

European Real Estate Society Conference 2010
Milan, June 23-26th

Symposium Proposal
Retail & Shopping Centres

Marina Bravi* & Antonio Talarico*
**Managing the shopping centre *formula*:
saturation or new development?**

ABSTRACT

The marketing and financial success of a shopping centre is dependent on many factors. Among the main features, the relevant literature (Ghosh & McLafferty, 1987; Wrigley, 1988; Cliquet, 1992; Guy, 1994; Cohen, 2000) suggests the follows: the quality of location and accessibility, the catchments size area, the car-parking provision, the design and the environment. A full line-up of strong and well-placed traders (*tenant mix*) is also important because the sales performance is dependent on the level and type of footfall attracted and may also be relying on micro-retail linkages. The success of individual tenants and the success of a centre as a whole are interdependent and enhanced by the cumulative synergy generated by the mix of stores. The combination of all these factors is decisive on whether or not a developer/owner will find a successful *formula* from the standpoint of the potential tenants and consumers. This contribution begins to describe the recent development of planned shopping centres in Italy with the emphasis on the current crisis of consumption. The analysis shows how, over the last decade, shopping centres in Italy has almost doubled, but as this growth is not uniform. New spatial hierarchies with different commercial polarity emerge clearly. The main question is: are we in a *scenario* of spatial retail demand saturation – in front of the alternative sale channels – or will be possible to push up the shopping centre *formula* in the future? To answer this question, our work takes under consideration the valuation tools able to describe and capture the consumer behaviour changing and to translate it in the market share patronage and retail management dimension. In this direction a brief taxonomy of different approaches is sketched and a demonstrative case is showed.

Key-words: *shopping centres formula, retail development, management and valuation, consumer behaviour, retail patronage, conjoint analysis*

Introduction

The economic and financial crisis starting from the end of 2008 and affecting Western economies, has been the subject of many discussions and comprehensive analysis; some of these have certainly focused on the role of real estate investments in defining the global nature and timing of its maturation. Attention was, initially, focused on identifying the causes, and, later, we tried to paint a picture of the possible effects on the real economy, in terms of employment and production. During 2009 and early 2010, official statistics have provided more details to quantify the costs. They just seemed very heavy, with an unemployment rate that, in the United States and European Union, is now around an average of 10%. Even from the standpoint of production, declines in the Gross Domestic Product have been registered in main European countries; they are comparable only with those that have marked the end of the Second World War and the oil crisis of the early '70s.

Consumption fall, that has characterized the whole 2009 and early 2010, takes place within this scenario; it is explained by considering the employment and industrial production data, together with the uncertainty associated with the crisis duration. This item is connected to the

* Associate Professor at *Politecnico di Torino* – marina.bravi@polito.it

• Fellowship Researcher at *Politecnico di Torino* and *SiTI* (Istituto Superiore di Sistemi Territoriali per l'Innovazione) – antonio.talarico@polito.it

consumer decision of reducing overall spending in the short term and postpones purchases related to the durable goods. Even the shopping centres *formula* is suffering of the continuing crisis and some contributes (Guedj, 2009; Terzariol, 2009) confirm the current situation of relative sector weakness. Profitability drop – mainly due to a decline in rent and royalties – and reported delays in opening new structures, with cancellation of projects already planned, are forecasted.

It should be recalled that in Italy and Europe, the diffusion of shopping centres has been remarkable during the last real estate cycle; it has been promoted by lifestyle and consumer behaviour changing, which supported the reproduction of this *formula*. But after an investments run up that characterizes the past decade, now it is necessary a more careful and closer approach able to promote the projects development based on a solid foundation in terms of economic and financial benchmarks. The new structures development is also influenced by a higher level of competition, especially in those areas already characterized by high density. The recent decline in sales would not be, in fact, assignable merely to the economic crisis, but it could indicate the necessary way towards a new phase of development and management. The question is simple: are we in a *scenario* of spatial retail demand saturation – in front of the alternative sale channels – or will be possible to push up the shopping centre *formula* in the future? To answer to this question our work attempts, firstly, to provide an overview of the spread of shopping centres in Italy over the past decade, particularly in the North West, analyzing the implications in terms of territorial density. In the second section are instead considered some of valuation methods able to describe and capture the consumer behaviour changing and to translate it in the consumer patronage and retail management dimension. In this direction a brief taxonomy of different approaches is sketched and a demonstrative case is showed.

1. The development of shopping centres in Italy between 1999 and 2009

To sketch the shopping centres development registered in Italy in the last decade we have selected the data supplied by the National Trade Observatory, established by the Ministry of Economic Development (*Osservatorio Nazionale sul Commercio - Ministero dello Sviluppo Economico*). The data set summarizes, every two years, since 1999¹, the results of the survey conducted by the Observatory, both at regional and macro-geographical levels: North West, North East, Centre, South and Islands. This kind of data allows to analyze systematically the information about the number of structures and especially about the amount of total *Gross Leaseable Area* (henceforth GLA). Table 1 shows the change in the number of shopping centres in the last ten years. Structures have almost doubled, with an overall increase of 87%, but this growth was not evenly shared across regions. Analyzing data for macro-areas, there was evidence of how this would occur especially in the South and Islands (Table 1). In this area, since the late '90s, the number of retail centres would come to the Central Italy, but still very far from the number that currently characterize the North. This result can certainly be attributed to the attempt to recover the structures lack of the large distribution in southern Italy against other areas in which this *formula* was already established in the consumption patterns of the population. Changes in the shopping centres number, between 2001-2005 and 2005-2009, show an overall increase of 26% in the first period and 30% in the second. From the trend analysis standpoint, it appears that the number of retail structures in the North East and Centre, in the second phase, grows at a slower rate than before, whereas the opposite is observed for the North West and South and Islands.

¹ The data, systematically collected by the Observatory - except that for 2007 - refer to the surface and number of shopping centres, as defined in DL 114/1998: *a medium or a large retail organization, where several shops are inserted in a special purpose structure where they benefit of common services globally managed.*

Table 1: *Shopping Centres number realized in Italy (1999-2009)*

N.	1999	2001	2003	2005	2009
NORTH WEST	171	198	214	225	302
NORTH EAST	150	157	178	201	243
CENTRE	94	109	124	149	187
SOUTH AND ISLANDS	58	73	87	104	153
ITALY	473	537	603	679	885
TREND	2001 / 1999	2003 / 2001	2005 / 2003	2005 / 2001	2009 / 2005
NORTH WEST	16%	8%	5%	14%	34%
NORTH EAST	5%	13%	13%	28%	21%
CENTRE	16%	14%	20%	37%	26%
SOUTH AND ISLANDS	26%	19%	20%	42%	47%
ITALY	14%	12%	13%	26%	30%
INDEX 1999=100	1999	2001	2003	2005	2009
NORTH WEST	100	115,79	125,15	131,58	176,61
NORTH EAST	100	104,67	118,67	134	162
CENTRE	100	115,96	131,91	158,51	198,94
SOUTH AND ISLANDS	100	125,86	150	179,31	263,79
ITALY	100	113,53	127,48	143,55	187,1

Source : our processing on the National Trade Observatory data

In addition to the number of structures in the last decade, considering the total surface, in terms of sq. m. of GLA, it is possible to give an overview of their quantitative development. Data in Table 2 indicate that the stock has more than doubled. It should be noted, however, how this value is more than tripled in the South and Islands, compared to other areas of the country. In this last decade the GLA had achieved and exceeded the Central Italy and now it is positioned close to the North East, but still far from the North West, which represents the most developed area, with a supply of 4,260,000 sq. m. of GLA. The trend shows that, across the country, the growth in the 2001-2005 and 2005-2009 phases has remained on average of 30%, with exceptional peaks in southern Italy. To confirm this, please note that, in the latter period, the South has recorded, in terms of total investment in constructions sector, the highest values of the last decade – both in real and nominal value – before to starting to decline, concurrently to economic crisis.

Table 2: *Shopping Centres – Total sq. m. of GLA accomplished in Italy (1999 – 2009)*

TOTAL SQ.M. GLA	1999	2001	2003	2005	2009
NORTH WEST	2'208'133	2'531'318	2'897'305	3'188'431	4'260'673
NORTH EAST	1'768'253	1'813'876	2'039'101	2'338'863	3'040'330
CENTRE	1'041'983	1'199'521	1'420'099	1'647'198	2'153'307
SOUTH AND ISLANDS	775'997	985'339	1'187'256	1'504'431	2'822'727
ITALY	5'794'366	6'530'054	7'543'761	8'678'923	12'277'037
TREND	1999 / 2001	2003 / 2001	2005 / 2003	2005 / 2001	2009 / 2005
NORTH WEST	15%	14%	10%	26%	34%
NORTH EAST	3%	12%	15%	29%	30%
CENTRE	15%	18%	16%	37%	31%
SOUTH AND ISLANDS	27%	20%	27%	53%	88%
ITALY	13%	16%	15%	33%	41%
INDEX 1999=100	1999	2001	2003	2005	2009
NORTH WEST	100	114,64	131,21	144,39	192,95
NORTH EAST	100	102,58	115,32	132,27	171,94
CENTRE	100	115,12	136,29	158,08	206,65
SOUTH AND ISLANDS	100	126,98	153	193,87	363,75
ITALY	100	112,7	130,19	149,78	211,88

Source : our processing on the National Trade Observatory data

Table 3 shows data on the average size of shopping centres, obtained by the ratio, for each period and macro-area, of the sq. m. of GLA and the number of structures. Within the decade,

throughout the country, an average growth of 13% of surface has been recorded, although with large differences between different areas. In fact, while in the Central Italy the GLA level remained virtually unchanged, it is in the South and Islands that occurred the highest increment, up to 37%. Analyzing the trend it can be note as the major growth in the average size would be accomplished particularly in the last four years. These results seem to justify the location choice of the developers of Southern Italy which operated with very large structures. In Northern Italy instead, the data seem to highlight a balance achieving with the confirmation of an average value of GLA of 14,000 sq. m. for the North West and 12,500 for the North East.

Table 3: Shopping Centres – Average sq. m. of GLA accomplished in Italy (1999 – 2009)

AVERAGE SQ.M. GLA	1999	2001	2003	2005	2009
NORTH WEST	12'913	12'784	13'539	14'171	14'108
NORTH EAST	11'788	11'553	11'456	11'636	12'512
CENTRE	11'085	11'005	11'452	11'055	11'515
SOUTH AND ISLANDS	13'379	13'498	13'647	14'466	18'449
ITALY	12'250	12'160	12'510	12'782	13'872
TREND	2001 / 1999	2003 / 2001	2005 / 2003	2005 / 2001	2009 / 2005
NORTH WEST	-1%	6%	5%	11%	0%
NORTH EAST	-2%	-1%	2%	1%	8%
CENTRE	-1%	4%	-3%	0%	4%
SOUTH AND ISLANDS	1%	1%	6%	7%	28%
ITALY	-1%	3%	2%	5%	9%
INDEX 1999=100	1999	2001	2003	2005	2009
NORTH WEST	100	99	104,85	109,74	109,26
NORTH EAST	100	98,01	97,18	98,71	106,14
CENTRE	100	99,28	103,32	99,73	103,88
SOUTH AND ISLANDS	100	100,89	102	108,12	137,89
ITALY	100	99,27	102,12	104,34	113,24

Source : our processing on the National Trade Observatory data

The average size of shopping centres outlines a scenario that seems to have encouraged the establishment of large structures in Southern Italy, medium to large in Northern Italy (with GLA between 10,000 to 20,000 sq. m.) and medium in Central Italy (with GLA up to 10,000 sq. m.). To confirm this theory we refer to the calculations contained in [Tables 4](#) and [5](#) relating to the classes of sq. m. of GLA; they are compiled only for the years 2001, 2003 and 2005.

Table 4: Shopping Centres – Class of sq. m. of GLA from 10.000 to 20.000 – Italy (2001 – 2005)

GLA FROM 10.000 TO 20.000 SQ.M.		2001	2003	2005
NORTH WEST	N.	77	80	79
	% on Total ITALY	14,34%	13,27%	11,63%
	% on Total NORTH WEST	38,89%	37,38%	35,11%
NORTH EAST	N.	34	36	42
	% on Total ITALY	6,33%	5,97%	6,19%
	% on Total NORTH EAST	21,66%	20,22%	20,90%
CENTRE	N.	27	28	38
	% on total ITALY	5,03%	4,64%	5,60%
	% on total SC	24,77%	22,58%	25,50%
SOUTH AND ISLANDS	N.	16	20	23
	% on total ITALY	2,98%	3,32%	3,39%
	% on total SC	21,92%	22,99%	22,12%
TOTAL	N.	154	164	182
	% on total ITALY	28,68%	27,20%	26,80%

Source : our processing on the National Trade Observatory data

In the class between 10,000 and 20,000 sq. m. of GLA are placed just over a quarter of the shopping centres across the country in 2005, with a decline respect to the two previous years. While in the class larger than 20.000 sq. m. of GLA are positioned less than a fifth of the structures in 2005, with a growth respect to the previous biennium.

Table 5: Shopping Centres – Class of sq. m. of GLA > 20.000 – Italy (2001 – 2005)

GLA >20.000 SQ.M.		2001	2003	2005
NORTH WEST	N.	28	37	44
	% on total ITALY	5,21%	6,14%	6,48%
	% on total NORTH WEST	14,14%	17,29%	19,56%
NORTH EAST	N.	27	30	36
	% on total ITALY	5,03%	4,98%	5,30%
	% on total NORTH EAST	17,20%	16,85%	17,91%
CENTRE	N.	16	22	22
	% on total ITALY	2,98%	3,65%	3,24%
	% on total SC	14,68%	17,74%	14,77%
SOUTH AND ISLANDS	N.	17	21	30
	% on total ITALY	3,17%	3,48%	4,42%
	% on total SC	23,29%	24,14%	28,85%
TOTAL	N.	88	110	132
	% on total ITALY	16,39%	18,24%	19,44%

Source : our processing on the National Trade Observatory data

As for the North West, the shopping centres having a GLA more than 20,000 sq. m., are around the 20%, with an increasing trend between 2001 and 2003. In the three-year periods covered by the survey, the two areas of North East and Centre keep a percentage virtually unchanged, respectively, slightly below the 18% and of 15% of the total of shopping centres. In Southern Italy, Islands included, a steady growth of structures, with more than 20,000 sq. m. of GLA, is present, with a percentage just below the 30% in 2005.

Further data processing, obtained by comparing the shopping centres surfaces and the population, at the time of the surveys, together with territorial data, allowed the creation of three density indexes. Between 1999 and 2009, the sq. m. of GLA per 100 sq. km. have doubled for the overall country: from 2,000 to over 4,000 sq. m., as shown in [Table 6](#). Analyzing again the macro-areas, we can highlight some differences. Over the past decade, the North West has, in fact, almost doubled the sq. m. of GLA per 100 sq. km., reaching an absolute value of 7353, confirming itself as the area of higher density in the country. The South and Islands has essentially halved the values respect the national average, although it should be reported as this indicator has more than tripled. The densities of GLA, for the areas of the North East and Centre, are instead respectively 4,888 and 3,700 sq. m.

Table 6: Shopping Centres – Sq. m. of GLA per 100 sq. km. – Italy (1999 – 2009)

GLA / 100 SQ. KM.	1999	2001	2003	2005	2009
NORTH WEST	3.811	4.368	5.000	5.502	7.353
NORTH EAST	2.838	2.911	3.273	3.754	4.880
CENTRE	1.796	2.067	2.448	2.839	3.711
SOUTH AND ISLANDS	631	801	965	1.223	2.294
ITALY	1.923	2.167	2.504	2.880	4.074
INDEX 1999=100	1999	2001	2003	2005	2009
NORTH WEST	100	115	131	144	193
NORTH EAST	100	103	115	132	172
CENTRE	100	115	136	158	207
SOUTH AND ISLANDS	100	127	153	194	364
ITALY	100	113	130	150	212

Source : our processing on the National Trade Observatory data

The second and third index were calculated considering the development of shopping centres in terms of number and sq. m. of GLA in relation to the resident population. Results are in the [Tables 7 and 8](#), correspondingly. The number of shopping centres per 100,000 residents is nearly doubled: from 0.8 to 1.5 between 1999 and 2009. For the area of Northern Italy there are, on average, two structures per 100,000 residents in 2009, while the Centre has a value in line with the national average. The South and Islands present still a value below unity.

Table 7: Shopping Centres – Number per 100.000 residents – Italy (1999 – 2009)

N. / 100.000 residents	1999	2001	2003	2005	2009
NORTH WEST	1,1	1,3	1,4	1,5	1,9
NORTH EAST	1,4	1,5	1,7	1,8	2,1
CENTRE	0,9	1	1,1	1,3	1,6
SOUTH AND ISLANDS	0,3	0,4	0,4	0,5	0,7
ITALY	0,8	0,9	1,1	1,2	1,5

Source : our processing on the National Trade Observatory data

Regarding the GLA density in relation to the residents, it increased from about 100 sq. m. per 1,000 residents in 1999 to more than 200 sq. m. in 2009. The North West and the North East are nearly equal, with 268-265 sq. m. per 1,000 residents. In Central and Southern Italy, Islands included, the values are lower than the national average, respectively 183 and 135 sq. m.

Table 8: Shopping Centres – Sq. m. of GLA per 1000 residents – Italy (1999 – 2009)

GLA / 1000 residents	1999	2001	2003	2005	2009
NORTH WEST	148	170	193	207	268
NORTH EAST	169	171	190	212	265
CENTRE	96	110	129	146	183
SOUTH AND ISLANDS	38	48	58	73	135
ITALY	102	115	132	148	204

Source : our processing on the National Trade Observatory data

1.1. A further look to the North Western Italy

The development of shopping centres dates back, in Italy, to the early 70s and affects before the Northern regions and afterwards the areas of the Centre and the South. For this reason, the Northern Italy can be considered a consolidated area. [Table 9](#) shows that in the Lombardy are located more than half of the total structures, able to cover more than twice of the GLA of the Piedmont. This result is consistent, given the fact that people living in the first region are about twice than the latter.

However it should be noted as during the last four years, the number of shopping centres in this region, has grown at a rate higher than that of the Lombardy, trying to recover the lack; but in 2009 the goal was not yet achieved in absolute value. While the *Aosta Valley* is extremely lacking, the *Liguria* has a very limited structure, although more than doubled since 1999. Regarding the territorial density ([Table 10](#)), the Lombardy, with almost 12,000 sq. m. of GLA per 100 sq. km., is still the leader region in the North West, while in the Piedmont and Liguria the sq. m. are less than 5,000 per 100 sq. km. Even considering the population, it appears as the Lombardy, with 290 sq. m. of GLA per 1,000 residents, is confirmed as the regional leader. It is immediately followed by the Piedmont, which, since 1999, has halved the deficit against the first. The Liguria offers, for every 1,000 residents, about 145 sq. m. of GLA, confirming its development in the last 10 years. Considering instead the number of structures in each region, we must stress that, with 2.4 shopping centres per 100,000 residents, the Piedmont overcomes the Lombardy. For the Liguria this value is slightly higher than one.

Table 9: *Shopping Centres in the North Western Italian area (1999 – 2009)*

N.	1999	2001	2003	2005	2009
PIEDMONT	54	63	68	71	107
AOSTA VALLEY	0	0	0	0	0
LIGURY	9	12	14	14	17
LOMBARDY	108	123	132	140	178
TREND	2001 / 1999	2003 / 2001	2005 / 2003	2005 / 2001	2009 / 2005
PIEDMONT	17%	8%	4%	13%	51%
LIGURY	33%	17%	0%	17%	21%
LOMBARDY	14%	7%	6%	14%	27%
INDEX NUMBER 1999=100	1999	2001	2003	2005	2009
PIEDMONT	100	116,67	125,93	131,48	198,15
LIGURY	100	133,33	155,56	155,56	188,89
LOMBARDY	100	113,89	122,22	129,63	164,81
GLA SQ.M.	1999	2001	2003	2005	2009
PIEDMONT	566.873	673.101	794.994	872.004	1.202.331
LIGURY	111.090	154.727	185.441	184.607	233.263
LOMBARDY	1.530.170	1.703.490	1.916.870	2.131.820	2.825.079
TREND	2001 / 1999	2003 / 2001	2005 / 2003	2005 / 2001	2009 / 2005
PIEDMONT	19%	18%	10%	30%	38%
LIGURY	39%	20%	0%	19%	26%
LOMBARDY	11%	13%	11%	25%	33%
INDEX NUMBER 1999=100	1999	2001	2003	2005	2009
PIEDMONT	100	118,74	140,24	153,83	212,1
LIGURY	100	139,28	166,93	166,18	209,98
LOMBARDY	100	111,33	125,27	139,32	184,63

Source : our processing on the National Trade Observatory data

Table 10: *Shopping Centres density in the North Western Italian area (1999 – 2009)*

N. / 100.000 residents	1999	2001	2003	2005	2009
PIEDMONT	2.232	2.650	3.130	3.433	4.734
LIGURY	2.050	2.855	3.421	3.406	4.304
LOMBARDY	6.412	7.139	8.033	8.934	11.839
GLA / 1000 residents	1999	2001	2003	2005	2009
PIEDMONT	133,9	159,5	187,9	201,4	271,2
LIGURY	69,5	98	118	115,9	144,4
LOMBARDY	171,1	189,2	210,4	227	290
N. / 100.000 residents	1999	2001	2003	2005	2009
PIEDMONT	1,3	1,5	1,6	1,6	2,4
LIGURY	0,6	0,8	0,9	0,9	1,1
LOMBARDY	1,2	1,4	1,4	1,5	1,8

Source : our processing on the National Trade Observatory data

The above analysis outlines a development of investments in shopping centres not uniform in the country. This is in part an obvious item, considering the different goals in terms of profitability, from the standpoint of the developer rather than of the management companies or from the mixed perspective of development and management. A very different situation between North, Centre and Southern Italy is in fact sketched, where commercial polarities emerge with very different characters.

2. Managing the shopping centre *formula*: saturation or new development?

Analysis related to the review of the formula that has characterized the development of shopping centres must deal today with the variables that characterise the local context in which the investment decisions are taken. Factors such as the catchments area - which often exceeds the

regional scale - the tenant mix, the quality of services dedicated to the customers (parking, accessibility, design and environment) are still explanatory variables of the profitability? This question is based not so much about the actual reproducibility of this formula, which has *already* proved its worth over the past decades, but on its future sustainability, in geographical areas considered fully developed. With the complicity of the economic crisis, which, as noted, has directly invested consumption and the achievement of high densities of GLA *per capita*, the competition among the economic operators, particularly in the North West, seems to have inevitably shifted, rather than on the identification of potential catchments areas, on the efficacy of the retail patronage. The campaigns of advertising adopted by shopping centres are differentiated. They are directed to the loyalty relationship with customers through promotions, facilitations and product discounts. We are looking on different forms of specialisation with different attractive capability of a mobile consumer, able to access selectively to different segments of retail supply: *factory outlets, leisure centres and multiplex, retail parks* that gravitate on interregional areas, malls linked to railway stations and airports, etc. Complex retail structures with which we confront today - where the complexity is a necessary element to their success - are still a relatively unknown subject, particularly in its economic and spatial effects (Brunetta & Morandi, 2009). Until a recent past we had to do with structures of considerable size but of low complexity, while aspects of location and morphological organization was sufficiently well known. In this respect, the main literature had clarified how to assess the economic and territorial impacts, in terms of cost and profitability. But what can we say about today? What about the valuation tools? The commercial formulas, which are present in complex structures are turning more and more at different kinds of consumers, who, in turn, benefit from multi-channel level sales, with multiple frequency over time. The same use of time has changed along with shopping behaviour. These aspects have a great impact, both in terms of real estate development and of planning and governance of location process.

2.2. Can the valuation models help the retail patronage?

In a not too remote past, the planned shopping centre valuation was limited to the analysis, more or less extensive, of the potential catchments area related to the specific geographical area. The context in which we operated was completely different from the present time and the commercial real estate was characterized by high growth rates that we find today, as we seen, only in some areas of Southern Italy. In this regard, it is hardly necessary to reflect on the fact that the sector growth during the last real estate cycle would be influenced by the profitability resulted from the pure phase of development, rather than management, urban planning and social purposes. We should not forget the importance of proper analysis of the socio-economic context in which the real estate initiative takes place. Any development that shows the feasibility of the real estate project in a short time horizon, may indeed prove critical if the management goals were not adequately taken into account. As known, the value of the purchase experience in a shopping centre, from the standpoint of the consumer, has to be related to a number of factors, such as easy accessibility, presence of car parks and services, great variety of shops. In summary: a full set of goods and services in an exciting but controlled environment. From the patronage standpoint, it is the same structure – building and parking – but finalised to income production, knowing that, *for the customer, any retail agglomeration is more attractive than a single shop* (Teller, Reutterer, 2008). An essential element of the commercial real estate valuation is represented by the spatial dimension by a double perspective: the consumer and the owner or management company. According to the traditional approach, the space is, first of all, for the competitors, a barrier to entry providing a certain degree of monopoly in the market area. Compared to other marketing variables, the location advantage seems to be more difficult to attack and neutralize. It is no coincidence that the first generation of models was based on gravity principles. Today, in the realm of retail

marketing valuation, the majority of contributions studying the shopping centres attractiveness can be classified into the main following research streams, partially overlying:

- a. first approaches based on spatial interaction theory² (*gravity models*);
- b. approaches based on random utility theory (*choice models*).

According to the main classifications (Fortheringham, 1988; Vandell & Carter, 1993), the second group can be further split up in three subgroups of models:

- b.1. spatial interaction models;
- b.2. choice models based on *revealed preferences*;
- b.3. choice models based on *stated preferences*.

It can be argued that the development and testing of assessment methods matures side by side with evolution of the complexity of the shopping centre *formula*. Not by chance, literature is really large, very varied and difficult to summarize. For the purpose that we set up here is more useful to characterize the approach named "b". The importance of the spatial factor from the perspective of supply and demand makes it necessary to study retail location processes and consumer spatial decisions. The analysis of the spatial behaviour of companies and consumers leads to the study of shopping attraction. This concept is specifically related to all factors that influence the consumer store choice. Based on a wide range of literature on consumer choice modelling, in the tradition of random utility theory (Manski, 1977), methods of the second type focus on the impact of a predefined set of attraction variables on the consumer store choice behaviour. These last are also included like attributes of the store-specific from the gravity models.

b.1. Based on the law of Reilly (1931), the model of Huff (1962) was the first employing the random utility framework to explain the purchasing decisions according to the characteristics of the retail supply. Most studies have focused on the variables explaining the attraction of shopping centres. We can consider a significant step of this development the tuning of the Multiplicative Competitive Interaction (MCI) model of Nakanishi & Cooper (1982). The goal of this model is a more aggregate perspective of retail market share patronage. The MCI model is theoretically founded on the probabilistic approach to choice and it may also be interpreted as a resources allocation model.

The shopping budget allocation of an individual, or household, may be quantitatively represented as a compensatory evaluation of the perceptions on patronised store attributes. (Gonzalez-Benito *et. al.*, 2000). In other words, MCI model uses a specific market share for measuring retail attraction allowing the introduction of nonlinear interactions of potential influencing parameters, such as customer perceptions of store characteristics. This model is normally used with ordinary data, but it is possible to introduce a subjective approach; it implies a data transformation and an integrated methodology using market surveys to collect consumer preferences (Cliquet, 1995). Parameter estimation is the main mathematical difficulty in using the MCI model; to solve this problem various techniques have been proposed (Cooper and Nakanishi, 1988).

b.2. If the link between the Huff model and the choice axiom (Luce, 1959) is obvious, the mathematical formulation of the conventional MCI model, falls into the category of multi-attribute

² Models of the first type are well known within the marketing and geography community under the pseudonym of *gravity models*. Most of them have been inspired by the seminal works of Christaller (1935), Losch (1954), Reilly (1931) and Converse (1949). It is not the occasion to illustrate their complete historical evolution.

choice models, based on *revealed preferences*, as a special case of the McFadden (1974) Multi Nomial Logit (MNL) model. This one has been largely applied but, as widely known, it suffers from the Independence from Irrelevant Alternatives (IIA) axiom, which imposes the constraint that the ratio of choice probabilities for any two alternatives is independent of other alternatives. Other behavioural relationships, intrinsically assumed by the model, have been motives for criticism, especially in the spatial choices field. Alternative models have been proposed to overcome these limitations, like Competing Destination Model (CDM) of Fortheringham (1983).

b.3. The random utility models may also be based only on preferences stated by the consumers. Within this group converge all applications of conjoint analysis and discrete choice models directly affecting the shopping behaviour (Green & Srinivansan, 1978). The advantage of this approach is that we can rely on future scenarios and assess their appreciation by the customer in terms of increases-decreases of utility (*parth-worth utilities*) or in terms of purchase probability or, still, in term of marginal prices, linked to one or more store characteristics. The disadvantage is that these models born in industrial marketing and transport analysis and are not specifically designed to represent the spatial choices. Their use in the field of residential choices, for example, has proved quite critical (Bravi, Giaccaria, 2007).

2.3. The shopping behaviour valuation through the analysis of stated preferences

Within a survey conducted in 2005 for educational purposes³ and having as its goal the analysis of shopping centres in the metropolitan area of Turin (North Western Italy), were selected, through an adaptive approach⁴, a set of relevant characteristics for the consumer. Among other things, they would have informed a more careful design. From a new reading of those early results - moreover unpublished - can emerge some interesting considerations, useful to illustrate the reasoning and argumentation so far outlined. However, they are not, the main focus of this contribution.

It should be observed that, at the time of the interview, were operating, within the area, eight major structures over 10,000 sq. m. of GLA. Today, as we have seen, the supply is further extended, anticipating a situation close to saturation. Shopping centres surveyed were four: *Le Gru* - Grugliasco (TO), *Le Fornaci* - Beinasco (TO), *La Certosa* - Collegno (TO) and *8 Gallery*, the last one within *Lingotto's* multifunctional centre of Turin. They were chosen for their dimensional and geographical importance: respectively 33685, 21783, 11794 and 11713 sq. m. of GLA. The interview was carried out with the computer aid (Computer Assisted Personal Interviewing or CAPI) on a sample of 402 respondents. Elaboration by standardized procedure⁵ led to the following conclusions.

³ Moi G. (2006) *Centri commerciali artificiali. Un'applicazione della Conjoint Analysis*, Degree Thesis, First Faculty of Architecture, Supervisor: Prof. M. Bravi.

⁴ The ACA (*Adaptive Conjoint Analysis*) approach offered a way to study numerous attributes and levels using interviews handled efficiently by computer (*Sawtooth Software*®, 1991-2002). ACA solves in fact the practical problem of having to deal a with large numbers of attributes following these steps: a) the interview starts with an initial screening section that determines the relative importance of the attributes and their levels; b) based on the option chosen by the researcher, the interview can be focused only on those attributes and levels that the consumer considers most relevant. ACA is also a *hybrid* model because it combines *self-explicative* and *trade-offs methods* in an easy-to-use commercial software (Orme, 2006).

⁵ Measurement scale of the utility estimates was standardised according to the different re-scaling techniques: *point*, *diffs* or *zero-centered diffs*. With these scales, the importance assigned *a priori* to each attribute is the same, so it is possible to reflect on the differences in the structure of the preferences or to quantify the overall utility assigned to any hypothetical profile in the simulation. But it is not possible to determine how much more useful one attribute can be compared to another. In fact, this model does not quantify a parameter able to calculate the utility in correspondence to any value of the attribute. The most significant consequence, from the estimate standpoint, is that it is impossible to calculate a *marginal rate of substitution* but only to produce a *preference order for attributes and levels*.

- a. Strong interdependence – substitution effect – between the centres, despite differences in the characteristics of the single structure; see, for example, the highest percentage of *Other Centres* in Table 11.
- b. A certain preference for a careful design which, together with the importance attributed to a small and not dispersed structure, refers to an optimization of the shopping experience and perhaps minimization of timing;
- c. Confirmation of the role of refreshment services as complementary supply of the merchandising mix;
- d. Confirmation of the importance of other activities and facilities;
- e. Strong expectation of entertainment events, free spaces and extended opening hours (time boundary); see the preferences order of levels in Table 13.

Table 11 – Inter-centres frequency

Shopping Centres	Le Gru		La Certosa		8 Gallery		Le Fornaci		Total row	% Column
8 Gallery - Turin	21	20,79%	\	\	\	\	7	6,86%	28	6,97
La Certosa - Collegno	2	1,98%	\	\	1	1,00%	1	0,98%	4	1
Le Gru - Grugliasco	\	\	36	36,00%	39	39,00%	40	39,22%	115	28,61
Le Fornaci - Beinasco	18	17,82%	3	3,00%	4	4,00%	\	\	25	6,22
Others Centres	60	59,41%	61	61,00%	55	55,00%	54	52,94%	230	57,21
Total	101	100,00%	100	100,00%	100	100,00%	102	100,00%	402	100,00%

Source: our processing on survey data

Table 12 – Attributes and their order of preferences in %

Attributes	Shopping Centres				Full Sample
	8 Gallery	La Certosa	Le Fornaci	Le Gru	
Total GLA	8,21	8,03	7,87	8,27	8,1
Parking	5,83	5,46	5,99	5,82	5,77
Main stores	12,81	12,39	12,84	12,13	12,54
Complementary stores	12,88	13,56	13,53	13,26	13,31
Facilities	13,21	14,42	13,54	14,87	14,01
Complementary Activities	12,04	12,21	10,81	12,22	11,82
Mall	11,63	9,59	11,65	10,09	10,74
Design and plan	7,24	6,02	6,73	6,54	6,63
Floors	7,53	8,45	9,06	7,23	8,07
Free spaces	8,62	9,88	7,97	9,57	9,01
Total %	100	100	100	100	100

Source: our processing on survey data

Conclusions

The considerations developed so far has wanted to solicit a double reflection: first, on the various aspects of the complex phenomenon of shopping centres development and, secondly, as management has specific expectations reflecting the consumer behaviour and, consequently, the sales revenue and the *tenants mix*. In a fairly recent study is also highlighted the strategic importance of time factor. This means that we can not inflate the market penetration with only GLA increasing: there is a space-time connectivity and, implicitly, an existence of a temporal pattern in spatial pattern (Baker, 2006). Planned shopping centres are not just direct to a spatial demand in a classical economic sense, but there is *complementarities* between spatial and temporal dimension. The corollary is that a change in the time boundary will fundamentally affect spatial demand and its allocation within a retail hierarchy (Baker, 2003). Following this line of thought, not only the extension of shop opening hours influences the purchasing behaviour, but also the availability of alternative sales channels - like the Web or other forms of sale involving the home delivery. On the other hand, the mass-based behaviour, which included car use and a single-trip movement, there

was certainly a tendency to minimize the time factor with the focus on the *quality* of the single experience. Hence the demand for equipped spaces with complementary services and activities and entertainment.

A new development of shopping centres in mature areas should address, in short, a number of considerations, including:

- a.* a rational shopping behaviour tends to minimize the space-time, not only in terms of distances from the residence but also in terms of enjoying and using alternative routes and multi-channel spaces;
- b.* attractiveness of a centre can be decomposed in its characteristics;
- c.* these last have a value in terms of utility for the consumer;
- d.* but together represent a spending item in the income statement from the management company standpoint;
- e.* shopping behaviour can manifest in complex ways, related to the entertainment, leisure, game, freedom of movement and other phenomena, such as tourism, business, etc.
- f.* merchandising mix is still an important element for the owner, but today takes a different value, albeit not lower, for the consumer, considering the partial saturation-substitution and the monotonous look of the retail supply;
- g.* it would be more sensible, in this direction, to focus on specialization and greater characterization of the shopping centre image, although, would be more risky and more complicated to convert, especially during a crisis time;
- h.* it would be necessary a new research starting point with a focus on the use of the space-time and on the level of substitution between traditional shopping experience and virtual sales channels.

Certainly it would be taken into account the different age of structures existing on the territory and the problem of investment and innovation as key factors for maintaining and increasing value, especially in times of crisis consumption. If a structure is not properly maintained and renewed, through specific interventions, could not be more profitable, also becoming less attractive for the consumer or potential buyers. Obsolescence may concern the *building*, if that does not meet the aesthetic needs or the energetic regulation or the structural safety; the *tenant mix*, if it no longer reflects consumer demand - in terms of diversification rather than specialization - or the *accessibility*, if that was not properly planned and implemented with the public cooperation, but it may have something to do with an *epochal change in consumer behaviour*, what we can not glimpse yet and what we just started to prefigure.

Table 13 – Levels of attributes and their order of preferences in standardized scale of measurement

		Levels of attributes	Le Gru	La Certosa	8 Gallery	Le Fornaci	Media
GLA	Until 10000 SQM.	40,61	38,72	39,64	38,82	39,45	
	From 10000 to 30000 SQM.	0,94	2,11	2,15	0,75	1,49	
	Over 30000 SQM.	-41,54	-40,83	-41,79	-39,57	-40,93	
	Total (zero-centered diff scale)	0	0	0	0	0	
Parking	Outdoor Parking	29,45	28	31,09	31,16	29,93	
	Covered parking	-2,44	-2,76	-5,49	-4,05	-3,68	
	Secure parking and CCTV	-27,01	-25,24	-25,6	-27,11	-26,24	
	Total (zero-centered diff scale)	0	0	0	0	0	
Main stores	Food and clothing	23,17	24,92	26,99	20,58	23,91	
	Food and furnishings	3,15	14,53	-3,78	4,5	4,6	
	Food and personal care	24,46	13	14,62	22,88	18,74	
	Food and bricolage	-24,12	-25,38	-16,86	-21,26	-21,9	
	Food and electronics	7,44	12,43	20,32	-0,6	9,9	
	Food and book and stationery	-8,56	-7,65	4,37	-5,35	-4,29	
	Food and pets care	-17,88	-12,19	-17,91	-4,95	-13,23	
	Food and gifts	-7,67	-19,67	-27,74	-15,8	-17,72	
	Total (zero-centered diff scale)	0	0	0	0	0	
	Complementary stores	Restaurants and caffeterias	36,67	40,94	39,83	30,78	37,05
		Fuel station and car washing	5,91	21,85	-12,68	-13,62	0,37
		Pharmacy	2,85	1,59	-11,27	8	0,29
Bank		0,97	14,39	8,97	-3,66	5,17	
Mail		-11,77	1,15	-8,94	-7,09	-6,66	
Hairdresser		20,06	11,86	0,61	2,57	8,78	
Laundry		-5,67	-25,58	-14,44	-2,02	-11,93	
Shoemaker		-24,62	-35,61	-36,62	-19,5	-29,09	
Optician		-18,46	-27,67	3,73	-0,2	-10,65	
Newsstand and tobacco		11,84	14,55	9,06	21,35	14,2	
Travel agency		-6,9	-21,24	17,46	2,12	-2,14	
Telephony		18,08	27,26	23,38	4,45	18,29	
Internet point		-28,98	-23,49	-19,1	-23,17	-23,68	
Total (zero-centered diff scale)	0	0	0	0	0		
Facilities	Extended opening hours	50,44	49,12	45,62	32,57	44,44	
	ATMs	-20,42	-6,9	-4,38	1,26	-7,61	
	Payment facilities	3,15	-3,18	10,18	2,89	3,26	
	POS	36,39	34,94	8,62	14,97	23,73	
	Home delivery	-42,43	-48,35	-40,68	-32,44	-40,98	
	Baby parking	-27,13	-25,62	-19,36	-19,25	-22,84	
	Total (zero-centered diff scale)	0	0	0	0	0	
Activities	Multiplex	27,28	18,03	22,51	13,66	20,37	
	Conference	-34,04	-37,81	-32	-25,63	-32,37	
	Museums and public exhibitions	11,18	18,34	-0,09	-0,25	7,3	
	Shows and entertainment	22,5	18,85	30,82	24,69	24,22	
	Gym and SPA	-26,4	-21,15	-24,03	-19,71	-22,82	
	Children's playground	-0,52	3,72	2,79	7,23	3,31	
Total (zero-centered diff scale)	0	0	0	0	0		
Floors	One floor	-2,36	7,92	7,06	11,81	6,11	
	More floors	2,36	-7,92	-7,06	-11,81	-6,11	
	Total (zero-centered diff scale)	0	0	0	0	0	
Mall	Open mall	-7,89	3,46	-8,81	-22,14	-8,85	
	Enclosed mall	7,89	-3,46	8,81	22,14	8,85	
	Total (zero-centered diff scale)	0	0	0	0	0	
Building	Type A	16,15	13,08	20,15	19,78	17,29	
	Type B	-15,39	-9,73	-20,06	-18,05	-15,81	
	Type C	-0,76	-3,35	-0,09	-1,73	-1,48	
	Total (zero-centered diff scale)	0	0	0	0	0	
Free space	Free space to relaxing	11,94	6,32	-14,15	-0,36	0,94	
	Free spaces for childrens	-12,34	-12,42	4,96	0,58	-4,81	
	Space for free exhibitions	0,4	6,1	9,19	-0,22	3,87	
	Total (zero-centered diff scale)	0	0	0	0	0	

Source: our processing on survey data

Bibliography

- Baker, R.G.V. (2000) Towards a dynamic aggregate shopping model and its application to retail trading hour and market area analysis, *Papers in Regional Sciences*, 79, 4, 413-434
- Baker, R.G.V. (2006) *Dynamic trip modelling. From shopping centres to the Internet*, Springer, Dordrecht
- Bravi M., Giaccaria S. (2007) Scelte residenziali, mercati immobiliare e offerta di beni pubblici locali (BPL): una rassegna metodologica, in (a cura di) Mollica E., *Sistemi economici locali e mercati immobiliari. La misura degli effetti originati da interventi di trasformazione urbana*, Roma, Gangemi Editore
- Brunetta G., Morandi C. (2009) *Polarità commerciali e trasformazioni territoriali. Un approccio interregionale*, Alinea, Firenze
- Christaller W. (1935) *Die zentralen orte in sudlentschland*, Jena, G.Fisher
- Cliquet G. (1992) *Management strategique des points de vente*, Dalloz-Sirey, Paris
- Cliquet G. (1995) Implementing a subjective MCI model: an application to the furniture market, *European Journal of Operational Research*, 84, 279-291
- Cohen, N. (2002) *American marketplace: the history of shopping centres*, Lyme, Connecticut, Greenwich Publishing Group
- Converse P.D. (1949) New laws of retail gravitation, *Journal of Marketing*, 13, 94-102
- Cooper, L.G., and Nakanishi, M. (1988) *Market-share analysis*, International Series in Quantitative Marketing, Kluwer Academic Publishers, Dordrecht
- Fortheringham A. S. (1983) A new set of spatial interaction models: the theory of competing destination, *Environment and Planning*, 15, 15-16
- Fortheringham A. S. (1988) Market share analysis techniques: a review and illustration of current US Practice, Wrigley N. (ed. by), *Store choice, Store location and market analysis*, New York, Routledge
- Ghosh, A., McLafferty, S.L. (1987) *Location strategies for retail and service firms*, Lexington Books
- Gonzalez-Benito O., Groatorex M., Munoz-Gallego P. A. (2000) Assessment of potential retail segmentation variables. An approach based on a subjective MCI resource allocation model, *Journal of Retailing and Consumer Services*, 7, 171-179
- Green, P.E., Srinivisan, V. (1978), Conjoint analysis in consumer research: issues and outlook, *Journal of Consumer Research* 5, 103-123
- Guedj B. (2009) Evoluzione del reddito locativo. Analisi comparata tra Francia, Spagna, Italia, Belgio, *Mark Up – Urbanistica, Real Estate & CCI*, giugno, 16-18
- Guy, C. (1994) *The retail development process: location, property and planning*, London, Routledge.
- Huff, D.L. (1962) Defining and estimating a trading area, *Journal of Marketing*, 28, 3, 34-38
- Losch A. (1954) *The economics of location*, New Haven, Yale University Press
- Luce R. (1959) Individual choice behaviour, New York, John Wiley & Sons
- Manski, C. (1977) The structure of random utility models, *Theory and Decision*, 8, 229-254
- McFadden D. (1974) Conditional Logit analysis of qualitative choice behaviour in Zarembka P. (ed. by) *Frontiers in Econometrics*, New York, Academic Press, 105-142
- Moi G. (2006) *Centri commerciali artificiali. Un'applicazione della Conjoint Analysis*, Degree Thesis, First Faculty of Architecture – Politecnico di Torino, Supervisor: Prof. M.Bravi
- Nakanishi, M., Cooper, L.G. (1982) Simplified estimation procedures for MCI models, *Marketing Science*, 1/3, 314-322
- Orme B. K. (2006) *Getting started with conjoint analysis. Strategies for product design and pricing research*, Research Publisher, Madison USA
- Reilly W.J. (1931) *The law of retail gravitation*, New York, Reilly Corp.
- Teller C., Reutterer T. (2008) The evolving concept of retail attractiveness: what makes retail agglomerations attractive when customers shop at them? *Journal of Retailing and Consumer Services*, 15, 127-143
- Terziariol E. (2009) Sviluppo in Europa: il boom è ritardato dalla crisi, *Mark Up – Urbanistica, Real Estate & CCI*, giugno, 8-10
- Vandell K.D., Carter C.C. (1993) Retail store location and market analysis: a review of the research, *Journal of Real Estate Literature*, 1, 13-45
- Wrigley N. (1988) *Store Choice, Store Location and Market Analysis*, London, Routledge.

T.N. The Authors have shared the entire work set. It is stressed however that, while Antonio Talarico took care of the § 1, Marina Bravi oversaw the drafting of the § 2. Introduction and Conclusion were conducted jointly.