areas, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

Prices in residential market

ISTAT, the public agency for the statistical research, publishes every semester an index of prices of residential properties called IPAB. The underlying chart (figure 43) displays the IPAB and the NTN variations respect to a base period (first semester 2004). Prices and transactions number increased until first semester 2006, when NTN started declining. Prices continued to grow until first semester 2008, and after they became flat. Meanwhile, volumes kept diminishing. From 2009 to first semester 2011, when NTN alternated low upsurges with a declining trend, prices remained stationary. Concomitantly with the crisis of sovereign debt (second semester 2011), which was the most severe for the sector, prices started to decline and volumes experienced a significant downturn. From second semester 2013 NTN began to rise slowly until first semester 2015. After it increased at faster pace. The prices pattern declined until second semester 2016, when a little improvement was achieved.
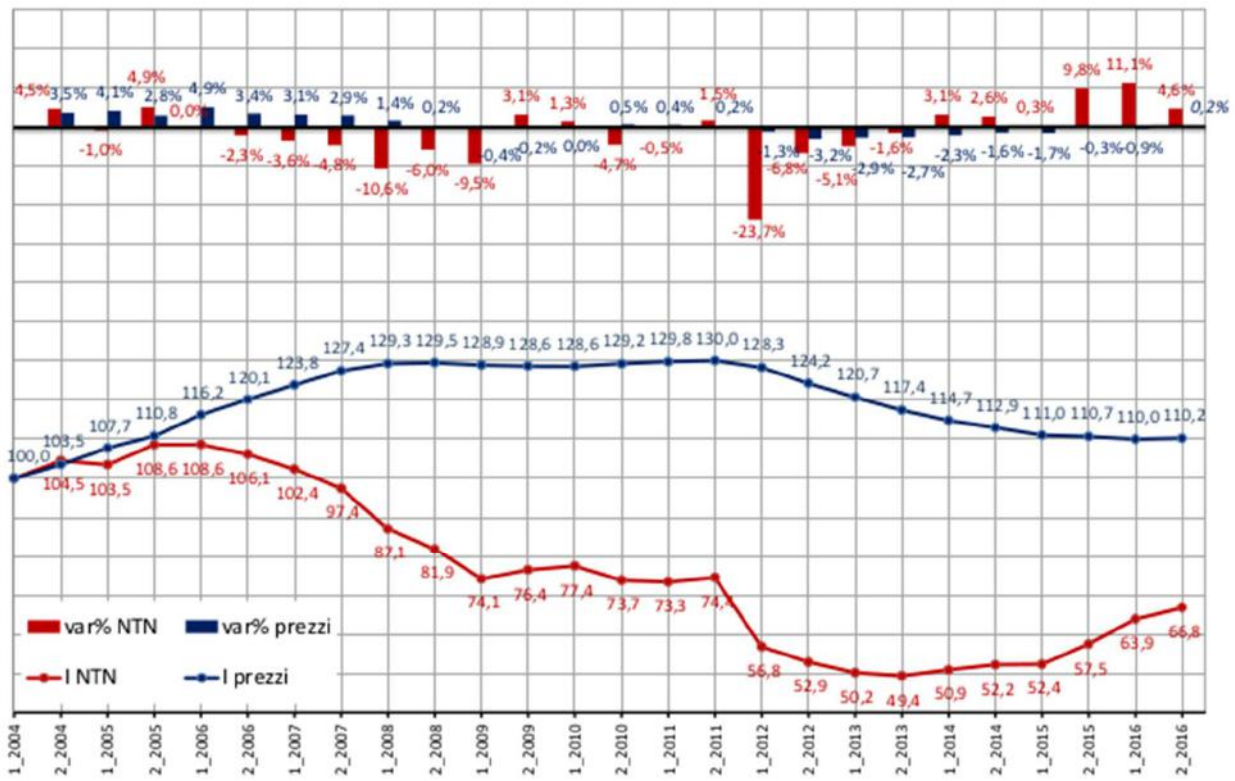
Figure 19, IPAB and NTN comparison, Source: Osservatorio del Mercato Immobiliare: quarterly report (real estate market developments in the IV quarter 2016 and annual synthesis)

The figure looks exactly like the typical real estate cycle. When the recession started, owners were reluctant to reduce prices. After the 2011 crisis, they became aware of the gravity of the situation and they lowered prices. Transaction volumes rose from the second half of 2013 with a crescent intensity. Prices reached the bottom in the first semester 2016, with a subsequent little increase over the next six months.

The motor in every market is demand. Traded volumes represent a good approximation of the demand in the market and they are rising. As mentioned before, mortgage market is in expansion and so it does the overall GDP trend. Real estate market, in particularly residential sector, is linked to both. The feeling is that we are in the recovery phase of the real estate cycle, where prices and traded volumes can only keep growing.

Osservatorio del Mercato Immobiliare developed with Bank of Italy and *Tecnoborsa* a quarterly survey to a sample of real estate agents, to have a complete view of the sentiment of the market. The results in January 2017 show an overall positive sentiment of market operators. Expectations about prices are confident. The percentage of agents that sold at least one property gets better (from 72,9% to 80,6%). Agents believe in a demand growth (the difference between positive and negative expectations doubled from last quarter). For the first time, the time to sell a property is reduced as so it does the discount on price (from 13% to 11,6%). LTV ratio increased by more than 10%. The percentage of agents who leased at least one property increases to 83,2%. The quota of operators who signal a contraction in rents continue to diminish (15,7%). The average discount on rent respect to the initial request decreases (5,2%). The feeling about a positive development of the national market doubled from last quarter and the belief of negative movements falls to 8,4%.

The most important part of the questionnaire, apart the general positive expectations, are the observations about rents. As we know, rents determine the value of properties: if they go up, asset prices go up. Professionals noticed the stop in rents decline. That means that prices can only ascend.

GDP is growing and so it does the mortgage market. Traded volumes are rising prominently. In addition, market operators feel optimistic about the future and rents are not diminishing. All the market indicators suggest that we are in the recovery phase of the cycle. Therefore, it is the right moment to invest.

Non-residential sector

The number of transactions, measured by the NTN index, is a good indicator of the general trend of residential sector. In fact, market players are households, which follow consumption needs rather than investment logic. The market is highly pulverized and transactions concern smaller amounts respect to other property types. Every deal is relatively similar, so the number of transactions, coupled with the development of the mortgage market, represent properly the situation in the market.

The latter is not true for non-residential sector, which is characterized by different amounts for each investment. Bigger transaction are more representative of the overall trend. Indeed, not transaction volumes, but investment volumes are a good predictor of market development. Here the market is composed by institutional investors, who adopt a professional approach to real estate investments.

Investments in 2016 reached € 9,1 billion, for an annual growth of 12%. The year was the best after 2007, where volumes almost reached € 10 billon. In particular,investments in fourth quarter 2016 were one of the highest ever (€ 4 billion). Graph below represents the evolutionof investments in non-residential sector by property type. We immediately notice that offices and retail account for the vast majority of 2016 volumes, both up from last year. Foreign investments are the majority (62%), but domestic capital is increasing: in 2016 it was equal to € 3,3 billion, 70% more than year before. Preferred investment style is core/core-plus respect to value add and opportunistic. A survey to investors developed from CBRE highlights that while in 2015 the 43% of investors chose core/core-plus, next year the figure increased to 54%.

Figure 20, Evolution of investment volumes in Italy by asset class, Source: CBRE, Real estate market outlook (Italy 2017)

The underlying figure displays the source of capital invested in Italy: € 2 billion from North America, € 1 billion from UK, € 1 billion from France, € 0,4 billion from the rest of Europe, € 0,42 billion from Asia, € 0,3 billion from middle east and € 3,3 billion from domestic players.
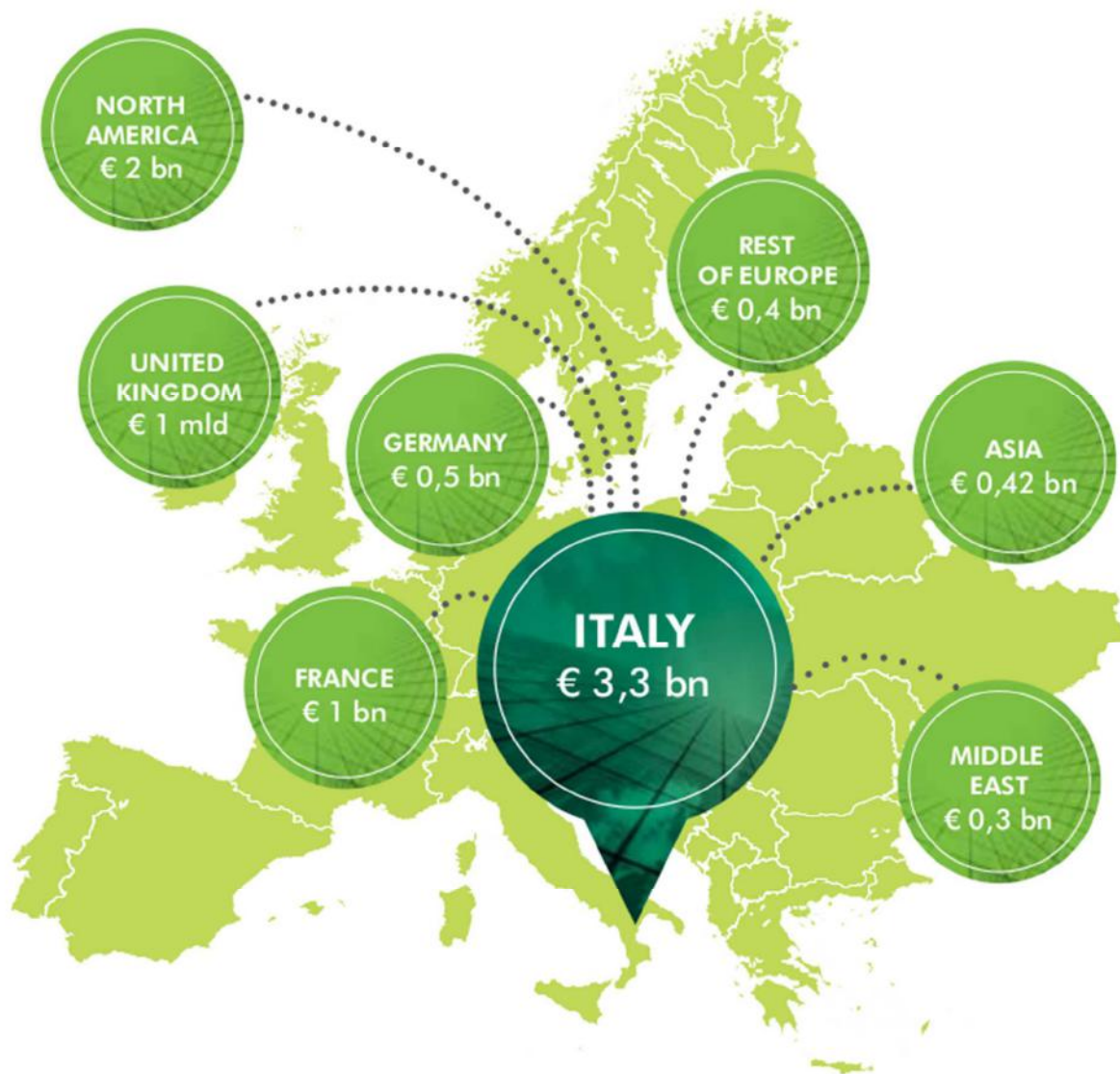

Figure 21, Real estate capital flows to Italy in 2016, Source: CBRE, Real estate market outlook (Italy 2017)

Yields are another relevant indicator. They are equal to NOI divided for purchase price. NOI (net operating income) is equal to rent minus operating costs. Rents do not show significant variations during time. What changes significantly is property value, which here is equal to its purchase price. Yields movements are mainly influenced by asset prices. Demand and supply in a given market affect the purchase price. In summary, when yields are low, properties are appreciating and, when yields increase, market is in downturn.

Figure below exhibit yields trend by property type from 2000. It is also made a comparison with the 10 years BTP returns. We notice that when the market reached its peak in 2007, yields touched their historical low. During the crises of 2008-2009 and (most of all) 2011-2012, yields got their maximum level. The 2016 was a record year for yields: the figure is lower than 2007 level for any asset class (-25 basis points for logistic, -85 for offices and -95 for high street), except shopping centers (+ 40 basis points). The spread with BTP return at the end of 2016 goes from the 143 basis points for high street to 443 for logistics, displaying the major attractiveness of real estate respect to bonds.
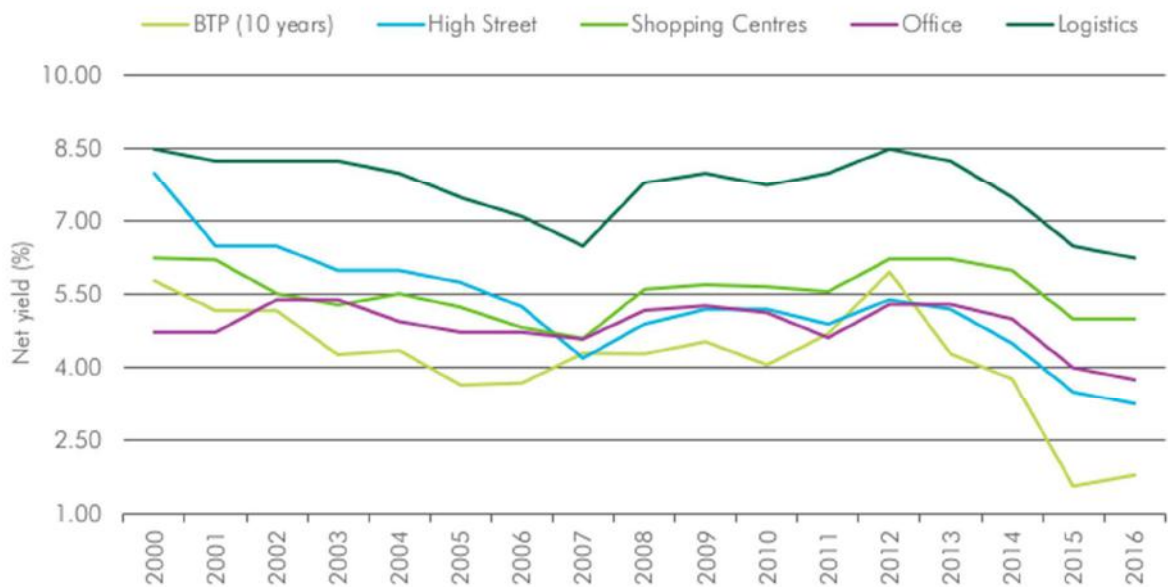
Figure 22, Prime net yields evolution per asset class, Source: CBRE, Real estate market outlook (Italy 2017)

We observe two main trends: the expansion of investment volumes and the compression of yields, mainly given by foreign competition. All signals highlight that market is in recovery. The liquidity brought from abroad (even if domestic capital is rising) drives the recovery, along with the major attractiveness of real estate respect to other asset classes. The 10 year BTP return ranged from 1,05% to 2,15% in 2016 and FTSE Mib decreased of 10,2%, due to uncertainty regarding the stability of national banking system. According to Alessandro Mazzanti, CEO of CBRE Italy, 2017 could be the best year ever, with more than € 10 billion of investments. All signals suggest that real estate market could reach its peak in 2017.

Obviously, every asset class follow different patterns. In the next paragraphs, we analyze trends and indicators of other property types: offices in first-tier cities, retail, logistics, hotels and alternative assets.

Office market in Milan

The recovery began in 2014 continues for the Milan office market. In the first quarter 2017, the take-up exceeded 110.000 Sq m, the highest result over 15 years, while the 2016 net absorption was 304.000 Sq m. The most dynamic areas are the central business district and Porta Nuova. The vacancy rate is slightly growing (12,3%), which means that despite the recovery, the quantity of supplied space is still minor than the quantity absorbed. The average rent is increasing: we register 520 €/Sq m (500 €/Sq m in Porta Nuova). Currently there are 269.000 Sq m under development. The 54% of them regard speculative projects. Refurbishments in prime location are also rising and they contribute to develop the quality of A level supply. Prime and secondary yields registered a contraction during the quarter. Now they are respectively at 3,5% and 5,25%. Investment volumes are € 491 million, for a 12% growth respect to Q1 2016. The principal operation of the quarter regarded the acquisition of Project All Stars (3 assets for a value of € 120 million) by Blackstone.
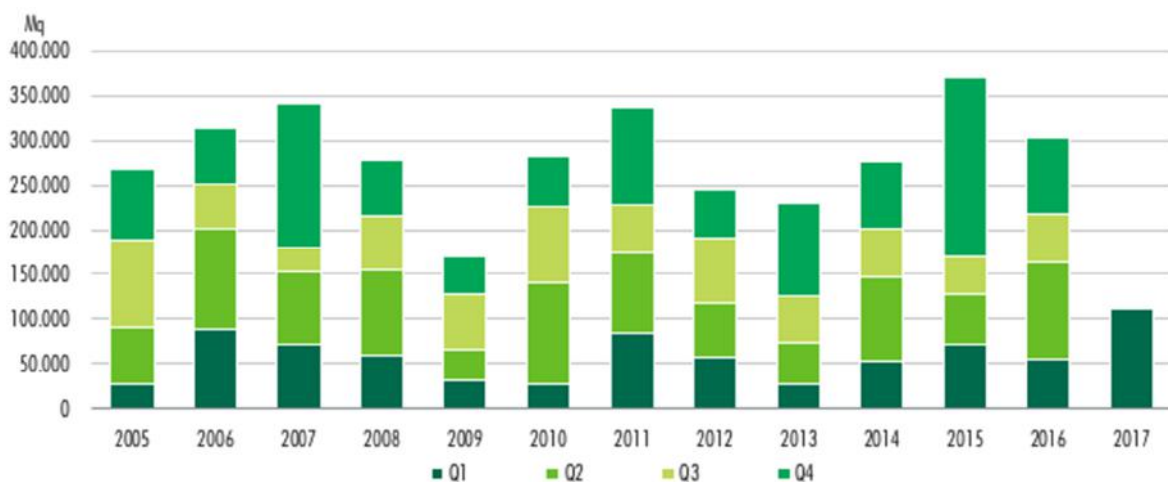
Figure 23, Quarterly evolution of net absorption in Milan, Source: CBRE, Milan offices (Q1 2017)
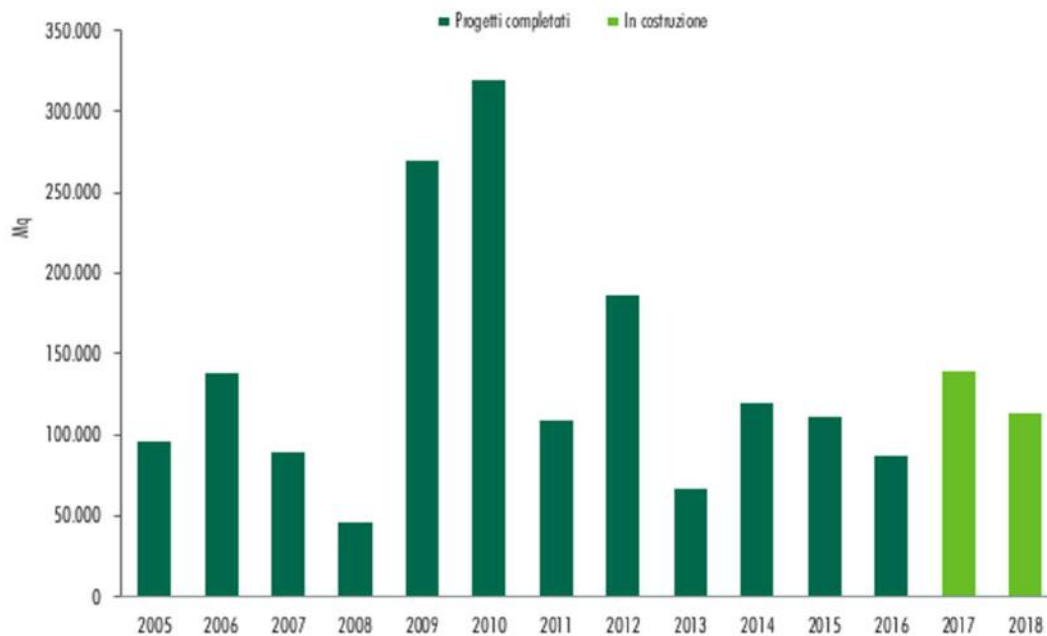
Figure 24, Projects completed and under development in Milan, Source: CBRE, Milan offices (Q1 2017)

	2016	Q1 2016	Q1 2017
Vacancy rate (%)	12,1	12	12,3
Take-up (.000 mq)	304	58,5	110,3
Nuovo stock (mq)	87,1	0	0
Prime rent (€ mq a)	500	490	520
Weighted Average rent (€ mq a)	263	272	319
Prime net yield (%)	3,75	4,00	3,50
Secondary net yield (%)	5,50	5,50	5,25
Volume di investimenti uffici (€ M)	2.285	438	491

Figure 25, Key indicators of Milan office sector, Source: CBRE, Milan offices (Q1 2017)
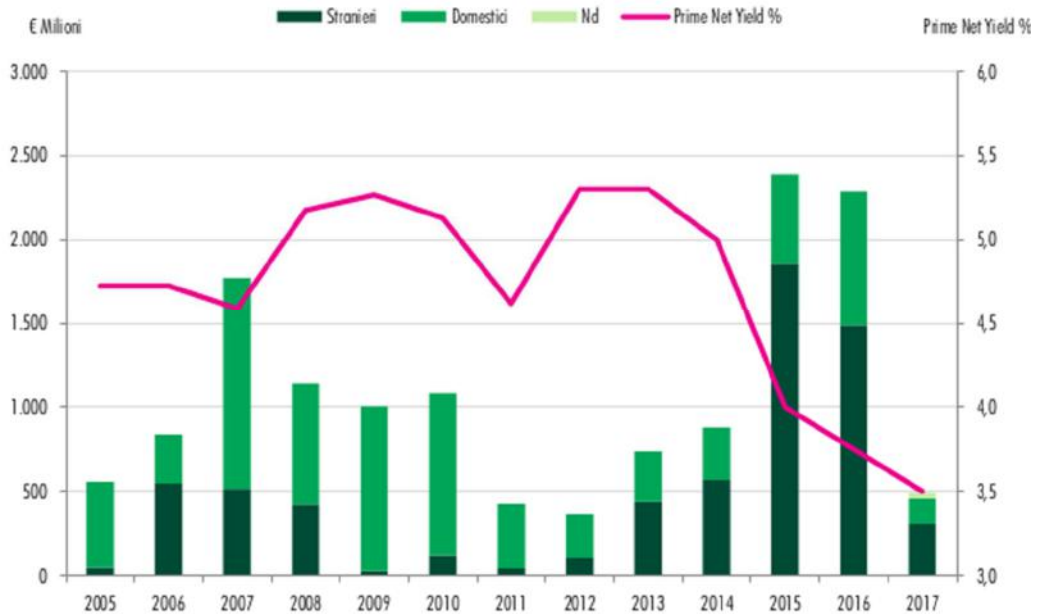
Figure 26, Investments evolution by source of capital and prime yields, Source: CBRE, Milan offices (Q1 2017)

Analyzing the main trends, rents are increasing because tenants compete for the most strategic and iconic locations. The competition is also on the other side: foreign investors raised the level of quality A products and they compete to acquire the best locations. The outcome is an increase in assets price and a fall in yields. While demand is expected to remain stable, project under construction will slightly grow in the short term and that could affect the market. Core investments are the most attractive for market players. In most cases, developers prefer to undertake a project once they found a user. However, due to the limited availability of quality A products, the interest for value add assets is increasing, showing an higher appetite for risk of investors.

Figure 27, Milan geographical division, Source: CBRE, Milan offices (Q1 2017)

Office market in Rome

The first quarter 2017 was positive also for the market of Rome. Net absorption was 53.439 Sq m, 26% higher respect to previous quarter and 241% more than Q1 2016, while take-up in 2016 was 150.300 Sq m. During the quarter, units absorbed were 33. Vacancy rate increased (12,1%). Therefore, supplied surface is higher than the absorbed one, but demand is growing. Rents are stable: 400 €/Sq m in the central business district and 330 €/Sq m in the EUR. Currently 150.000 Sq m are under development. Prime yields are stable (4%) and investments are slightly diminishing (€ 142,6 million, -15% respect to last quarter). Foreign capital accounts for the 63% of total volume, showing the interest of international investors for the city. The major operation of the quarter is the disposal of P&G headquarter in Europarco for € 80 million. The expectations for the near future are positive. The opening of line C should have a positive impact on the sector. One of the major problems of the city is the lack of adequate infrastructures, which slows the development of the city respect to its European counterparties.
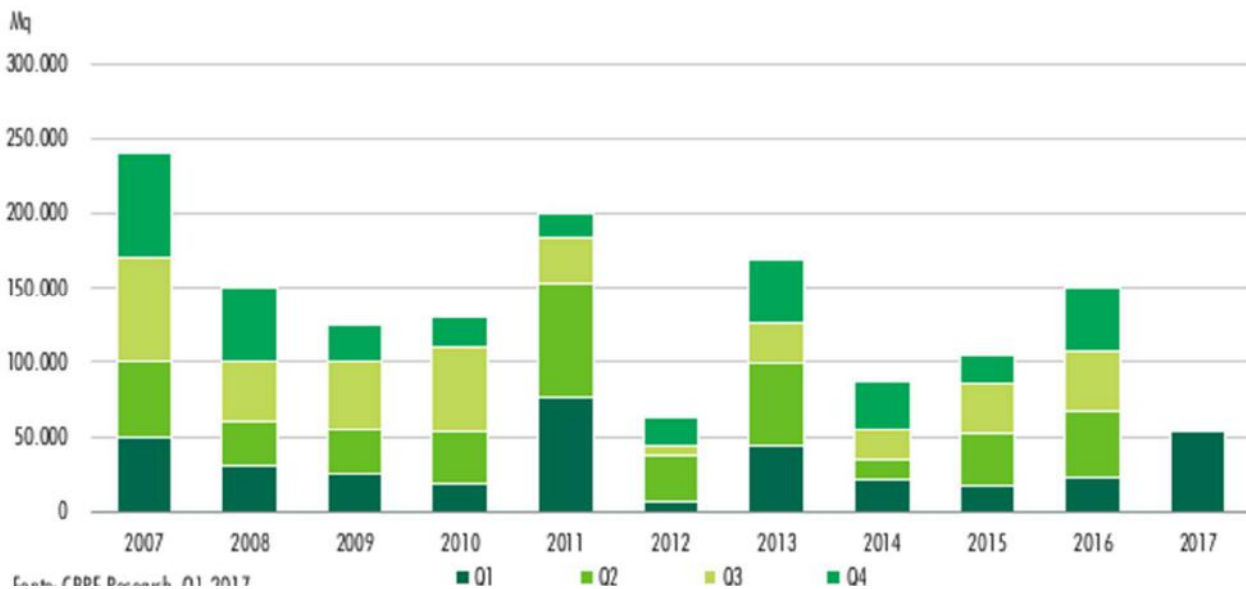
Figure 28, Quarterly evolution of net absorption in Rome, Source: CBRE, Rome offices (Q1 2017)

	2016	Q1 2016	Q1 2017
Stock (M mq)	7 (*)	7 (*)	12
Vacancy rate (%)	9	9	12.1
Take-up (.000 mq)	150,1	72,1	53,4
Prime rent CBD (€ mq anno)	400	380	400
Prime rent EUR (€ mq anno)	330	320	330
Prime net yield (%)	4,00	4,00	4,00
Volume di investimenti uffici (€ M)	719	396,5	142,6

*Dallo stock indicato è esclusa la superficie di proprietà del settore Pubblico.

Figure 29, Key indicators of Rome office sector, Source: CBRE, Rome offices (Q1 2017)
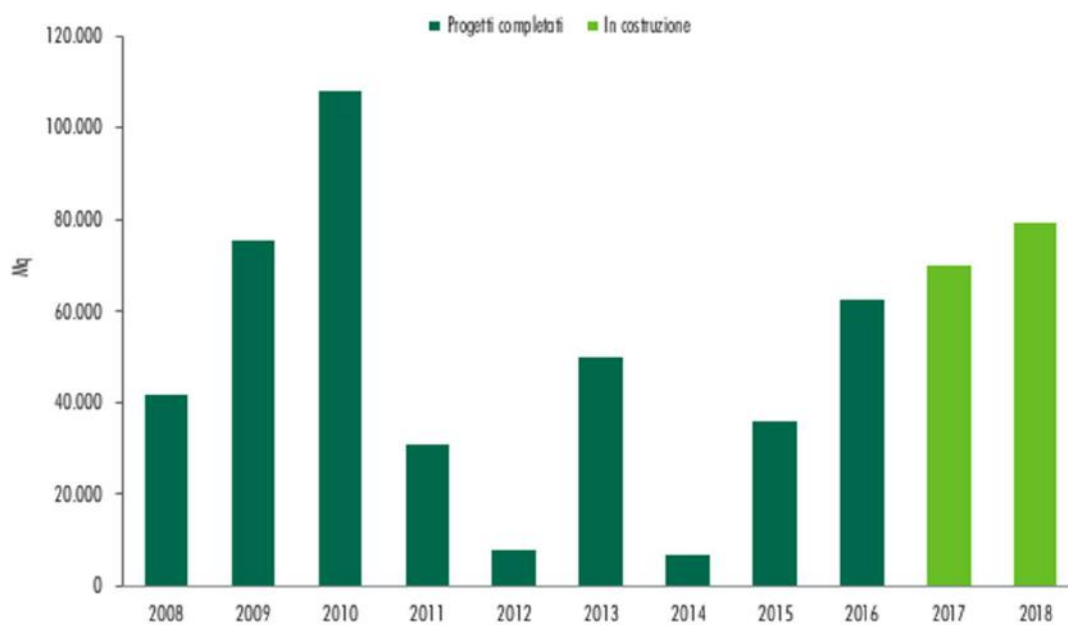
Figure 30, Projects completed and under development in Rome, Source: CBRE, Rome offices (Q1 2017)

Figure 31, Investments evolution by source of capital and prime yields, Source: CBRE, Rome offices (Q1 2017)
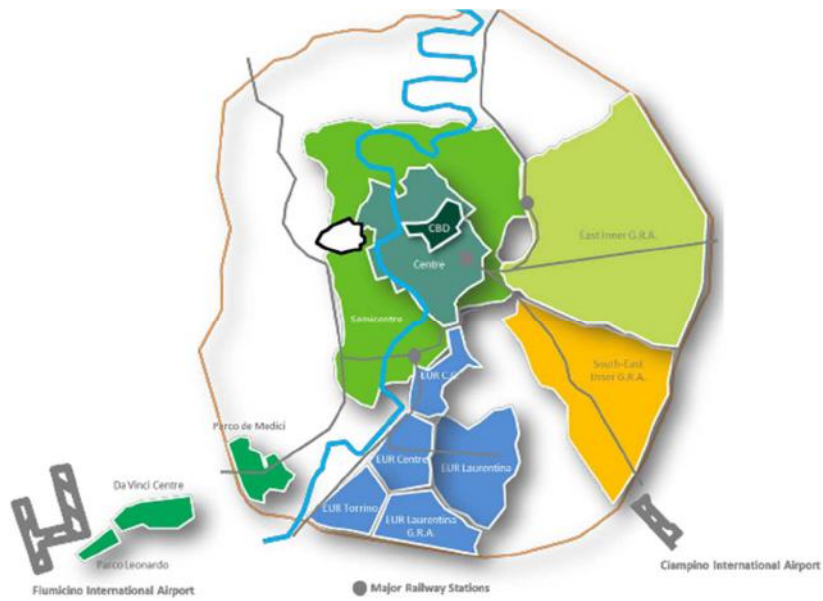
Figure 32, Rome geographical division, Source: CBRE, Rome offices (Q1 2017)

Retail market

During Q1 2017, the consumer index improved, as the number of retail sales. The expectations about consumption are positive and indicate that it should grow by 1% per year until 2020.

Currently there are 210.00 Sq m of GLA under construction. The figure is slightly down respect to 2016, which does not mean that a negative trend is began, but just that operators are more selective in their investment decision. Prime rents are stable in first-tier cities for both shopping centers and high street (respectively 900 €/Sq m and 6.000 €/Sq m in Milan). Yields are declining (3,15% for prime high street and 4,9% for prime shopping centers). High street remains the main target for international retailers. Investments in the first quarter (€ 445 million) declined respect to the same period of previous year (€ 570 million). High street accounts for the majority of investments (67% of total volumes). Shopping centers account for the 24% of volumes, retail box for the 5% and factory outlets centers for the remaining 4%. Last years were characterized by core/core-plus investors that targeted prime high street. Now professionals look with interest also second-tier cities.

Figure 33, New retail stock under construction (GLA>10.000 Sq m) and retail investment by format, Source: CBRE Retail (Q1 2017)
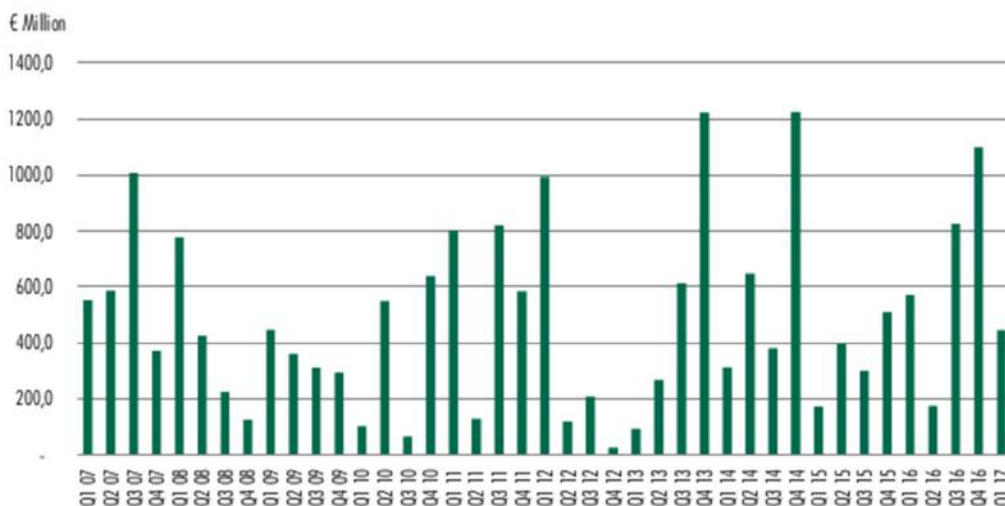
Figure 34, Evolution of retail investments in Italy, Source: CBRE Retail (Q1 2017)

Prospects for the future are very positive: during 2017 should be completed projects for around € 1 billion. The quarter saw the completion of the Torino Outlet Village in Turin and the Adigeo Shopping Centre in Verona. By the end of the year, the Maximo Mall in Rome, the City Life shopping district in Milan and the DeltaPo in Rovigo should be finished. In 2019-2020, the largest European mall developed by Westfield is expected to be operative. The market is mainly boosted by the high number of national retailers, who are willing to carve out a space in prime locations for branding purposes. They represent a guarantee for developers, who see their market risk going down. Also a relevant number of foreign brands should enter in the Italian market this year, which include Starbucks, Uniqlo, Under Armour, IsseyMiyake, Ted Baker, Coach, Jollibee and Tesla (already present in Milan, it should open a flagship store also in Rome).

Yields progressive contraction (even if at faster pace respect to other asset classes), coupled with positive consumption pattern, let think that the retail sector has good prospects in the near future.

Yields (%)	Q4 15	Q1 16	Q2 16	Q3 16	Q4 16	Q1 17
High Street Prime	3.50	3.50	3.50	3.50	3.25	3.15
High Street Secondary	5.00	5.00	5.00	5.00	4.75	4.75
Shopping Centre Prime	5.00	5.00	5.00	5.00	5.00	4.90
SC Good Secondary	6.00	6.00	6.00	6.00	5.90	5.90
Retail Park Prime	6.00	6.00	6.00	5.90	5.90	5.90
Retail Park Good Secondary	7.25	7.25	7.25	7.00	7.00	6.50

Figure 35, Net yields in retail sector, Source: CBRE Retail (Q1 2017)

Logistics market

New technologies and e-commerce are revolutionizing all the supply chain process. Consumers are habit to purchase goods on internet and receive it at home in few days. Some companies (so called 3PL) chose logistic as core business. Their goal is to minimize the distance between consumer and producer. These new players demand two types of assets: large warehouses near the major arteries of communication and small spaces close to urban areas for the delivery to the final consumer (so-called delivery of the last mile).

The positive momentum of the logistics sector continue through the first quarter of current year. The 2016 was the best year ever with a take-up of 1,4 million Sq m, and the average of 10 years was about 650.000 Sq m. The figures of Q1 2017 are even better: the net absorption was 385.850 Sq m, for an increase of 7,5% respect to last

quarter and 15,7% respect to the first quarter of last year. The quarter register 25 transactions: 21 pre-let agreements (where owner and tenant negotiate ex-ante the terms of contract) and 4 owner-occupied (the asset acquired has already an established tenant base). The majority of deals (60%) were built-to-suit, which means that the developer built the asset following the specifications of the user. It reflects the nature of the market: each product serves a specific use and it has to be tailored for the needs of the client. The majority of demand came from 3PLs, which account for over the half of the absorbed value. The most dynamic regions are in the North of the country. Lombardy covered the 60% of total absorption and Emilia-Romagna the 16%.
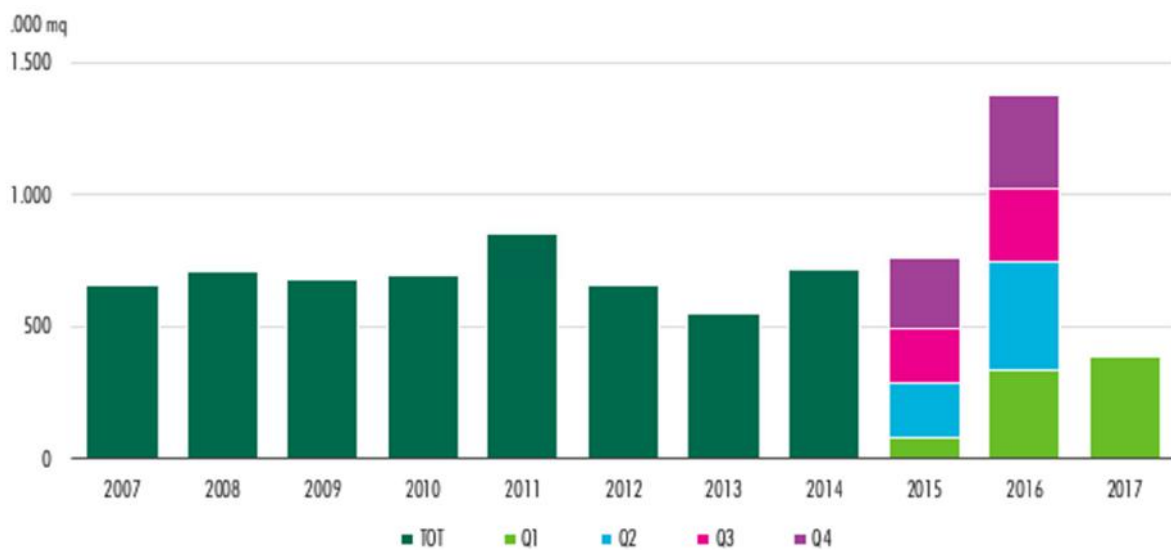
Figure 36, Quarterly evolution of logistics net absorption, Source: CBRE, logistics (Q1 2017)
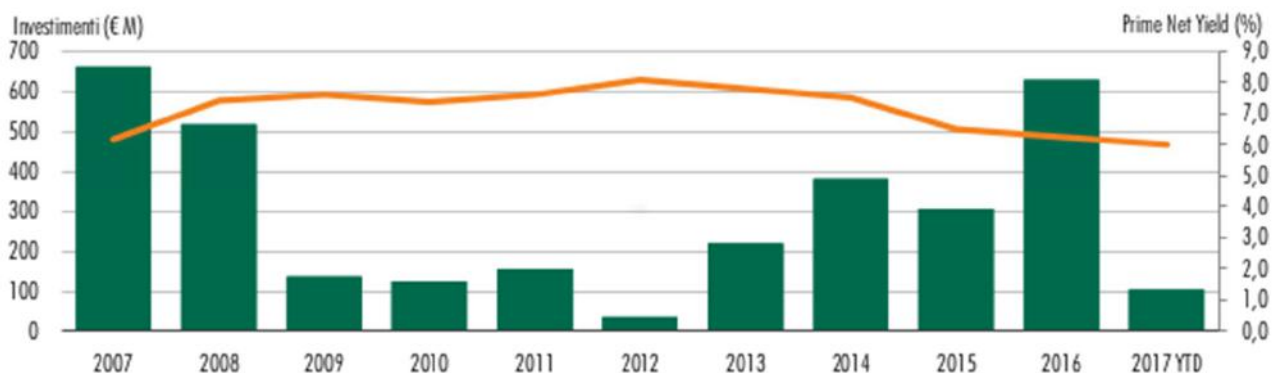
Figure 37, Investments evolution of logistics and prime yields, Source: CBRE, logistics (Q1 2017)

Preferred locations are the area around Milan, the Piacenza logistic hub, the Bologna interport for its strategic position (between North and Centre), the Verona eastern side, the area around Novara and Vercelli, the zones around Rome (Fiumicino, Pomezia, Fiano Romano, Colleferro) and the area surrounding Naples (in particular the Nola and Marcianise interport).

Prime rent increases in Milan (52 €/Sq m) and it isstable in Rome (52 €/Sq m). Secondary rent remainsunchanged from last year (40 €/Sq m). Prime yields slightly decreased, reaching 6%. Vacancy rate is diminishing (5,3%). Investment were € 103 million, far more than the €30 million of Q1 2016.

	Q4 2016	2016	Q1 2017
Vacancy rate (%)	5,5	5,5	5,3
Take-up (.000 mq)	358,9	1.383,7	385,8
Prime rent Milano (€ mq anno)	50	50	52
Secondary rent Italia (€ mq anno)	40	40	40
Prime rent Roma (€ mq anno)	52	52	52
Prime net yield (%)	6,25	6,25	6
Investimenti nel settore industriale-logistico (€ M)	397	628	103

Figure 38, Key indicators of logistics sector, Source: CBRE, logistics (Q1 2017)

Investment volumes confirm the strong demand of investors, mostly foreigners, which raise the competition. Strong competition causes falling yields, because assets are more expensive. The diminishing vacancy rate highlight that demand is strong and it keep growing. All the signals suggest that 2017 will be a good year for the logistics sector.

Hotel market

The touristic sector in Italy accounts for over 390 million bed nights per year, making the country the fifth most visited in the world, with the largest hotel accommodation capacity in Europe (1,1 million room per more than 33.000 hotels). The sector represents circa the 10% of overall GDP. The majority of operators are small and family-owned hotels. International brands are underrepresented. They account for almost the 4% of the total offer, so there is still space of growth. The main observable trend is the conversion of existing buildings into hotels and the increasing interest of investors for the luxury segment.

Investment volumes in 2016 were about the 15% of total real estate transactions (a substantial growth respect to 2007, where the share was 7%). The major deal was the acquisition of Una Hotel Portfolio by Unipol Sai Assicurazioni, subsequently merged with AtaHotels to create the biggest hotel chain in Italy. Other relevant transactions were the acquisition of Westin Excelsior and St. Regis in Florence by Nozul, the purchasing of Aldrovandi Villa Borghese Hotel in Rome by Dogus Group, the sale of Palazzina G in Venice to Relegance, the acquiring of Valtur resorts in Pila, Ostuni and Marilleva by Investindustrial.

For what concerns first-tier location, Rome recorded the repositioning and refurbishment of existing assets. Additionally, new luxury brands should target the Capital (Shangri La, Rosewood and W Hotel). Milan is experiencing an adjustment after the exceptional performance of 2015 due to Expo. While in the past the city was perceived only as a business destination, now it became also a leisure locality, mitigating the risk associated with fluctuations in the business calendar. New players should enter in the city luxury segment: W Hotel, Hotel Ferragamo, an undisclosed brand in Piazza Cordusio and other international brands (Edition by Marriot, Innside by Melià and Indigo by Intercontinental Hotel Group). Venice is the most resilient destination: during 2016 the ADR was the highest of the country. The city is also the most developed in the luxury segment. The performance of the sector is seasonal, due to the Biennale Arte event. The following year will see the refurbishment of the Hotel Excelsior e Des Boins in Lido and Westin Europa & Regina in S. Marco. Operators are also starting to explore less central locations. Florence performance recorded an upturn since the opening of Four Seasons. Other relevant trends are the conversion of existing buildings (Paolino) and the extension and rebranding of historic hotels (Helvetia & Bristol by Starhotels).

2016	OCCUPANCY (%)	ADR (€)	REVPAR (€)	CHANGE* ('16-'15)	CAGR* (last 5-yr)
PRIMARY MARKETS					
Venice	70%	225	156	- 4%	8.14%
Florence	70%	134	94	+1%	5.77%
Rome	72%	162	117	+8%	4.91%
Milan	64%	141	91	- 19%	3.95%
SECONDARY MARKETS					
Turin	64%	92	59	+2%	3.57%
Catania	75%	80	60	+11%	7.76%
Bologna	60%	89	54	+12%	8.27%
Genoa	66%	88	58	+12%	6.20%
Bergamo	69%	73	51	- 2%	2.53%
Naples	80%	75	60	+ 18	7.69%
Padua	70%	58	41	+9%	8.34%
Verona	71%	57	41	+19%	5.86%
Brescia	53%	64	34	+10%	5.02%

Figure 39, Hotel sector key indicators in 2016, Source: CBRE, Real estate market outlook (Italy 2017)

Alternative sectors

Other sectors of real estate market are healthcare, care-homes for elderly and telephone exchanges. Investment volumes were slightly less than € 2 billion in 2016, which account for about 10% of total volumes. Healthcare segment provide stable cash flows, because regional agencies reimburse the approved operations. Care-homes for elderly is a promising sector, which will grow in the long run due to the progressive ageing of Italian population. Telephone exchanges are now looked with interest by investors. They have a strategic role in Italian communication infrastructure system and they are characterized by long-term rental contracts (the average length is 15 years). A large chunk of these contracts expired and was renegotiated in 2015, so the sector is experiencing a new investment cycle.

CHAPTER 3: REAL ESTATE INVESTMENT

Real estate investment characteristics

Investing in real estate has always the same form: buy the asset (or construct it), hold it for a period and sell it. The strategy must be consist with the cyclicality of the market: purchase in the recovery phase of the market and sell it during the peak. By a financial point of view, real estate has mixed characteristic and it is a financial instrument with a risk profile between bonds and stocks. Every year the asset produce an income, given by rents, minus property taxes and operating expenses (and any extraordinary cost). When this income is expressed as percentage of the value of asset, it is called yield. The concept is very similar to annual yield of bonds, which yearly return is expressed as a percentage of face value. There are different kind of yields, but operators agree that the most representative of the capacity of the asset to generate income is net yield. At the numerator, there is net operating income (NOI), which is composed by rent minus the costs seen above. The denominator is equal to the current value of the asset.

Net yield= NOI / V

Yields are useful to compare returns of similar assets within the market, in terms of location and destination of use. Normally operators set their target NOI relying on yields of comparable properties. Yields are also used in assets evaluation, especially in the residential sectors. However, yields historical performance is a good indicator of the overall performance of the market.

When the asset is sold, the investor realize a capital gain. The entity of capital gain is the value increase of the asset between the acquisition and the dismissal. The percentage increase in asset value is called capital growth return and it is expressed as ratio between increase in value and value at purchase time. At the numerator there is the value at time of dismissal minus value at purchase, minus capital expenditure and plus dismissals. At denominator value at purchase minus capital expenditures.

Capital growth return= (Vt1 - Vt0 - capex + dismissals) / (Vt0 – capex)

Capital expenditures (capex) are costs that add value to the asset. They are capitalized. It means they are written in balance sheet as opposed to maintenance costs, which do not increase asset value but protects it against obsolescence. Dismissals are divestments of part of asset and generate positive cash flows.

Capital gain strategy is used in trading stocks. An investor buy and sell stocks exploiting positive movements in the market. With real estate, strategy is the same, even if market cycles are longer and characterized by less

volatility than the ones of shares. This is the reason why real estate is considered an asset with risk/return profile in between the one of stocks and bonds.

The graph below (figure 6) show the average yearly returns from different asset classes from 1972 to 2012. NCREIF and NAREIT, which are two US indexes relative to real estate, are compared with returns of bonds, both government and corporate, and stocks, measured by S&P 500, RUSSELL 2000 and NASDAQ. NCREIF is a direct index, developed by the National Council of Real Estate Investment Fiduciaries, which is an association of real estate investors. All members must provide quarterly data on income yields and capital appreciation. The price change is calculated as the appraised value of data given by members. NCREIF is also divided in sub-indexes, by location and property type. It is a direct index: it means that is calculated from appraised values of real estate transactions. Instead, NAREIT is an indirect index, calculated as price change of public traded property companies, which are called real estate investment trusts (REITs). In particular, on graph below is considered Equity NAREIT, which consists in deleveraged yearly REITs returns. The financial debt of each company has been removed because each company has a different financial structure, which influence the returns and depends on the firm's investment style. Therefore, Equity NAREIT doesn't take in account the leverage effect. We observe that NCREIF is lower than bond return and Equity NAREIT has the highest return of all asset classes.
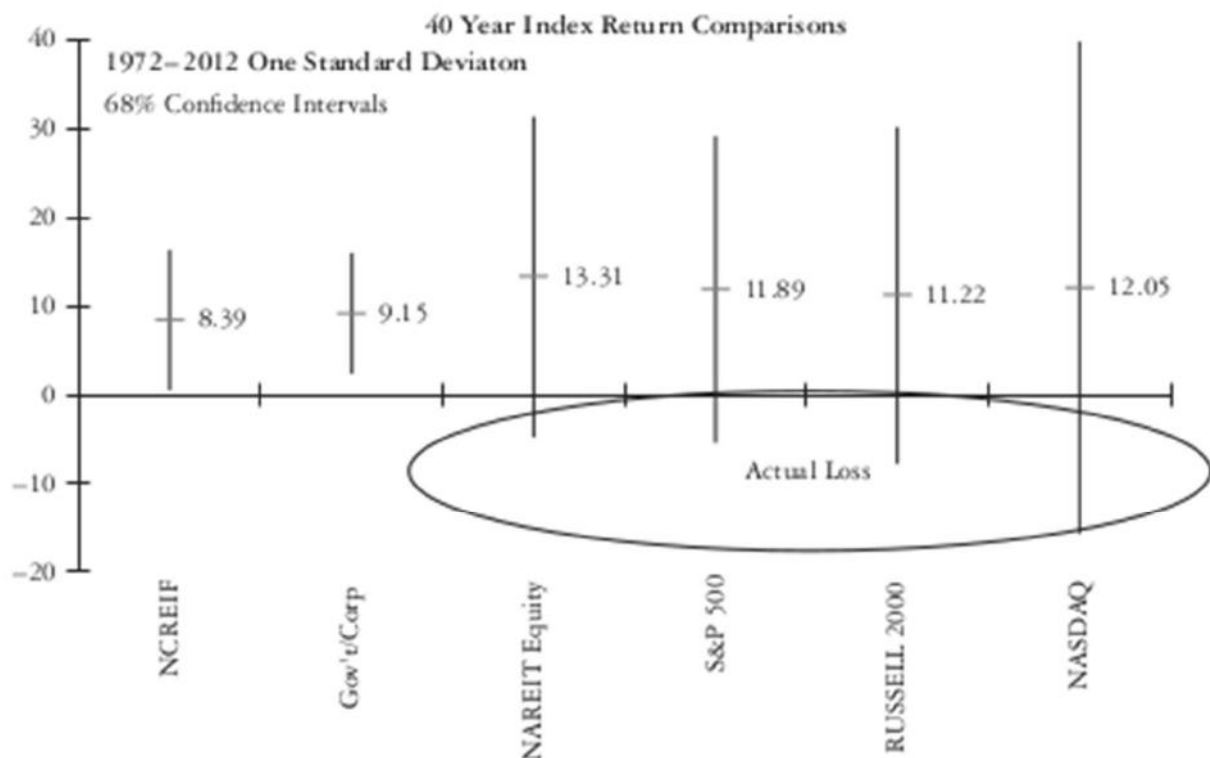

Figure 40, Historical return and variance of asset classes in US, Source: Baker and Chinloy, Private real estate markets and investments

The evidence seems to undermine the concept of real estate as middle asset class. However, bonds considered are both government and corporate. Corporate bonds spread is proportional to the financial risk profile of the

company, and risky companies must compensate to the greater risk offering a higher return. Corporate bonds risk/return profile depends on the issuing company and they are not a reliable comparable for real estate. So, only government bonds should be considered as a comparable asset class. In fact, they have a lower risk/return profile than real estate. Furthermore, NAREIT Equity has greater return than stock indexes and less standard deviation. Even that evidence must be corrected. Share markets suffer for a greater volatility than real estate, so the downturn periods must have lowered the results. In addition, NAREIT Equity are stocks, and they are influenced by the stock market. NCREIF is a more appropriate comparison. In fact, it has a lower risk/return profile than stock indexes. In conclusion, the evidence confirms the nature of real estate as middle asset class between government bonds and stocks.

Real estate has also a different time orientation than other financial instrument. Who invest in real estate normally is considering a long-term strategy. That is a direct consequence of the length of its market cycles. Usually an operator has to wait 10-15 years to have an appreciable capital growth return. There are also strategies for which time is a shorter variable, especially opportunistic style investments, but they are an exception. Shares trading strategies mostly consider a short time period, even if a particular investor can be long time oriented. An asset class for which retention period is comparable are government bonds. In fact, in determining the risk-free rate of the yield used to discount real estate investments, it is chosen the government bond having same duration.

Buying a property is considered a protection against inflation, particularly in Italy. A long-term government bond suffers from inflation, which can erode significantly its return. It is the reason why many investors prefer to have real assets. This argument is only partially true. Capital gain is safe from inflation because the property appreciation comprehend also the inflationary effect. Rent payment is immune only if linked to an inflation index. Where it is a common practice to link payments to inflation in office, industrial, retail and leisure market, because of the professionality of the operators, it is not in residential market. Therefore, the small investor who receive a fixed rent every month from his tenant is not hedging himself. It is also important the choice of the index. Inflation indexes normally considers the expected inflation. So, if real inflation overwhelm the expected one, real estate offers only a partial protection.

Another common belief is the low correlation between real estate and other asset classes. In the short term, it is true. A crash on the stock market does not affect real estate sector immediately. A prolonged crisis causes difficulties for firms to meet its obligations and this can affect market NOI and consequently, property values. All economic sectors are interrelated. Usually a housing market crisis is followed by a financial crisis. Banks that granted too much mortgages during florid periods are the most exposed. Correlations between asset classes are not visible immediately, but in long term all sectors are affected by the general economic trend.

An individual can invest directly in real estate. He buys an asset, but in this way he is exposed to a large amount of market and financial risks. Moreover, the high price of properties constitutes a barrier to entry in the market

for many individuals. Alternatively, he can invest indirectly in real estate, acquiring shares of REITs. In this way, he is less exposed to financial risk, because REITs shares require a lower capital expenditure than an entire building. He rely on professional operators, who maximize the advantages offered by the market. A professional has access to much more information than a common investor does, and he have the expertise to manage a real estate investment. Again, REITs offer the advantage of diversification: normally they manage a diversified portfolio in terms of location and property type. There are also specialized REITs, but diversification advantages are still greater than buying a single asset. On the contrary, REITs stocks are highly correlated to the stock market. A study (Giliberto, *Equity Reits and real estate returns*, 1990) show that financial markets explain 59% of volatility of REITs return. Eliminating the financial variable the correlation with real estate market is 44%. An explanation can be that financial markets influence REITs in short term, but in the long period REITs follow the trend of real estate sector.

The financial literature distinguishes between diversifiable and not diversifiable risk. First can be avoided through diversification: empirical evidence shows that a portfolio of 30 assets should eliminate that kind of risk. Second is the risk of the overall sector and cannot be eliminated through diversification. Real estate sector presents some idiosyncratic risks: market, construction, regulatory, environmental, liquidity, operational and financial.

Market risk is related to demand and supply, and it is mainly local. A variation in local demand or buildings of better quality offered by competitors constitute its elements. This risk can be reduced through a multi-tenant strategy or a geographic diversification, but the macroeconomic national risks will persist.

Construction risk is inherent the quality of construction, so it can be eliminated through an accurate due diligence.

Regulatory risk can affect a project through higher tax rate, higher transaction costs or hostile local planning policies. A part of risk is national (fiscal pressure) and another local (planning policy). Tax policies affect all operators in the market and it is not possible to bypass them. Local policies can be prevented. A direct contact with local planning office is useful to avoid zoning problems.

Environmental risk means a negative impact on environment by the asset, which has implications for its value. For instance, asbestos contaminations must be disposed and that has a cost. An effective due diligence process eliminate that risk.

Liquidity risk rely in finding a compromise between a rapid dismissal of the asset and the amount of illiquidity discount. Liquidity is generally better when the market is in expansion so in that phase is easier to finalize a selling process. A diversified portfolio partially eliminate that risk because an operator can retain assets which discount is too big and sell assets with price close to their value. In general, a part of that risk will always remain and it will grow during recessions.

Operational risk is about the maintenance of the building, the marketing activities to sell it and other activities connected to the management of the structure. It is eliminated outsourcing these activities to sound professional figures.

Financial risk is function of easiness of finding sources of financing, debt amount, payment structure and interest rates. Finding sources of financing is easier in developed capital markets. For what concerns the other components, leverage increases the total return of an investment, but it also increase the overall risk. The goal is to find a sustainable financial structure. To do so an effective sensitivity analysis must be conducted and stress tests must be incorporated in the financial evaluation of the investment.

The graph below (figure 7) shows the risk/return profile of each property type from 1978 to 2013. It has been used the NCREIF index, so the evidence is from US market. The most attractive investment type is retail, with higher return and lower standard deviation. Then industrial and residential have almost same standard deviation, but industrial shows greater return. Office standard deviation is higher but return is considerably minor than other types. The worst risk/return profile is offered by hotel. NCREIF is weighted of 35% office, 14% industrial, 22% retail and 4% hotel.
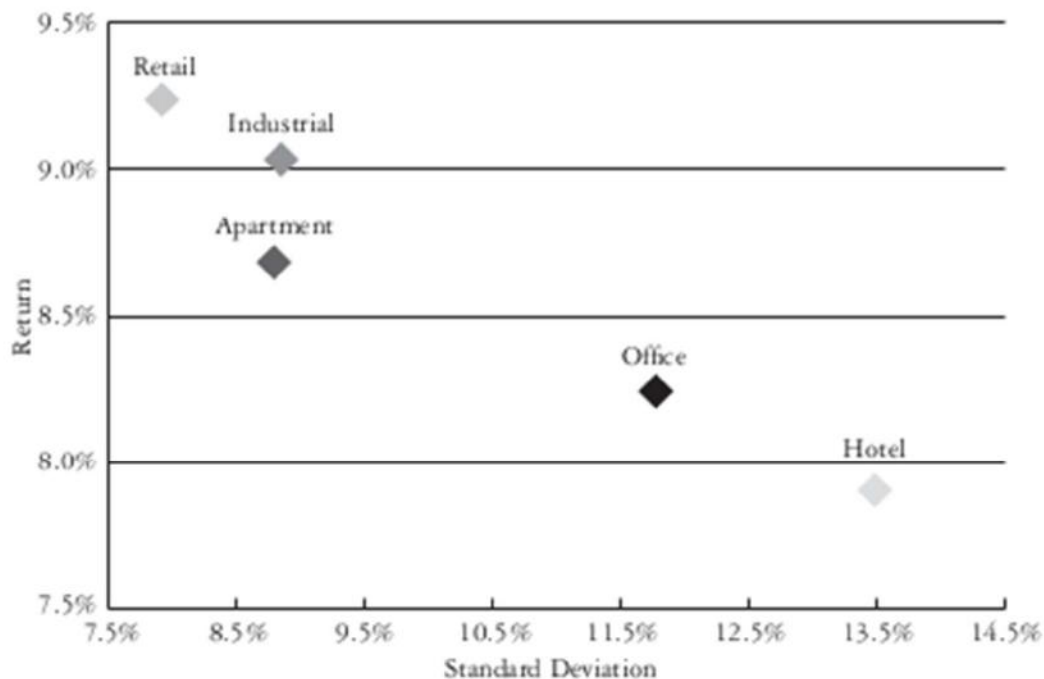
Figure 41, Average property types risk/return during 1978-2013, Source: Baker and Chinloy, Private real estate markets and investments

The explanation is that hotel business has a seasonal nature and it is not pure real estate. The ability of leisure structures to generate positive cash flow mainly depends on its operational business. Because of it many institutional investors prefer to not enter in the sector. The lower risk/return profile of office respect to other classes could depend on the high volatility of service sector in US economy and the fact that this sector is particularly exposed during recession periods.

In conclusion, the different risk/return profile of property types depends mainly by country. The sample shows figures from US economy. Another country would have different results and any investment strategy must keep different countries risk/profiles in consideration, together with local factors.

Real estate investment process

A real estate investment can be brownfield or greenfield. In the first case, it consists in three parts: acquisition, holding period and selling phase. In the second, the edifice must be built, so the acquisition phase is replaced by the construction phase. Acquiring an existing property is a relatively short term process in which price is given by the owner. Built up a property is a long term process, costs have a degree of uncertainty and must be evaluated properly. Greenfield investments have the features of project finance. In any case, every investment decision must be sustained by a market research, a feasibility study and a financial analysis.

The market research is fundamental to determine the success of any investment decision. Its aim is to estimate the future demand and supply developments in the market. The outcome is the answer to the following questions: is there any demand potential in the market considered? Moreover, how serious is the threat of competitors? Market research must be conducted before the investment decision (ex-ante) and after (ex-post), to respond immediately to any market change. Therefore, it is a continuous process. The ex-ante phase scope is giving evidence to support and justify the investment.

First part of the research consists in the identification of macroeconomic variables and their impact on local economy. The analyst has to identify relevant trends in GDP per capita, demographic rates, employment rate and consumption per capita, to recognize the current phase of the local real estate cycle. Then he has to analyze local demand. To do so, first must be defined the boundaries of the market, which depend on property type. Each property has a different customer base, which define the market. For instance, a regional mall has a different customer pool, so a different market, from a city mall. A relevant criteria in market definition is the time of transfer of a possible client. In addition, time to transfer depends by destination of use. The demand analysis continue with a local market research: relevant variables, like the rent level, the vacancy rate and the absorption rate, are

identified. The analyst then forecasts any possible evolution of those variables. Historical trends are studied to identify possible future developments. The goal is to identify any need in the market, so knowledge of local market is fundamental. Therefore, supply must be analyzed. Supply means local current competition and possible future rivalry, so similar properties by destination of use and any project in development must be monitored. The goal of this phase is to estimate the future vacancy rate. Data are taken for public and private sources. Public sources are Chambers of commerce and the local zoning office. Private sources are databanks of specialized agencies who collect real estate data, for example in Italy a reliable source is *Scenari Immobiliari*. Demand and supply analysis are used in the estimation of future revenues. A gross rent and the vacancy rate are identified, plus any future change given by supply. In case of a new construction the absorption rate must be forecasted. A gross estimation of relevant costs should be included in the evaluation. The analyst has to construct scenarios of possible macroeconomic trends, their impact on local real estate variables and on the future income. The outputs of the research are inputs of the financial analysis.

The feasibility study aim to verify if the project is feasible from a technical and administrative point of view, over than just an economic point of view. In this case, the analyst spot any constraints and opportunities of the territory, and that means to check the *Piano Regolatore* and speak with representatives of local zoning offices to ensure if any changes to current zoning policies can affect the investment. In case of a new construction project, it must be determined if the project is legally feasible: any relevant technical constraint, like constructible areas and volumes, must be kept in consideration. Then, time needed to obtain regulatory approvals and permits must be estimated. A timetable is necessary to manage efficiently time and to avoid delays. A PERT diagram permits to model and monitor any relevant phase. A gross amount of total costs and a preliminary project are normally drafted in this phase. Even if market research gave positive results and project is technically feasible, the project must be sustainable under a financial point of view. Availability of financial resources, identification of sponsors and lenders, cost of capital, are all vital variables for a project.

The final step in the investing process is the financial analysis. Its scope is to determine the profitability of the investment. The complexity of the analysis varies by property type and size of project. Residential properties are usually evaluate using the income method. It consists in identifying the future NOI of the property and discounting it for the market yield (NOI/value), which is the average yield of comparable properties. The discounted NOI minus purchase price is the value of the investment.

The discount rate can also be determined through a built-up approach. This methodology determines the discount factor as sum between the risk-free rate and a specific risk premium. Risk-free rate is usually equal to the government bond rate with same duration as the investment. Risk premium is the sum of different factors that affect a real estate investment. Ferrero identifies 4 factors: one relative to the economic and financial variables, another relative to construction market, another one relative to property type and the last one relative to the specific

property (Ferrero, *Valore di un bene ed efficienza di mercato: alcune considerazioni nel settore immobiliare*, 1995).

The first factor has two components: one relative to the general economic trend and another relative to the capital markets development. A negative economic trend increases the risk factor. The development of capital markets determine the availability of financing and the cost of capital, so more the market is developed, less the risk factor increases.

The second factor is related to the construction sector. An increase in construction costs, less profitability of construction companies and planning policies hostile to construction activities are all elements that increase the risk factor.

Third factor is given by the destination of use of the property: different types have different risk and this is reflected by yields.

Last factor depends by specificities of the property. Location is one of the elements: a property situated in downtown implies less risk than a building in periphery. Changes in regulatory and fiscal aspects have to be considered as risk factor. Physical characteristics of the asset (obsolescence level, design, quality of construction, functionality respect to demand needs, maintenance status, and amenities) have an impact on risk, and they must be considered in the risk premium. Rent level should be considered as specific risk factor, insofar as it diverge from the market rent, so it will be adjusted in the future. Current and potential use, which means any possible utilization of the property in the future, have to correct the risk level. The last specific risk element is the *fungibility* of the asset. It has two components: the tenants credit quality and the possibility to convert the building to another use. For example, it would be difficult to convert an highly specialized industrial facility.

Every risk factor has to be weighted to determine the risk premium.

Risk factor = $\sum a_i \beta_i$

Where a_i is the weight ($\sum a_i = 1$) and β_i is the specific risk factor.

Actually, there is no consensus among evaluators for the determination of the discount rate. One of the main characteristics of real estate is heterogeneity, and heterogeneity consists in different sources of risk for different properties. Therefore, dissimilar models to determine discount rates reflect the uniqueness of each assets.

A perpetuity-like model is useful for its immediacy and simplicity of application. For complex projects, an analytical method, which consists in discounting the future cash flows of the investments using a given discount rate that reflects the risk of the investment, is more appropriate. A discounted cash flow method is the most used by analysts in evaluating such projects. A real estate investment has always the same structure: acquisition/construction phase, holding period and selling phase. The structure is reflected by cash flows: a

negative cash out at the beginning, expected positive cash in after, with a substantial cash in at the time of divestment. The discounted NOI and terminal value (selling price), minus the purchase price, determine the value of the investment.

NOI is equal to rent minus operating expenses. The rent should be the market one, weighted for an expected vacancy rate. Both variables results from the market research phase. Rent should consider inflation: in fact, every period rent has to increase by a given percentage of the inflation index (given by ISTAT in Italy). After revenues, costs must be estimated. All revenue and cost items must be related to the time in which they occur. Purchasing costs and transaction costs at the time of the investment, operating costs after. In case of greenfield project, production costs substitute purchasing costs. These are expenses relative to the acquisition of the land, construction costs, legal contributions for building permits, charges related to the planning and development process (design, construction management, consulting and legal fees). Operating costs are maintenance costs, property tax (IMU in Italy), insurance, extraordinary expenses, administrative costs, marketing fees and any other cost. At the divestment period, the last NOI has to be discounted to find the terminal value. To do so it is divided by the discount rate minus a given growth rate. Some analysts prefer to put the growth rate equal to the expected inflation. That decision reflects a prudential approach that considers the growth potential of real estate assets in line with the inflation.

After the subtraction, we have several cash flows of NOI plus a terminal value. We discount them using a discount rate (WACC) that take in consideration both sources of capital: debt and equity.

Cash Flows Summary

€ mil — *(header band annotations: 202.7 | 335.7 | 1.762.827)*

Item	Rate	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenues from rent																	
Public Tenant		1.200.000	1.218.000	1.236.270	1.254.814	1.273.636	0	984.099	1.193.633	1.216.612	1.234.861	1.253.384	1.272.186	1.291.268	1.310.637	1.330.296	1.360.251
Ristorante		270.000	274.050	278.161	282.333	286.568	290.867	295.230	298.658	304.153	308.715	313.346	318.046	322.817	327.659	332.574	337.563
Retail		60.000	60.900	61.814	62.741	63.682	64.637	65.607	66.591	67.590	68.603	69.632	70.677	71.737	72.813	73.905	75.014
Vacant		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Revenues from sell																	1.762.827
Total Revenues		1.530.000	1.552.950	1.576.244	1.599.888	1.623.886	355.504	1.344.935	1.564.881	1.588.355	1.612.180	1.636.363	1.660.908	1.685.822	1.711.109	1.736.776	31.143.231
Revenue yield		9,56%	9,71%	9,85%	10,00%	10,15%	2,22%	8,41%	9,78%	9,93%	10,08%	10,23%	10,38%	10,54%	10,69%	10,85%	
Transaction tax (% on PP)	2,00%	320.000															
Acquisition fee (% on PP)	0,00%																
Legal fees (% on PP)	0,20%	32.000															
Due diligence (% on PP)	0,10%	16.000															
Others transaction costs (% on PP)	0,20%	32.000															
Capex extr. (% CRN)	1,00%	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485
Capex for tenant improvement (€/sqm)	€0,00						1.679.100										
Property Tax	€67.000	€67.000	€68.005	€69.025	€70.060	€71.111	€72.178	€73.261	€74.360	€75.475	€76.607	€77.756	€78.923	€80.106	€81.308	€82.528	€83.766
Others ordinary costs	€20.000	€20.000	€20.300	€20.606	€20.914	€21.227	€21.546	€21.869	€22.197	€22.530	€22.868	€23.211	€23.559	€23.912	€24.271	€24.635	€25.005
Property Management (% on rent)	1,00%	15.300	15.530	15.762	15.999	16.239	3.555	13.449	15.649	15.884	16.122	16.364	16.609	16.858	17.111	17.368	311.433
Insurance (% on CRN)	0,05%	7.124	7.231	7.340	7.450	7.561	7.675	7.790	7.907	8.025	8.146	8.268	8.392	8.518	8.646	8.775	8.907
Facility Management (% on rent)	0,30%	4.590	4.659	4.729	4.800	4.872	1.067	4.035	4.695	4.765	4.837	4.909	4.983	5.057	5.133	5.210	93.430
Rent fee (% on rent)	10,00%						35.550										
Lease registration tax (% on rent)	0,50%	7.650	7.765	7.881	7.999	8.119	1.778	6.725	7.824	7.942	8.061	8.182	8.305	8.429	8.556	8.684	155.716
Disposal fee (% on PP)	1,00%	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485	142.485
Total costs		806.634	408.469	410.312	412.192	414.100	2.107.418	412.099	417.601	419.591	421.610	423.660	425.740	427.852	429.995	432.170	963.226
NOI		723.366	1.144.491	1.166.932	1.187.696	1.209.786	(1.751.916)	932.837	1.147.280	1.168.764	1.190.570	1.212.703	1.235.168	1.257.970	1.281.114	1.304.605	30.180.054
NOI yield		4,52%	7,15%	7,29%	7,42%	7,56%	-10,95%	5,83%	7,17%	7,30%	7,44%	7,58%	7,72%	7,86%	8,01%	8,15%	

Item	Summary	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Potential Value	20.924.929	723.366	1.074.639	1.027.955	983.233	940.395	(1.278.689)	639.305	738.282	706.203	675.474	646.038	617.846	590.847	564.993	540.237	11.734.806
Ask price	16.000.000																
IRR unlevered	9,15%	(15.276.634)	1.144.491	1.165.932	1.187.696	1.209.786	(1.751.915)	932.837	1.147.280	1.168.764	1.190.570	1.212.703	1.235.168	1.257.970	1.281.114	1.304.605	30.180.054

Figure 42, Excel spreadsheet of a real estate operation, Source: real estate finance materials, prof. Gaetano Casertano

The overall profitability of the project can be measured by several indexes. One is the net present value of the investment (NPV), which is equal to discounted NOI plus terminal value, minus purchase price. It represent the current value of the deal at the time of investing. Another indicator is the return on equity (ROE): it denotes the profitability over the capital invested (equity) and not borrowed. It is a periodic measure of profitability and it consist in the ratio NOI/equity and TV/equity at the end of period. Its main limit is to not represent the total profitability of the investment, but only a partial measure of it. One more indicator is the payback period, which is the time to recover the initial investment. Obviously, a shorter payback period is preferable to a longer one.

The most important indicator is the internal rate of return (IRR), which is the interest rate who sets the NPV equal to zero. It reports the overall profitability of the investment (unlike the ROE), and it is the annual yield at which the investment is capitalized. Unlike the NPV, which represents the actual value of the investment, it represents the return on the investment. IRR has some problems, like the trap of multiple IRRs in case of negative cash flows to discount. In any case, it is the preferential criteria used in evaluating investment decisions. When NPV is used mainly in company evaluation (IPOs or capital increases), IRR is the criteria for investment decisions (from real estate to private equity), because it represents the return over invested capital. A project should be accepted if project IRR is greater than WACC, which represents the total cost of capital for the firm. If the project uses any debt, a more accurate way to find the return of investment is through the equity IRR. From NOI the debt service (principal + interest) is subtracted, then discounted using the cost of equity to find the net asset value (NAV), which is equivalent of the equity for a firm. NOI minus debt service is the free cash flow to equity (FCFE), which is what remains to investors after debt service. From FCFE is calculated the equity IRR, which is the return of the capital used by investors and represent the real return of the investment. A project should be accepted if equity IRR is greater than the cost of capital.

The advantage of using debt is called leverage effect. Debt financing improves equity IRR when cost of debt after tax is lower than the project IRR. The reason is in the spread between project IRR and cost of debt after taxes. If that spread is positive, the total project return is greater than its financial cost, and the equity IRR improves. The problem in using leverage is that the cash flows of a project are only forecasted, not real. If they are lower than predicted (it means when project IRR is lower than cost of debt), the leverage effect acts as multiplier of losses. In fact, debt use involves a trade-off: it increases the return over capital invested under certain conditions, but also risk goes up. In conclusion, the choice of D/E ratio is determined by the investor risk/return profile. An investor with high appetite for risk would push for a greater leverage, another with a minor propensity for risk would opt for a lower indebtedness.

A good investor tend to convert uncertainty elements into measurable risk factors. One example is the discount rate, which incorporates the risks that affect an investment. Some risks can be eliminated through a diversification, both geographical and by destination of use. Unfortunately, there are certain factors of risk that affect a specific

project and cannot be eliminated. A sound financial analysis quantify the overall profitability of an investment. The sensitivity analysis determines how the variation of some parameters affects its outcome. Its scope is twofold: establish which variables affect more a project's profitability and tell what is the maximum variance allowed to achieve a positive result. The figure below (figure 9) shows how much the outcome of an investment changes with a 10% variation of gross revenues and selling price.

Table 7.8 Response to changes in the selling price

Selling price	Flows present value	NPV	Investment value	IRR
Expected	€643,621	€293,621	€1,643,621	26.0 %
−10 %	€612,239	€262,239	€1,612,239	24.9 %
	(−4.8 %)	(−10.7 %)	(−1.91 %)	(−4.2 %)
+10 %	€674,967	€324,967	€1,674,967	27.1 %
	(+4.8 %)	(+10.7 %)	(+1.91 %)	(+4.2 %)

Table 7.9 Responding to changes in gross revenue

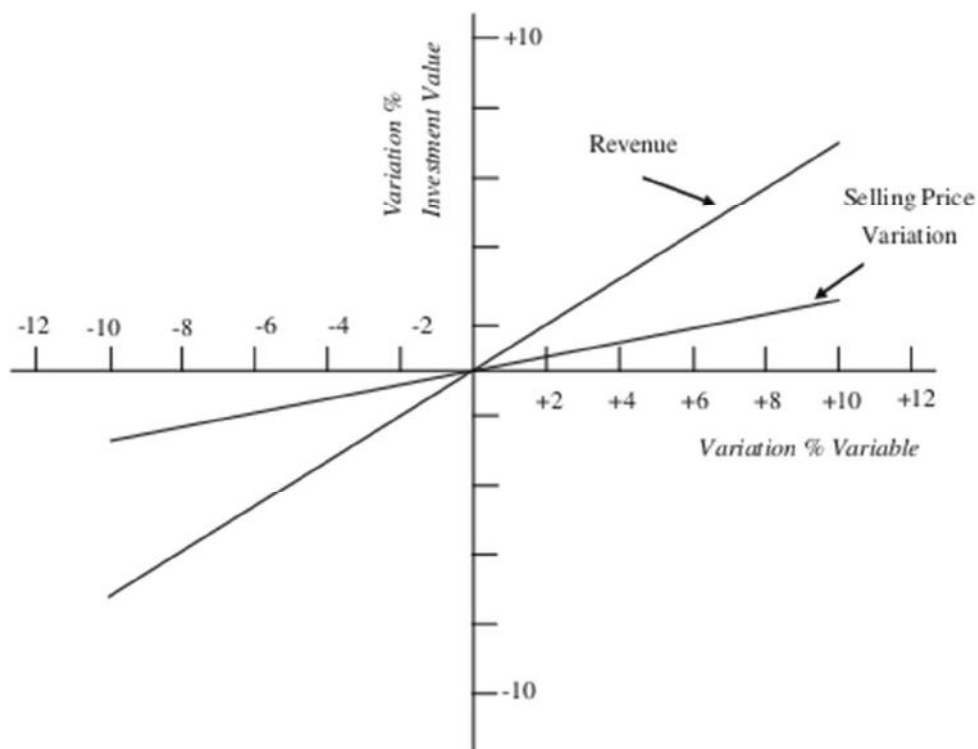| Gross revenue	Flows present value	NPV	Investment value	IRR
Expected	€643,621	€293,621	€1,643,621	26.0 %
−10 %	€535,215	€185,215	€1,535,215	20.1 %
	(−16.8 %)	(−36.9 %)	(−6.6 %)	(−22.8 %)
+10 %	€751,992	€401,992	€1,751,992	32.2 %
	(+16.8 %)	(+36.9 %)	(+6.6 %)	(+23.8 %)

Figure 43, Sensitivity analysis, Source: Manganelli, Real estate investing

The variables that affect the results show a steeper trend: here are gross revenues. Normally, the selling price has a greater impact. Sensitivity is fundamental to understand the relations between variables. Once understood the major risk elements and how they are linked together, next step is scenario modelling. An analyst constructs scenarios, which range from best case to worst case. Scenarios are made hypothesizing possible events that can affect the variables of an investment. Stress tests are particularly useful to check the robustness of a project in front of simultaneous negative events. If the project passes the stress tests, the investment decision can be made. A statistical approach can complete the sensitivity analysis. A Monte Carlo simulation permits to simulate a statistically high number of possible combinations of values that key parameters can assume and assign a probability distribution to the final result. First, the relevant parameters must be defined. Each value for a given parameter give a specific output (different scenarios). A probability distribution must be assigned to each parameter value. Then, we can launch the simulation. There are particular software that can perform a Monte Carlo simulation. Repeating it n times, the generation of values for each parameter weighted for its probability produces a high number of results. This number assume a normal distribution that permits to give to each result a specific probability.
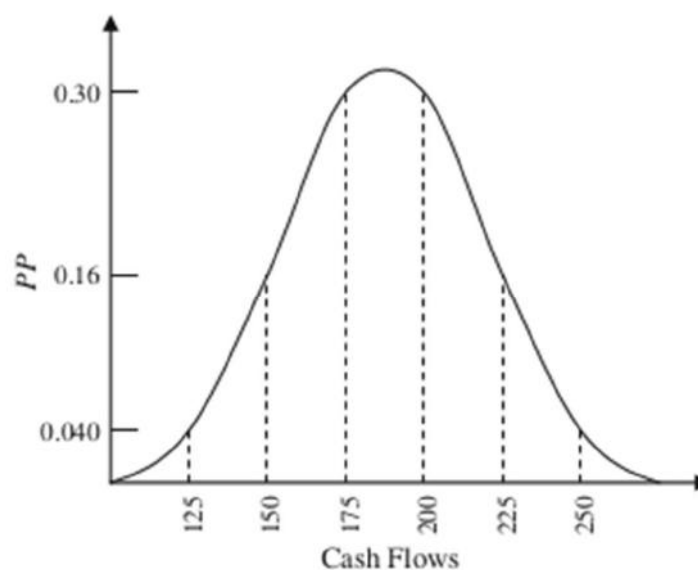
Figure 44, Probability distribution in a Montecarlo simulation, Source: Manganelli, Real estate investing

In conclusion, a Monte Carlo simulation is useful to determine the probabilistic result of a project and its dispersion around the expected value. The flatness of the distribution defines the risk of a project.

Sensitivity analysis should also consider the managerial adaptability in investments. A Decision Tree Analysis permits to guide the decision-making process of complex projects. Each branch of the tree consists in possible values that project can take under certain scenarios. Every scenario depend from a previous one and has a specific probability distribution. The Decision Tree model outline the probable result of a project and the path to achieve

it. It is particularly useful for multi-step projects characterized by high degree of uncertainty and conditioned by exogenous variables that can have a substantial impact over the outcome. It permits to underline a path of events that can affect a project over time and their possible outcomes, weighted for their probability.
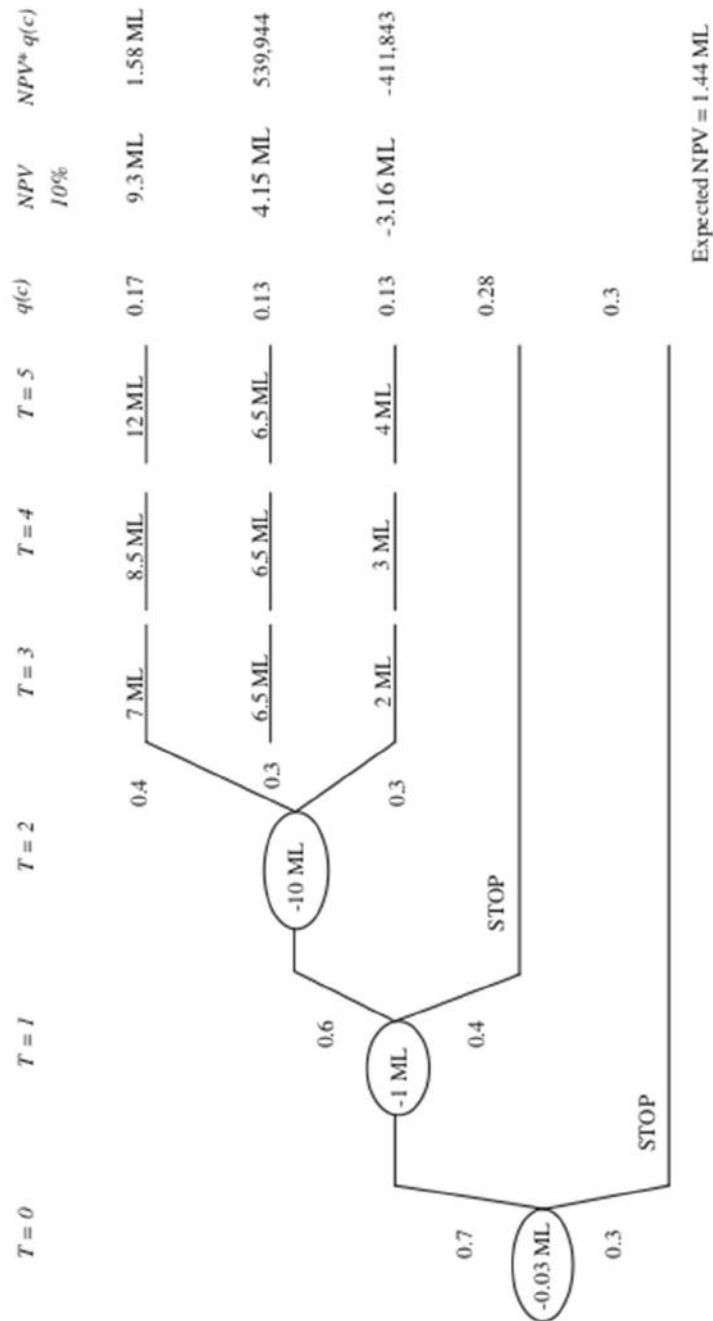
Figure 45, Decision three analysis, Source: Manganelli, Real estate investing

Professional figures in real estate

The most important figure in real estate sector is the asset manager. Its activity consists in the allocation of investments in different markets and property types, to maximize the overall profitability of a portfolio of assets. He is responsible for a fund, which has its own objectives in term of risk/return profile, in line with the risk appetite of the subscribers of the fund. Then, he choose the investments that best suit the risk/return profile of the fund and he manage them, to achieve the target return. Its main objective is the identification of a combination of investments, which permit to minimize the distance from the efficient frontier, defined as a set of portfolio who maximize the return for a given level of risk in a market. He study the market to set the best investments for a given risk/return. He can follow a top down approach, starting from a macroeconomic analysis at national level, arriving at local level and then analyzing the individual real estate investment (the approach we followed in previous paragraph, from the market research to the financial analysis). Moreover, He can use a bottom up approach, starting from the individual investment to a macroeconomic analysis and the finding of correlations between investments. The two approaches can coexists and they not exclude each other necessarily.
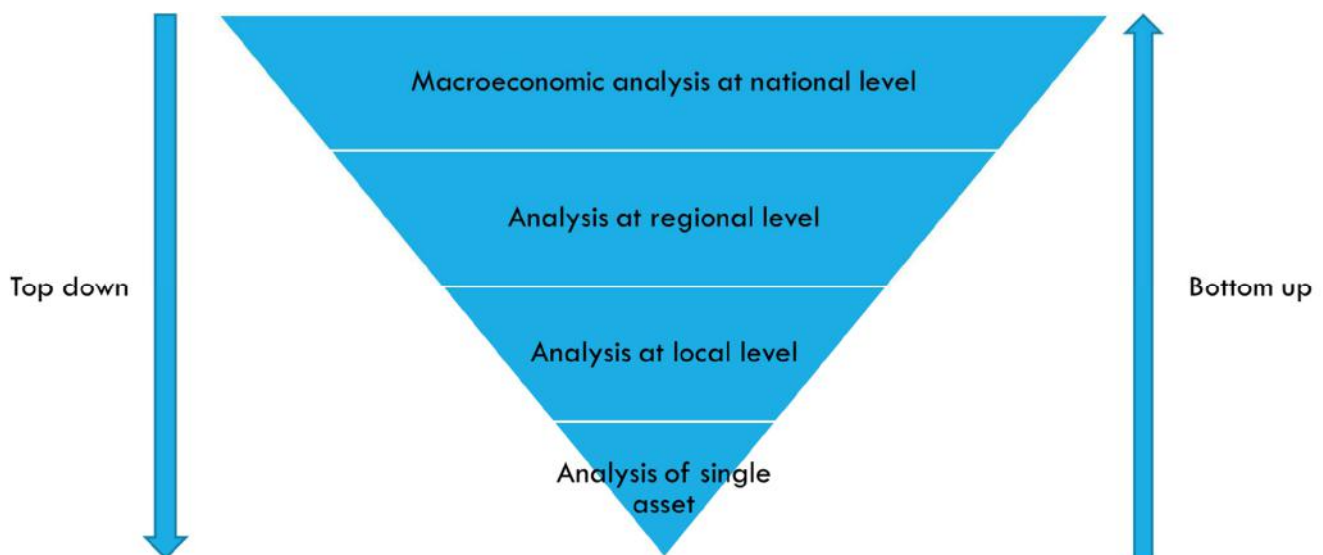
Figure 46, Top down and bottom up approach, Source: Ferrero, Analisi finanziaria: finanza delle operazioni immobiliari

To evaluate a financial instrument two kind of analysis are utilized: technical analysis and fundamental. The first base itself on the assumption that an asset value is equal to its future cash flows. An example is the DCF model, which we summarized before. It is used mainly in company evaluation and it rely on internal data of the firm. The second depends on historical trends and indicators of a financial instrument to predict its possible future development. It doesn't take in consideration the financial statements of a firm, but just the historical evolution

of share price. Technical analysis does not apply to real estate, because of the scarcity of data and indicators of past performance.

Combining different investments in a portfolio permits to reduce its overall risk. Portfolio theory says that diversification reduce risk. Investments diversification is in terms of property type and location. Location is considered in economic terms, not geographic ones. Two distant cities for example can have very similar economies, and so suffering the influence of same factors. Therefore, to diversify a portfolio, an investor should invest in locations with different economic trends. International diversification could be an optimal solution, but investing abroad is a complex matter, given the asymmetry that characterize real estate markets, the costs to manage the investments and the movements of exchange rates. An alternative solution can be to invest in indirect real estate, which is stocks or quotes of REITs. Every operator is specialized in a local market and indirect investment permits to invest efficiently in foreign markets. However, some authors (Farrelly, Stevenson, *Performance drivers of private real estate funds*, 2016) are skeptical about the advantages of specialization. They found no evidence that regional or sector specialization is associated with higher returns, which depend on the single investment.

In summary, the asset manager has a given risk/return profile dictated by investors. He analyze the market alternatives to define a target portfolio. In the graph below (figure 47), the ideal portfolio is the tangent point between the lowest indifference curve of investors and the efficient frontier of the market.
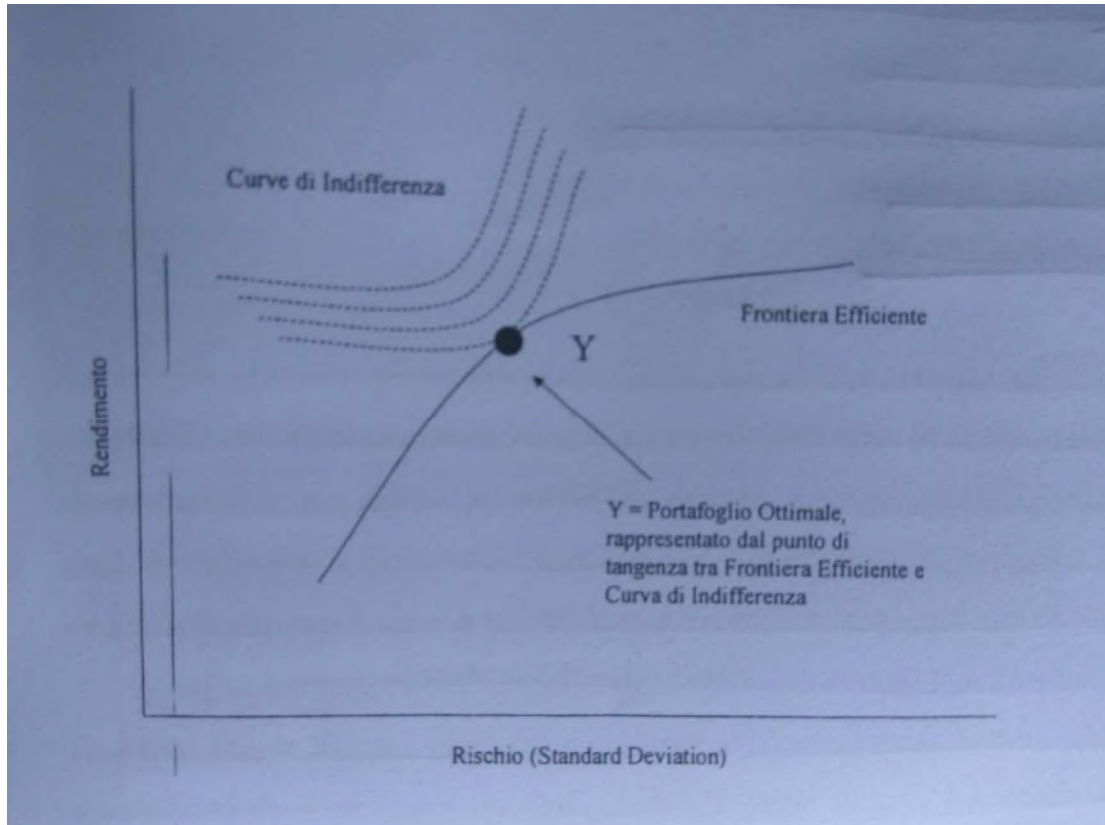
Figure 47, The optimal portfolio given investors risk profile, Source: Ferrero, Analisi finanziaria: finanza delle operazioni immobiliari

Each property type have a different weight in the optimal portfolio, for example 30% offices, 25% retail, 35% industrial and 10% residential. When defining a portfolio by destination of use is important to keep in mind that each property type has a different risk/return profile. The graph below (figure 48) shows the risk/return of every destination of use.
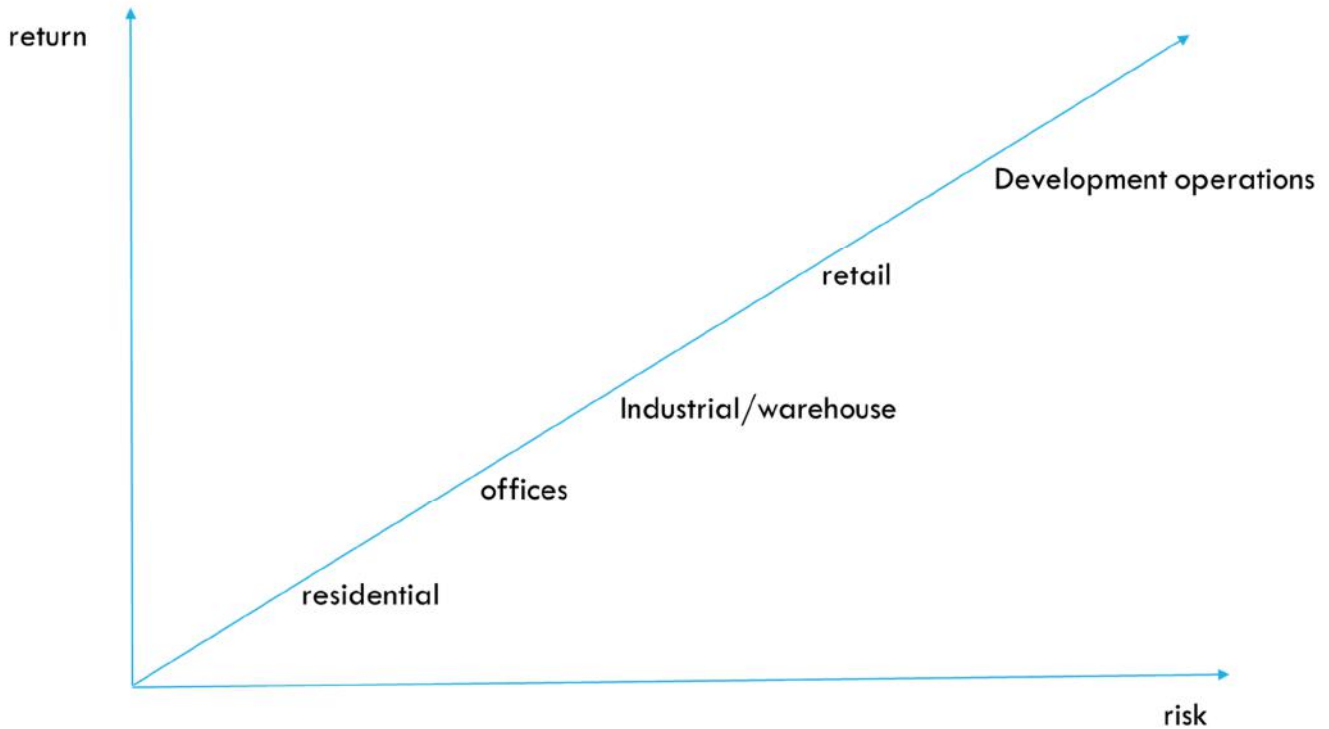
Figure 48, Property types by risk/return profile, Source: Ferrero, Analisi finanziaria: finanza delle operazioni immobiliari

From lowest to highest: residential, offices, industrial, retail and development operations. The tenant defines the risk. A family has to satisfy its security needs proving a house to their children. That's why in the majority of cases residential is considered the safest of real estate investments, given the predictability of its cash flows. Offices, industrial and retail are characterized by different business cyclicality, which affects their risk profile. Offices have a relatively more stable income than industrial firms, which are affected by delays in receivables collection and high demand fluctuation. Retail has the most volatile cyclicality of all businesses, characterized by seasonal peaks and subsequent downturns. In fact, their risk is greater than industrial and offices (and so the rent). Development operations are the riskiest of all investments. The rationale of these operations is doing significant improvements to a building to increase its value. However, there is no guarantee that the improvement will be reflected in the market value of the property.

Once defined the target portfolio is necessary to traduce the indications of asset allocation in an investment strategy. The operations of a real estate portfolio are essentially acquisitions, dismissals and operative

management. Portfolio management is a dynamic process: during the life of the fund is necessary to monitor constantly the factors that can influence the optimal allocation. If actual portfolio is different from the target one, rebalancing operations are required. These operations are expensive and a cost-benefit analysis have to determine if their costs are greater than the benefits for the fund.

An active portfolio management adds value to the portfolio in three ways: investment timing, investment selection and diversification. Timing involves buying an asset in the recovery phase of the market cycle and selling it before the recession. Selection consists in the individuation of undervalued assets respect to the market. Diversification permits to reduce the risks of single investments. The portfolio performance must be periodically confronted with a comparable benchmark. The asset manager identifies the differentials in performance and their causes.

He doesn't take care only of the financial aspects, but he also pays attention to the legal and fiscal sides of the portfolio.

A different professional figure is the property manager. Unlike the asset manger, his focus is on the specific building. He carry out the due diligence of assets and contracts. Then he manage the lease agreements, he maintain the relationship with the tenants, he collect payments, he monitor costs. He take care of the maintenance on the building, he manage fiscal aspects and the insurance contracts, he keep the accounting and he verify the respect of normative. His main activity is to support the asset manager in achieving the target NOI and assist him in the due diligence phase. His competencies are very specific and related to the maintenance of the value of the building over time.

Other two professional figures are the building manager and the facility manager. The first's task is to keep the asset efficient over time. Therefore, he performs some elementary functions: maintenance and extraordinary maintenance, maintenance of installations and hardware networks, refurbishment, energy management and gardening. The second has to connect the workplace with people. So his activities are reception, security, cleaning, catering, internal logistic and transportations, space planning and layout, mailing. While building management is referred to the asset, facility management is for the user.

It is common to outsource the process of recruiting tenants and finding possible buyers to specialized agencies.

In conclusion, manage a real estate portfolio is a complex process, which involves many professional figures. The asset manager coordinate the other figures and monitor the overall process, and he is the real *dominus* in the investment process.

Investment styles

We said that a fund has a particular risk/return profile, which defines its investment style. The target IRR defines the risk profile of the fund. A fund can be:

- Core
- Core plus
- Value Added
- Opportunistic

Each of these investment philosophies lie at a different point on the risk vs. return spectrum. Core investments are the least risky with the lowest expected return and opportunistic investments offer the highest level of risk along with the highest expected return to investors.

Core funds invest in principal markets (Rome and Milan in Italy) in low risk properties. Normally they buy a building, which has an already established base of tenants with high credit quality, so they can rely on predictable and stable cash flows. These buildings are often well kept and require little improvement. Therefore, these type of real estate are not subject to a significant appreciation in value. This type of investment suits investors who seek capital preservation and long holding period. A suitable investor would be a pension fund. Target IRR is 8-10%. They use a low degree of leverage: loan to value (LTV) is in the order of 30%.

Core plus funds invest in assets to optimize. For example, they purchase a property with high vacancy rate, expecting an increase in tenancy. They have a target IRR of 11-14% and they use a higher degree of leverage (LTV ranges between 30-50%).

Value Added funds mainly target commercial real estate. They acquire properties with stable cash flow, but their strategy is to add value to the property by making improvements or repositioning the property. For instance, they can do physical improvements to the asset to ask higher rents, they can lease vacant spaces to quality tenants, or they can lower operating expenses. All these operations entail substantial expenses to increase asset's value (capex). Once the operator has successfully increased the NOI, the next step is to sell the asset to capture its value growth. Target IRR is 16-19% and they use a LTV in order of 60-65%. They generate greater returns than core investments due to the appreciation in value. However, these project bear more risk, because at the time of acquisition, the property is not operating at its full potential: maybe because it is not fully leased, it is leased below market rents, it has not been properly maintained or it is poorly managed. For many investors, however, value added projects provide the perfect risk/return balance, offering stable cash flows at the time of acquisition with significant upside potential in the form of value appreciation.

Opportunistic funds make a step further in the risk spectrum. They invest in properties who need significant improvements or that needs to be built from the ground. They target depressed or emerging markets. These assets have little to inexistent cash flows at the time of acquisition. These types of projects offer the highest level of

return if the business plan is successful, but also bear the most risk. In fact, they require higher capex than value adding operations. Target IRR is above 20% and they use a high degree of leverage. LTV is more than 70%, to fully exploit the leverage effect on a project. If they are successful, they achieve higher returns to investors than core or value added strategies through substantial appreciation in value.

Investors in real estate have to consider their preferences for investment's risk, expected return and duration and choose the investment style that better suits their preferences.
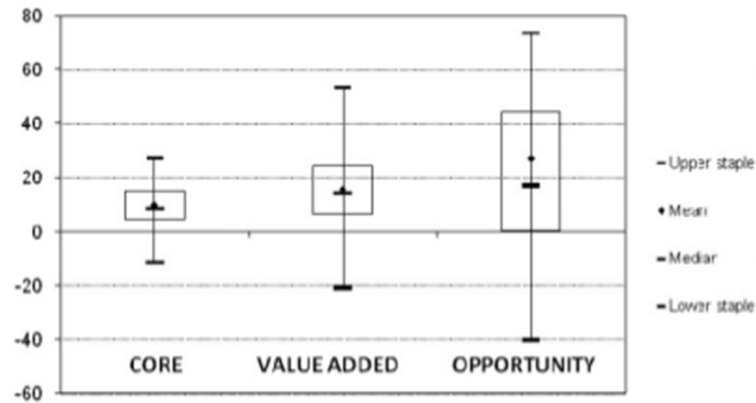
Figure 49, Distribution of returns by investment style, Source: Fuerst and Matysiak,
Analysing the performance of nonlisted real estate funds: a panel data analysis

Real estate investment and efficient portfolios

The benefits of inserting real estate in a diversified portfolio increase as long as the correlation is close to -1. Real estate has a low degree of correlation with other asset classes, because of the different length in asset classes cycles. As portfolio theory says, the efficient frontier is the combination of portfolios, which maximize the return for a given level of risk. It is a theoretical concept, but it finds an application on real markets. Morri and Hoesli (*ruolo dell'investimento immobiliare in un portafoglio*, 2010) elaborates the efficient frontier for three different countries: USA, France and Switzerland. From the graph below (figure 50), they found that benefits of inserting real estate in the efficient portfolio permits to reduce the risk in the lowest part of the efficient frontier. More we move towards the upper part of the frontier, more the benefits diminish. The finding supports the belief of real estate as an asset class between stocks and bonds.
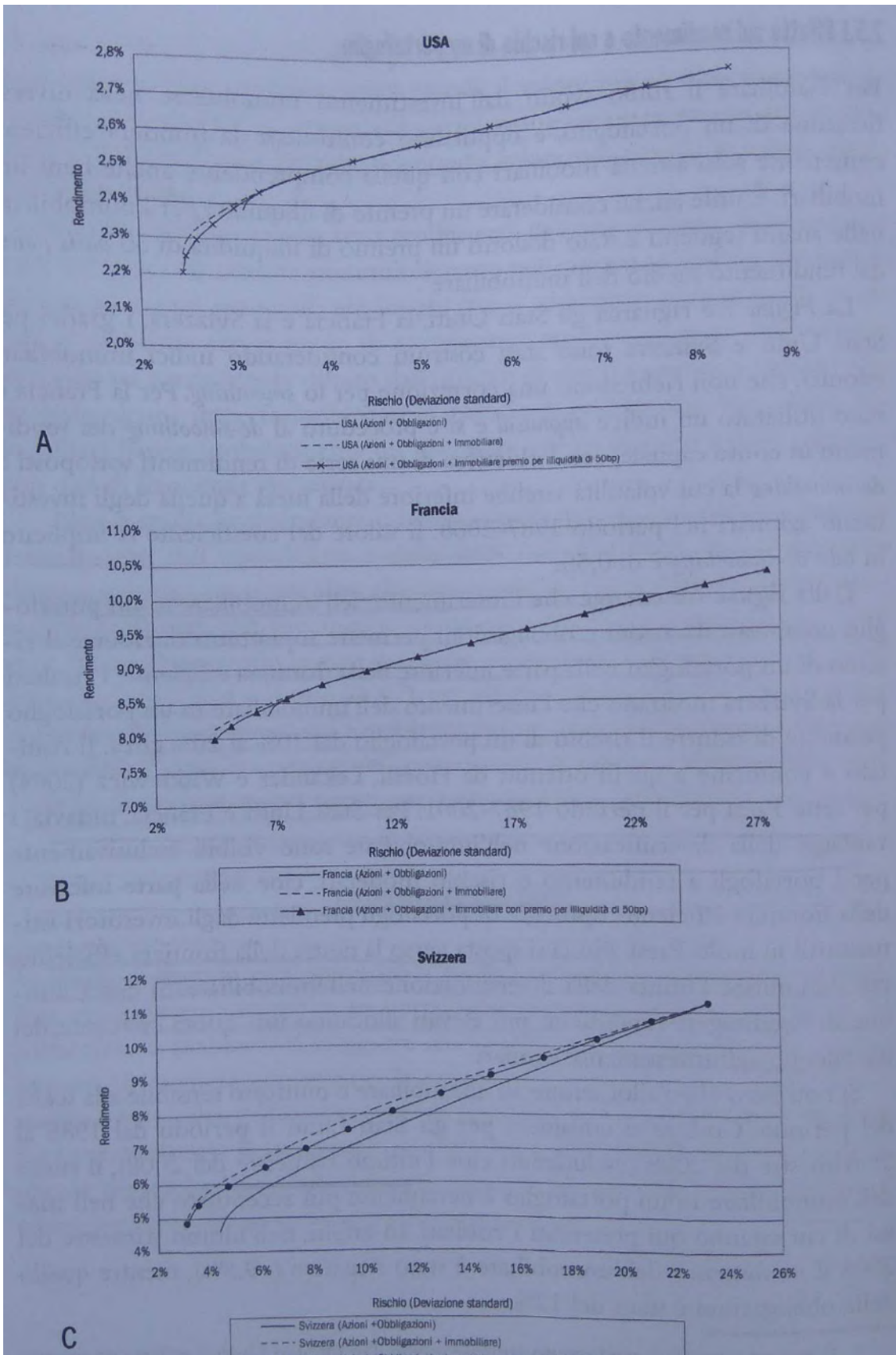
Figure 50, Efficient frontier in US, France and Switzerland, Source: Hoesli and Morri, Investimento immobiliare

Direct real estate investments permit to achieve diversification benefits in the lower part of the efficient frontier. If we add indirect real estate (so stocks of REITs), the benefits reach also the upper part of the frontier. Authors underline that the utility of inserting indirect real estate increases in line with the duration of the investment. The deduction supports the fact that indirect real estate is influenced by capital markets in the short term, but in the long period behave like direct real estate. The graph below (figure 51) concerns the US market.

FIGURA 7.4 Frontiere efficienti per gli Stati Uniti con e senza l'immobiliare diretto e quotato (1985-2006)
Fonti: Elaborazioni degli Autori su dati *Pictet, IAZI/CIFI, ZKB, Rüd Blass.*

Figure 51, Efficient frontier in US considering also indirect real estate, Source: Hoesli and Morri, Investimento immobiliare

After underlining which is the optimal diversification of a portfolio, the authors highlight the optimal weights of asset classes in an efficient portfolio. Graph below (figure 52) shows that the optimal weight of real estate at the beginning of the efficient frontier is around 30%, and diminishes for greater levels of risk.
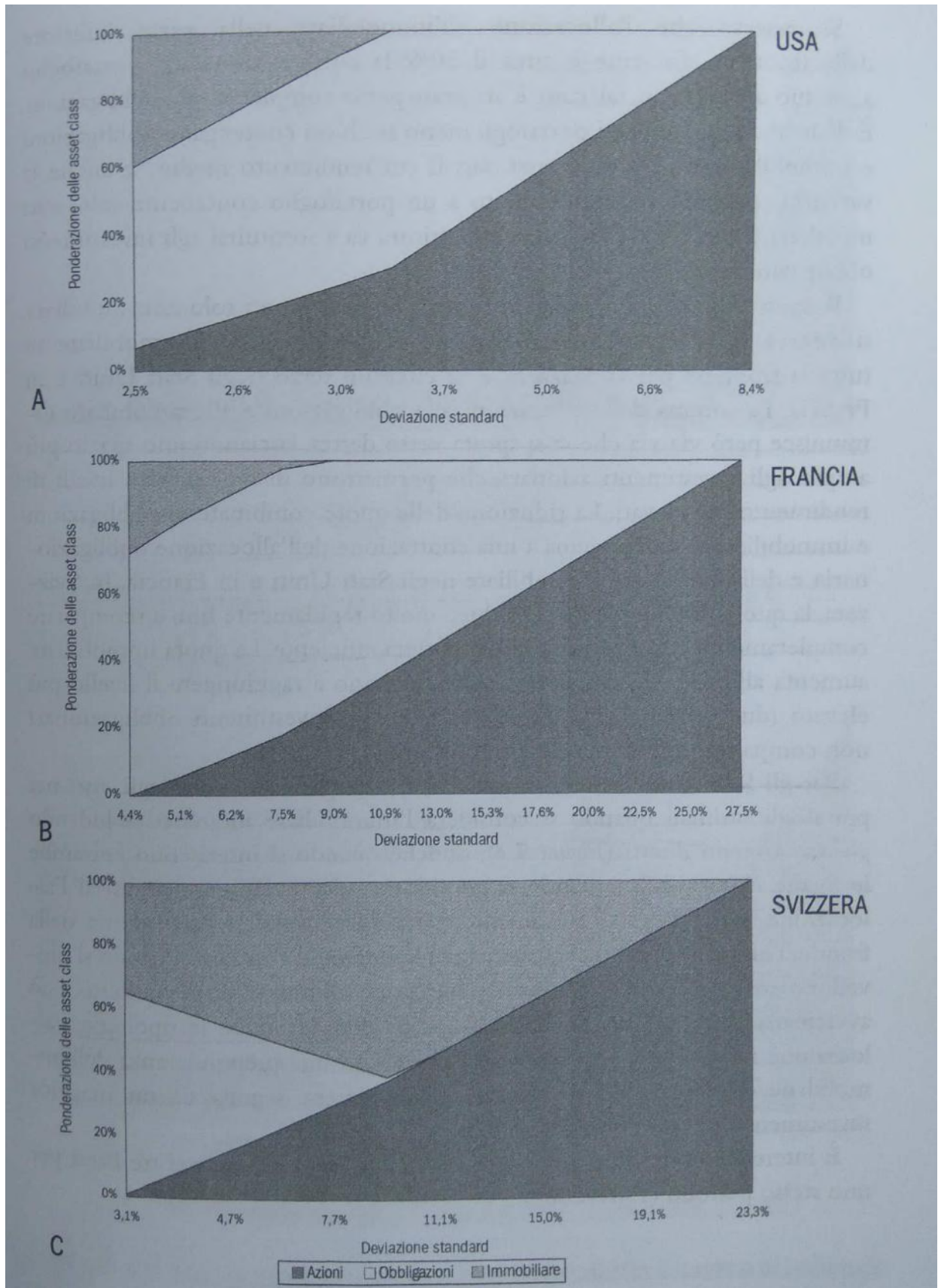
Figure 52, Asset class optimal weights in US, French and Swiss efficient frontier, Source: Hoesli and Morri, Investimento immobiliare

US lowest risky portfolio is composed by around 55% bonds, 30% real estate and 5% stocks. As we move upward the frontier, real estate and bonds share diminishes in favor of stocks, which permit to achieve greater returns. We notice that real estate weight decreases more than proportionally than bonds. In fact, in the middle of the frontier, real estate as optimal investment disappears. The finding is in line with the bonds nature as the lowest risky asset class, which can counterbalance the greater risk of stocks.

In France around 75% bonds, 0% stocks and 25% real estate compose the least risky portfolio. As we move upside the curve, the share of real estate decreases more than in American market. Apart of that, the trend is the same as US: more risk means less bonds and more stocks.

The optimal weights of Switzerland initial portfolio are around 65% bonds, 0% stocks and 35% real estate. The stocks trend is the same as previous countries: their relative weight increases proportionally to the risk of portfolio. Bonds share instead decreases, to disappear around the central part of the curve. Real estate weight increases until the middle of the frontier, to fall sharply after. This abnormal trend respect to France and US is explained by the willingness of institutional investors to target also the residential sector, which represents a large share in the market and bears low risk. Moreover, ownership rate of house in Switzerland is low, so investing in the sector is particularly attractive. In that country, residential is a valid alternative respect to bonds.

For the United States, the authors calculated the optimal portfolio allocation considering also indirect real estate (figure 53). When they are both included in the analysis, direct and indirect real estate comprehend circa the 50% of the less risky portfolio. When risk increases, the share of stocks rises exponentially. Bonds and real estate decrease to disappear in the riskiest portfolio. It is interesting to notice that bonds and direct real estate share declines faster than indirect, because indirect real state represents stocks of REITs, which are exposed to the risks of stock markets.
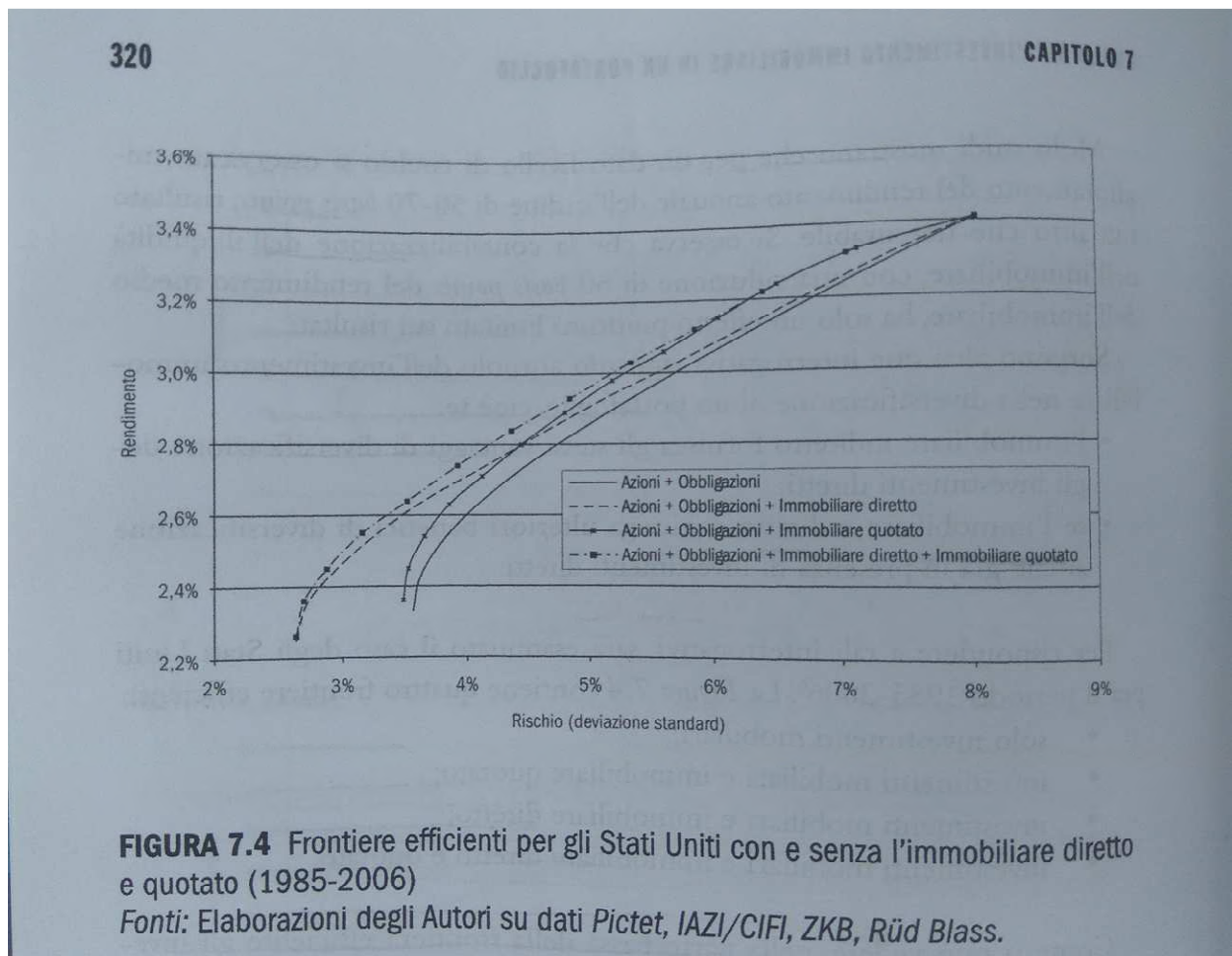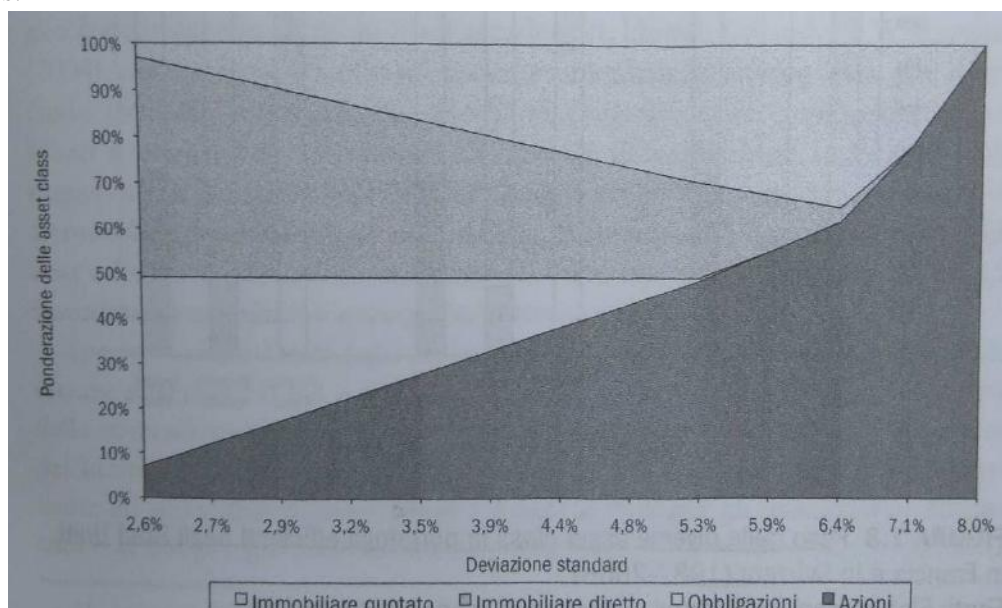

Figure 53, Asset class optimal weights in US efficient frontier considering also indirect real estate, Source: Hoesli and Morri, Investimento immobiliare

In summary, we found that real estate is an asset class for portfolios characterized by a low risk/return profile. It provides diversification benefits to low risk portfolios because of the little correlation with other asset classes. Indirect real estate provides diversification benefits also to portfolios with higher risk. The efficient weight of real estate allocation in optimal portfolio characterized by the lowest degree of risk is around 30% and declines when risk rises. The analyzed countries were US and two European countries, so the efficient allocation for an Italian portfolio should be something in between the French and Swiss one. Where portfolio includes also indirect real estate, the share of real estate in an optimal portfolio increases.

Real estate indexes

A market index permits to have a gross measure of the dynamic of a sector. Indexes are useful ex ante and ex post. Ex ante, the analysis of a real estate index permits to recognize the current phase of market cycle. Operators base their investment decisions also on their study. Ex post, they are used as benchmark to evaluate the results of an investment choice. They can also be utilized in passive strategies. In fact, an investor can replicate an index and align his returns with the market portfolio (which is the index).

As we know, real estate markets are inefficient and a limited number of transactions characterizes them. That causes problems in the construction of indexes, given the limited amount of data on which they can rely on.

The first phase to construct an index is the market definition. Normally indexes are divided by location and destination of use. The next step consists in the choice of the sample. The heterogeneity of properties can create distortions in the measurement. Anyway, more assets are included in the index, more the risk expressed by the index will tend to the market risk. An additional problem relies in the absence of a central market, where prices are objective. The limited transparency in transactions can alter the real prices.

There are different types of indexes. The first distinction is between income return indexes and capital appreciation indexes. Firsts are equal to the ratio between property income (generally NOI) and its value. Seconds are given by the percentage increase in property value in two periods.

Income return = NOI / value

Capital appreciation = (V1 – V0) / V0

Another distinction lies in how they are calculated. They can be price-weighted, value-weighted and equal-weighted. In the first case, the weighting element is price, in the second market capitalization and in third each component has the same weight. Price-weighted indexes are not representative of the overall market. On the opposite, value-weighted better denote the situation, because they individuate the movements of biggest players. Company's dimensions do not influence equal-weighted indexes, which are appropriate to individuate a general trend.

A general segmentation is about direct and indirect indexes. Direct are based on transaction prices or analyst's evaluations. Indirect are constructed on financial instruments, which represent real estate.

Transaction indexes components are the prices of real estate transactions. Normally, they consider a specific property type in given geographic area. Data are collected from public or private databanks. Normally price are expressed on m², so it is possible to compare assets of different dimensions. The main advantage of this index type is the simplicity of data collection and calculation. The issue is that they don't take in account the heterogeneity elements of each property. Alternatives to transaction method are the hedonic method and the method of repeated transactions.

Hedonic method consists in evaluating a property by assigning a price coefficient to each characteristic, which can be easiness of access, quality of building, maintenance status and so on. The average price of the characteristic is regressed in a sample based on the same characteristic for different assets. Then the standard property price is constructed by adding regressed prices of all characteristics chosen. The index is constructed over the time with the prices evolution. The method enables to recognize the heterogeneity of assets in their evaluation. The problem is the high degree of subjectivity in choosing and evaluating the relevant characteristics.

Method of repeated transactions aims to reduce heterogeneity by confronting two subsequent variations of transaction prices for the same property. Price variations are obtained by regressing the logarithm of the ratio between the price of second sale and price of first sale, utilizing a dummy variable equal to -1 for the first sale price, 1 for second and 0 when the asset is not sold. The method has several problems. First, the number of edifices traded more than on time is little, so the sample is scarce. Therefore, the implicit assumption is that a property maintain its characteristics over time, but an asset can be subject to subsequent developments. Then, an edifice can be sold several times for speculative purposes or general issues. Finally, real estate is not a transparent market and disclosed prices could not reflect real prices. All these limits inhibit the adoption of the method.

Transaction indexes rely on prices of past transactions. As we know, market mechanisms can significantly alter real prices. Appraisal indexes overcome these problems. The values result from the estimation of analysts and

reflect a hypothetical *arm's length* transaction. Appraisal indexes are utilized in markets targeted by institutional investors, which have the need to monitor the value of their portfolio of assets. Indexes are divided by geographic area and destination of use. They are calculated on annual basis and updated every three months. Because of the subjectivity of the evaluation, each analyst will assign a dissimilar value to the same building. The difference between the estimated value and the real one is called *appraisal random error*. Empirical evidence estimate it in a range of 5-10% of property value. Another issue is inherent the updating frequency an it's named *appraisal lag*. Normally analysts evaluate a building once a year with minimal updating on each quarter. So, the real valuation is done only one time per year. Therefore, the mean represents a flattened version of the real series of prices: returns are overestimated during market downturns and underestimated during expansion phases. This effect is called *smoothing*. Analysts propose several solutions to the problem. The most simple is to add some basis points to the risk of real estate investment. Because these indexes rely on institutional investors portfolios, more properties they possess, more indexes are reliable. It means that appraisal indexes better suit mature markets.

Finally, indirect indexes are financial instruments representative of REITs. They can be publicly traded stocks or quotes of closed-ended funds. They must represents companies which core business is real estate and they must be composed by at least 30 securities. These conditions are easily respected in developed markets, but they can be more difficult to satisfy in relatively immature markets, for example the Italian one. Indirect indexes suffer of higher volatility than direct ones, especially publicly traded, because they have a high level of correlation with stock markets. These indexes reflect any change in the market faster than direct ones, because any relevant information is immediately reflected in stock price. In fact, they have the tendency to anticipate direct ones.

Empirical evidence supports this finding. A study (Fuerst, Matysiak, *Analysing the performance of nonlisted real estate funds: a panel data analysis*, 2013) show that non-listed fund returns are positively correlated with equity markets lagged by one year.

We already saw two US indexes: the NCREIF and NAREIT, one direct and the other indirect. In Italy the major direct indexes are *Nomisma* and *Scenari Immobiliari*, which are the names of the associations who developed them.

Nomisma Index (figure 54) represents the historical series of prices from 1988 of 13 cities by property type (residential, offices, retail, warehouse and parking box/spaces). Cities are Bari, Bologna, Catania, Florence, Genova, Milan, Naples, Padua, Palermo, Rome, Turin and Venice. Prices are calculated from a questionnaire given to real estate agencies of the cities. The questionnaire asks trends in demand and supply, number of lease and purchase agreements, average time to lease and sell, selling discount, purchase prices and rents, forecasts for prices, rents and number of future contracts.
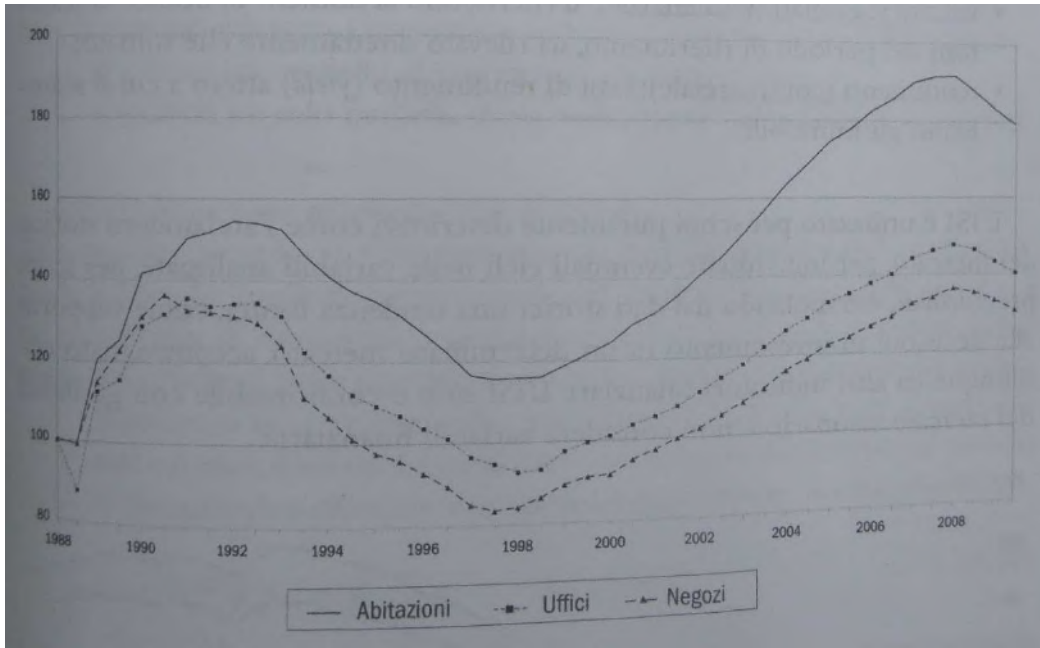
Figure 54, Nomisma index (from1988 to 2008), Source: Hoesli and Morri, Investimento immobiliare

The second index (figure 55) is called ISI (*Indice Scenari Immobiliari*). It is a direct index updated with monthly frequency. The national territory is divided in geographical areas, which are Milan, Rome, metropolitan areas, medium and small cities. Property types are residential, offices, retail and industrial. The following data are utilized: transaction prices and volumes for residential, rents and yields for the other categories.
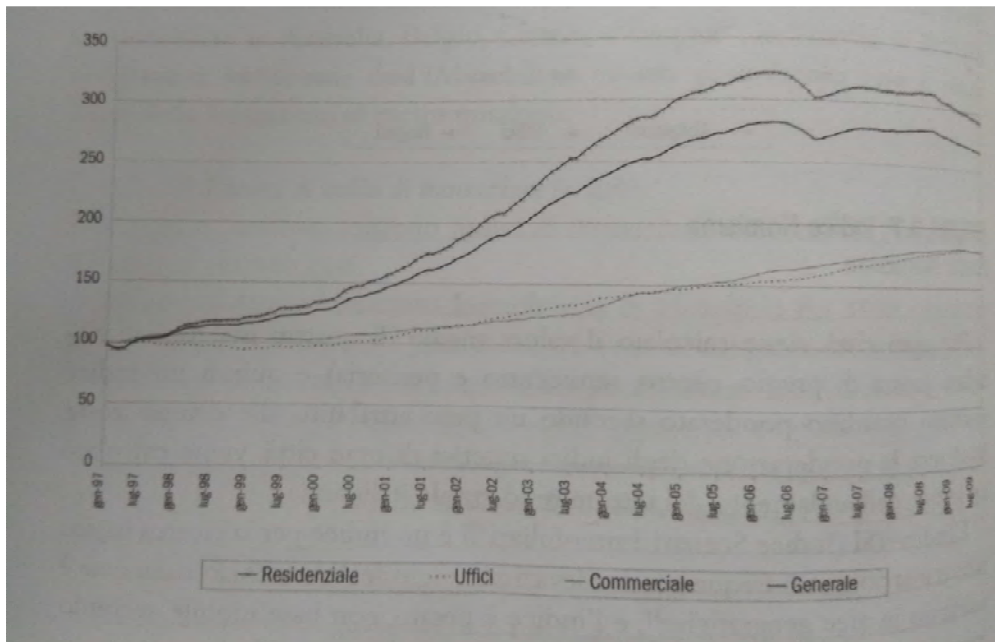
Figure 55, ISI (from 1997 to 2009), Source: Hoesli and Morri, Investimento immobiliare

The main indirect index in Italy is the BNP Paribas REIM Index. It measures the development of the publicly traded Italian funds. From the graph below (figure 56), we observe that Italian REITS underperformed the stock index (FTSE MIB) before the financial crisis. After 2008 indirect real estate was the most attractive asset class. Another index is the BNP Paribas REIM DTN Index, which measures the delta between the market price and the NAV: it is a dynamic measure of the illiquidity discount of the market.
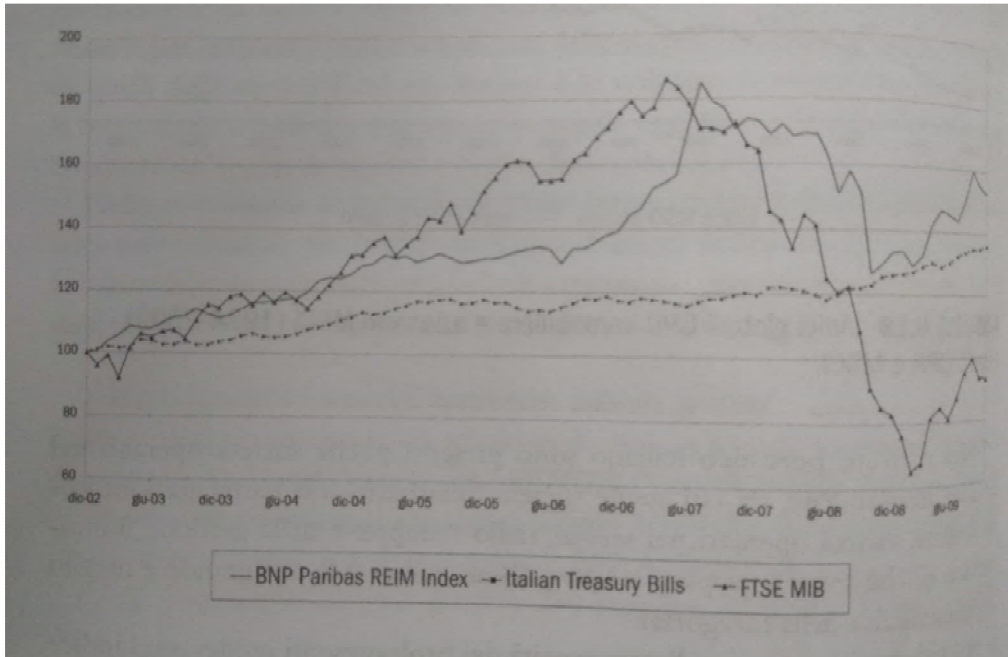
Figure 56, BNP Paribas REIM Index compared to other Italian asset classes (from 2002 to 2009), Source: Hoesli and Morri, Investimento immobiliare

CHAPTER 4: REIFS AND OTHER INVESTMENT VEHICLES IN THE ITALIAN MARKET

Normative framework

Accordingly to Law No. 122 of 30th July 2012, mutual funds are an independent pool of assets shared among a group of investors, who delegate the management of the fund to an asset management company, which in Italy is called *Società di Gestione del Risparmio* (SGR). Fund's asset and liabilities are distinct from those of SGR and each investor (the so called patrimonial autonomy). The Italian legislator introduced the closed mutual fund with the law of 25th January 1994, No. 86. However, the actual normative is composed by articles 34-42 of Legislative Decree of 24th February 1998, No. 58, the *Testo unico delle disposizioni in materia di intermediazione finanziaria* (TUF). Further improvements to the normative came from D. L. 351 of 25th September 2001, which became Law 410 of 23rd November 2001.

The SGR regulation is disciplined by the secondary norms, which are *Ministerial Decrees* and laws from *Banca d'Italia* and *Consob*.

Defining the SGR

The SGR dictates the investment strategies for the fund. It invest the financial resources collected from investors, which are a separate entity from the asset of the SGR. The fund's return is given to investors. In exchange, the SGR retains a management fee. The company tend to outsource technical, legal and fiscal aspects, to retain only the asset management activity. The SGR has to operate in the interest of its clients, which have to be informed about relevant issues. Conflict of interest has to be minimized and an efficient corporate governance has to ensure the correct functioning of internal procedures. The legislator recommend to operate with diligence, correctness and transparency. Bank of Italy authorizes the SGRs, which are listed in a public register.

Italian REIF types

The legislator provided several distinctions for investment funds, which differ by:

- Investment object
- Type of investor
- Establishment methodology

- Investment style
- Legal form
- Dividend distribution

Regarding the first distinction, mutual funds can invest predominantly in real estate or securities. Item of our interest are real estate investment funds. To receive such classification, a fund must invest at least 2/3 of its equity in real estate assets, real estate rights and shares of real estate companies. However, this percentage could decrease to 51% when the fund invests 20% or more of its equity in property related financial vehicles (like for example asset-backed securities). The remaining equity can be allocated in financial instruments (listed and unlisted), bank deposits, receivables and transferable securities, which can be objectively measured every 6 months. These instruments represent the liquidity of the fund.

They can raise debt for a limit of 60% of value of real estate asset, property right or real estate companies, and 20% of other securities.

The transfer of properties in conflict of interest is allowed, but the value of the single asset in conflict of interest mustn't exceed the 10% of fund's value. Transactions made with SGR shareholders are limited to the 40% of the value of the fund (60% if transactions are made with SGR shareholders and members of its group).

The term is established in the fund's Statute, it is in line with the type of investments, the minimum duration is 10 years and maximum is 30 years. Bank of Italy can permit an extension, which has to be no more than 3 years, to consent the divestment of assets. REIFs can be listed in the Italian stock exchange and their shares are traded in the Market for Investment Vehicles (MIV). The quotation is required if the single share price is less than €25.000: in this case, Consob must approve it and has to be completed within 24 months after subscription period.

Accordingly to the type of investor, funds can be public, private or speculative. Public funds are open to all investors (in fact, they are called retail funds). Private funds are only for institutional investors, characterized by their financial expertise. These are banks and banking foundations, saving management companies, open-end investment companies (the so-called SICAV), pension funds, insurance companies and other qualified investors (defined by article 31 of Consob Regulation No. 11522/1998). Reserved funds have fewer restrictions than retail funds, because their clients are sophisticated investors. In fact, public funds cannot invest more than 1/3 of their equity in a single asset and no more of 10% of their equity in shares of the same construction company. Institutional funds are not subject to such limits.

Private funds permit to allocate resources in few investment operations with a high risk/return profile. Otherwise, retail funds are obliged to diversify their investment to contain risk and protect investors. In reserved funds are not applied the limits of the operations with SGR shareholders or members of SGR group: in fact, operations in conflict of interest are allowed for 100% of fund's value. The value of single asset in conflict of interest can exceed the limit of 10% of fund's equity. Retail funds are obliged to be listed on the stock exchange, to guarantee

a promptly liquidation for small investors. Additionally, the subscribers of public funds have to disburse the value of their quotes immediately. Institutional investors have not such duty.

Speculative REIFs (called hedge funds) invest in highly risky assets and they can operate with greater freedom in their activities, as long as they respect certain restrictions. They can do operations in conflict of interest for 100% of fund's value and there aren't any limits regarding the single asset conferred. They can invest in different goods respect to the REITs normative (for example commodities or artworks). Minimum share price is €500.000 and the maximum number of investors is 200. For the majority, speculative funds carry out opportunistic investments, targeting non- performing buildings or assets that are changing destination of use.

The other distinction is about the method to establish the fund. Funds can raise money through subscription or contribution. In the first case, they are called ordinary funds. Subscribers give money to the fund and the SGR invests them.

Contribution funds offer their shares to contributors in exchange of the asset provided. The contributor can be private or a public entity. In the second case, the public administration transfer public properties to the fund. There are substantial fiscal benefits for this type of fund, but the public assets must be at least 51% of fund's equity and the public administration must give money for not less than the 5% of fund's value. Operations in conflict of interest are allowed (for 100% of the fund's value). Therefore, properties for at least 60% of fund's value must be conferred within 18 months from the subscription. Funds can also be mixed, but the limits of 51% of public properties and 5% of public money remain (this last requirement fades if private entity confers money for more than 10% of fund's equity). The two major funds by public contribution are FIP and Patrimonio Uno, managed respectively by Investire SGR and BNP Paribas REIM SGR. Assets conferred are buildings owned by the Minister of Economy and Finances (MEF) and tenants are public agencies. Clients are institutional investors and funds duration is respectively 15 and 12 years. Both funds remunerate properly their investors. From a face value of € 1,329 billion, FIP reached a value of more than € 3 billion in June 2012. These experiences opened a debate on the role of privates in managing public resources more effectively than the State.

REIFs differs for investment style. We distinguish between core, value added and opportunistic funds. Their characteristics are specular to their investment style. Their expected return and their indebtedness increase in line with their riskiness, from the less risky (core) to the riskier (opportunistic).

One more difference is by legal form: there are closed-end funds and semi closed-end funds. In firsts, the amount of capital is determined during the subscription and cannot be modified. Reimbursement of quotes occurs at the end of fund's life. The illiquid nature of real estate investment explains the closed structure of such funds. In fact, if every investor could retire the money in any time, liquidity problems could arise. If fund's shares are publicly traded, investors could sell their quotes at market price, which normally is below NAV. If not, quotes could be sold in any case after finding a counterpart.

Semi closed-end funds can increase or modify their value by issuing new shares during certain intervals determined by the Statute. In these periods, investors can subscribe new quotes or ask for the liquidation of their shares at NAV. In any case, the reimbursed quotes cannot exceed the value of new subscriptions.

An additional REIF type are the guaranteed funds, which guarantee to the investors the reimbursement of invested capital or a minimum return. The last instrument provided by the Italian law are funds of funds. The legislator provides that real estate funds can invest in foreign REITs, real estate Luxembourg SICAV, SIIQ and other real estate funds.

In case of retail closed-end funds, the SGR must retain the 2% of assets of the fund. If the fund's value overcome €150 million, this percentage become 1%. For fundswith public contribution, the SGR is individuated by public procurement.

The last distinction is about the dividend distribution mode. Dividends can be distributed periodically or not. REIFs are not obliged to distribute periodic dividends, but they must distribute the results of the investment activity to the subscribers at the end of the fund's life.

Statute of the fund and other mandatory documents

The Statute of the fund is the document that gives to the SGR the mandate for investing the capital of subscribers. It synthetize the investment philosophy of the fund, its functioning and the mode of dividend distribution. It is composed by three parts:

- Identification sheet
- Product characteristics
- Functioning mode

The first part contain essential elements about the fund and the SGR, which are denomination and typology of the fund, fund's duration, name of the SGR, depository bank, frequency of calculation of share's value.

The second section defines the scope of the fund, the goods in which it is investing and the investment policies. Furthermore, it is reported any operation in conflict of interest.

In the last part are specified the subscription procedure and the mode of issuing and reimburse the quotes. It must be indicated if the fund is close or semi close (in the last case the timing and modalities of new subscription has to be defined).

The accounting documents are a yearly balance sheet of the fund and a six-monthly income statement, which have to be approved by the independent expert. Other mandatory documents are the transaction log (*libro giornale*) of

the fund, the management report (*rendiconto di gestione*), a six-monthly report on management, and a prospect who indicates the value of the fund.

Documents regarding the SGR are the program about the activities of the fund and the report about the organizational structure of the SGR. First specify the typology of funds (core, value added or opportunistic), the clients targeted (institutional or general public) and if the management of funds will be delegated to third parties. Second indicates the forecasted economic results for the next 3 years, the expected cash flows, the cost items and the regulatory capital.

Monitoring bodies

The entities responsible for the monitoring of funds are:

- Bank of Italy
- Consob
- Depository bank
- Independent experts

The first two carry out a direct supervision, the last two an indirect one.

Bank of Italy approves the Statute of the fund and authorize (once listened the opinion of Consob) the establishment of the SGR. It monitors the risk and the stability capital of the fund. It can ask for acts and documents of the SGR, for which it can carry out inspections. Bank of Italy is responsible for SGR legislation. Therefore, it has a regulatory, informative and inspective function.

The vigilance function of Consob focus on the observance of transparency and correctness obliges towards subscribers and public agencies. While Bank of Italy check if investors are exposed to any wrongful risk, Consob monitors the observance of formal rules and procedures, for which it issues specific laws (Consob Regulations).

The depository bank is responsible for the liquidity of the fund and its financial operations. It carry out all the payments of the fund. Then, it check the correctness of shares calculation. If it founds any wrongdoing, it has to inform immediately Bank of Italy and Consob.

The independent experts must carry on a six-monthly evaluation of the assets of the fund. The SGR's board of directors appoints them, which normally are members of an accounting firm. Their opinion is required for any investment or divestment operation.

Governance

The governance of the SGR is composed by the board of directors, which appoints a responsible for each fund. An Investment Committee can support the BoD. The investors of the fund cannot infer with the management of the fund. Their only power lie in the bodies they elect: the Subscribers Committee and the Advisory Committee. The first is composed by the owners of the fund's shares. The Committee can substitute the SGR with another, liquidate the fund before the end term, modify the Statute about investment policies, decide about the listing on the stock exchange and choose to issue new quotes. It is convened by the SGR's BoD, with the request of 10% of fund's subscribers. The deliberative quorum is 50% + 1.

The Subscribers Committee elects the Advisory Committee, which gives opinions on relevant operations or modifications of the Statute. It is composed by at least 3 members and it has veto power only on some topics expressed by the Statute.

Revenues and costs related to the fund

The fund's revenues come from rents and capital gains and depends on the strategy adopted and the conditions of the market. Costs depend by the operative management of the investments and additional expenses related to the fund. These are the commissions for the SGR, the commission for the depository bank, the withholding taxes about fund's dividends, a contribute for vigilance to Consob, the commission for the independent expert, reporting and accounting expenses, eventual legal expenditures and costs for listing on stock exchange.

The SGR commissions are the commission of acquisition, management and performance commission. First is calculated on the investments of the fund. Second is computed annually on NAV (or GAV). Third is relative to the achievement of target performance.

Tax regime

Italian REIFs are completely exempted from corporate income taxes. They don't pay IRES and IRAP, which are respectively, a corporate income tax and a regional tax on productive activities. They are divided in two groups for tax purposes: institutional or non-institutional REIFs.

The first group include funds owned by institutional investors. They are subject to a withholding tax of 26% on dividends. However, this tax does not apply if owners are Italian pension funds or investment funds, foreign

pension funds or investment funds resident in White List countries (to avoid double taxation), international institutions, sovereign wealth funds and central banks (independently from the country).

The non-institutional real estate funds have two different tax regimes that depend if their investors possess more or less than 5% of the fund's equity. If less than 5% they are subject to the same withholding tax of institutional investors. If more than 5%, income is included in the annual taxable income and taxed on the basis of the single investor's fiscal regime.

Other indirect taxes applicable are property tax IMU (but it is included in the operative costs of the fund), VAT, mortgage and cadastral taxes of 1,5% and 0,5% (instead of 3% and 1%).

REIFs with private contributions are subject to the same tax regime reserved to institutional investors, plus a withholding tax of 26% for the capital gain derived by the contribution. Instead, for public contribution funds, the mortgage and cadastral taxes are substituted by a representative tax of €520, and the capital gains bycontribution are not taxable, if fund's share are accounted at the same historical value of assets conferred.

Optimal structure of funds

Several authors tried to identify the optimal structure of a fund. Delfim and Hoesli analyzed the performance of English, French Italian and Dutch REIFs from 2001 to 2014 (Delfim and Hoesli, *Risk factors of European non-listed real estate fund returns*, 2016).

They found that open-end funds performed better than closed-end ones, thanks to their structure, which guarantee flexibility in capital allocation. Core funds had higher historical returns than value added, which were particularly affected by the crisis. In fact, recession periods are not suited for risky investments. They quantify the optimal size of a fund (€ 2,3 billion): lower or bigger size was negatively correlated with performance. They identified the level of indebtedness that maximize returns: the optimal gearing is 24,5% during market upturns and 12,8% during recessions. The authors highlight that a fund should have these characteristics.

However, other studies disagree with these findings. Farrelly and Stevenson found a little significance between fund's characteristics and its returns, which mainly depend on investment decisions (Farrelly, Stevenson, *Performance drivers of private real estate funds*, 2016).

In summary, there is no consensus among authors on which should be the optimal structure of a REIF. Therefore, funds are vehicles for investments, so their structure has to be tailored on the specificities of each investment in order to maximize returns.

REIFs market and recent developments

According to Assogestioni, the number of real estate funds at June 2016 is 288, 13 more than the previous six months and 26 more than 1 year ago. The funds split between reserved (262) and retail (22), where the firsts compose the vast majority of the market (91%). The limited number of retail funds is explained by the diffidence of Italian investors regarding financial instruments. The value of assets under management is € 45,785 million, a diminution of -1,8% from last six months, mainly due to current impairments. The 89,7% of assets are owned by reserved funds, confirming the fact the market is dominated by institutional investors. The total NAV of funds is about € 32,192 million. LTV of the industry is 29,9%, significantly lower than the indebtedness consented by regulation, outlining a prudential behavior of market players. Twenty-two SGRs constitute the market. The first ten for assets under management are Idea Fimit, Investire, Generali Real Estate, BNP Paribas REIM, Fabrica Immobiliare, Prelios, Sorgente, Castello, Serenissima and Torre. Together they constitute the 86,5% of the market.

Patrimonio, attività, numero di fondi e società

	dicembre 2014		giugno 2015		dicembre 2015		giugno 2016	
Patrimonio complessivo	31.330	100,0%	31.046	100,0%	32.496	100,0%	32.192	100,0%
Fondi riservati	27.099	86,5%	27.162	87,5%	28.760	88,5%	28.531	88,6%
Fondi retail	4.231	13,5%	3.884	12,5%	3.736	11,5%	3.661	11,4%
Valore delle attività	46.409	100,0%	46.215	100,0%	46.626	100,0%	45.785	100,0%
Fondi riservati	40.859	88,0%	41.086	88,9%	41.853	89,8%	41.077	89,7%
Fondi retail	5.549	12,0%	5.130	11,1%	4.773	10,2%	4.709	10,3%
Numero fondi	260	100,0%	262	100,0%	275	100,0%	288	100,0%
Fondi riservati	235	90,4%	238	90,8%	251	91,3%	262	91,0%
Fondi retail	25	9,6%	24	9,2%	24	8,7%	26	9,0%
Numero società	23	100,0%	23	100,0%	22	100,0%	22	100,0%

Figure 57, Total NAV, assets, number of Italian REIFs and SGR number, Source: Assogestioni (six-monthly report, 1° September 2016)

	Patrimonio netto	Attività promosse	Attività gestite	
	Mln euro	Mln euro	Mln euro	%
1 IDEA FIMIT SGR(*)	6.017	7.867	7.867	17,2%
Fondi riservati	5.074	6.420	6.420	14,0%
Fondi retail	943	1.447	1.447	3,2%
2 INVESTIRE SGR	5.119	6.913	6.913	15,1%
Fondi riservati	4.783	6.504	6.504	14,2%
Fondi retail	337	409	409	0,9%
3 GENERALI REAL ESTATE SGR	3.953	5.220	5.220	11,4%
Fondi riservati	3.953	5.220	5.220	11,4%
4 BNP PARIBAS REIM SGR	3.228	5.021	5.021	11,0%
Fondi riservati	2.833	4.459	4.459	9,7%
Fondi retail	395	562	562	1,2%
5 FABRICA IMMOBILIARE SGR	3.322	3.700	3.700	8,1%
Fondi riservati	3.198	3.556	3.556	7,8%
Fondi retail	124	145	145	0,3%
6 PRELIOS SGR	2.019	3.559	3.559	7,8%
Fondi riservati	1.742	3.118	3.118	6,8%
Fondi retail	277	440	440	1,0%
7 SORGENTE SGR	1.521	2.313	2.313	5,1%
Fondi riservati	1.521	2.313	2.313	5,1%
8 CASTELLO SGR	659	2.016	2.016	4,4%
Fondi riservati	592	1.946	1.946	4,3%
Fondi retail	67	71	71	0,2%
9 SERENISSIMA SGR	703	1.581	1.581	3,5%
Fondi riservati	703	1.581	1.581	3,5%
10 TORRE SGR	858	1.332	1.332	2,9%
Fondi riservati	430	894	894	2,0%
Fondi retail	428	438	438	1,0%
11 AXA REIM SGR	797	1.065	1.065	2,3%
Fondi riservati	797	1.065	1.065	2,3%
12 FINANZIARIA INTERNAZIONALE INVEST. SG	512	1.018	1.018	2,2%
Fondi riservati	512	1.018	1.018	2,2%
13 POLIS FONDI SGR	615	768	768	1,7%
Fondi riservati	411	558	558	1,2%
Fondi retail	203	210	210	0,5%
14 CDP INVESTIMENTI SGR	750	764	764	1,7%
Fondi riservati	750	764	764	1,7%
15 AMUNDI REAL ESTATE ITALIA SGR	416	572	615	1,3%
Fondi riservati	99	191	191	0,4%
Fondi retail	317	381	424	0,9%
16 INVESTITORI SGR	537	571	571	1,2%
Fondi riservati	537	571	571	1,2%
17 UNIPOLSAI INVESTIMENTI SGR	361	486	486	1,1%
Fondi riservati	361	486	486	1,1%
18 AEDES REAL ESTATE SGR	229	396	396	0,9%
Fondi riservati	120	261	261	0,6%
Fondi retail	109	134	134	0,3%
19 MEDIOLANUM GESTIONE FONDI SGR	312	320	320	0,7%
Fondi retail	312	320	320	0,7%
20 VEGAGEST SGR	149	152	80	0,2%
Fondi retail	149	152	80	0,2%
21 ERSEL ASSET MANAGEMENT SGR	79	80	80	0,2%
Fondi riservati	79	80	80	0,2%
22 DUEMME SGR	36	73	73	0,2%
Fondi riservati	36	73	73	0,2%

TOTALE	32.192	45.785	45.757	100%
Fondi retail	3.661	4.709	4.680	10%
Fondi riservati	28.531	41.077	41.077	90%

(*) Dati dal bilancio d'esercizio al 31/12/2015.

Figure 58, SGRs by NAV and assets under management, Source: Assogestioni (six-monthly report, 1° September 2016)

For the first semester 2016, the gross subscription was about € 1,583 million, considerably less than the previous six months but not largely below the average of the last years. Dividends and reimbursements were € 1,110 million. How it is easily deductible, the majority of movements regarded reserved funds.

Raccolta lorda, proventi distribuiti e rimborsi (*)

	2° Sem. 2014	1° Sem. 2015	2° Sem. 2015	1° Sem. 2016
Raccolta lorda	3.620	801	2.019	1.583
Fondi riservati	3.620	801	2.019	1.467
Fondi retail	0	0	0	117
Proventi e rimborsi	935	913	897	1.110
Fondi riservati	830	658	871	1.041
Fondi retail	105	256	26	69

(*) I dati non includono Idea Fimit Sgr.

Figure 59, Total gross subscriptions, dividends and reimbursements, Source: Assogestioni (six-monthly report, 1° September 2016)

Assets managed are for the vast majority real estate (88,6% of the total), for a value of € 40,556 million. Other assets are holdings (€ 616 million), securitized assets (€ 75 million), securities and liquidity (€ 2,520) and other financial instruments (€ 2,018 million). Market players chose to target mainly real estate, maintaining themselves significantly above the border of 2/3 established by the legislator. They chose the advantages of specializing in a single asset class over the optimal portfolio allocation suggested by theory.

Composizione delle attività

	dicembre 2014		giugno 2015		dicembre 2015		giugno 2016	
	Mln. euro	%	Mln. euro	%	Mln. euro	%	Mln. euro	%
Totale	46.409	100,0%	46.215	100,0%	46.626	100,0%	45.785	100,0%
Immobili	40.669	87,6%	40.803	88,3%	40.943	87,8%	40.556	88,6%
Partecipazioni	895	1,9%	858	1,9%	614	1,3%	616	1,3%
Strumenti Cartolarizzazione	75	0,2%	75	0,2%	75	0,2%	75	0,2%
Valori Mobiliari e.Liquidità	3.433	7,4%	3.376	7,3%	3.185	6,8%	2.520	5,5%
Altro	1.337	2,9%	1.102	2,4%	1.809	3,9%	2.018	4,4%

Figure 60, Asset classes, Source: Assogestioni (six-monthly report, 1° September 2016)

Portfolio movements balanced themselves, with a little prevalence of divestments. Assets acquired and conferred were about € 1,247 million, dismissals € 1,359 million. Acquisitions and contributions of holdings were € 44 million and dismissals € 20 million.

Movimentazione del portafoglio immobiliare (*)

	2° Sem. 2014 Mln. euro	1° Sem. 2015 Mln. euro	2° Sem. 2015 Mln. euro	1° Sem. 2016 Mln. euro
Immobili				
Acquisti e conferimenti	3.101	1.464	2.605	1.274
di cui fondi che hanno richiamato nel semestre	*2.726*	*1.067*	*2.344*	*1.122*
Dismissioni	-2.040	-1.060	-1.442	-1.359
di cui fondi che hanno richiamato nel semestre	*-28*	*-10*	*-363*	*-447*
Partecipazioni				
Acquisti e conferimenti	184	92	29	44
di cui fondi che hanno richiamato nel semestre	*86*	*42*	*5*	*32*
Dismissioni	-26	-56	-126	-20
di cui fondi che hanno richiamato nel semestre	*0*	*0*	*0*	*0*

Figure 61, Portfolio movements, Source: Assogestioni (six-monthly report, 1° September 2016)

Assets under management are € 35,206 million. The 43% of them is located in the north west and the 33,6% in the center, where there are the tier 1 cities (Milan and Rome) and other important centers. In the north east there is the 12,9% of assets, in the south and islands the 8,1% and in other countries the 2,4%.

By destination of use the majority of assets are offices (42,7%). The rest is divided in retail (14,3%), logistics (3,1%), residential (19,5%), healthcare providers (1,7%), industrial (3,4%), hotel and leisure (3,9%) and others (11,4%).

Offices offer relatively stable cash flows, because of the low volatility of service sector in Italy respect to other economies (for example US). In fact, an investment in Italian offices bares low level of risk.

The figure that shows a solid growth from previous years is residential. In a country characterized by one of the highest home-ownership rates in the world, market actors demonstrate an increasing interest for the sector.

A segment who grew respect to previous six months is retail. In fact, Italian Consumer Confidence Index, which is a good indicator of the overall industry development, is rising. Other destinations of use do not show a relevant variation from last years.

Per area geografica	dicembre 2014		giugno 2015		dicembre 2015		giugno 2016	
	Mln. euro	%	Mln. euro	%	Mln. euro	%	Mln. euro	%
Totale	42.511	100,0%	42.911	100,0%	35.692	100,0%	35.206	100,0%
Nord Est	4.644	10,9%	5.300	12,4%	4.861	13,6%	4.546	12,9%
Nord Ovest	18.741	44,1%	18.872	44,0%	15.578	43,6%	15.127	43,0%
Centro	14.591	34,3%	14.497	33,8%	11.546	32,3%	11.823	33,6%
Sud e Isole	3.318	7,8%	3.226	7,5%	2.834	7,9%	2.862	8,1%
Estero	1.217	2,9%	1.017	2,4%	872	2,4%	848	2,4%

Per destinazione d'uso	dicembre 2014		giugno 2015		dicembre 2015		giugno 2016	
	Mln. euro	%	Mln. euro	%	Mln. euro	%	Mln. euro	%
Totale	42.511	100,0%	42.911	100,0%	35.692	100,0%	35.206	100,0%
Uffici	20.976	49,3%	20.946	48,8%	16.169	45,3%	15.016	42,7%
Commerciale	5.464	12,9%	5.586	13,0%	4.809	13,5%	5.033	14,3%
Logistica	1.200	2,8%	1.231	2,9%	1.246	3,5%	1.103	3,1%
Residenziale	5.642	13,3%	5.757	13,4%	6.164	17,3%	6.870	19,5%
Residenze Sanitarie Assistenziali (RSA)	534	1,3%	647	1,5%	554	1,6%	587	1,7%
Industriale	1.309	3,1%	1.466	3,4%	1.046	2,9%	1.184	3,4%
Turistico / Ricreativo	1.725	4,1%	1.850	4,3%	1.406	3,9%	1.385	3,9%
Altro	5.660	13,3%	5.428	12,7%	4.298	12,0%	4.027	11,4%

Figure 62, Assets segmentation by geographical location and destination of use, Source: Assogestioni (six-monthly report, 1° September 2016)

SIIQ

The main alternative to the SGR in the Italian framework is the SIIQ (*Società d'Investimento Immobiliare Quotata*). Introduced by the Budget Law for 2007 (Law No. 296, 27th December 2006), which became Law No. 174, 7th September 2007, the normative was changed by the DL 133 of 12th September 2014 (the so called *Sblocca Italia*), which entered into force the 13th September 2014 and became Law 164 of 11th November 2014.

SIIQ core business is the rental activity: in fact, 80% of assets have to be leased and 80% of income has to come from rents. A company that respect those requirements for more than 3 years can exercise the option to become a SIIQ. A single shareholder cannot own (directly or indirectly) more than 60% of voting rights and profit sharing rights. At least 25% of shares have to be retained by shareholders, which do not possess, at the time of the

utilization of the option, more than the 2% of voting rights and profit sharing rights. This requirement does not apply to companies listed before the 2014 Law. The 70% of profits has be distributed. The company has to keep separate books for leasing and other activities, and disclaim the criteria used to allocate costs between them.

The reason is that SIIQs have two tax regimes: one for rental activities and one for other activities. Rental activities are exempted from corporate income taxes (IRES and IRAP), but dividends are subject to a 26% withholding tax (15% for income from residential properties). The tax does not apply if the shareholders is an Italian pension fund, an Italian investment fund or the income is the results of portfolio individual management. Capital gains are subject to a 26% substitutive tax, but only if the property is retained for more than 3 years.

All the other activities are subject to the ordinary corporate income tax regime.

The normative does not provide any specifications for the minimum level of indebtedness or the minimum value of owned properties.

The main differences from the SGRs are:

- Lack of patrimonial autonomy
- Direct governance
- Absence of limits to the indebtedness
- Unlimited duration
- Income sources
- Tax regime

First, the SIIQ assets and the company are not two separate entities, like the fund and the SGR. The governance model is direct: the company shareholders nominate the managers who run the SIIQ. Instead, fund subscribers entrust the SGR to manage their assets. The regulation does not provide any limit to the leverage, unlike REIFs. The duration is unlimited, on the opposite real estate funds maximum length is 30 years. The SIIQ main source of income has to be the leasing activity and that prevent frequent dismissals. This legal form well suits long-term oriented investors, who seek stable cash flows during their investment horizon. Conversely, the REIFs form permit more managerial flexibility in investment decisions. The tax regime is clearly disadvantageous respect to real estate funds. In fact, rent activities and other regimes have two different taxations. Instead, funds have the same fiscal benefits for every asset class (but not for every investor class). In Italy, there are 8 SIIQs, of which 2 are listed on the stock exchange (*Igd* and *Beni Stabili*). A legal framework fair from stable, fiscal inefficiency and strict requirements inhibited SIIQ success on the Italian market.

SICAF

Another investment vehicle adapted to real estate is SICAF (*Società d'Investimento a Capital Fisso*). It was introduced by the Directive AIFM No. 2011/61/CE of The European Parliament and the Council and by the connected delegate regulation No. 231/2013 of the Commission, transposed in Italy by Legislative Decree 44/2014 and Laws of Consob and Bank of Italy.

This instrument has the form of public company with fixed capital. It is reserved for general public and institutional investors. The firm it is not a separate entity from its assets, so there is the absence of patrimonial autonomy, like the SIIQ. To be classified as SICAF, 2/3 of company's assets have to be invested in real estate and real estate rights (the same of REIFs). The minimum initial capital is € 1 million. Even the tax regime is the same of real estate funds. Dividends are subject to a 26% withholding tax and IRES and IRAP are not applied, mortgage and cadastral taxes are halved. The governance of the company can be direct or indirect. In the first case, the shareholders appoint the BoD who runs the firm. In the second case, management is entrusted to a third party, normally a SGR.

In summary, SICAFs are investment funds in a corporate form. They present the same fiscal benefits of REIFs. The capital is fixed, with possibility of subsequent subscriptions, to avoid an eventual illiquidity problem due to an unexpected retirement of quotes. Moreover, the lack of patrimonial autonomy constitutes a guarantee for investors, especially in the liquidation phase. All these advantages make the SICAF a valid alternative to real estate funds.

	REIF	SIIQ	SICAF
Patrimonial autonomy	Yes	No	No
Governance	Indirect	Direct	Indirect/direct
LTV	60% of real estate assets, 20% of other instruments	Not specified	Not specified
Principal requirement	2/3 of assets in real estate and real estate rights	80% of assets in real estate and real estate rights, 80% of income from renting activity	2/3 of assets in real estate and real estate rights
Tax regime	26% witholding tax on dividends	26% witholding tax on dividends for rental income, corporate income taxation for othe sources of income	26% witholding tax on dividends

Figure 63, Main differences between REIFs, SIIQ and SICAF

CHAPTER 5: THE ALPHA CASE

Deal overview

In recent years, the main opportunities for asset management companies came from the banking system. European banks started to dismiss their assets, in particular their real estate portfolio. The reason was twofold: obtaining the necessary liquidity to meet the regulatory requirements (Basel III normative framework) and freeing capital to invest in core activities, which have a higher return than real estate investments. Additionally, professional operators, who have real estate as core business, can manage these assets more efficiently.

In this context, in the period 205-2016 one of the main Italian banking groups started to dismiss its real estate portfolio. The bank has the ownership of some assets near Barberini square, in Rome, which we will call from now the Alpha complex. We won't disclose the name of the asset, because it is covered by confidentiality agreements. The buildings were completely refurbished in period 2012-2016 and they were publically offered to professional operators. The ask price was € 125 milion. One of the firms interested in the deal was Fabrica SGR, who had to evaluate the sustainability of the ask price.

Subjective analysis

Asset management companies collect money from investors, to invest them in projects with risk/return profile dictated by investors. Every investor has a different risk appetite, which is given by its needs. For instance, a pension fund has not the same risk profile of an hedge fund. The first must pay the pension to its clients, so it has to rely on stable and predictable cash flows. The second has to maximize the performance of any investment. Therefore, the underlying risk will increase.

The complex is a prime asset in the center of Rome, with an already established tenant base. It is composed by five buildings, all occupied, except one that is vacant. All tenants have high credit quality. The asset generates stable cash flows. All these are the characteristics of a core plus investment: something in between core and value add. Therefore, the risk/return profile of the investment is low and the duration is high, because it will require time to dismiss the asset. These are the characteristics demanded by pension funds, so our target investor can be a pension fund. Normally, they ask a target IRR of 4-5% and a duration of at least 20-30 years. We will average these values, obtaining a target IRR of 4,5% and duration of 25 years. It is important to notice that the target IRR is the minimum rate of return accepted by investors. The goal is to find the maximum price that can be offered by Fabrica, to reach the target return.

Objective analysis

Location

The complex is situated in the Via Veneto area, a central location in the heart of Rome. The highest-end residential and corporate users occupy the area. To cite some, BNL, Generali, Warner Bros, the Ministry of Economic Development, Bank of Italy and the US Embassy chose to locate their headquarters in the zone.

The accessibility of the district make it a desirable location for business. The Barberini metro stop serve the zone, as well as several bus lines. The central station (Termini) is reachable by feet, providing a connection to the main cities. Milan is at 2:30 h. Fiumicino international airport is at 30 minutes. An underground parking area, reserved for employees, serves the complex, along with few other parking facilities in the district.

Asset characteristics

The complex is composed by class A buildings, with the highest energetic standards and completely refurbished. The gross area is 22.004 sqm. The destination of use is mixed: four buildings are for office use and one for residential. For the Roman market, the asset offers the top quality standards. The underground parking has capacity of 50 cars.

Building 1 is mainly for office use. The gross area is about 2.883 sqm, arranged over a basement, a ground floor and 6 upper floors. Elegant architectural features and a classical facade characterize the edifice. There are 3 elevators and 2 staircases. The tenants are the corporate and banking division of the Italian bank and an engineering company. The first is a subsidiary of one of the biggest multinational banks in the world. It offers to its clients advisory on M&A, IPO securitization, bond issuance and project finance services. The second offers services and technical advisory to architectural, engineering and construction projects. It is a US company, listed on the NYSE. Its turnover reached almost 11 billion of USD in 2016, with worldwide subsidiaries (in Italy they are located in Rome and Milan). Both tenants have solid financial statements and they shouldn't have any financial distress. The bank's division has its historical location in the building, so it is unlikely that it will move out. The engineering company willingness to remain in the actual place is more uncertain, but considering that the edifice has an extraordinary iconic value and it is not easy for a company to relocate, especially in Rome, it shouldn't move out. Because the name of tenants cannot be disclosed, we will call them *Bank* and *Engineering*.

Building 2 is an office destination. It faces an historical church. Elegant pillars and decorative elements adorn the facade. The edifice is listed by the Ministry of Cultural Heritage and Activities. The gross area is about 5.241 sqm. There are basement, ground floor and 7 upper floors, along with 3 elevators and 2 staircases. The tenant is an association, which represents the needs of a sector to the main Italian administrative and political institutions, like Parliament and Government. It also give to the employees of its associates technical assistance and training.

Given its role, the tenant has the highest credit standards. The edifice is its historical head office, so there are no incentives for the tenant to move out. We will call it *Association*.

Building 3 is for office use. It is characterized by high architectural value and pastel colored facades. The gross area is circa 7.600 sqm, with 2 underground basement levels, a ground floor and 6 upper floors, along with 3 elevators and 2 staircases. The only tenant is an top Italian law firm. It deals with business law, mainly in financial and banking sectors. It employees more than 200 lawyers and it offers tailored assistance to its clients. The 2016 revenues reached € 69 million. The company looks sdid and it is one of the major players in its sector. It can provide stable cash flows during the investment life. Because of the high iconic value of the edifice, the firm is a reliable tenant and it shouldn't change location. For this tenant we chose the name *Law*.

Building 4 is used for residential purpose. Its gross area is about 2.212 sqm. The apartments will be leased back by the *Bank* for its top management. The pastel colored facades give a great artistic value to the edifice. There is a basement, a ground floor and 5 upper floors. Even in this case, the tenancy is almost secure. The management of the bank has all the interest to remain in the building, because of the proximity of its workplace (building 1).

Building 5 is an office destination, with elegant facades and a classical design. The gross area is about 4.068 sqm and the edifice is composed by a basement, a ground floor and 6 upper floors. It is completely vacant at the time, but it offers the highest standards for office in Rome and it is the top destination for business. It suits well a single-tenant or multi-tenant strategy. The *Bank* offers a guarantee of € 1.300.000 for 2017 and 2018.

While the first four buildings have sound tenants, which should meet their payments and ensure adequate cash flows during the life of the investment, the main uncertainty elements regard the last edifice. The success of the investment rely on finding good quality tenants for the building, but two years should be sufficient to lease the asset.

The market

We analyzed Rome office market in the second chapter, so there is little to say more. Currently prime net yields are at 4%. In the last 10 years they fluctuate between 4% and 5%. The figure is much more stable than other European cities. Prime rents are also stable, which means that real estate in Rome is not subject to great fluctuations in value, and the growth goes hand in hand with rental growth, which is linked to inflation.

The Alpha complex evaluation

Inputs of the model

We have all the elements to evaluate the Alpha investment. The methodology used is the DCF method, due to the complexity of the investment. The holding period is 25 years and the target IRR dictated by our investor is 4,5%. The acquisition year is 2017 and the ending one is 2042. Buildings are five: 4 offices and one residential, 4 occupied and one vacant. WGLA are, from building 1 to 5, respectively, 2.105, 4.661, 3.946, 1.430 and 2.988 sqm. Rents per sqm are, in order, 468, 322, 355, 454 and 435 €/sqm. In 2017 *Bank* rent is € 950.000 for the office and € 650.000 for residential. *Engineering* pays € 35.000, *Association* € 1.229.508 and *Law* € 1.400.000. The guarantee from the *Bank* for the vacant building is € 1.300.000 for each year (2017-2018). The discount for *Association* is probably due to the high quality of the tenant, which the ex-owner wanted to retain at any price.

Revenues estimation

The rental growth is supposed to be in line with inflation (1,5% in 2017), weighted for a lease appreciation index provided by ISTAT (75% of inflation). The 2017 number reflects the consensus about the current year. In the next years, it was chosen 2% as expected inflation rate, because it is the target of the ECB and it is the average inflation of period 1991-2017. Obviously, this number is weighted for the lease appreciation index. The rent of each tenant is adjusted to the market rent after the deadline of the contract. For *Bank*, *Engineering* and *Residential* the actual rent is above the market rent, so we expect that they will ask for an adjustment to market rent after the first deadline of the contract (31/12/2015 for *Bank*, 31/01/2020 for *Engineering* and 31/12/2020 for *Residential*). For *Association* and *Law* the current rent is below the market one, so we will ask for an increase. The increase will not be immediate, but we expect a gradual adjustment to market rent in 2-3 years. However, the aim of our evaluation is to find the maximum price payable for the asset, so we have to include negative circumstances in our model. We suppose that both tenants move out after the contractual deadline. The contract with the *Association* expires the 31/12/2025, so we expect a one-year vacancy in 2026. In 2027, we expect to occupy completely the building at market rent. Professional operators say that the physiological term to find a tenant is on average one-year: six months to find him and negotiate contractual agreements, and six months to refurbish the space and meet its directives. The contract with *Law* is the standardized lease agreement (6 + 6), which expires the 30/11/2026. We expect that we have to wait the end of the 12 years to bring the rent to the market level. Even in that case, a gradual increase to the market level is the most probable circumstance, but for prudential purposes we suppose a year of vacancy in 2027 before recruiting a new tenant.

In 2016 the market rent for residential is 340 €/sqm, according to Scenari Immobiliari. For offices it is 375 €/sqm, according to Scenari Immobiliari, and 345,6 €/sqm, according to Osservatorio del Mercato Immobiliare, so we did the average to compute the prime office rent (360,30 €/sqm).

For the vacant building we are confident that it will be entirely occupied in 2019, providing a full rent capacity. The two-years time frame given by the guarantee should be sufficient to find a new tenant.

Then, the rents were summed each year to obtain the gross revenues. We subtracted a delinquency rate of 2% to obtain the net revenues. The delinquency rate is a part of the gross rent, which is uncollectable. Professional operators say that normally it averages at 2% of rent.

Costs estimation

The costs associated with the project are transaction costs and operative costs. The firsts occur in the acquisition year (2017) and the seconds during all the lifetime of the investment. Transaction costs are the transaction tax, called *Imposta di registro* (2% of purchase price for funds), due diligence costs and legal fees (respectively € 60.000 and € 20.000), and other transaction costs (estimated to be € 10.000). Operative costs are the property taxes IMU and TASI (€ 595.187 on a semiannual basis), the lease registration tax (0,5% of rent), insurance costs and extraordinary maintenance (respectively the 0,05% and 0,3% of reconstruction costs), and the leasing fee for the real estate agency (which is 10% of rent and it is supposed to be paid in 2019, 2027 and 2028).

Reconstruction costs are the cost to reconstruct the building ex novo and they are used mainly for insurance purposes. They are calculated multiplying the reconstruction costs per sqm (1.450 €/sqm) for the total gross area (22.004 sqm). Then, other costs (project management, construction supervision, unexpected costs, connections and other utilities), which are computed as a percentage of reconstruction costs, are added to obtain the full reconstruction cost (€ 37.014.388). The leasing fee is the compensation of the real estate agency for finding a new tenant.

All the costs are summed together each year to obtain the total costs. Net revenues minus total costs are equal to the net operating income (NOI).

WACC calculation

The NOIs (and, we will see later, the terminal value) must be discounted using an appropriate yield. That yield is the weighted average cost of capital (WACC). It considers both sources of capital (equity and debt), weighted for the financial structure of the project.

The cost of equity is made by a risk-free rate plus a risk premium. The risk-free is equal to the return of the government bond (BTP) with the 0same duration of the investment. It was considered the average between the BTPs with remaining duration of 27,25 and 23,25 years, which is 2,65%. The risk premium increases the yield proportionally to the risk of the project. It has two components: one related to the asset and one to its management. The part concerning the asset is composed by risk-factors as the destination of use, location, maintenance status and building quality. The asset is a class A building, so the last three elements are low (0,25%). The destination of use is mixed, so the risk-factor is in-between residential and offices (0,5%). The management component is made up by credit risk, lease type and lease duration. The credit risk regards the tenant credit quality, which is high, so the factor is 0,5%. The type of lease, which is about the leasing contract, is 1%, in line with the market. Regarding the lease duration, every contract has a different length, but the average is almost 7 years, so the risk factor is not big (0,5%). The cost of equity is the sum of these factors and it is 5,9%.

Cost of debt is the sum of a risk-free and a spread calculated by the lender. The risk-free is the interbank rate with the same duration of the investment (Euris 25 years), which is 1,43%. The spread is the remuneration of the lending bank and it is 2%. Therefore, cost of debt is 3,43%.

The WACC is the sum of cost of debt and cost of equity, weighted for their quote in the financial structure. The deal is financed with 50% of equity and 50% of debt, so the WACC is 4,67%.

Terminal value

The terminal value represents the future capability of the asset to produce cash flows and it is the (target) selling price of the complex in the exit year, which is 2042. To obtain it, we discount the last NOI for an appropriate yield called going out cap rate, which is equal to the WACC, minus a growth rate, which was put equal to the expected inflation rate (2%), weighted for the ISTAT lease appreciation index. In fact, because of the relative flatness of the office yield curve in Rome, we supposed that the asset value will increase in line with the rental growth (which rises in line with inflation). Then, we added a risk-out factor of 0,5% for prudential purposes. The exit price is circa € 168 million. The vale seems high, but we have to think about two things: first the long duration of the investment (25 years), and then the assumption about the growth rate. It is not unlikely that the asset will grow in line with the inflation (weighted for the lase appreciation index).

To check the robustness of the calculation, we capitalized the average price per sqm of the area to 2042. The average price per sqm for offices was € 7.300 and for residential € 9.400 in 2016. We weighted the two destination of use for their respective WGLA and we obtained an average price for the complex of 7.498 €/sqm. Then, we capitalized it to 2042 and we multiplied it for the total WGLA. We obtained a final price of € 167 million, not far from the terminal value calculated using the perpetuity formula.

Final value and bid price

We discounted all the NOIs and the terminal value for the WACC, obtaining our estimation of Alpha complex value. The value of the asset is around € 121 million. The pattern of net yields range from 4,45% to 6,37%. Only in 2026 and 2027 they are substantially lower, because we supposed a vacancy for that years. We computed the bid price to reach the target IRR of 4,5%. The bid price is slightly below the ask price (almost € 125million). The bid ask-spread is circa € 224.000.

The model also include a sensitivity analysis, to be aware of how the IRR change in relation to terminal value and market rent variations.

Final considerations

The financial doctrine says that we shouldn't accept the project. The target IRR is lower than WACC, which means that alternative projects with the same level of risk have a greater return. However, the Italian market currently lacks of alternative projects, given its small size and the low investment volumes compared to other markets. For that reason, we can overcome the financial doctrine.

We based our evaluation on prudential criteria, supposing a vacancy in 2 years and increasing the going out cap rate of 0,5%. We also considered the market rent in our evaluation, without any premium, that could be included in the model, given the quality of the asset. The aim of our evaluation was to determine the correctness of the ask price, considering all the negative variables that could affect the project. The conclusion is that we should accept the deal.

The goal of the managerial strategy is to improve the target return. There are two objectives to achieve to beat the market: finding an agreement with the two tenants to adjust the actual rent to the market one in a 2-3 years period, in order to avoid the vacancy, and selling the building at terminal value. Regarding the last goal, the most probable buyer would be an operator with same risk/return profile of our target investor. The price of the asset should grow in line with inflation, as the empirical evidence about office yield in Rome suggests. Therefore, we should find another SGR with institutional clients with the same risk profile of ours.

Concerning the two vacancies hypothesized, our scenario forecasts a vacancy in two years, with a target IRR of 4,5%. A more favorable scenario provides that *Law* leaves and *Association* has a 3-years period time-period to adjust to market rent. In that case the IRR is 4,54%. If both tenants stay and have a 3-years period to adjust to market rent the IRR became 4,58%.

It is fundamental to find an agreement with *Association* and *Law* in order to avoid a possible vacancy. A good asset manager knows every single tenant: he has to understand their needs and to build a long-term trust

relationship with them. Asset management is not only finance. Human relationships play a fundamental role in business. The selling price is the most probable, but the market can move in different directions during the holding period. Inflation can be lower or higher and other factors can have a significant impact on final price. A financial analyst examine the variables that can affect its model, he tries to quantify the risks, he models different scenarios and he predicts the most probable one. The future cannot be predicted, but a probable result can be. In the end, financial models supports managerial strategy, but only the latter allows to reach and overcome the targets fixed by models.

Tenant	WGLA	rent (€)	€/mq	WGLA start	first deadline	second deadlin	break option	
Bank	2105	950000		01/01/2017	31/12/2025	31/12/2034	31/12/2025	
Engineering		35000	468	01/01/2014	31/01/2020	31/01/2026	31/01/2018	985000
Association	4661	1229508	322	01/01/2014	31/12/2025 n.d.	n.d.		1500000
Law	3946	1400000	355	01/12/2014	30/11/2020	30/11/2026	31/12/2022	1400000
Residential	1430	650000	454	01/01/2017	31/12/2020	31/12/2024	31/12/2020	650000
Vacant	2988	1300000	435	01/10/2016	01/10/2018 n.d.	n.d.		1300000
total	15131	5564508						

inflation 2017	1,50%
inflation (ECB target)	2%
lease appreciation index by ISTAT	75%

Comparables				
residential (Scenari Immobiliari)	min	max	vmf	
prices (€/sqm)		7000	11800	9400
rent (€/sqm)		285	530	340
offices (Scenari Immobiliari)	min	max	vmf	
prices (€/sqm)		5000	10000	7300
rent (€/sqm)		260	555	375
offices (OMI)	min	max	vmf	
prices (€/sqm)		5400	7900	
rent (€/sqm) per month		19,5	28,8 n. d.	

transaction costs		
Due diligence	60000	
legal fees	20000	
transaction tax	2%	PP
other transaction costs	10000	
management costs		
IMU and TASI	595187	
insurance	0,05%	CRN
lease registration tax	0,50%	rent
Property and Facility management	2,10%	rent
Commissione di rilocazione	10,00%	rent
selling fee	1,00%	selling price
extraordinary maintenance	0,30%	CRN

Figure 64, Inputs of the model

Parameters

inflation 2017	1,5%		
inflation (ECB target)	2%		
lease appreciation index by ISTAT	75%		
delinquency	2%		

		average (€/sqm)	2016	2017
office rent €/sqm (Scenari Immobiliari)	375,00		2016	2017
office rent €/sqm (OMI)	345,60		360,30	364,35
residential rent €/sqm (Scenari Immobiliari)			340,00	343,83

Cost parameters

Due diligence	60.000
legal fees	20.000
transaction tax	2%
other transaction costs	10.000
IMU and TASI (semiannual)	595.187
insurance	0,05%
lease registration tax	0,50%
Property and Facility management	2,10%
extraordinary maintenance	0,30%
leasing fee	10,00%
selling fee	1,00%

DCF table

year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Bank	950.000,00	964.250,00	978.713,75	993.394,46	1.008.295,37	1.023.419,80	1.038.771,10	1.054.352,67	1.070.167,96	845.878,75	858.566,93
Engineering	35.000,00	35.525,00	36.057,88	29.175,58	29.613,22	30.057,42	30.508,28	30.965,90	31.430,39	31.901,85	32.380,37
Association	1.229.508,20	1.247.950,82	1.266.670,08	1.285.670,13	1.304.955,19	1.324.529,51	1.344.397,46	1.364.563,42	1.385.031,87	0	
Law	1.400.000,00	1.421.000,00	1.442.315,00	1.461.949,73	1.485.908,97	1.508.197,61	1.530.820,57	1.553.782,88	1.577.089,62	1.467.350,47	
Residential	650.000,00	659.750,00	669.646,25	679.690,94	521.913,34	529.742,04	537.688,17	545.753,49	553.939,79	562.248,89	570.682,62
Vacant	1.300.000,00	1.300.000,00	1.121.443,33	1.138.264,98	1.155.338,95	1.172.669,04	1.190.259,07	1.208.112,96	1.226.234,65	1.244.628,17	1.263.297,60
gross revenues	5.564.508,20	5.628.475,82	5.514.846,29	5.590.145,82	5.506.025,04	5.588.615,41	5.672.444,64	5.757.531,31	5.843.894,28	4.152.008,12	4.695.955,69
net revenues	5.453.218,03	5.515.906,30	5.404.549,36	5.478.342,90	5.395.904,54	5.476.843,10	5.558.995,75	5.642.380,69	5.727.016,40	4.068.967,96	4.602.036,58
	4,45%	4,50%	4,41%	4,47%	4,40%	4,47%	4,54%	4,61%	4,68%	3,32%	3,76%
Due diligence	60.000,00										
legal fees	20.000,00										
transaction tax	2.500.000,00										
other transaction costs	10.000,00										
IMU and TASI (semiannual)	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00
insurance	18.507,19	18.784,80	19.066,57	19.352,57	19.642,86	19.937,50	20.236,57	20.540,12	20.848,22	21.160,94	21.478,35
lease registration tax	27.266,09	27.579,53	27.022,75	27.391,71	26.979,52	27.384,22	27.794,98	28.211,90	28.635,08	20.344,84	23.010,18
Property and Facility management	114.517,58	115.834,03	113.495,54	113.314,00	115.013,71	116.738,91	118.489,99	120.267,34		85.448,33	96.642,77
extraordinary maintenance	111.043,16	112.708,81	114.399,44	116.115,43	117.857,17	119.625,02	121.419,40	123.240,69	125.089,30	126.965,64	128.870,12
leasing fee											
selling fee											
operative costs	4.051.708,03	1.465.281,18	1.576.502,63	1.468.278,92	1.468.167,55	1.472.334,45	1.476.563,86	1.480.856,70	1.485.213,94	1.444.293,94	1.657.478,25
NOI	1.401.510,01	4.050.625,13	3.828.046,73	4.010.063,98	3.927.736,99	4.004.508,66	4.082.431,90	4.161.523,98	4.241.802,45	2.624.674,21	2.944.558,33
		3,2%	3,1%	3,2%	3,1%	3,2%	3,3%	3,3%	3,4%	2,1%	2,4%
terminal value											
NOI + TV	1.401.510,01	4.050.625,13	3.828.046,73	4.010.063,98	3.927.736,99	4.004.508,66	4.082.431,90	4.161.523,98	4.241.802,45	2.624.674,21	2.944.558,33
		3,2%	3,1%	3,2%	3,1%	3,2%	3,3%	3,3%	3,4%	2,1%	2,4%
FCFO	- 123.598.489,99										

Asset value: 121.461.220,70
Ask price: 125.000.000,00

Bid price: 124775811 — 4,5%
bid-ask spread: 224.189,35 — 12477'5811

Rent detail

	WGLA	rent (€/sqm)	full rent	market rent	delta
Bank	2.105	468	950.000	739.799	- 210.201,01
Engineering			35.000	27.256	- 7.744,25
Association	4.661	322	1.229.508	1.698.370	468.862,19
Law	3.946	355	1.400.000	1.437.889	37.889,44
Residential	1.430	454	650.000	491.739	- 158.261,49
Vacant	2.988	435	1.300.000	1.088.542	- 211.457,86
	15.130,79		5.564.508,20	5.483.595,23	

Sensitivity table (selling price × ERV)

selling price	4,5%	ERV 334	344	354	364	374	384	394
164937748,7		4,24%	4,31%	4,38%	4,45%	4,52%	4,58%	4,65%
165937748,7		4,25%	4,32%	4,39%	4,46%	4,53%	4,60%	4,67%
166937748,7		4,27%	4,34%	4,41%	4,48%	4,55%	4,61%	4,68%
167937748,7		4,29%	4,36%	4,43%	4,5%	4,56%	4,63%	4,70%
168937748,7		4,30%	4,37%	4,44%	4,51%	4,58%	4,65%	4,71%
169937748,7		4,32%	4,39%	4,46%	4,53%	4,59%	4,66%	4,73%
170937748,7		4,34%	4,40%	4,47%	4,54%	4,61%	4,68%	4,74%

Figure 65, DCF of the Alpha complex (part 1)

125.000.000,00
167.937.748,65
8.261,30   11.099,07

	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
	871.445,43	884.517,11	897.784,87	911.251,64	924.920,42	938.794,22	952.876,14	967.169,28	981.676,82	996.401,97	1.011.348,00	1.026.518,22	1.041.915,99	1.057.544,73	1.073.407,91
	32.866,08	33.359,07	33.859,46	34.367,35	34.882,86	35.406,10	35.937,19	36.476,25	37.023,39	37.578,74	38.142,43	38.714,56	39.295,28	39.884,71	40.482,98
	2.000.593,60	2.030.602,50	2.061.061,54	2.091.977,46	2.123.357,12	2.155.207,48	2.187.535,59	2.220.348,63	2.253.653,86	2.287.458,66	2.321.770,54	2.356.597,10	2.391.946,06	2.427.825,25	2.464.242,63
	1.693.760,34	1.719.166,74	1.744.954,24	1.771.128,56	1.797.695,48	1.824.660,92	1.852.030,83	1.879.811,29	1.908.008,46	1.936.628,59	1.965.678,02	1.995.163,19	2.025.090,64	2.055.467,00	2.086.299,00
	579.242,86	587.931,50	596.750,48	605.701,73	614.787,26	624.009,07	633.369,20	642.869,74	652.512,79	662.300,48	672.234,99	682.318,51	692.553,29	702.941,59	713.485,71
	1.282.247,06	1.301.480,77	1.321.002,98	1.340.818,02	1.360.930,29	1.381.344,25	1.402.064,41	1.423.095,38	1.444.441,81	1.466.108,44	1.488.100,06	1.510.421,56	1.533.077,89	1.556.074,05	1.579.415,17
	5,17%	5,25%	5,32%	5,40%	5,49%	5,57%	5,65%	5,74%	5,82%	5,91%	6,00%	6,09%	6,18%	6,27%	6,37%
	6.330.952,26	6.425.916,54	6.522.305,29	6.620.139,87	6.719.441,97	6.820.233,60	6.922.537,10	7.026.375,16	7.131.770,79	7.238.747,35	7.347.328,56	7.457.538,49	7.569.401,56	7.682.942,59	7.798.186,73
	6.460.155,37	6.557.057,70	6.655.413,56	6.755.244,77	6.856.573,44	6.959.422,04	7.063.813,37	7.169.770,57	7.277.317,13	7.386.476,89	7.497.274,04	7.609.733,15	7.723.879,15	7.839.737,33	7.957.333,39
	1.282.247,06	1.301.480,77	1.321.002,98	1.340.818,02	1.360.930,29	1.381.344,25	1.402.064,41	1.423.095,38	1.444.441,81	1.466.108,44	1.488.100,06	1.510.421,56	1.533.077,89	1.556.074,05	1.579.415,17
	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00	1.190.374,00
	21.800,53	22.127,54	22.459,45	22.796,34	23.138,29	23.485,36	23.837,64	24.195,21	24.558,13	24.926,51	25.300,40	25.679,91	26.065,11	26.456,09	26.852,93
	31.654,76	32.129,58	32.611,53	33.100,70	33.597,21	34.101,17	34.612,69	35.131,88	35.658,85	36.193,74	36.736,64	37.287,69	37.847,01	38.414,71	38.990,93
	132.950,00	134.944,25	136.968,41	139.022,94	141.108,28	143.224,91	145.373,28	147.553,88	149.767,19	152.013,69	154.293,90	156.608,31	158.957,43	161.341,79	163.761,92
	130.803,18	132.765,22	134.756,70	136.778,05	138.829,72	140.912,17	143.025,85	145.171,24	147.348,81	149.559,04	151.802,43	154.079,46	156.390,65	158.736,51	161.117,56
	169.376,03														
	4.653.993,76	4.913.575,95	5.005.135,20	5.098.067,84	5.192.394,47	5.288.135,99	5.385.313,64	5.483.948,96	5.584.063,80	5.685.680,37	5.788.821,18	5.893.509,11	5.999.767,36	6.107.619,48	6.217.089,38
	4.653.993,76	4.913.575,95	5.005.135,20	5.098.067,84	5.192.394,47	5.288.135,99	5.385.313,64	5.483.948,96	5.584.063,80	5.685.680,37	5.788.821,18	5.893.509,11	5.999.767,36	6.107.619,48	6.217.089,38
	1.676.958,50	1.512.340,59	1.517.170,09	1.522.072,03	1.527.047,50	1.532.097,61	1.537.223,46	1.542.426,20	1.547.706,98	1.553.066,98	1.558.507,37	1.564.029,37	1.569.634,20	1.575.323,11	1.581.097,34
	4.653.993,76	4.913.575,95	5.005.135,20	5.098.067,84	5.192.394,47	5.288.135,99	5.385.313,64	5.483.948,96	5.584.063,80	5.685.680,37	5.788.821,18	5.893.509,11	5.999.767,36	6.107.619,48	6.217.089,38
	3,7%	3,9%	4,0%	4,1%	4,2%	4,2%	4,3%	4,4%	4,5%	4,5%	4,6%	4,7%	4,8%	4,9%	5,0%
															167.937.748,65
	4.653.993,76	4.913.575,95	5.005.135,20	5.098.067,84	5.192.394,47	5.288.135,99	5.385.313,64	5.483.948,96	5.584.063,80	5.685.680,37	5.788.821,18	5.893.509,11	5.999.767,36	6.107.619,48	174.154.838,03

Figure 66, DCF of the Alpha complex (part 2)

BTP 27,25 y   2,70%

BTP 23,25 y   2,60%

cost of equity		
risk-free (25 y BTP)	2,65%	
risk premium		
asset		
destination of use	0,50%	mix
location	0,25%	
maintenance status	0,25%	good
building quality	0,25%	
management		
credit risk (tenant rating)	0,50%	
type of lease	1,00%	in line with the market
lease duration	0,50%	
cost of equity	5,90%	

cost of debt	
Eurirs 25 anni	1,43%
Spread	2,00%
cost of debt	3,43%

financial structure	
E/V	0,5
D/V	0,5

WACC	4,67%

g (inflation)	1,5%
risk out	0,50%

going out cap rate	3,67%

Figure 67, WACC calculation

CRN	
reconstruction costs (€/sqm)	1450,14
total GA	22004
Project management	3%
construction supervision	5%
unexpected costs	5%
connections and other utilities	3%
total CRN	37014387,9

Figure 68, Reconstruction costs

office price €/sqm (Scenari Immobiliari)	7300
residential price €/sqm (Scenari Immobiliari)	9400

WGLA	
BNL	
JACOBS ITALIA	2105
ANIA	4661
Legance	3946
Residential	1430
Vacant	2988
office weight	0,91
residential weight	0,09
average price €/sqm (2016)	7498,497218
average price €/sqm (2042)	11043,10835
asset price (according to 2016 value)	167090968,7

Figure 69, Terminal value check

Conclusions

Object of this analysis was the real estate investment in the Italian market. In order to define any investment, the market must be examined. We started from the real estate good and its characteristics, along with the real estate market features and segmentation. We deployed a microeconomic model to understand the variables that move the market and we explained the functioning of real estate cycles, which are the macroeconomic factor beyond any real estate investment strategy. Then we applied these topics to the Italian market. We analyzed the current cycle of the phase for residential and non-residential sector. For the first, we examined the number of transactions, the prices and the development of the credit industry in Italy, arriving at the conclusion that the market is in its recovery phase. For the second, two other drivers were more appropriate to gain the understanding of the cycle phase: investment volumes and yields. Their pattern shows that the overall market movement is bullish, with different paces for every segment.

Subsequently, the focus went to real estate investment: its characteristics, the phases that compose it and the professional figures around it. We also talked about portfolio theory, figuring out if an optimal portfolio allocation between asset classes is possible and which risk/return profile better suits real estate. We went in depth with the Italian regulation about investment vehicles (REIFs) and asset management companies. We ended up with a case: the financial evaluation of a complex of buildings in the center of Rome. All the concepts expressed before found application in this final case.

We followed a holistic approach. We touched every concept around the two main topics of our research: real estate market and real estate investment. They are both faces of the same medal: the second is consequential to the first. Initially, we talked about these concepts in a theoretical manner. Then, we contextualized the theory in the Italian market environment. Aim of this research was to utilize the concepts expressed by financial theory in professional way, to gain an in-depth understanding of the approach followed by asset management companies to evaluate their deals.

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REAL ESTATE INVESTMENT IN ITALY: THE ALPHA CASE (ABSTRACT)

Introduction

Object of this analysis is real estate investment in the Italian market. In order to define any investment, the market must be examined. We begin from the real estate good and its characteristics, along with the real estate market features and segmentation. We deploy a microeconomic model to understand the variables that move the market and we explain the functioning of real estate cycles, which are the main macroeconomic factor beyond any real estate investment strategy. Then we apply these topics to the Italian market, trying to comprehend the current phase of the cycle. In order to do this, we segment the market in residential and non-residential. We analyze transaction volumes, prices and mortgage market development for residential, and investment volumes and yields for non-residential. We also examine the current trends of the main non-residential segments (office market in Milan and Rome, retail, logistics and hotel). Subsequently, we focus on real estate investment: its characteristics, the phases that compose it and the professional figures around it. We also talk about portfolio theory, figuring out if an optimal portfolio allocation between asset classes is possible and which risk/return profile better suits real estate. We describe the regulation about investment vehicles (REIFs) and asset management companies in Italy. We finish with a case: the financial evaluation of a complex of buildings in the center of Rome. The scope of this work is to contextualize the topics expressed by financial theory in a real market environment and understand how professional operators approach real estate investments.

Chapter 1: The real estate market

Every market has its own characteristics, which are direct function of the characteristics of the goods traded in that market. Real estate (as good) features are fixity, heterogeneity, land indestructibility, physical indivisibility, high value per unit and length in production process. The most important characteristic is heterogeneity, determined by the unique location of each asset. It is clear that the main determinants of value for a property are location and the specific features of the building (construction quality, space, obsolescence grade, technological accessories and other elements). The long production process contributes to the constant disequilibrium of the market and it is one of the primary causes of real estate cycles.

Real estate market characteristics result for real estate features, and are localization (the market is mainly local), lack of transparency in price disclosure, constant disequilibrium between demand and supply

because of the long production process, regulatory interference by public bodies, high transaction costs (taxes and due diligence costs), limited number of transactions and illiquidity, due to high price per unit. The most important market segmentation is by destination of use. We distinguish between residential, office, industrial, retail and receptive. The widest sector in terms of relative size is residential, which is composed by families who buy home. The market is characterized by a high number of transactions (respect to other segments) and it is highly pulverized. Professional operators and institutional investors target the non-residential segments. Unlike families, which consider real estate as a consumption good, they approach real estate as an investment. Another segmentation, based on geography, is between first tier and second tier cities. In Italy Rome and Milan are first tier, other relevant cities are second tier.

To shape the functioning of real estate market, some authors (*Ferrero and others, Analisi finanziaria: finanza delle operazioni immobiliari, 2002*) developed a microeconomic model. The first element is the rent, which is determined by supply and demand for space. Supply is given by the existing stock of sqm and demand is influenced by elements specific to every sector, like the employment rate for firms and GDP per capita for families. Discounted rents determine the values of the assets. When this value is greater than construction costs, new constructions start, increasing the existing stock of sqm. The process is not immediate: new completions require time, contributing to the constant disequilibrium of the market. In fact, the supply of space will change in the medium-long term (and so the rent) and the result is the cyclicality of the market.
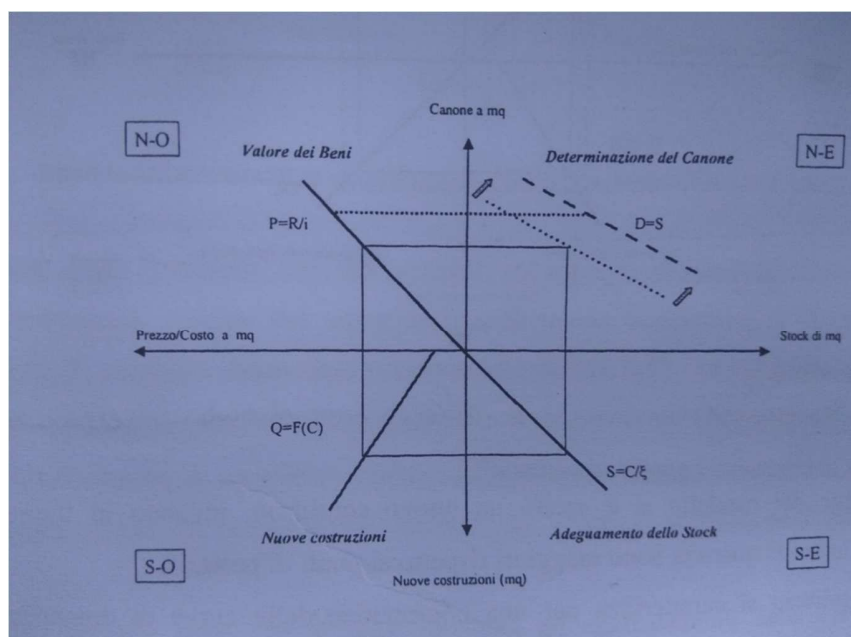

Figure 1, Microeconomic model, Source: Ferrero and others, Analisi finanziaria: finanza delle operazioni immobiliari

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A real estate cycle is composed four phases: recovery, expansion, hyper-supply and recession. These are linked to the real economy, so when GDP is in expansion real estate is in expansion and vice versa. Recovery phase starts when the market has reached its bottom (point 1): at that point, the supply from the previous cycle stops. Demand then starts to absorb the excess supply and vacancy rates decline. Once excess space is absorbed, rents begin to increase. The optimistic expectations of owners contribute to its rise, until rental growth rate reach the level of inflation (point 6). Here it starts the expansion phase: demand growth continue to increase, until the occupancy rate reaches the long-term average, which means that supply is tightening. Once operators realize it, rents increase rapidly (and so assets value). Constructors start new edifices and supply starts to rise. Until demand growth is greater than supply growth, occupancy rates increase. When demand and supply growth match, the market reaches its equilibrium (point 11). The hyper-supply phase starts when supply grows more than demand. At that point, occupancy rates fall below long-term average. New buildings begin to compete for tenants, so rent growth slows down. It is still positive, but declining. Then participants could understand that market turned down and stop constructing, or not. In that case, new supply would grow much faster than demand, and cause the last phase of cycle: the recession (point 13). Rental growth reaches the inflation. Then owners start to compete on price to capture tenants: market rent decline until it reaches marginal cost. The cycle reaches its bottom when constructions stop, and a new cycle begins. The implication for investors is simple: buy at the bottom of the cycle and sell at peak.
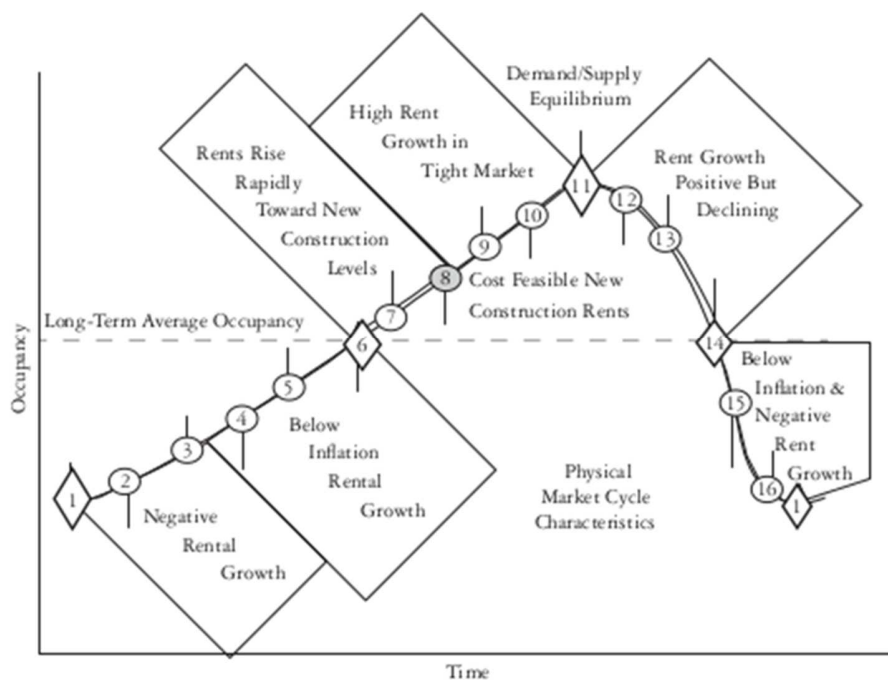

Figure 2, The real estate cycle, Source: Baker and Chinloy, Private real estate markets and investments

Chapter 2: Italian market outlook (residential and non-residential sectors)

Macroeconomic aggregators show that Italy is experiencing a steady growth after a severe recession. GDP rose of 1% in 2016, along with households disposable income, private consumption and investments. Analyst consensus has confidence in a modest inflation growth in the upcoming year.

Because of its characteristics (high number of transactions of similar amount), a good indicator for the residential sector trend is given by the number of transactions. OMI (*Osservatorio del Mercato Immobiliare*), a public agency patronized by *Agenzia delle Entrate*, developed the NTN index (*Number of Normalized Transactions*), which is composed by the number of real estate units exchanged in a given period. In 2016, 528.865 units were traded, for a yearly increase of 18,9%. The chart below displays the long-term trend. Since the 2006 peak, the market exhibit a prolonged bearish trend. The worst movements happened concomitantly with the global financial crisis and the European sovereign debt crisis. Since then, volumes were only upward. The figure also shows the pattern of residential prices, measured by IPAB, an index developed by ISTAT. The figure looks exactly like the typical real estate cycle. When the recession started, owners were reluctant to reduce prices. After the 2011 crisis, they became aware of the gravity of the situation and they lowered prices. Transaction volumes rose from the second half of 2013 with a crescent intensity. Prices reached the bottom in the first semester 2016, with a subsequent little increase over the next six months.
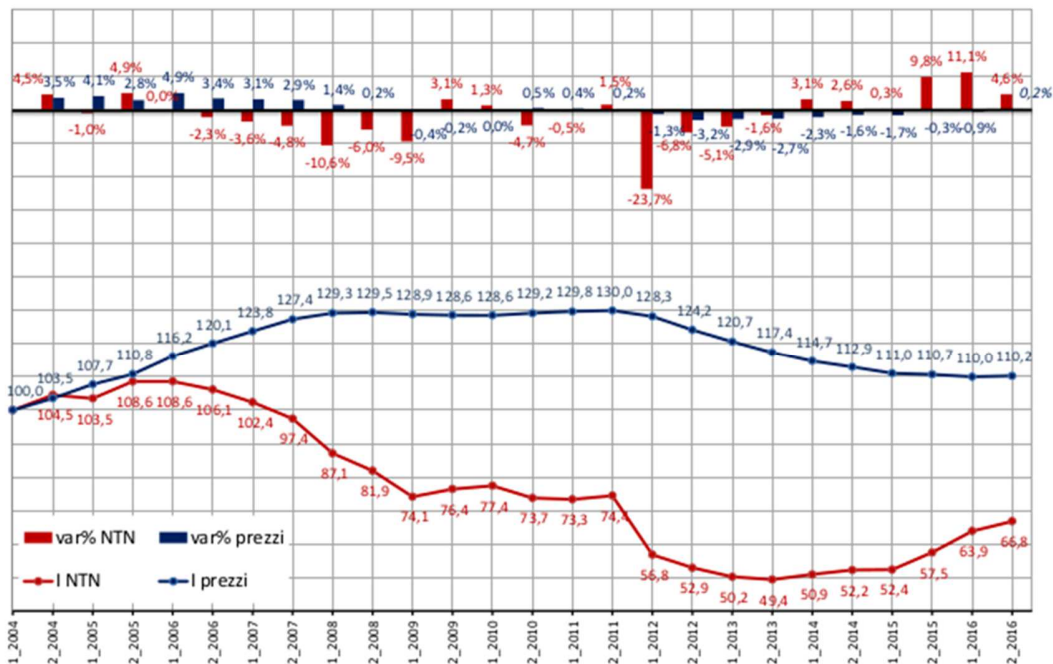

Figure 3, Transaction volumes and prices in residential sector, Source: OMI

OMI also developed the NTN IP, which displays the number of residential transactions covered by a mortgage. The index displays a relevant increase from previous year (27,3%), with an incidence on the total transactions of 48,5%. The capital granted in 2016 was € 29.451 million, with a yearly increase of 27,8%. The long-term pattern follows the NTN trend. The numbers show that the credit crunch is ending, mostly because of the renewed stability of the banking system. The residential market follow the trend of mortgage market. If more loans are granted, more houses will be bought.

In summary, GDP is growing and so it does the mortgage market. Traded volumes are rising prominently. In addition, market operators feel optimistic about the future and prices stop declining. All the market indicators suggest that we are in the recovery phase of the cycle.

Non-residential sector follows different rules. Since it is characterized by different amounts for each investment, bigger transaction are more representative of the overall trend. Indeed, not transaction volumes, but investment volumes are a good predictor of market development. Investments in 2016 reached € 9,1 billion, for an annual growth of 12%. The year was the best after 2007. Foreign investments are the majority (62%), but domestic capital is increasing. Graph below represents the evolution of investments in non-residential sector by property type.

Figure 4, Investment volumes in non-residential sector, Source: CBRE Research

Net yields are another relevant indicator. They are equal to NOI (net operating income, which is rent minus operating expenses), divided for purchase price. Rents do not show significant variations during time. What changes are property prices. In fact, yields movements are mainly influenced by asset prices. In summary, when yields are low, properties are appreciating and, when yields increase, market is in downturn. Figure below exhibit yields trend by destination of use. We notice that when the market

reached its peak in 2007, yields touched their historical low. During the crises of 2008-2009 and 2011-2012, yields got their maximum level. The 2016 was a record year for yields: the figure is lower than 2007 level for any asset class. All signals highlight that market is in recovery. The liquidity brought from abroad drives the recovery, along with the major attractiveness of real estate respect to other asset classes.

Figure 5, Net yields by property type, Source: CBRE Research

Office market in Milan continues its recovery. In the first quarter 2017[1], the net absorbtion exceeded 110.000 sqm, the highest result over 15 years. Vacancy rate is slightly growing (12,3%), which means that despite the recovery, the quantity of supplied space is still minor than the quantity absorbed. Rents are increasing (€ 520) because tenants compete for the most strategic and iconic locations. The competition is also on the other side: foreign investors raised the level of quality A products and they compete to acquire the best locations. The outcome is an increase in assets price and a fall in primary and secondary yields (3,50% and 5,25%). While demand is expected to remain stable, projects under construction will slightly grow in the short term. Core investments are the most attractive for market players. However, due to the limited availability of quality A products, the interest for value add assets is increasing, showing an higher appetite for risk of investors.

For the office market in Rome, net absorption was 53.439 sqm, substantially higher than previous years. Vacancy rate increased (12,1%). Rents and prime yields are stable (respectively 400 €/sqm in the CBD and 4%). One of the major problems of the city is the lack of adequate infrastructures, which slows the development of the city.

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[1] All the data regarding the non-residential sectors refer to first quarter 2017, if not indicated differently

Regarding the retail sector, prospects are positive: during 2017, projects for around € 1 billion should be completed. Prime rents are stable in first-tier cities for both shopping centers and high street (respectively 900 €/Sq m and 6.000 €/Sq m in Milan). Yields are declining (3,15% for prime high street and 4,9% for prime shopping centers). High street accounts for the majority of investments (67%), shopping centers for the 24%, retail box for the 5% and factory outlets for 4%. High street remains the main target for international retailers, but professionals started to look with interest also second-tier cities.

Logistics market is the most promising: net absorption was 385.850 sqm, an increase respect to previous years. The majority of deals (60%) were built-to-suit. The majority of demand came from 3PLs, which account for over the half of the absorbed value. The most dynamic regions are in the north of the country. Lombardy covered the 60% of total absorption. Prime rents increase in Milan (52 €/Sq m) and are stable in Rome (52 €/Sq m). Prime yields slightly decreased, reaching 6%. Vacancy rate is diminishing (5,3%). Investment rose to € 103 million.

Hotel sector accounts for about 10% of the national GDP. Investment volumes in 2016 were about the 15% of total real estate transactions. The majority of operators are small and family-owned hotels. International brands are underrepresented. They account for almost the 4% of the total offer. The main observable trends are the conversion of existing buildings into hotels, repositioning and refurbishment of existing assets and the increasing interest of investors for the luxury segment. New international brands should target the four main touristic locations (Rome, Milan, Venice and Florence).

To conclude, the non-residential sector continues its recovery, at a different pace for each segment.

Chapter 3: Real estate investment

Investing consists in buying the asset (or construct it *ex novo*), hold it for a period and sell it. The strategy must be consist with the cyclicality of the market: purchase in the recovery phase of the market and sell during the peak. By a financial point of view, real estate has mixed characteristic and it is a financial instrument with a risk profile between bonds and stocks. It has a periodic income given by NOI, like bonds, and a capital gain given by its disposal, like stocks. Empirical evidence supports this finding: historical real estate return and standard deviation is between the two other asset classes. Real estate assume a long duration, like bonds. It can cover from inflation, but only if rent is linked to inflation. Capital gain return comprehends also the inflationary effect. Real estate has a low correlation to other asset classes: in the short-term only publicly traded real estate companies shares are correlated to the

stock market, but in the long-term also REIFs[2] quotes, which are pure real estate. Real estate sector presents some idiosyncratic risks: market, construction, regulatory, environmental, liquidity, operational and financial.

Real estate investment is a structured process, which consists in three different phases: market research, feasibility study and financial analysis. The scope of the first is to estimate the future demand and supply developments in the market. The second aims to verify if the project is sustainable under a technical, administrative and financial point of view. The third estimates the value of the property and the return associated with the investment. If the property is residential the property value is calculated discounting the average NOI for the yield of comparable assets. If the project is more complicated, the value of the asset is estimated discounting all the future NOIs plus the selling price (terminal value), using a yield that take in consideration both sources of capital (the WACC). The cost of equity is not calculated with the CAPM formula, because of the low (immediate) correlation with other asset classes. It is calculated adding a risk-premium to the risk-free rate. Because of real estate heterogeneity, each asset has different sources of risk, so there is not a standardized model among evaluators for the determination of the discount rate. The best indicator of profitability for real estate investments is the IRR, because it indicates the total return over the capital invested. A sensitivity analysis and statistical methodologies, like the Montecarlo simulation, can complete the financial analysis.

The most important figure in real estate sector is the asset manager. Briefly, he collects financial resources from investors, who have a given risk/return profile. He analyzes the market alternatives and he define a target portfolio in line with the risk profile of its investors. An active portfolio management adds value to the portfolio in three ways: investment timing (consistent with market cycles), investment selection and diversification, which permits to reduce the overall portfolio risk.

Another relevant figure is the property manager. His main activity is to support the asset manager in achieving the target NOI and assist him in the due diligence phase. His competencies are very specific and related to the maintenance of the value of the building over the investment period. Other professional figures are the building manager and the facility manager. The first carries on the maintenance of the asset, the second connects the asset with the users (reception, security, cleaning, catering activities, to cite some).

Each property type has a different risk/return profile. From lower to higher: residential, office, industrial/logistics, retail and development operations. The classification is based on empirical evidence

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[2] Real estate investment funds

and it can imply some exceptions. Surely, the risk/return profile is related to the specific investment, which can be (from lower to higher): core, value add or opportunistic. Core investments target high quality buildings in tier-1 markets, which can rely on predictable and stable cash flows. This type of investment suits investors who seek capital preservation and long holding period. Value add mainly target non-residential real estate. They acquire properties with stable cash flows, but their strategy is to increase the value of the property by making improvements or repositioning the property. These developments require substantial expenses (capex). However, there is no guarantee that the developments will be reflected in the value appreciation of the property. Opportunistic consists in targeting properties who need significant improvements or that needs to be built from the ground. They bear little to inexistent cash flows at the time of acquisition. These projects offer the highest level of return in case of success, but also bear the highest risk. IRR and indebtedness increase with the level of risk. An additional investment style is core plus. It has a risk profile between core and value add.

Some authors (*Morri and Hoesli, Ruolo dell'investimento immobiliare in un portafoglio, 2010*) demonstrate that real estate is an asset class for low risk/return profile portfolios. They display the efficient frontier for three different countries: US, France and Switzerland. Real estate provides diversification benefits for portfolios with a low risk profile. Its weight in an optimal portfolio characterized by the lowest degree of risk is around 30% and it declines when risk (standard deviation) rises, with different paces for the three countries. For example, in Switzerland the decline is less fast because institutional investors target also the residential sector, which is a big part of the entire market.

Real estate indexes permit to have a gross measure of the dynamic of the sector. Ex ante, their study can permit to recognize the current phase of the market cycle. Ex post, they are used as benchmark to evaluate the effectiveness of an investment choice. Indexes can be direct and indirect. Firsts are based on transaction prices or analyst's evaluations. Seconds are constructed on financial instruments representative of real estate, like publicly traded shares of real estate companies or quotes of REIFs. Examples of direct indexes are the *NCREIF* in US and the *ISI* and *Nomisma* in Italy. Indirect are *NAREIT* in US and *BNP Paribas REIM* in Italy.

Chapter 4: REIFs and other investment vehicles in the Italian market

Accordingly to the Italian law, mutual funds are an independent pool of assets shared among a group of investors, who delegate the management of the fund to an asset management company, called *Società di Gestione del Risparmio* (SGR). Fund's asset and liabilities are distinct from those of the SGR and of each investor (the so-called patrimonial autonomy). The SGR dictates the investment strategies for the fund.

It invests the financial resources collected from investors. The fund's return is given to investors and the SGR retains a management fee. There are some requirements for REIFs imposed by the legislator: 2/3 of equity must be invested in real estate assets, real estate rights and shares of real estate companies. However, this percentage could decrease to 51% when the fund invests 20% or more of its equity in property related financial vehicles (like for example asset-backed securities). They can raise debt for a limit of 60% of value of real estate asset, property right or real estate companies, and 20% for other securities. The term is established in the fund's Statute. It has to be in line with the type of investments, the minimum duration is 10 years and maximum is 30 years. REIFs can be listed in the Italian stock exchange: in that case, their shares are traded in the Market for Investment Vehicles (MIV). Funds can be public, private or speculative. Public funds are open to all investors. Private funds are only for institutional investors. These funds have fewer restrictions than retail funds, because of the expertise of their clients. In fact, public funds cannot invest more than 1/3 of their equity in a single asset and no more of 10% of their equity in shares of the same construction company. The transfer of properties in conflict of interest is allowed, but the value of the single asset in conflict of interest must not exceed the 10% of fund's value. Transactions made with SGR shareholders are limited to the 40% of the value of the fund. Private funds are not subject to such limits. Speculative REIFs (hedge funds) invest in highly risky assets and they can operate with greater freedom in their activities, as long as they respect certain restrictions. They can do operations in conflict of interest for 100% of fund's value and there aren't any limits regarding the single asset conferred. They can invest in different goods respect to the REITs normative. Normally, they are used for opportunistic investments. Funds can collect resources through subscription or contribution. Contribution funds offer their shares to contributors in exchange of the asset provided. The contributor can be a private or a public entity. There are substantial fiscal benefits for public contribution funds, but the public assets must be at least 51% of fund's equity and the public administration must give money for not less than the 5% of fund's value. Operations in conflict of interest are allowed. The two major funds by public contribution are *FIP* and *Patrimonio Uno*. Additionally, we distinguish between closed-end funds and semi closed-end funds. In firsts, the amount of capital is determined during the subscription and cannot change. Seconds can increase or modify their value by issuing new shares during certain intervals determined by the Statute. In these periods, investors can subscribe new quotes or ask for the liquidation of their shares. REIFs are not obliged to distribute periodic dividends, but they must distribute the results of the investment activity to the subscribers at the end of the fund's life.

The Statute of the fund is the document that dictates its investment strategy, its functioning and the mode of dividend distribution. It is composed by identification sheet, product characteristics and functioning mode. Bank of Italy and Consob monitor the fund. Bank of Italy approves the Statute of the fund, monitors the risk and the stability capital and it can carry out inspections. Consob monitors the observance of formal rules and procedures. The depository bank is responsible for the liquidity of the fund: it carry out all its payments. An independent expert carries on a six-monthly evaluation of the assets value. The governance of the SGR is composed by the board of directors, which appoints a responsible for each fund.

Italian REIFs are divided in two groups for tax purposes: institutional or non-institutional REIFs. The first group includes funds owned by institutional investors. They are subject to a withholding tax of 26% on dividends. The non-institutional real estate funds have two different tax regimes that depend if the investor possess more or less than the 5% of the fund's equity. If less than 5%, dividends are subject to the fiscal treatment reserved for institutional investors. If more than 5%, income is included in the annual taxable income of the investor and taxed accordingly to its fiscal regime.

According to *Assogestioni*, the number of real estate funds at June 2016 is 288, where reserved funds compose the vast majority of the market (91%). The value of assets under management is € 45.785 million and reserved funds own the 89,7% of them. The total NAV of funds is about € 32.192 million. LTV (loan-to-value) of the industry is 29,69%. Twenty-two SGRs constitute the market. The first ten for assets under management comprehend the 86,5% of the market. Assets managed are for the vast majority real estate (88,6% of the total), located principally in the north west (43%) and the in the center (33,6%). According to the destination of use, offices account for the 42,7% of total assets, retail for 14,3%, logistics for 3,1%, residential for 19,5%, industrial for 3,4%, hotel and leisure for 3,9% and other property types for the remaining part.

The main alternatives to the SGR are SIIQ and SICAF. SIIQs have the rental activity as core business: in fact, 80% of their assets have to be leased and 80% of their income has to come from rents. The 70% of profits has to be distributed. There are some additional requirements about the maximum percentage that a single shareholder can possess. SIIQs have two tax regimes: one for rental activities and one for other activities. Dividends from rental activities are subject to a 26% withholding tax. All the other activities are subject to the ordinary corporate income tax regime. Unlike the SGRs, SIIQs have not the patrimonial autonomy over their assets. The governance model is direct: the company shareholders nominate the managers who run the SIIQ. The regulation does not provide any limit to the leverage. The duration is unlimited. This legal form well suits long-term oriented investors, who seek stable cash flows

during their investment horizon. In Italy, there are 8 SIIQs, of which 2 are listed on the stock exchange (*Igd* and *Beni Stabili*). A legal framework fair from stable, fiscal inefficiency and the strict requirements inhibited SIIQ success on the Italian market.

SICAFs are investment funds in a corporate form. They have not the patrimonial autonomy over their assets, unlike REIFs, but 2/3 of company's assets have to be invested in real estate and real estate rights. Even the tax regime is the same of real estate funds. The governance of the company can be direct or indirect. In the first case, the shareholders appoint the BoD who runs the firm. In the second case, management is entrusted to a third party, normally a SGR. The capital is fixed, with possibility of subsequent subscriptions. The lack of patrimonial autonomy constitutes a guarantee for investors, especially in the liquidation phase. All these advantages make the SICAF a valid alternative to real estate funds.

Chapter 5: The Alpha case

In the period 205-2016, one of the main Italian banking groups started to dismiss its real estate portfolio. The bank has the ownership of some assets near Barberini square, in Rome, which we will call the Alpha complex. We will not disclose the name of the asset, because it is covered by confidentiality agreements. The buildings were completely refurbished in period 2012-2016 and they were publically offered to professional operators. The ask price was € 125 milion. One of the firms interested in the deal was Fabrica SGR, who had to evaluate the sustainability of the ask price.

The complex is a prime asset in the center of Rome, completely refurbished, with an already established tenant base. It is composed by 5 buildings, all occupied, except one that is vacant. The destination of use is mixed: 4 offices and one residential. All tenants have the highest credit quality standards. These are the characteristics of a core plus investment. The asset generates stable cash flows and it is well suited for investors with a low risk/return profile, who look for capital preservation and a stable source of income during a long holding period. The description of our target investor matches the needs of a pension fund. Normally, they ask a target IRR of 4-5% and a duration of at least 20-30 years. We will average these values, obtaining a target IRR of 4,5% and duration of 25 years. The goal is to determine the bid price, in order to achieve the target return.

The complex is situated in the Via Veneto area, a central location in the heart of Rome. The highest-end residential and corporate users occupy the zone. The Barberini metro stop serves the area, as well as several bus lines. The central station (Termini) is reachable by feet, providing a connection to the main cities. Milan is at 2:30 h. Fiumicino international airport is at 30 minutes. An underground parking area,

reserved for employees, serves the complex, along with few other parking facilities in the district. The gross area is 22.004 sqm

In the last 10 years prime office yields in Rome fluctuated between 4% and 5%. The figure is much more stable than other European cities. Prime rents are also stable, which means that real estate in Rome is not subject to great fluctuations in value, and the growth goes hand in hand with rental growth, which is linked to inflation.

Building 1, 2, 3 and 5 are office destinations, building 4 is residential. The tenants of building 1 are the corporate division of the banking group and the Italian subsidiary of an international engineering company. We will call them *Bank* and *Engineering*. The tenant of building 2 is a national association, which represents an industry to the main Italian administrative and political institutions. We name this *Association*. The building 3 tenant is an top Italian law firm. It deals with business law, mainly in financial and banking sectors. We can call it *Law*. Building 4 will be leased by the Bank for its top management. Building 5 is vacant at the time. We name them respectively *Residential* and *Vacant*. *Bank* offers a guarantee of € 1.300.000 for 2017 and 2018

We have all the elements to evaluate the Alpha investment. The methodology used is the DCF method, due to the complexity of the investment. The holding period is 25 years and the target IRR dictated by our investor is 4,5%. The acquisition year is 2017 and the ending one is 2042. WGLA are, from building 1 to 5, respectively, 2.105, 4.661, 3.946, 1.430 and 2.988 sqm. Rents per sqm are, in order, 468, 322, 355, 454 and 435 €/sqm. In 2017 *Bank* rent is € 950.000 for the office and € 650.000 for residential. *Engineering* pays € 35.000, *Association* € 1.229.508 and *Law* € 1.400.000. The discount for *Association* is probably due to the high quality of the tenant, which the ex-owner wanted to retain at any price.

The rental growth is supposed to be in line with inflation (1,5% in 2017 and 2% other years), weighted for a lease appreciation index provided by ISTAT (75% of inflation). It was chosen 2% as expected inflation rate, because it is the target of the ECB and it is the average inflation of period 1991-2017. The rent of each tenant is adjusted to the market rent after the deadline of the contract. For *Bank*, *Engineering* and *Residential* the actual rent is above the market rent, so we expect that they will ask for an adjustment to market rent after the first deadline of the contract (31/12/2015 for *Bank*, 31/01/2020 for *Engineering* and 31/12/2020 for *Residential*). For *Association* and *Law* the current rent is below the market one, so we will ask for an adjustment to market rent. The increase will not be immediate, but we expect a gradual adjustment to market rent in 2-3 years. However, the aim of our evaluation is to find the maximum price payable for the asset, so we have to include negative circumstances in our model. We suppose that both tenants move out after the contractual deadline. The contract with *Association* expires the 31/12/2025,

so we expect a one-year vacancy in 2026. In 2027, we expect to occupy completely the building at market rent. The contract with *Law* is the standardized lease agreement (6 + 6), which expires the 30/11/2026, so we expect a year of vacancy in 2027 and the full market rent in the following years. Professional operators say that the physiological term to find a tenant is on average one-year.

In 2016 the market rent for residential is 340 €/sqm, according to *Scenari Immobiliari*. For offices it is 375 €/sqm, according to *Scenari Immobiliari*, and 345,6 €/sqm, according to *Osservatorio del Mercato Immobiliare*, so we did the average to compute the prime office rent (360,30 €/sqm). We could include a premium because of the quality of the asset, but we did not, because the area is a limited traffic zone and because our evaluation is based on prudential criteria.

For the vacant building, we are confident that it will be entirely occupied in 2019, providing a full rent capacity. The two-years period given by the guarantee should be sufficient to find a new tenant. Rents were summed each year to obtain the gross revenues. We subtracted a delinquency rate of 2% to obtain the net revenues.

The costs associated with the project are transaction costs and operative costs. The firsts occurs in the acquisition year (2017) and the seconds during all the lifetime of the investment. Transaction costs are the transaction tax, called *Imposta di registro* (2% of purchase price for funds), due diligence costs, legal fees, and other transaction costs. Operative costs are the property taxes IMU and TASI, the lease registration tax, insurance costs, extraordinary maintenance and the leasing fee for the real estate agency (which is 10% of rent and it is supposed to be paid in 2019, 2027 and 2028).

Reconstruction costs are the cost to reconstruct the building *ex novo* and they are used mainly for insurance purposes. They are calculated multiplying the reconstruction costs per sqm for the total gross area, along with other costs (project management, construction supervision, unexpected costs, connections and other utilities). All the costs are summed together each year to obtain the total costs. Net revenues minus total costs are equal to the net operating income (NOI).

NOIs must be discounted using an appropriate yield (the WACC), which considers both sources of capital (equity and debt) weighted for the financial structure of the project. The cost of equity is made by a risk-free rate plus a risk premium. The risk-free is equal to the return of the government bond (BTP) with same duration of the investment. The risk premium increases the yield proportionally to the risk of the project. It has two components: one related to the asset and one to its management. The part concerning the asset is composed by risk-factors as the destination of use, location, maintenance status and building quality. The management component is made up by credit risk, lease type and lease duration. The cost of equity is the sum of these factors and it is 5,90%. Cost of debt is the sum of a risk-free and a spread

calculated by the lender. The risk-free is the interbank rate with the same duration of the investment (Euris 25 years), which is 1,43%. The spread is the remuneration of the lending bank and it is 2%. Therefore, cost of debt is 3,43%. The WACC is the sum of cost of debt and cost of equity, weighted for their quote in the financial structure. The deal is financed with 50% of equity and 50% of debt, so the WACC is 4,67%.

The terminal value represents the future capability of the asset to produce cash flows and it is the (target) selling price of the complex in the exit year. It is calculated discounting the last NOI for the going out cap rate, which is equal to the WACC minus a growth rate (equal to the weighted expected inflation), plus a discretional risk-out (0,5%). The exit price is circa € 168 million. To check the robustness of the calculation, we capitalized the average price per sqm of the area to 2042. The average price per sqm for offices was € 7.300 and for residential € 9.400 in 2016. We weighted the two destination of use for their respective WGLA and we obtained an average price for the complex of 7.498 €/sqm. Then, we capitalized it to 2042 and we multiplied it for the total WGLA. We obtained a final price of € 167 milion, not far from our terminal value. The most probable buyer would be an operator with same risk/return profile of our target investor. Therefore, we should find another SGR with institutional clients with the same risk profile of ours.

We discounted the NOIs and the terminal value for the WACC, obtaining our estimation of Alpha complex value. The value of the asset is more than € 121 million. We computed the bid price to reach the target IRR of 4,5%. The bid price is slightly below the ask price (almost € 125 million). The bid ask-spread is circa € 224.000. The model also include a sensitivity analysis, to be aware of how the IRR change in relation to the terminal value and the market rent.

We based our evaluation of prudential criteria, supposing a vacancy in 2 years and increasing the going out cap rate of 0,5%. We also considered the market rent in our evaluation, without any premium, that could be included in the model, given the quality of the asset. The aim of our evaluation was to determine the correctness of the ask price, considering all the negative variables that could affect the project. The conclusion is that we should accept the deal, because, considering the market rent, a terminal value that grows below the inflation level and two years of vacancy that can be avoided trough a gradual adjustment to market rent, we can slightly reach the target IRR. In fact, if one tenant (*Association*) remains and we find a contractual solution that gives 3 years to the tenant to adjust to market rent, the IRR became 4,54%. If they both stay, the IRR reaches the 4,58%. Therefore, € 125 million is a reasonable price for the complex.