



RPC E-Journal Summer 2015, Issue 8

Welcome to the 8th edition of the Real Property E-Journal. Included in this edition are some insightful experiences from outstanding professionals including:

- **Data Sources for Support of a Location Adjustment**
Author: Lorrie Beaumont, ASA
- **The Appraiser as Testifying or Consulting Expert, Part 3 – The Appraiser in Court**
Author: Tom Countryman
- **Partial Acquisition Appraisals for Public Projects**
Author: David R. Lewis, ASA
- **A New Perspective For Understanding Real Estate Market in Romania**
Author: Vlad M. Poenaru
- **My Personal ASA Experience**
Author: Paul Roberts, ASA
- **Applying Business Valuation Techniques to Determine Economic Obsolescence of Real Property and Personal Property Assets for the Purpose of Financial Reporting in Europe**
Author: Ludmila Simonova, ASA
- **Valuing Land in Dispute Resolution – Using Coefficient of Variation to Determine Unit of Measurement**
Author: Bryan Younge, ASA, MAI

Our next edition's deadline for articles is **November 1, 2015**. Read more about our "call for articles" by clicking on the following link <http://www.appraisers.org/Disciplines/Real-Property/rp-e-journal/call-for-articles>

Our Ad Valorem/Mass Appraisal general and residential specialty designations continue to attract new members. So we encourage articles focused on this area of professional practice.

We would also like to see you all attend or 2015 International Appraisers Conference which is scheduled for **October 18-21, 2015** at the **Mirage Hotel and Casino** in **Las Vegas, Nevada**. More information is to follow but the proposed line-up for this event is nothing less than ****Spectacular**!!!**



Please share this publication with anyone you believe would benefit from its contents.

Thank you for your continued interest and support of the RP E-Journal and we hope you enjoy the articles contained herein.

Micheal R. Lohmeier, FASA, Senior Editor

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About the American Society of Appraisers

The American Society of Appraisers is the oldest appraisal society in the United States. ASA has been training professional appraisers since its precursor, the American Society of Technical Appraisers, began in 1936. Today, ASA is still the country's only multidisciplinary appraisal society, providing its members the most solid grounding in the appraisal principles that underlie all classes of property: real, personal, tangible and intangible.

In a word, that's lineage. Because ASA is a non-profit professional society, we explore the principles of valuation as they evolve from basic economic theory and legal precedent in an atmosphere of collegiality and exploration, with instructors who are leaders in the profession.

ASA is the acknowledged leader in real property (RP) appraising and includes members who perform appraisals for various purposes such as sale, acquisition, ad valorem tax, eminent domain, insurance and forecasting. Real Property members specialize in the following appraisal specialties: Ad Valorem/Mass Appraisal (General and Residential), Timber and Timberland, Residential, Rural and other Real Property.

Our titleholders (Accredited Members and Accredited Senior Appraisers) are among those that consumers trust the most. Three-quarters of a century in appraisal education count when you want the finest service in RP appraising. Contact one of our accredited appraisers and you'll find out that lineage means...***excellence in real property appraising.***



About Real Property Valuation

The American Society of Appraiser's (ASA) Real Property Valuation Professional adheres to the highest industry standards (USPAP) and level of ethical conduct. Every ASA Real Property appraiser must meet meticulous requirements in education, experience and comprehensive testing before being awarded either the coveted Accredited Member (AM) or Accredited Senior Appraisers (ASA) designation. ASA Real Property Specialty Categories are:

- Ad Valorem/Mass Appraisal-Residential
- Ad Valorem/Mass Appraisal-General
- Real Property (All types)
- Residential
- Rural Agricultural
- Timberland

ASA's Real Property Valuation Professionals provide independent, unbiased opinions of value for all types of real estate and real estate interests and rights. Whether the assignment is to value interests in land and improvements and/or the related air rights, sub-surface rights or water rights, or to value an owner's partial interest or a tenant's leasehold interest, the ASA Real Property Professional is qualified and capable of doing the job appropriately, fairly, ethically and to the complete satisfaction of their client.

Designated ASA Real Property appraisers have demonstrated their commitment to the highest standards. In addition to having met rigorous education requirements, they have also completed at least 10,000 hours of full-time real property valuation experience.

ASA Real Property Valuation Professionals provide appraisal services for buy/sell agreements, financing, insurance issues, tax assessment, tax appeals, litigation and litigation support, partnership/family dissolution, just compensation for eminent domain/condemnation, equitable distribution of marital assets, highest and best use studies, marketability studies, and much more.

Moving forward, ASA's Real Property Discipline will continue its pursuit in promoting designated members and providing a collective voice for real property appraisers in government relations and profession related issues, leading accreditation programs and relevant continuing professional education courses.



I am using the MLS system, specifically the Public Records section of the MLS system, to access all recent sales as some sales do not always go through MLS. Using the Public Records section will account for those sales which do not specifically show up in the MLS system. My search parameters will focus around sale dates within the year prior to the effective date of my appraisal. I will confine my search criteria to lot sizes of 20,000 square feet or less, and I will define a range of sale prices to within what I believe to be reasonable for my subject neighborhood. This sale price range will eliminate any outliers that may show up in the data to possibly skew the results. My reason for defining my search criteria around these lot size parameters is because lot sizes of less than 20,000 square feet are confined within the specific Zoning areas of both my subject property and all my comparable sales.

My search parameters netted me 39 records...not a large dataset...but enough to work with, and current. I then downloaded the results into an Excel worksheet so that I could work with this information. The data included the Sale Date, the Lot Size, the Sale Price, the Total Assessed Value, the Assessed Value of the Land, and the Assessed value of the Building. I then added a new column to the spreadsheet with a formula to calculate the Assessed Land Value to the Total Value Assessment of each property.

	A	K	L	P	S	T	V	W	X	Y
1	Address	Last Sale Date	Last Sale Price	Lot Size	Land Value	Building Value	Total Value	Fiscal Year	Estimated	Tax
2	38 Pine Ln	1/27/2014	\$409,000	0.17 Acres (7500 SqFt)	\$265,450	\$123,850	\$389,300	2014	5,995.22	68.19%
3	52 Stearns St	1/30/2014	\$505,000	0.11 Acres (5000 SqFt)	\$256,250	\$184,600	\$440,850	2014	6,789.09	58.13%
4	90 Lakeshore Dr	2/7/2014	\$525,000	0.21 Acres (9121 SqFt)	\$271,450	\$126,950	\$398,400	2014	6,135.36	68.14%
5	51 Lull St	2/18/2014	\$570,000	0.19 Acres (8220 SqFt)	\$268,050	\$260,250	\$528,300	2014	8,135.82	50.74%
6	16 Pheasant Hill St	2/27/2014	\$566,000	0.45 Acres (19470 SqFt)	\$286,000	\$153,800	\$439,800	2014	6,772.92	65.03%
7	128 Beechnut Rd	3/5/2014	\$457,500	0.44 Acres (19103 SqFt)	\$285,950	\$73,350	\$359,300	2014	5,533.22	79.59%
8	120 Oak St	3/24/2014	\$500,000	0.28 Acres (12000 SqFt)	\$282,000	\$121,100	\$403,100	2014	6,207.74	69.96%
9	39 Loring St	3/31/2014	\$440,000	0.24 Acres (10615 SqFt)	\$276,950	\$122,100	\$399,050	2014	6,145.37	69.40%
10	166 Lakeshore Dr	4/4/2014	\$525,000	0.14 Acres (6000 SqFt)	\$259,900	\$78,650	\$338,550	2014	5,213.67	76.77%
11	35 Highview St	4/4/2014	\$524,000	0.35 Acres (15285 SqFt)	\$283,850	\$123,900	\$407,750	2014	6,279.35	69.61%
12	8 Wildwood Dr	4/10/2014	\$587,500	0.45 Acres (19434 SqFt)	\$286,050	\$175,400	\$461,450	2014	7,106.33	61.99%
13	42 Pond Plain Rd	4/14/2014	\$530,000	0.3 Acres (12970 SqFt)	\$310,750	\$128,550	\$439,300	2014	6,765.22	70.74%
14	23 Card Ave	4/17/2014	\$445,000	0.17 Acres (7526 SqFt)	\$265,500	\$113,700	\$379,200	2014	5,839.68	70.02%
15	1284 High St	4/23/2014	\$430,000	0.32 Acres (14000 SqFt)	\$254,800	\$114,750	\$369,550	2014	5,691.07	68.95%
16	701 Gay St	4/24/2014	\$420,000	0.41 Acres (18044 SqFt)	\$285,300	\$113,700	\$399,000	2014	6,144.60	71.50%
17	103 Hawthorne St	4/25/2014	\$450,000	0.23 Acres (10076 SqFt)	\$274,850	\$143,300	\$418,150	2014	6,439.51	65.73%
18	22 Dean Ave	4/30/2014	\$466,000	0.29 Acres (12756 SqFt)	\$254,250	\$144,850	\$399,100	2014	6,146.14	63.71%
19	104 Beechnut Rd	5/5/2014	\$530,000	0.38 Acres (16516 SqFt)	\$284,400	\$213,150	\$497,550	2014	7,662.27	57.16%
20	45 Pine Ln	5/9/2014	\$450,000	0.18 Acres (7687 SqFt)	\$266,100	\$145,050	\$411,150	2014	6,331.71	64.72%
21	75 Greenacre Rd	5/14/2014	\$415,000	0.29 Acres (12679 SqFt)	\$310,650	\$119,200	\$429,850	2014	6,619.69	72.27%
22	9 Thompson Ave	5/27/2014	\$545,000	0.28 Acres (12094 SqFt)	\$282,050	\$126,750	\$408,800	2014	6,295.52	68.99%
23	84 Parker St	5/30/2014	\$498,500	0.17 Acres (7500 SqFt)	\$265,450	\$167,050	\$432,500	2014	6,660.50	61.38%
24	18 Carroll Ave	6/9/2014	\$445,000	0.18 Acres (8000 SqFt)	\$267,300	\$149,450	\$416,750	2014	6,417.95	64.14%
25	21 Youngs Rd	6/13/2014	\$547,000	0.37 Acres (15966 SqFt)	\$284,200	\$110,450	\$394,650	2014	6,077.61	72.01%
26	60 Bayley St	6/20/2014	\$478,000	0.11 Acres (5000 SqFt)	\$256,250	\$134,750	\$391,000	2014	6,021.40	65.54%



I highlighted all the sales from the east side of the town and copied them onto a new tab within my Excel workbook. I calculated the averages of all the sale prices as well as the averages of all the land to total assessed values from the new column that I added.

	A	B	C	D	E	F	G	H	I	J
	Address	Last Sale Date	Last Sale Price	Lot Size	Land Value	Building Value	Total Value	Fiscal Year	Estimated Tax	
2	38 Pine Ln	1/27/2014	\$409,000	0.17 Acres (7500 SqFt)	\$265,450	\$123,850	\$389,300	2014	5,995.22	68.19%
3	51 Lull St	2/18/2014	\$570,000	0.19 Acres (8220 SqFt)	\$268,050	\$260,250	\$528,300	2014	8,135.82	50.74%
4	39 Loring St	3/31/2014	\$440,000	0.24 Acres (10615 SqFt)	\$276,950	\$122,100	\$399,050	2014	6,145.37	69.40%
5	701 Gay St	4/24/2014	\$420,000	0.41 Acres (18044 SqFt)	\$285,300	\$113,700	\$399,000	2014	6,144.60	71.50%
6	103 Hawthorne St	4/25/2014	\$450,000	0.23 Acres (10076 SqFt)	\$274,850	\$143,300	\$418,150	2014	6,439.51	65.73%
7	22 Dean Ave	4/30/2014	\$466,000	0.29 Acres (12756 SqFt)	\$254,250	\$144,850	\$399,100	2014	6,146.14	63.71%
8	45 Pine Ln	5/9/2014	\$450,000	0.18 Acres (7687 SqFt)	\$266,100	\$145,050	\$411,150	2014	6,331.71	64.72%
9	84 Parker St	5/30/2014	\$498,500	0.17 Acres (7500 SqFt)	\$265,450	\$167,050	\$432,500	2014	6,660.50	61.38%
10	18 Carroll Ave	6/9/2014	\$445,000	0.18 Acres (8000 SqFt)	\$267,300	\$149,450	\$416,750	2014	6,417.95	64.14%
11	21 Hillview Ter	6/30/2014	\$591,825	0.18 Acres (7835 SqFt)	\$266,700	\$222,950	\$489,650	2014	7,540.61	54.47%
12	88 School St	7/1/2014	\$565,000	0.26 Acres (11257 SqFt)	\$279,300	\$107,200	\$386,500	2014	5,952.10	72.26%
13	808 Gay St	8/15/2014	\$530,000	0.27 Acres (11797 SqFt)	\$281,250	\$170,350	\$451,600	2014	6,954.64	62.28%
14	39 Birch St	9/19/2014	\$430,000	0.25 Acres (10689 SqFt)	\$277,150	\$151,750	\$428,900	2014	6,605.06	64.62%
15										
16			\$481,948							64.09%
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I did the same for the west side of town, calculated the averages for the same columns, and put those results on another separate tab within my Excel workbook.

Address	Last Sale Date	Last Sale Price	Lot Size	Land Value	Building Value	Total Value	Fiscal Year	Estimated Tax	Tax
52 Stearns St	1/30/2014	\$505,000	.11 Acres (5000 SqFt)	\$256,250	\$184,600	\$440,850	2014	6,789.09	58.13%
90 Lakeshore Dr	2/7/2014	\$525,000	.21 Acres (9121 SqFt)	\$271,450	\$126,950	\$398,400	2014	6,135.36	68.14%
16 Pheasant Hill St	2/27/2014	\$566,000	.45 Acres (19470 SqFt)	\$286,000	\$153,800	\$439,800	2014	6,772.92	65.03%
128 Beechnut Rd	3/5/2014	\$457,500	.44 Acres (19103 SqFt)	\$285,950	\$73,350	\$359,300	2014	5,533.22	79.59%
120 Oak St	3/24/2014	\$500,000	.28 Acres (12000 SqFt)	\$282,000	\$121,100	\$403,100	2014	6,207.74	69.96%
166 Lakeshore Dr	4/4/2014	\$525,000	.14 Acres (6000 SqFt)	\$259,900	\$78,650	\$338,550	2014	5,213.67	76.77%
35 Highview St	4/4/2014	\$524,000	.35 Acres (15285 SqFt)	\$283,850	\$123,900	\$407,750	2014	6,279.35	69.61%
8 Wildwood Dr	4/10/2014	\$587,500	.45 Acres (19434 SqFt)	\$286,050	\$175,400	\$461,450	2014	7,106.33	61.99%
42 Pond Plain Rd	4/14/2014	\$530,000	.3 Acres (12970 SqFt)	\$310,750	\$128,550	\$439,300	2014	6,765.22	70.74%
23 Card Ave	4/17/2014	\$445,000	.17 Acres (7526 SqFt)	\$265,500	\$113,700	\$379,200	2014	5,839.68	70.02%
1284 High St	4/23/2014	\$430,000	.32 Acres (14000 SqFt)	\$254,800	\$114,750	\$369,550	2014	5,691.07	68.95%
104 Beechnut Rd	5/5/2014	\$530,000	.38 Acres (16516 SqFt)	\$284,400	\$213,150	\$497,550	2014	7,662.77	57.16%
75 Greenacre Rd	5/14/2014	\$415,000	.29 Acres (12679 SqFt)	\$310,650	\$119,200	\$429,850	2014	6,619.69	72.27%
9 Thompson Ave	5/27/2014	\$545,000	.28 Acres (12094 SqFt)	\$282,050	\$126,750	\$408,800	2014	6,295.52	68.99%
21 Youngs Rd	6/13/2014	\$547,000	.37 Acres (15966 SqFt)	\$284,200	\$110,450	\$394,650	2014	6,077.61	72.01%
60 Bayley St	6/20/2014	\$478,000	.11 Acres (5000 SqFt)	\$256,250	\$134,750	\$391,000	2014	6,021.40	65.54%
1471 High St	7/1/2014	\$478,000	.26 Acres (11250 SqFt)	\$251,350	\$117,650	\$369,000	2014	5,682.60	68.12%
103 Burgess Ave	7/9/2014	\$544,000	.45 Acres (19424 SqFt)	\$286,100	\$191,900	\$478,000	2014	7,361.20	59.85%
47 Highview St	7/14/2014	\$525,000	.42 Acres (18163 SqFt)	\$285,350	\$150,350	\$435,700	2014	6,709.78	65.49%
199 Pond St	7/31/2014	\$594,375	.26 Acres (11378 SqFt)	\$251,700	\$120,400	\$372,100	2014	5,730.34	67.64%
36 Warwick Dr	8/19/2014	\$535,000	.41 Acres (17767 SqFt)	\$285,150	\$148,850	\$434,000	2014	6,683.60	65.70%
150 Pond St	8/22/2014	\$416,000	.31 Acres (13302 SqFt)	\$254,450	\$64,350	\$318,800	2014	4,909.52	79.81%
1320 High St	8/22/2014	\$412,000	.41 Acres (17800 SqFt)	\$256,700	\$105,250	\$361,950	2014	5,574.03	70.92%
23 Sexton Ave	8/28/2014	\$535,000	.14 Acres (6000 SqFt)	\$285,900	\$124,800	\$410,700	2014	6,324.78	69.61%
28 Warwick Dr	9/5/2014	\$510,000	.34 Acres (15000 SqFt)	\$283,650	\$110,800	\$394,450	2014	6,074.53	71.91%
141 Edgewood Rd	9/16/2014	\$502,500	.32 Acres (13780 SqFt)	\$311,300	\$175,800	\$487,100	2014	7,501.34	63.91%
		\$506,226							68.38%

My results proved that there clearly is a market supported adjustment to be made for location from the east side of town to the west side of town. This was further supported by the tax assessments from one side of town to the other.

EAST SIDE

15									
16		\$481,948						64.09%	
17									
29									
30									

WEST SIDE

28									
29		\$506,226						68.38%	
30									



EAST SIDE OF WESTWOOD

Average Sale Price East Side - **\$481,948**

Average Percentage of Taxable Land to Total Assessed Value - **64.09%**

WEST SIDE OF WESTWOOD

Average Sale Price 109 Side - **\$506,226**

Average Percentage of Taxable Land to Total Assessed Value - **68.38%**

I can now calculate the results of my findings into a market supported adjustment for location and print or digitally save the results for my work file. I am in compliance with all USPAP standards and I have defensible support if challenged by a reviewer, an attorney or a state regulator.

CALCULATED RESULTS

USING SALE PRICES

$$\text{\$481,948} \div \text{\$506,226} = 0.95$$

$$100 - 0.95 = 5\% \quad \text{LOCATION ADJUSTMENT}$$

USING TAX ASSESSMENT STATISTICS

$$64.09\% \div 68.38\% = 0.937 \text{ (r) } 0.94$$

$$100 - 0.94 = 6\% \quad \text{LOCATION ADJUSTMENT}$$

This is just one method of calculating an adjustment using your MLS system. There are other methods and techniques of proving and supporting adjustments with market data. As an appraiser, you should make yourself aware of these various techniques and use these methods in your daily practice. Become a better appraiser.

About the Author



Lorrie Beaumont, ASA is owner of Westwood-based LB Appraisal Associates. She has been appraising properties since 1980 and established LB Appraisal in 1988. She completed her required course of study for licensure from the Massachusetts Board of Real Estate Appraisers, the Appraisal Institute and the American Society of Appraisers. Ms. Beaumont is the past president of MBREA, as well as ASA's Boston chapter. She currently serves as a Real Property Discipline Governor on ASA's Board of Trustees.

Ms. Beaumont holds an Accredited Senior Appraiser designation from ASA, a Residential Appraiser designation from MBREA and is a state-certified residential appraiser in Massachusetts. She has taught seminars for the MBREA, written numerous articles for the New England Real Estate Journal, contributed editorials as a member of the Banker and Tradesman's Advisory Board, and currently serves as the MBREA representative on The Appraisal Foundation's Advisory Council (TAFAC).



The Appraiser as Testifying or Consulting Expert

Part Three – The Appraiser in Court

So far in this series, we have discussed: i) the basic importance and selection of appraisers as formal and informal experts in and out of court; and ii) exactly what is required, from a legal perspective, for an appraiser to be sufficiently qualified, reliable and relevant to present opinions in court as an “expert.” These fundamentals determine the *basic admissibility* of any expert’s opinions. However, only after these hurdles are cleared and the expert takes the stand can the true *persuasiveness* of his or her testimony be maximized. In other words, all the foregoing has been mere prelude. Achieving the full power and impact of the appraiser’s expert opinions is the ultimate goal when trying to influence the judge’s or jury’s ultimate determination of value.

PERCEPTION IS NINE-TENTHS OF REALITY

As with virtually all human communication, the value of expert testimony is strongly impacted both by: 1) the actual manner in which the information is communicated; and ii) the perceptions of those appointed to hear and render a formal (or informal) “verdict” based on the information communicated. In short, both appraiser and sponsoring counsel must know their audience and tailor their joint presentation to best appeal to the largest segment of that audience.

Also, like it or not, value is largely impacted by subjective perceptions (at least, in most actual and would-be owners’ and taxing authorities’ minds). Consequently, the perceptions an appraiser creates by his/her professional opinions, rationale, methodologies and manner of presentation can be extraordinarily helpful both in managing the expectations of a property owner and the valuations of those on the other side of any value determination. Each is critical: the intractable, but insupportable, opinion of value of a property owner can be as detrimental to a final resolution or agreement on value as a buyer’s or chief appraiser’s mere decree of value, or what each thinks they actually *need* to conclude the value controversy.¹ To get value right, it is thus often

¹ In this regard, for example, the arguably “true” taxable value of a property may result in a far different tax than an owner pragmatically is able to pay. If a chief appraiser’s or other expert’s opinion of value results in an outcome which literally taxes the property owner out of the taxing jurisdiction, everyone loses. Under such circumstances, it is critical for both sides to understand a commercial appraisal at least should be fairly consistent with the property owner’s ability to generate enough income from the property to fund the taxes assessed on it. Hence, to manage or shape this perception, extra emphasis or consideration may need to be given by both sides to the income approach.

Similarly, it is no secret – especially to large taxpayers in rural jurisdictions - that humans being what they are, opinions of taxable values can be inappropriately inflated by the specific needs of school districts, counties or other taxing jurisdictions which absolutely require sufficient funds to service and protect property owners within their



important to get *perceptions* right first (or, at least, get them fully disclosed and out on the table).

Different presentations and approaches to value obviously create – and done right in court, are *intended* to create – different perceptions and ultimate conclusions about their subject. Of course, perception management must be handled with care, and in the appropriate context. To illustrate, it can result in reversible error in a property tax lawsuit for any mention to be made of the impact a low valuation could have on the school children and/or first responders in a taxing jurisdiction. The expert appraiser must be ever mindful of the boundaries of his or her testimony, and the propriety of referencing “collateral” facts, even if solely for the purposes of impeachment. This, in particular, is an area where sponsoring counsel and the expert appraiser must carefully collaborate so the appraiser is *sufficiently* informed of *pertinent* facts without being unduly influenced.

Another potential problem of perception can arise when a property owner possesses and/or actually has publicized information and value representations which are at odds with the purposes for which the appraiser has been hired and/or the appraisal he or she ultimately provides. Contradicting the client’s own evaluations can easily result in a “kiss of death” for the expert’s contrary trial (or ARB) testimony and credibility. As but one case in point, a property owner whose primary interest is in selling certain assets for as much as possible is not likely to develop evidence which would enhance the owner’s position when tax assessment time arrives. Indeed, it is not unusual for settlements to occur almost spontaneously with a court’s ruling that the client’s data room is subject to discovery in a tax-related lawsuit. Regardless, both appraiser and sponsoring counsel must be aware of and prepared to deal effectively with the perceptions created by their property owner/client’s previously prepared sales and/or refinancing literature, cost segregation studies, informal asset valuations and other evidence which, once/if ruled discoverable, could undermine, if not altogether contradict, the expert appraiser’s opinion of market value for property tax purposes. It can be devastating when client, counsel and/or their appraiser overlook or are unaware of the potential for related contradictions until it is effectively too late to do damage control.

To summarize, an appraisal obviously can give rise to a war of multiple battles of competing interests and perspectives. The expert appraiser must do his/her best to steer clear of (or work to “defuse”) anything that is not truly relevant to an unbiased determination of value, or risk severe impeachment. As illustrated above, the owner’s *own* interests may conflict both internally and externally when it comes to valuing their property. Also, taxing jurisdictions, of course, want the most revenue legally possible. Also, appraisal consultants may be consciously or unconsciously impacted not only by their client’s desire for expense management or reductions and the need for efficiency and expediency, but by the terms of their own contract(s) which define the parameters of their assignments and their compensation (especially when the latter involves any

borders. These sorts of “need perceptions” can inappropriately impact or cloud opinions of value, even for the most conscientious of appraisers, if they are not acknowledged and addressed head-on (and, perhaps, “truth tested” by a greater emphasis on a sales comparison approach, where possible and if appropriate).



contingent fees). None of this is said to suggest unethical behavior or conflicts of interest are the norm. It is simply to recognize that certain “human factors” may act individually or collectively to create an impression of underlying bias which any cross-examining attorney is likely to develop. The appraiser as expert witness must be prepared to defend or otherwise answer for his/her conclusions in light thereof. This is just one more reason why the expert appraiser’s Golden Rule must be “credibility first; credibility always!” The simple fact is that where there are differences of opinion – expert or otherwise – the most *credible* witness generally is regarded as the most convincing.

Consequently, especially in a courtroom governed by a mere “preponderance” evidentiary standard, extra effort spent making an appraiser’s testimony more logical, professional and persuasive is almost always well spent. High impact visual aids; well written reports which can be understood by a lay person; and effective analogies and other examples can mean the difference between a win and a loss. In the courtroom, “truth” is just what a judge or jury says it is. Therefore, the most effective expert generally not only will have impeccably reasoned and supported opinions, but also be able to engage in enough “sales and marketing” techniques to effectively convince the fact finder to “buy” his/her client’s position.

IDENTIFYING PROPERTY WHICH IS, AND ISN’T, SUBJECT TO APPRAISAL

Once an appraiser is qualified as an expert and allowed to provide substantive testimony to a fact finder, the first thing he/she must do is provide a clear and concise description of the property being valued. This can be a deceptively simple goal which actually is radically impacted by a variety of outside influences. Even when the appraiser is acting with the best of intentions, her/his analysis can be impacted by such things as: (i) the owner’s sentimental attachment to the property; (ii) the character of property as wholly or partly non-taxable or exempt; (iii) the impact of exempt or non-taxable property on the value of taxable property (particularly in the context of a unitized evaluation); and/or (iii) simple misunderstandings regarding the fundamental scope of the appraiser’s assignment.

As but one painful example (for the appraiser, at least), an appraisal district’s valuation of a wind farm’s land was challenged by the property owner as being excessive. In depositions, time and again, the taxing jurisdictions’ representatives and junior appraisers who assisted the main testifying expert appraiser swore their appraisal encompassed *only* the value of the *actual land* on which the wind turbines sat (evaluated primarily using the income approach). They understood the appraisal was only *supposed* to cover the land, because only the real property’s value was taxable in the given context. However, when the lead appraiser finally testified, he established the contested valuation (again, primarily focused on the income approach) really included not only the land (as it properly should have), but also the wind turbines, underground wiring, concrete foundations and other accouterments of the wind farm which were not, in fact, the subject of the lawsuit. Inexorably, the lead appraiser’s fundamental misunderstanding of both the



scope of his engagement and governing tax law (presumably, incorrectly communicated to him by the appraisal district's counsel) resulted in a completely erroneous and inadmissible appraisal and a quick settlement of the controversy in its entirety.

DETERMINING THE BEST METHODOLOGY AND APPROPRIATE STANDARD OF VALUE

As USPAP and virtually every appraisal treatise ever written make abundantly clear, one approach to value does not always fit all properties. A savvy testifying expert appraiser is never married to a single approach (as are many county tax appraisers who must, of necessity, utilize mass appraisal techniques and generally base them on the cost approach). The "investment" perspective of the income approach; the "market" view of the sales comparison approach; and the "economic/engineering" analysis of the cost approach each focus on a "different part of the elephant" and generally are intended to work *together* to create a complete picture of the beast. However, there are occasions where one or more of these approaches simply does not reasonably apply to a given asset, and the credible expert must be both sufficiently supported factually and persuasive enough to convince the fact finder that use of an inappropriate approach will actually *distort* the overall value opinion, rather than *enhance* it.

For example, for power plants and refineries whose revenues and/or expenses may be contractually controlled rather than market controlled, finding true "comparables" for a sales comparison approach can be a daunting, or even impossible, task. Power purchase contracts and tolling agreements are notoriously confidential and zealously guarded from disclosure by the parties to them. Consequently, where an appraiser does not know enough about such governing contracts (which frequently are regarded themselves as non-taxable intangible assets for property tax purposes) to credibly adjust for them using reasonably available "market" information, he/she has every right, and a professional *obligation*, to disregard the sales comparison approach because there is not sufficient data available to support it.

It is also critically important that the appraiser fully understand the applicable standard of value which needs to be applied in any given appraisal. Typically, "market value" or some reasonable equivalent is applied, particularly in property tax appraisals, but this is a decision best left to, and clearly communicated to the appraiser by, counsel. Loosely known as the "willing buyer, willing seller" standard, depending on the jurisdiction, market value may be defined legally in far greater and exacting detail, as in Texas:

[Market value is] the price at which a property would transfer for cash or its equivalent under prevailing market conditions if: (A) exposed for sale in the open market with a reasonable time for the seller to find a purchase; (B) both the seller and the purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use; and (C) both the



seller and purchaser seek to maximize their gains, and neither is in a position to take advantage of the exigencies of the other. See TEX. TAX CODE §1.04(7).

In summary:

The market value of property shall be determined by the application of generally accepted appraisal methods and techniques. If the appraisal district determines the appraised value of a property using mass appraisal standards, the mass appraisal standards must comply with the Uniform Standards of Professional Appraisal Practice. The same or similar appraisal methods and techniques shall be used in appraising the same or similar kinds of property. However, each property shall be appraised based upon the individual characteristics that affects the property's market value, and all available evidence that is specific to the value of the property shall be taken into account in determining the property's market value. See TEX. TAX CODE §23.01(b).

PREPARATION AND PRESENTATION OF THE VALUE OPINION

With: i) the correct property identified and value-isolated to the fullest extent possible; ii) the proper approaches justified and properly applied; and iii) the governing standard of value established, the appraiser is finally in a position to discuss with the fact finder the actual appraisal process used and his/her opinion of value, including the reasons therefore and any applicable value reconciliation or correlation. It is here that most appraisers would leave their audiences in the proverbial "weeds" of hypertechnicality with professional jargon and calculations which can only be explained through the actual use of an Excel spreadsheet (which most jurors do not understand, either). Consequently, it also is here that counsel, and/or a competent trial consultant, needs to step in to assist the appraiser in simplifying explanations and illustrating rationale. To accomplish this, there is no better tool than a series of PowerPoint slides which can graphically interpose various steps of the appraisal process into a comprehensible, visible whole the fact-finder actually can understand (at least, with relatively minor exceptions).

When a PowerPoint presentation is properly done so as to establish professional competence and credibility on its face, small problems are diminished in importance compared to overall conclusions. Nothing is more important, then, than the thought that goes into the preparation of a PowerPoint for court. First and foremost, there is a fine line between attention grabbing and distracting; cross it and risk being seen as condescending at your peril. Second, there is no need for the PowerPoint (or whatever graphic jury aids or exhibits the appraiser and counsel choose to use during testimony) to reiterate *everything* the expert plans to say. At most, graphics should serve as "Cliff



Notes” of the expert’s appraisal report. In that way, the expert’s *testimony* can zero in on the most important points while leaving the hypertechnical explanations for his underlying report and those fact-finders willing to slog through it.² It is always best to let the expert teach using his/her own words and opinions, and then illustrate or demonstrate them graphically in a more summary manner.³

CROSS-EXAMINATION AND REBUTTAL TESTIMONY

It is an inexperienced expert indeed who thinks their task is complete with direct testimony. In fact, most everyone – juries included – seem to understand that the real controversy resolution and expert credibility is established during cross-examination and/or rebuttal testimony. Cross-examination typically immediately follows direct testimony and is an opportunity for opposing counsel to impeach or contradict the witness with his own or other evidence to his face. Rebuttal testimony, on the other hand, involves criticism of and challenges to the testimony of one witness through the testimony of another witness. In court, rebuttal can be as simple as having opposing experts each explain why the other is wrong. However, it can be as complex as bringing in completely new, third-party witnesses to give expert testimony as to why an opposing expert’s opinion was fatally flawed.

Any expert who cannot “win” – or, at least, survive - cross-examination and rebuttal is not likely to win *any* case, as even a lay person would probably guess. The expert appraiser willing to be subjected to whatever “mock” cross-examination counsel thinks appropriate and who prepares to testify by considering and answering particularly difficult rebuttal points is much more likely to be seen as credible, even in a losing cause.

Finally, the best experts understand that, no matter how important their testimony may be, the case is not just about them and their performance as witnesses. They are willing to work to understand exactly where their testimony fits in the overall presentation of the case, and even, when it is possible to do so without infringing on their professional

² This assumes the expert’s report gets into evidence. The reports themselves actually are inadmissible hearsay. *See, e.g.*, TEX.R.CIV.EVID. 801-803. Thus, they normally should only come into evidence by agreement, usually only reached when each side perceives the chance to gain a different tactical advantage from their admission. When reports are not admitted, it is not atypical for fact-finders simply to fill in any technical “gaps” in the testimony in favor of the appraiser perceived as most credible.

Potentially as important, but more subtly, non-judicious use of PowerPoint presentations can lead to claims by the opposition that the expert is being improperly led through his testimony. Even where such objections are overruled, they may convince the jury that the expert is “tied to his notes” and therefore not as credible as one who is seen as more able to speak extemporaneously.

³ Even this strategy has a potential drawback: it runs the risk of having certain materials excluded from evidence as being cumulative of prior evidence. *See, e.g.*, TEX.R.CIV.EVID. 403. Experienced counsel can usually guide the appraiser in achieving a happy medium which satisfies both legal requirements and the needs for simple comprehension and understanding.



independence and integrity, assist counsel in analyzing and critiquing contrary evidence and in formulating plans to deal with it.⁴

FINAL TIPS FOR THE TESTIFYING EXPERT

In closing out this series, it seems appropriate to both refocus on some critical points and discuss a few additional practical “tips” which have been found effective in assisting experts to make the most credible presentations possible.

1. *The best experts do not lecture; they teach.* Effective experts avoid the temptations of arrogance and condescension.
2. *Experts get it right the first time.* In general, anything a testifying expert writes, reviews or otherwise creates – even if in draft form – is discoverable by the other side. If an expert’s drafts, notes and/or reports (in the given case or others) appear inconsistent with his/her final conclusions, the impact on credibility can be devastating. Therefore, an excellent rule of thumb is, “Don’t write it down until you are sure it is correct.”
3. *An expert is ever-mindful of the need for consistency.* As per the foregoing, nothing is worse than having an expert impeached by an article she/he previously published, or some prior testimony in favor of “the other side,” whatever side that happens to be.⁵ This is not to say any expert should be a slave to only plaintiffs or defendants, or only to public or private entities. In fact, some limited amount of “cross-testifying” can be pragmatically helpful for the expert and enhance credibility at the same time. The key, however, is that the expert consistently sticks with the same practices, procedures and fundamental principles to undergird all of his/her testimony in whatever context it is given.
4. *Avoid the “hired gun” and “ivory tower” mentalities.* Credibility and persuasiveness are not just about being right. An effective expert must exhibit an understanding of “real world” facts and be willing and able to adapt when evidence does not come in as anticipated. Professional pontification is rarely appreciated by jurors. To the contrary, it is not unusual for lay people to respond negatively to experts who clearly present as if they think they are the smartest people in the room, even if they obviously are. Learn to use the art of lighthearted self-deprecation.
5. *Know what you don’t know and know why you don’t need to know it.* To follow-up on the last point, it is pretty much a given that no one knows everything. Curiously, perhaps, most jurors actually tend to elevate overall credibility above unwavering perfection. Experts who can “play on the home team’s field” and calmly and non-defensively explain away alleged flaws in their own positions without being dogmatic are

⁴ Of course, if this is overdone, the expert may be subject to criticism as being a mere “advocate” for his/her client. Once again, counsel should provide appropriate guidance on the scope and detail of any non-testimonial assistance the expert appraiser may offer.

⁵ It is, in fact, wholly improper, and quite possibly unethical, for any expert even to take on an assignment knowing that she/he has previously testified to the contrary in another case, at least without disclosing the fact and allowing counsel to determine whether or not the case is sufficiently distinguishable to merit the expert’s retention.



generally seen as the most persuasive. Experts who can patiently admit to ignorance and explain why it is irrelevant to the ultimate issues in the case are definite “keepers.”

6. *Effective experts make a list of indisputable facts favorable to their client’s side and commit to them as foundational principles underlying their reports and opinions. They also ask counsel to get opposing experts to either agree with or dispute them.*

7. *Make the opposing expert look hypocritical for not taking action you feel should have been taken; and make him/her look hypercritical when their detailed analysis is too complex or missing a “big picture” perspective.*

8. *Attend opposing experts’ depositions. Make sure counsel makes all opposing experts preserve and bring originals of all their work product and draft reports to the deposition. Encourage counsel to have the opposing expert explain any differences between draft and final reports.*

9. *Clearly and irrefutably establish your areas of expertise, but do so with appropriate humility. Assist counsel in limiting the scope of opposing experts’ testimony by committing them to testify only to matters truly pertinent to your case and to admit relevant areas in which they would not hold themselves out as experts.*

10. *Effective experts simply do not allow opposing counsel to commit them to agree that their reports contain all opinions and facts the expert may ever testify about in the case. Leave “wiggle room” in case new evidence is found or a new case theory emerges. (But remember this, too, can be overdone.)*

11. *Do not respond differently to questions for which you have already given favorable responses. You may not have to respond at all.*

AND THE FINAL TIP: once effective experts get their points across, they stop talking before they say one thing too many!

‘Nuff said!



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Partial Acquisition Appraisals for Public Projects

The appraisal of real property for public projects often represent unique and challenging appraisal assignments. Many of these assignments are partial acquisitions for specific public projects such as road widening, pipeline easements, flood control and other purposes. The acquisition for public projects are commonly done under the threat of eminent domain. Specific procedures and guidelines are established by law and administrative procedures. Consider that two appraisals are often required for complex and high value acquisition. The primary purpose of an appraisal for a governmental agency is to establish a basis to establish just compensation. It is the agency that determines just compensation in order to compensate the owner for the loss of property rights. Just compensation cannot be less than the approved appraisal.

Because there is a remainder with a partial acquisition, it is critical to know how the remainder is impacted by the acquisition and the project. . This is because a remainder property exists after the acquisition. It is essential to know how the remainder is impacted by the take and the project.

The appraisal problem for partial acquisitions is essentially a before and after process using either the "Federal Rule" or "State Rule," depending on the individual State where the subject property is located. The Federal Rule is a strict before and after analysis which includes an analysis of damages and benefits. Consideration is given to any changes to the highest and best use and marketability in the before and after conditions. The State Rule is a form of a before and after analysis. The State Rule requires the appraiser to value the part to be taken plus any damages to the remainder property as a result of the taking and project. In addition, the appraiser must consider any benefits to the remainder. Benefits are items that enhance value such as a positive change to the highest and best use or improved marketability. Under the State Rule benefits can only be used to deduct damages. This is a significant difference between the Federal and State Rules. Under the Federal Rule if the remainder is of greater value in the after condition as compared to the before condition, the owner is considered compensated. No money is offered. Under the State Rule the agency will pay for the part taken.

Typically, the appraiser is to develop an opinion of value for the land to be acquired (taken) and the contributory value of any improvements in the take area. In developing an opinion of value of the land, it is typically required to find sales of comparable vacant land. Depending on the market, the availability of vacant land sales can be a challenge.



There are instances where a cost-to-cure expenditure may be used to mitigate damages by providing a property condition with similar utility in relation to the before condition. Such cost-to-cure may fully mitigate the damages or deduce damages. Cost-to-cure typically is used when the damages being cured are greater than the cost to cure option.

Consider the following partial acquisition for a road project where a portion of the property in the after condition is separated from the portion where the residence is located. In this case the residence does not have severance damages. Damages are only to the land. The following is damage calculations are based on the State of California Department of Transportation Right of Way Manual.

The following procedure is used to analyze damages in relation to benefits in the after condition:

- A. Value of the whole before acquisition
- B. Value of the part acquired as part of the whole
- C. Value of the remainder as part of the whole (Line A less Line B)
- D. Value of the remainder after the acquisition and before considering benefits

- E. Severance Damages (Line C less Line D)
- F. Value of the remainder after the acquisition and after considering benefits

- G. Benefits (Line F less Line D)
Net Damages (difference between line E and G)

The State of California is a "State Rule" State. California Civil Code Section 1263.410 states:

(a) Where the property acquired is part of a larger parcel, in addition to the compensation awarded pursuant to Article 4 (commencing with Section 1263.310) for the part taken, compensation shall be awarded for the injury, if any, to the remainder.

(b) Compensation for injury to the remainder is the amount of the damage to the remainder reduced by the amount of the benefit to the remainder. If the amount of the benefit to the remainder equals or exceeds the amount of the damage to the remainder, no compensation shall be awarded under this article. If the amount of the benefit to the remainder exceeds the amount of damage to the remainder, such excess shall be deducted from the compensation provided in Section 1263.510, if



any, but shall not be deducted from the compensation required to be awarded for the property taken or from the other compensation required by this chapter.

The subject rural residential/agriculture property/estate view site is located at _____ is also referred to as Assessor's Parcel No. _____. The subject property in the before condition is a 21.862 acre parcel/site improved with rural residential improvements. Improvements include a 2-story, 3-bedroom, 2.5-bath residence. The 2 car garage is attached. The residence was constructed approximately 10 years ago. Ancillary uses include barn type structure located easterly of the residence.

The specific appraisal assignment pertains to a proposed partial acquisition for right of way purposes for planned highway improvements include 8.577 acres in fee . *In the after condition a 5.625 acre remnant remainder will be located between the new highway and the existing residence. The 5.625 acre remnant loses utility to the residence resulting in a diminution of value (severance damages) for that portion of the property.*

The 5.625 acre island between the road still provides support to the residence in providing septic facility options. The current owner has indicated that he grazes livestock as a life style. This 5.625 acre island, in terms of market perspective, will essentially be a remnant parcel to the 6.5 acre house site. It is legally connected to the larger remainder and does not create an independent parcel.

The 5.625 remainder has reduced utility. Such remnants demonstrate reduced utility. Based on market conditions the remnant is considered to maintain 25% of its before condition unit value. This area can be used for septic system expansion or used for life style agriculture such as equestrian use. By calculation the amount of damages are 5.625 acres x \$41,000 per acre x 75% = \$172,969. 57,656

Determining damages cannot be speculative or conjectural. The degree in damages can range from a nominal amount to nearly 100% of its separation from the remainder 6.5 acre home site. There is no indication that there would be damages to the existing residence and house site. Severance damages (diminution of value) may occur if there is a change in the highest and best use of the property and/or there is a decrease in marketability. Marketability includes a demand for the loss of utility where the market would pay less for the property as a result of the difference.



In the after condition the home site will be smaller at 6.5 acres. Its contributory unit value of the land will increase based on the principles of diminishing returns and contribution. Generally, the larger parcels become, the value increases but at a decreasing rate. Therefore, the unit (per sq. ft. or per acre) value decreases. Since the remainder is smaller it is necessary to research the sales of smaller rural residential parcels. The value of smaller parcels similar in size to the remainder was determined to be \$76,000 per acre.

A.	Value of the whole before acquisition (21.826 acres x \$41,000 per acre = \$894,866)	\$894,866
B.	Value of the part acquired as part of the whole (8.577 acres x \$41,000 per acre = \$351,659)	\$351,659
C.	Value of the remainder as part of the whole (Line A less Line B)	\$543,207
D.	Value of the remainder after the acquisition and before considering benefits (6.5 acres x \$41,000 per acre = \$266,500 plus 5.625 x \$41,000 x 0.25 = \$57,656)	\$324,156
E.	Severance Damages (Line C less Line D)	\$219,051
F.	Value of the remainder after the acquisition and after considering benefits (6.5 acres x \$76,000 per acre = \$494,000 plus remnant 5.625 x \$41,000 x 0.25 = \$57,656)	\$551,656
G.	Benefits (Line F less Line D) \$227,500 Net Damages (difference between line E and G)	(\$ 8,449)

Benefits exceed damages. Therefore, there are no damages.

Another problem with partial acquisitions is determining the contributory value of any improvements within the take area. One of the tasks for the appraiser is to determine how the improvements in the take area. Say a partial acquisition for a major road upgrade required the removal of a group of trees that provided a visual barrier and some level of sound attenuation of a residence in the before condition. The loss of trees would reduced



the marketability of the residence in the before condition. The existing residence would have diminished utility if the trees were not present. Since the location of the residence and not the land is in question, any possible severance damages would be to the residential structure. However, improved access was considered a significant benefit that could eliminate or reduce the damages to the residential improvement. Nonetheless, the contributory value of the trees should consider in the before condition notwithstanding the public project. The degree of utility of the trees should be measured. Improvements within the take area must be valued in the before condition and not considering the proposed or pending public project.

Severance damages are often difficult to support. Real estate is an imperfect market and data may not produce accurate conclusions. The loss of value certain property characteristics may be more difficult to prove. In the case of the loss of trees, just compensation may be better served by considering the degree of contributory value to the primary use of the property. The costs to create an after condition similar to the before condition may be an appropriate solution if the trees are economic. For example, a fence that supports the highest and best use in the before condition should be replaced based on its replacement cost. Trees that support the highest and best use of the property contribute to the value of the whole.

About the Author

David R. Lewis, ASA, MRICS, SR/WA has 36 years in working for local government municipalities. This includes working for two "qualified agencies" and was the Right of Way Section Manager for the County of Sonoma, California. He is also a land use planner with both advance and current planning experience. As a real property appraiser, assignments include subdivisions, vacant land, commercial/industrial properties, eminent domain, and diminution of value. He is an expert witness in California Superior Court. Over the last 5 years he has his own independent practice.

A NEW PERSPECTIVE FOR UNDERSTANDING REAL ESTATE MARKET IN ROMANIA

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ABSTRACT

This paper introduces an analysis of the factors influencing the real estate market participants' purchase decision, focusing on the residential segment study, on grounds of its visibility. A good knowledge of the set of intertwined factors leveraging the buyer's behavior can provide an explanation to the way the buyers act. The key concept underpinning the study draws on Philip Kotler's classification regarded as one of the most relevant.

In order to better highlight these factors and the way they act, a whole theory has been developed around this analysis – The theory of mono-centered and poly-centered cities. The most interesting part of the article comes with its case study, shifting from theory to practice. The graphs therein illustrate the behavior and perception of the buyers of residential real estate properties in the capital city during the period 1990-2014. The work goes on to present forecasts and general conclusions to the residential real estate property demand.

The article provides answers to key questions for the real estate professionals. However, since the answers and the analysis actually impart the authors' own interpretation, they can be viewed in a different light as well.

This article builds on both accurate and intuitive information, the latter not lending itself to mathematical demonstration.

KEY WORDS

real estate analysis, demand analysis, forecasts

JEL Classification: D70, E20, J10, J60, O52

INTRODUCTION

People are created to react differently under similar circumstances, as a result of the rich diversity of their physical and behavioral characteristics, values and options. Human behavior comes as a synthetic, functional, decision-making, unitary and individualized pattern of the biological, psychical and psychosocial elements, thus triggering each individual's specific response to the environment. People may be different from each other, but there are some individuals who, in terms of behavior and decision-making, act

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in a quite similar way in some cases, as a result of the factors impacting them and of their options.

We, people, are those who have created, invented and developed all the economic markets/ environments, based on our needs and social background, to subsequently interact there according to individual needs.

A market is a system of aggregate interactions whereby buyers and sellers engage in order to exchange goods and services. The parties involved perceive it as an economic meeting space for buyers and sellers to set up the milieu where demand and supply are expressed, which triggers pricing for a given product and service in the process. Competition is considered to act as a market regulator, as a result of the market players' drive to carry out their activity and reach their aims.

The case study showcased in this article is aimed at providing an answer to the questions raised by real estate experts (investors, developers, builders, advisers, brokers, valuers etc.) and not only. Thus, the article answers to key questions of the experts in the industry, yet the answers and the analysis provided stand for the authors' own interpretation, therefore they can be viewed in a different light as well.

The guiding lines set throughout this study and the way it has been conducted demonstrate its usefulness to the experts in the real estate profession. Starting from a key concept, set forth in section one, the article focuses on the analysis of the real estate actors' behavior and of the purchase decision leveraging factors. In order to explain the involved players' behavior, section two of the study focuses solely on the residential segment of the real estate market for which the analysis theory, the case study and the interpretations have been specifically developed.

The novelty, as compared to other studies, lies in the theory of urban environments classification, as put forth in section three, the end user oriented analysis and the data interpretation modality.

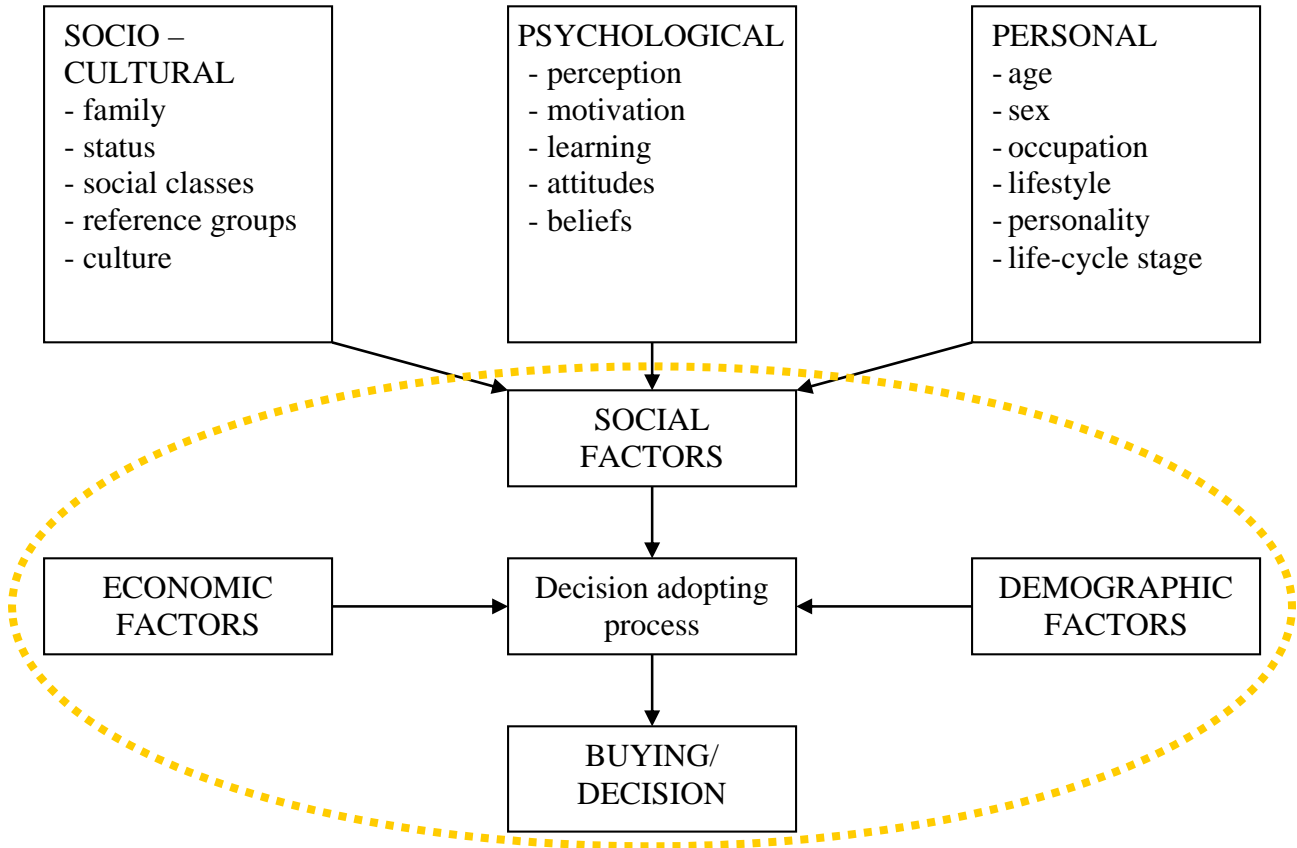
1. PREREQUISITES

According to the idea enounced in the Introduction, people are different from one another, yet there are some individuals who, as a result of various influencing factors and options, act in a similar way in terms of behavior and decision making.

The consumer/buyer behavior can be understood only after one has got to know the system of closely intertwined interacting factors influencing it. The modality they act and particularly the place and role they hold in the decision making process are viewed in different ways. The specialized literature provides various classifications of these factors, one of the most relevant being Philip Kotler's (1999). He carries out an in-depth analysis

of the consumer/buyer behavior, starting from the analysis of the factors influencing it. The key concept of the study is based on Philip Kotler's classification (see Figure 1).

Figure 1. Factors Influencing Consumer Behavior



Source: Kotler, Ph. (1999) *Principles of Marketing*

2. ANALYSIS OF THE FACTORS INVOLVED IN THE DECISION MAKING PROCESS

Human nature has proved that each cause has its effect and entails a series of events leading to a final outcome. Any decision regarding the purchase of a real estate property, as made by an individual or a group of individuals derives mainly from economic, demographic and social factors.

2.1. Economic Factors

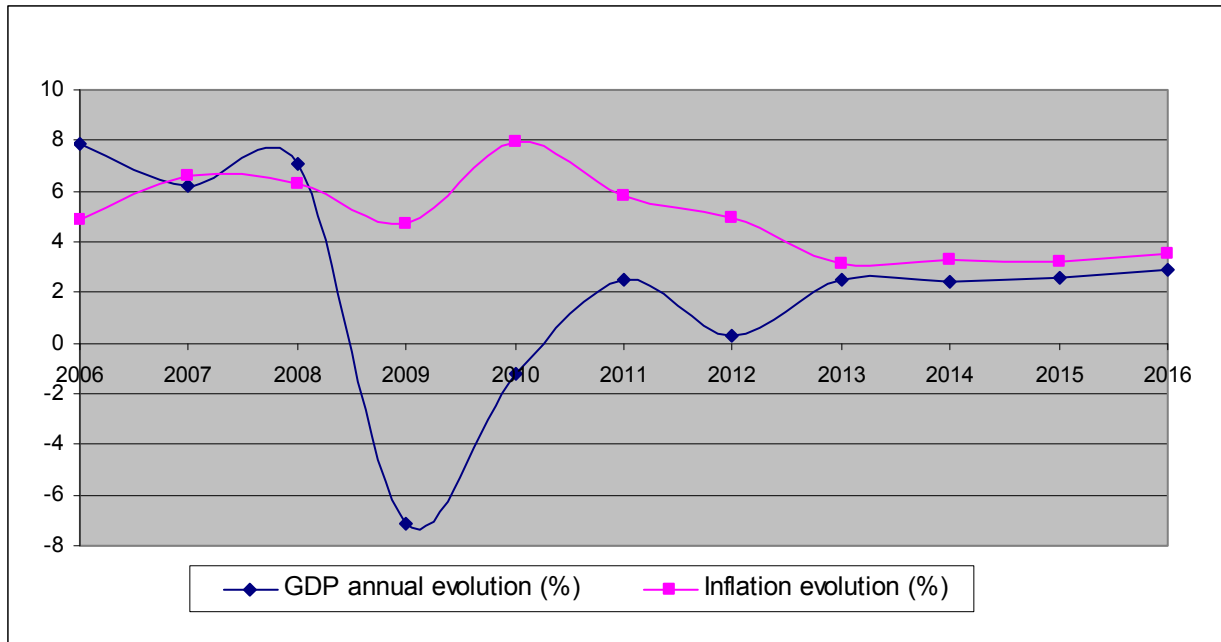
Economic factors play a key role in the decision making process, because at a macroeconomic scale, they are indicative of the buying capacity the society, namely the market participants dispose of at a given moment. Economic factors are interconnected with consumption size and evolution in all domains.

At a macroeconomic scale, economic factors are manifest through the dynamics and level of the synthetic indicators (for instance gross domestic product, per capita income, minimum salary etc.), the evolution of the main activity domains, as expressed through indicators specific to the industrial and agricultural production, the transports, constructions etc., through the change in the population's actual incomes and level of indebtedness, through the level of inflation, of unemployment etc., expressing in fact the desire to buy.

The consumer/buyer income is the essential factor representing, through its size, form, dynamics, distribution in time, destination etc. the material prerequisite of consumer behavior and the main restriction imposed to it.

An example of the influence of these factors would be the way a reduction in an individual's income affects mostly the sums allocated for durable goods and for leisure, respectively. Since real estate fall into the durables category, we can say that the most important criteria underlying the buying decision are its functionality and price, particularly when income safety is rather doubtful.

Figure 2. Romania's Macroeconomic Evolution (2006-2016)



Source: The National Bank of Romania (2014-2016 Forecast)

Considering that the proposed dimension under the study refers to Romania, the analysis of the main economic indicators and their historical evolution is of utmost importance. Figure 2 shows that time period 2008-2012 featured a major economic unbalance which Romania managed to set right at the end of 2012. 2013 was the first year of economic balance to be hopefully maintained in the following years.

At a microeconomic scale, the main "barometers" of economy are:

- A) Minimum wages per economy** (or other forms through which purchase power can be determined) – an indicator reflecting the minimum purchase power or the cost of labor.
- B) Unemployment rate** – an indicator which may mirror the economic health of an area or of a state and its capacity to generate jobs (see Figure 3 – Unemployment rate by counties).
- C) Direct foreign investments** – their evolution practically stands for a vote of confidence in a country's or a region's administrative system (see Figures 4 and 5).

A) The minimum wages per economy is the lowest value of the hour, daily or monthly pay an employer is allowed to grant an employee according to the respective country's law.

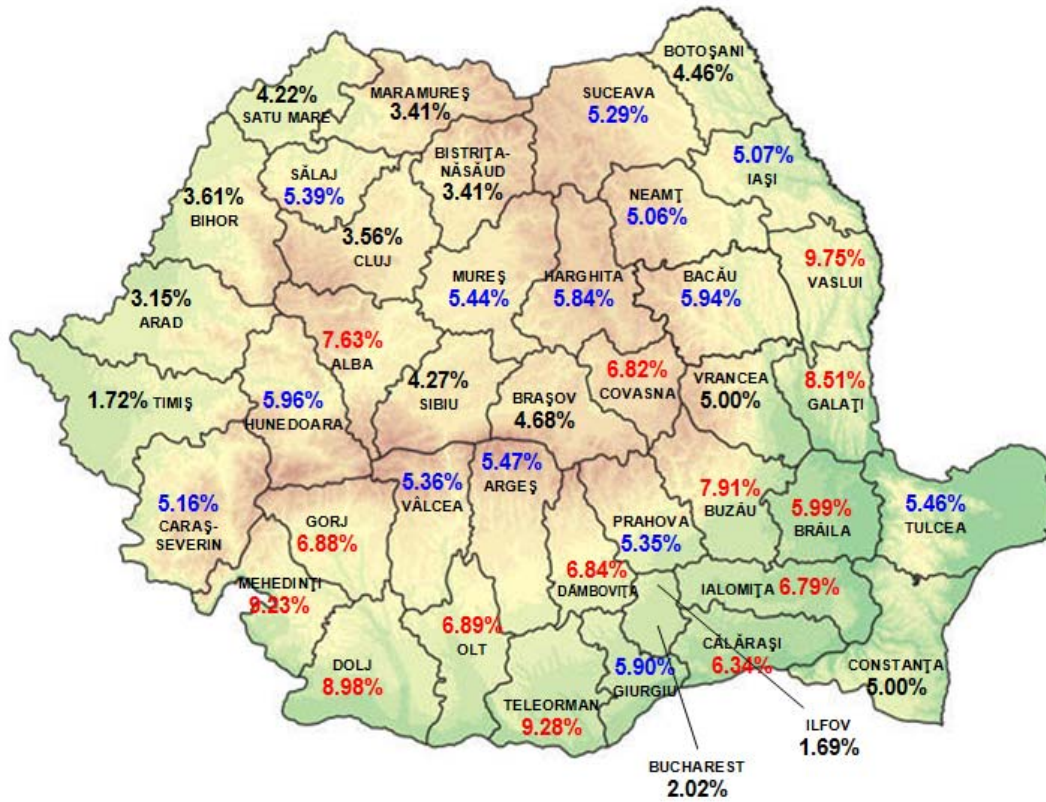
In the sense an investor may consider the notion, the minimum salary per economy (of an approximately EUR 205 share in Romania today) can be one of the main criteria when deciding to enter a certain market. A low value of this indicator is indicative of a low purchasing capacity, while on the other hand, an advantage when it comes to the labor cost. For instance, a low labor cost favors companies relocations in the EU (as it is the case with Nokia), reduces unemployment rate in the respective area, while still keeping a low purchase power and the respective state's low capitalization. On the long term, relocations may have a bad influence on the Gross Domestic Product.

To outline a picture of the potential EU member states that could be considered Romania's competitors in terms of the cost of labor, we introduce the classification below made according to the minimum wages per economy:

- Below EUR 300 per month: Latvia (129), Lithuania (159), Slovakia (183), Estonia (192), Poland (234), Hungary (247) and the Czech Republic (261).
- Between EUR 400 and EUR 700 per month: Portugal (437), Slovenia (512), Malta (580), Spain (631) and Greece (668).
- Over EUR 1.200: France (1.218), Belgium (1.234), the UK (1.269), the Netherlands (1.273), Ireland (1.293) and Luxemburg (1.503).

The countries in which there are no law imposed minimum wages, namely Austria, Cyprus, Denmark, Finland, Italy and Sweden are excluded.

Figure 3. Unemployment Rate per Counties



Source: The National Agency for Employment (A.N.O.F.M.) - May 2013

B) Unemployment rate is an indicator by means of which unemployment intensity is measured, calculated as a ratio between the number of unemployed and the reference population (the active population).

Romania features a low unemployment rate as compared to other EU member states, namely approximately 5% (and an average figure of 500,000 unemployed in the last 7 years). However, the low value of this indicator reflects neither the economic health nor Romania's capacity to generate employment. What actually accounts for the relatively low unemployment rate is the population's migration abroad. But for the migration phenomenon in Romania, to be dealt with in the next chapter, we would have most likely been faced with an unemployment rate six times higher and impossible to cope with (approx. 30% spelling an approximate figure of 3,000,000 unemployed, out of whom approx. 500,000 are those registered with the National Agency for Employment – A.N.O.F.M.).

C) Foreign Direct Investments stand for concrete occurrences of the market globalization process boosting at least a series of endogenous economic growth factors as well as financial flows between states.

The National Bank of Romania understands foreign direct investment as a long-term investment relationship between a residential and a non-residential entity; as a rule, it involves the investor's exerting considerable managerial influence over the enterprise he has invested in. Foreign Direct Investments components are equity capitals and net credit.

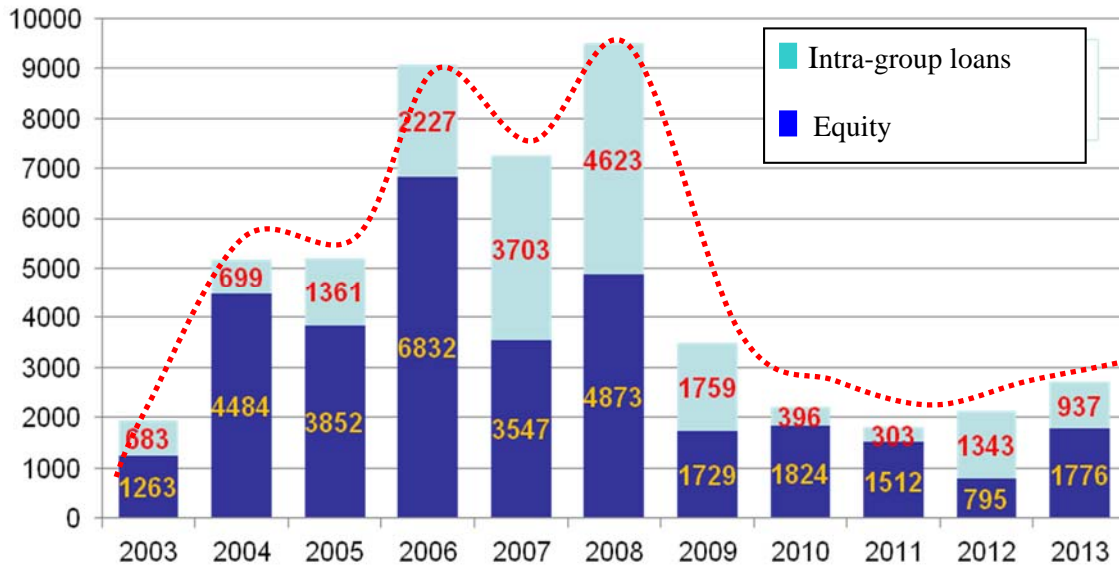
Equity stands for the subscribed and paid capital, both cash and through in-kind contributions, held by non-residents in resident companies, as well as the related share from reserves; in the case of subsidiaries, the endowment capital at their disposal shall be considered accordingly.

The Net Loan stands for the totality of the loans received by the foreign direct investment enterprise from the foreign direct investor or from the group of non-resident companies he belongs with, less the loans secured by the foreign direct investment enterprise to the foreign direct investor or to another company within that particular group of companies. The subordinate loans between intermediate affiliated financiers (banks, Non-Banking Financial Institutions) are no longer considered as pertaining to direct investments.

The Foreign Direct Investments (differentiated with respect to the flow of foreign equity ownership contributed to the foreign direct investment enterprises) fall into several types, namely: *greenfields, fusions and acquisitions, business development and/or restructuring.*

The upward trend of foreign direct investments in Romania (see Figure 4) between 2003 and 2008 is indicative of the extent to which foreign investors trust Romanian economy (with a peak value reached in 2008).

Figure 4. Foreign Direct Investments Flow in Romania (2003-2013)

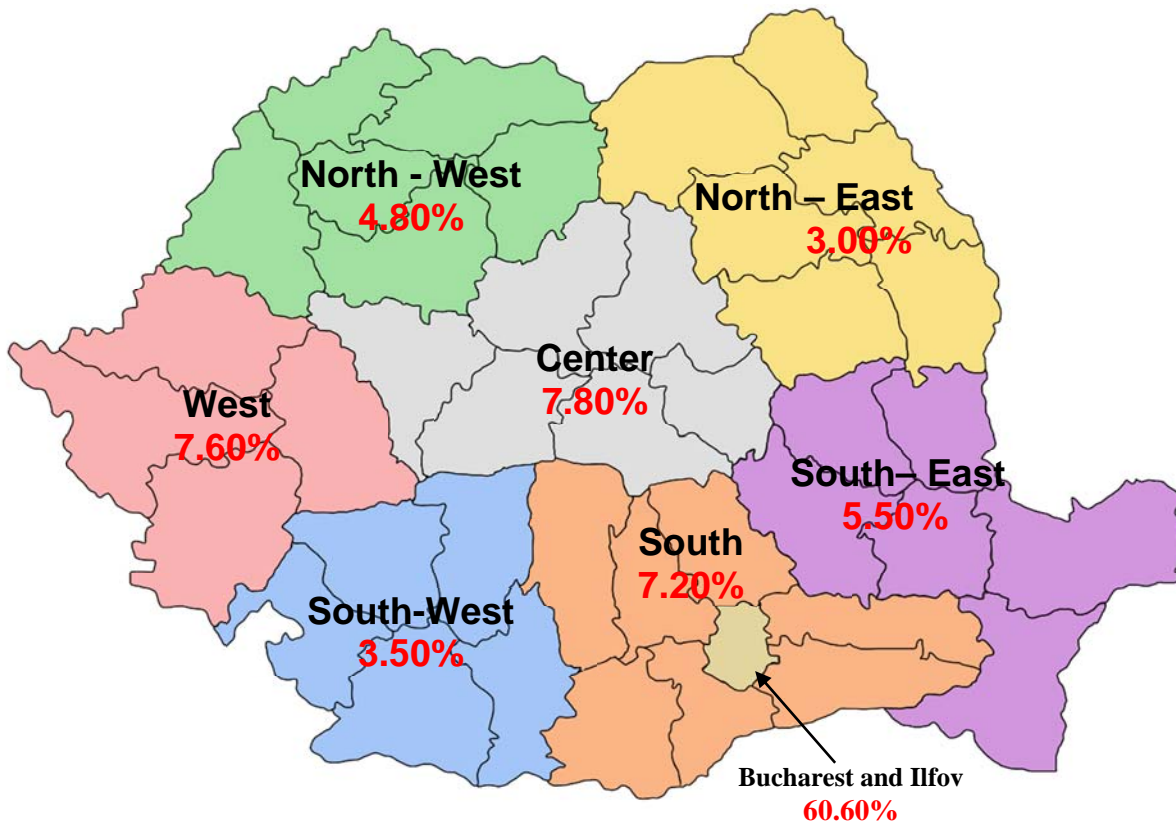


Source: The National Bank of Romania

The investors' reaction to the unfavorable national and international economic context is mirrored in the difference in the flow value as registered between 2008 and 2009. The downward trend of the foreign investments was furthered (2009-2011) against the background of the uncertainty entailed by the conflicts at the national political level and in the global economy. Then economy stabilization following the restructuring policies adopted and the political relaxation in Romania impacted investors in a positive way, boosting investments to an upward trend. 2014 will certainly mark a reference point in the European Union's financial/banking history following the adopting of the negative deposit rate. This policy was to have a positive impact on all the EU Member States, Romania included, in the years to come.

At the end of 2013, there was a major discrepancy between the capital city and the rest of the regions in terms of foreign direct investments (FDI) flow distribution. Comparatively to the other regions in Romania, the capital city seems to draw by far most investors, while the South-Western (Oltenia) and North-Eastern (Moldova) regions were at the opposite end, with 3.5% and 3% respectively. The development of the national high roads and roads network may bring about a possible change in this distribution.

Figure 5. Distribution of the FDI Flow at the National Scale (2013)



Source: The National Bank of Romania

2.2. Social Factors

Social factors feature a dual and subjective character. Through their nature, they have both an exogenous and endogenous influence upon the individual. Exogenous factors are of socio-cultural nature, while endogenous ones are personal and psychological.

Socio-cultural factors exert a deep and vast exogenous influence over an individual and his or her behavior, as they define his or her scale of moral, material and cultural values, beliefs, attitudes and customs. Therefore, on the one hand there are the family, social groups, social classes and social status generated influences, and on the other hand, the assimilated elements, such as values, perceptions and preferences gradually acquired as generated by the environment the individual has interacted with.

Personal factors are important variables defining the individual's buyer and consumer behavior, engendering his or her deep inner belief. This set of factors includes:

- Age – has the capacity to change people's consumer behavior. Thus, as one grows older, they change the structure of the products and services they consume according to both their needs and incomes.
- Occupation – will always influence the goods and services one consumes/buys, hence reflecting not only their education level, but also their hierarchical position.
- Lifestyle – people's way of behaving in society, of determining and selecting their range of needs according to their ideals is different, even if people come from the same subculture or social class and have the same occupation, as they have several income sources, different personality types, a life generated strategy, a model determined by a certain social background, types of carrying out various activities making up life.
- Individual personality – is a factor accounting for an individual's distinct buyer and consumer behavior, as determined by his or her specific characteristics, beliefs and habits. Of course, the wide diversity of characteristics makes it difficult to structure them. Personality defining traits influence both the perceptive mechanism and the motivational and therefore behavioral one. However, neither the nature of these connections, nor their succession can be clearly explained yet.

Psychological factors are the endogenous variables accounting for consumer behavior through their multiple incidences on the individual. However, since they cannot be observed directly, they are usually inferred. Among the numerous psychological variables having a major influence on the consumer behavior, mention should be made of: perception, motivation, learning and attitude.

2.3. Demographic Factors

Demographic factors reflect population structure and the processes affecting it. At a macro economic scale, the main variables are: number of population and geographical distribution, natural increase, structure per age brackets, occupation, education level,

number of families and households, size of a family and household, population mobility, type of habitat (urban, rural).

From the consumer/buyer point of view, variables like age, gender, marital status, physical characteristics etc. are important. Thus, mostly as a result of social norms, women buy types of products different from what men will buy and select them according to different criteria (we will refer only to real estate). Based on the individual behavioral differences, developers can specifically approach their target market segment. Practically, it is the age that makes a difference in purchase decisions, and age advancing comes with changes that must be considered, as it changes the consumer/buyer behavior.

Awareness of these variables is important, as it makes it possible to predict some consequences in terms of investments in the real estate segment, trends of the demographic variables that may modify the mid- and long-term results of an investment.

With a total registered population of 20,121,641 (the source: the 2011 census), Romania ranks seventh in Europe in terms of a stable population, with the following distribution per residence environments:

- Urban environment – 54.0% of the entire stable population.
- Rural environment – 46.0 % of the entire stable population.

The counties featuring the highest percentage of the stable population living in the urban environment are: București - Ilfov area (90.2%), Hunedoara (75.0%), Brașov (72.3%), Constanța (68.8%), Cluj (66.3%), Sibiu (66.2%), Brăila (62.5%) and Timiș (61.8%).

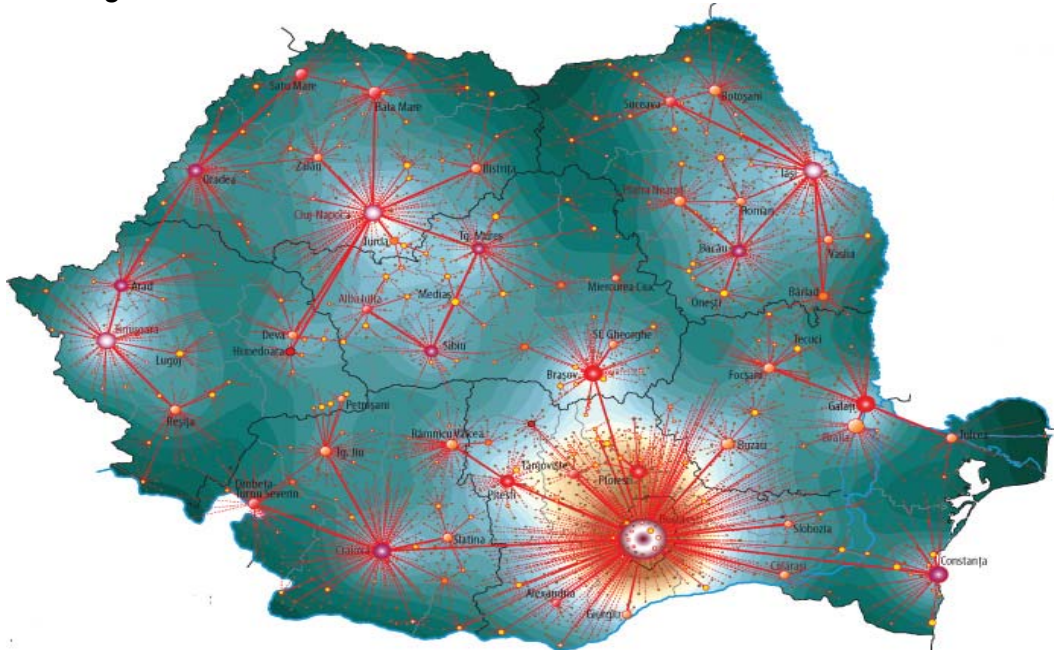
In 11 counties, large villages register over two thirds of the stable population in the county. This is the case with the following counties: Dâmbovița (71.1%), Giurgiu (70.8%), Teleorman (67.6%), Neamț (64.0%), Vrancea (63.8%), Călărași (63.8%), Bistrița-Năsăud (63.3%), Buzău (61.4%), Vaslui (61.3%), Olt (60.9%) and Sălaj (60.7%).

The closest difference between the shares representing the stable population living in municipalities and cities on the one hand, and in large villages, on the other hand, was recorded in the counties Mureș, Bihor and Prahova (50.2%, respectively 49.2% and 49.1% of the stable population in these counties live in the urban area).

Population migration is engendered by the economic and social factors, as they have a wave- like effect on the individual. People’s decision to migrate is generally triggered off by the economic factors existing in their living environment; it is only seldom that social factors should trigger off such a movement (for instance, family integration after settling abroad).

In Romania, population migration tends towards a polarization from the rural to the urban area (see Figure 6), aiming mainly the cities (Timișoara, Cluj-Napoca, București, Constanța, Brașov etc.), with the exception from the polarization rule of those towns which, as a result of the people flow, develop in the suburban and periurban area.

Figure 6. Polarization Trends/Directions at the National Scale



Source: National Institute for Statistics

Approximately 2.5 million Romanians are estimated to be living and working in various European Union countries in search of a better living standard (see Figure 7).

Labor migration to the UE has economically assisted Romania, as the country was not thus faced with a catastrophic unemployment rate. Moreover, the Romanians who have been employed abroad have contributed to a higher living standard in those places they originate from. The structure of the population who have decided to migrate generally includes qualified people or people capable of adapting to another environment, mostly youth (according to National Institute of Statistics, the average age of the people who

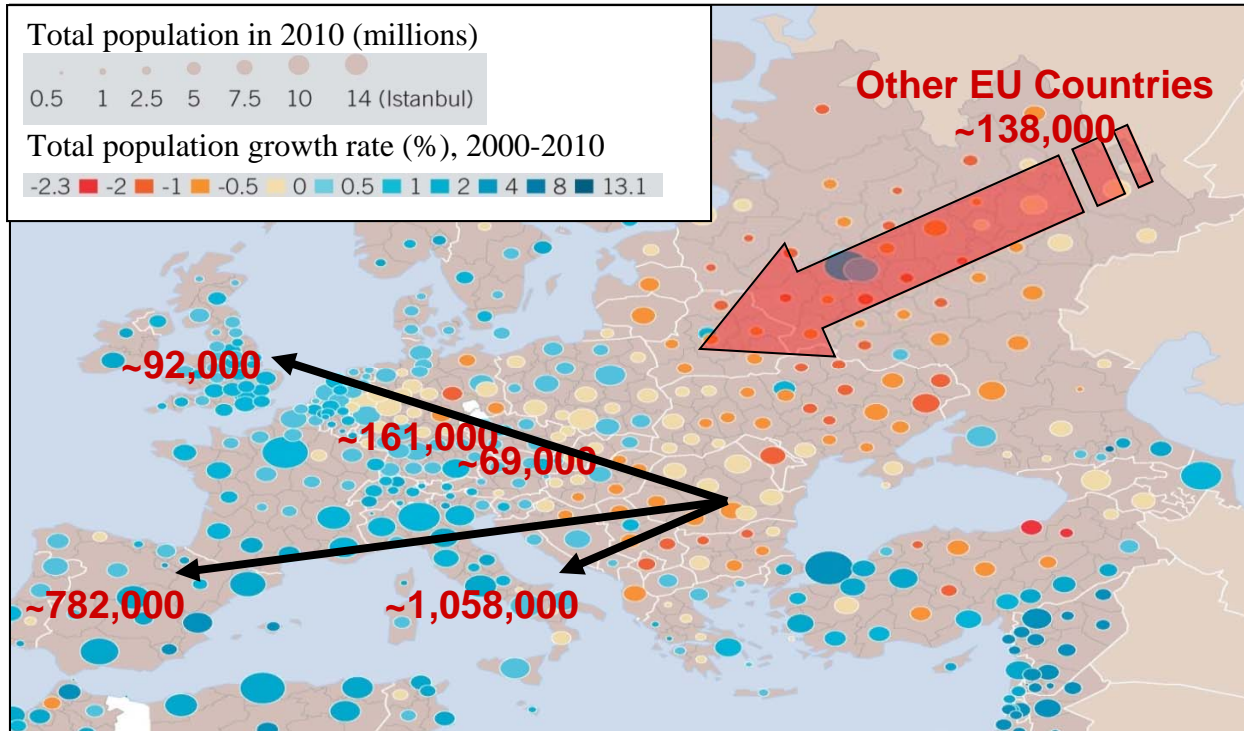


have been employed in the EU is 33 years). The phenomenon was made possible by the free circulation agreement signed between Romania and the European Union at the beginning of the 2000s. The mass migration process between 2000 and 2012 is currently considered completed. Reverse migration does not enter the scope of this article, since the number of citizens coming back to Romania and of the immigrants still registers non-significant values.

The population home migration will keep on with its tendency of polarization from the rural to the urban area. While this migration trend is generative of abandon in the rural area, in the cities drawing population it leads to the emergence of three urban development phenomena: agglutination, densification and gentrification.

The agglutination phenomenon practically consists in the development of a locality as a result of adding new buildings to the already existing ones, irrespective of their destination. For instance, the localities (villages) situated in the suburban and periurban area tends to develop through agglutination towards the cities in their vicinity, and the cities tend to polarize through agglutination in their limitrophe area.

Figure 7. Population Migration from Romania towards the EU States in Hope of a Better Life



Source: ESPON – Available data regarding year 2010

Densification is the phenomenon consisting of land development within cities, thus agglomerating the urban back cloth. At the national scale, residential and commercial buildings within cities are the most obvious example of this phenomenon. For instance:

- Residential redevelopments – Bordei Park, the French District (Bucharest), Băneasa Forest (Bucharest), Făget Area (Cluj), Schei Area (Braşov) etc.
- Commercial redevelopments – Orhideea Commercial Centre (Bucharest), Domus Bussines Centre (Cluj) etc.

The green spaces or fields adjacent to the districts of blocks provided the main source of unbuilt land within the cities.

Gentrification signifies turning an aged urban area into a district aimed at a more financially potent population, with a certain social status, by restructuring and extending buildings, leading to an increase in the values of those properties (land and buildings in the area), as well as to the displacement of the former poor residents.

Agglutination and densification are phenomena merging with the city centre-outwards development trend or appearing where urban regulations are modified. Gentrification as a phenomenon manifests in the opposite direction of city development.

There are also cases in which all three phenomena took place, are taking place or will take place in rural environment localities, following the appearance of an important centralizing factor in the area. For instance, the determining factor may be a company opening up a factory whose labor demand cannot be met by the already existing local labor force, being thus forced to draw it from farther areas (e.g. Nokia in Jucu, Daw Benta in Sâncraiu de Mureș, or in a near future, possibly in Roșia Montană). However, these cases are few and far between, so they cannot be considered as a reference mark within this analysis.

As an example, Figure 8 schematically shows the previously mentioned demographic phenomena – gentrification, agglutination and densification. Bucharest agglutination, with the suburban locality Popești Leordeni [1] and a possible future agglutination [2] are shown in red. The densification we considered feasible is shown in yellow (Vitan-Bârzești Road and Popești Leordeni Farm area). Having in view the area covered by the picture, it was considered relevant, for instance, to exemplify the gentrification phenomenon (in orange) in the area covered by Blvd. Constantin Brâncoveanu, Olteniței, Drumul Găzarului and Giurgiului roads.

In the previously described area, a large number of both single family houses and new blocks of flats have been built lately on the grounds resulted from older buildings demolishing.

Figure 8. Exemplification of the Gentrification, Agglutination and Densification Phenomena



3. ANALYSIS THEORY

Considering all the above mentioned prerequisites and study elements, as well as the necessity of an applicable exemplification, conducting a study theory has been decided on. The theory is aimed at classifying the cities into two categories – mono-centered and poly-centered – according to the above listed factors (economic, demographic and social).

What are mono-centered cities? These are cities whose economic activity and population are at a standstill or on a down grade, and which fail to stand for a demographic polarization point out of economic and social reasons. As a rule, these cities feature a number of inhabitants between 60,000 and 200,000 and an aged population structure.

In terms of real estate, they feature a low activity as a result of the young population's migration to other areas, of the low demand and of the limited supply of residential property. No significant residential developments have been undertaken locally, as there are no buyers. The real estate market participants view such a town as following a rather simple pattern, with a relatively linear downfall of prices along the centre – suburbs direction (see Figure 9).

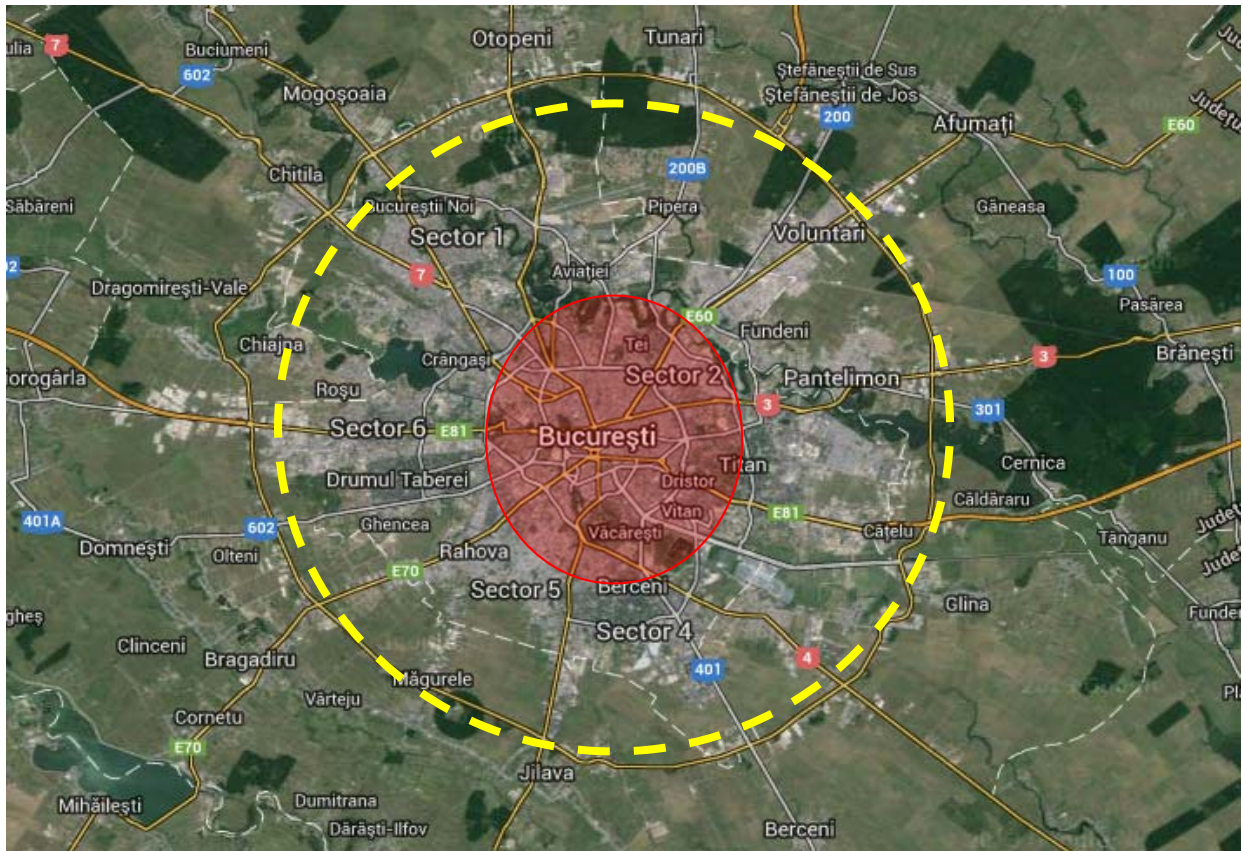


What are poly-centered cities? These are cities whose economic activity and population are at a standstill or on the upgrade, and which stand for a demographic polarization on economic and social grounds. As a rule, these cities feature a number of inhabitants ranging between 200,000 and approx. 2,000,000 (the figures are referring only to Romania). These cities are characterized by a medium and intense activity, with their population continuously in migration/on the move, yet arrivals are approximately counterbalanced with departures (e.g. Bucharest, Cluj, Timișoara etc.), and there is a fair balance between the youth and the elderly in the population structure.

For instance, quite a large number of people have emigrated from Bucharest lately (according to the censuses of 1992-2002-2011), yet the number of population has stayed approximately the same as a result of the internal migration. The data underpinning this statement are as follows: 1992 – 2.354 million inhabitants, 2002 – 2.226 million inhabitants, 2011 – 2.247 million inhabitants.

The real estate market participants view such a city as highly complex, with various poles of interest showing variations, either increasing or decreasing, along the centre – suburbs – metropolitan area direction. The residential real estate demand is oscillating as a result of the population flow, while the offer is either in a precarious balance or very large, according to the previous development and sale periods.

Figure 9. Residential Real Estate Market Participants' Perception According to Prices and Areas of Interest (1990-2000)



The reasons for providing such a classification:

- Identification of the main cities which may provide future development opportunities.
- Analysis of the evolution and provisions of the urban environment, which reduces the risks of an investment, irrespective of the domain it may be made in.
- A good knowledge of the market participants' behavior, which maximizes and anticipates an achievable investment cash flow.
- Creation and grounding of analysis theories for future business plans.
- An alternative for checking the hypotheses in the marketability studies.
- A practical demonstration achievement of the economic, demographic and social phenomena acting at the level of the individual.

4. CASE STUDY

In order to show the modality of applying the theory of mono-centered and poly-centered cities, Bucharest was considered the most representative example. Three illustrations and three explanations were made use of to present the evolution of the way the

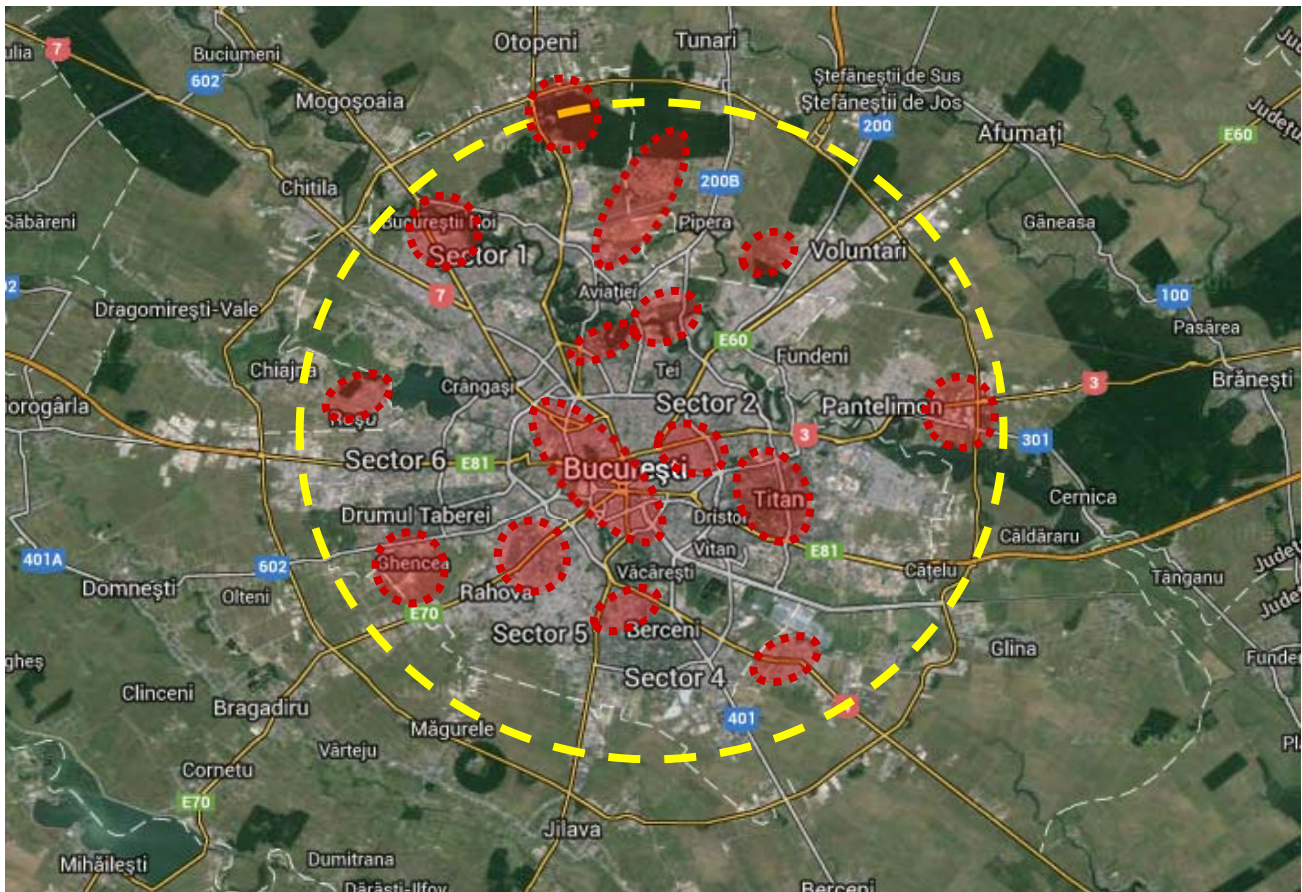


residential real estate market participants perceive the prices and areas of interest.

As a rule, during the period 1990-2000 (see Figure 9), on the residential real estate market of Bucharest, real estate transactions were made with “cash” payment out of two reasons. The former, and the most important, was the relatively low value of the real estate marketed; the latter was the lack of financial products offered by the banks, products which would have fostered price rise by stimulating purchase power through loans. Following the above reasons, the market participants’ view of the house price distribution was a unitary mono-centered type one, with a linear decrease of the property value from the town center to its periphery. At that time, buyers were not interested in the suburban and periurban areas. For instance, if an owner had sold his or her two-room flat situated in the central area, the price received would have been bought a four-room flat in the suburbs.

The early 2000s (see Figure 10) was marked by the beginning of the mortgage loan granting to the population, with a peak of real estate market prices in year 2008. While referred to as the real estate “boom”, these years are certainly those of utter confusion with buyers as well – a confusion brought about by the lack of experience in decision making, the strong wish to purchase and the ease of getting a loan contract (see the history of the National Bank of Romania’s regulations regarding population’s degree of indebtedness). Following the confusion created, the participants did not take into consideration certain essential criteria that would normally underlie any reasonable decision. Here are some of these overlooked criteria: access to public means of transport, road and urban infrastructure of a particular area, existence of education institutions, distance to markets and supermarkets, quality and legal status of the buildings etc.

Figure 10. Residential Real Estate Market Participants’ Perception According to Prices and Areas of Interest (2000-2008)

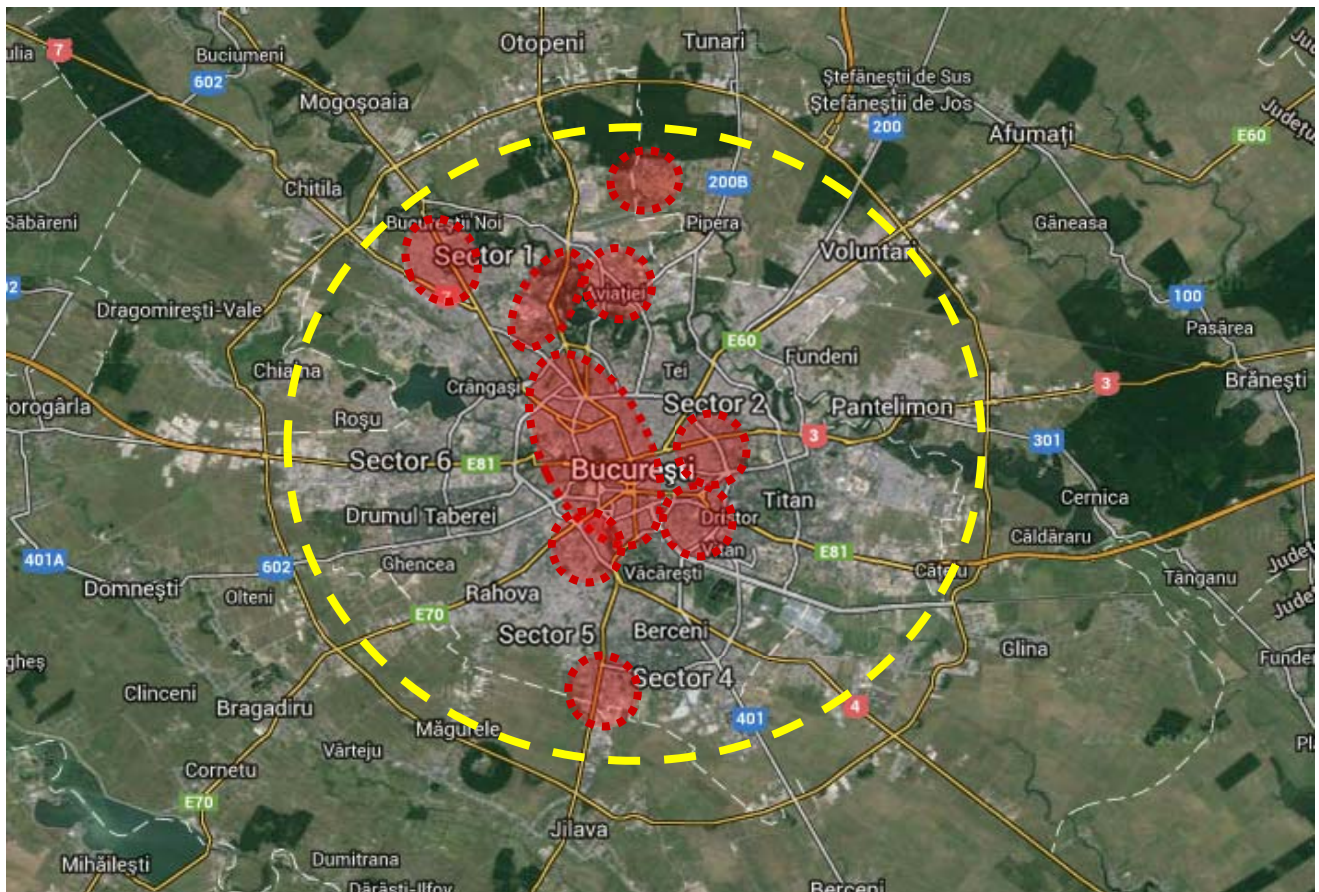


After 2008, the national and international economic deadlock brought about a so-called maturation in the real estate market participants. The market maturation had several stages, namely: the loan blocking reduced market liquidity, the lack of liquidity in turn, dimmed demand (the wish to purchase) and changed perceptions with individuals; the demand blocking reduced the residential real estate prices; perceptions made the difference in terms of marketability.

Market participants, or in other words, the people we provide consultancy, are currently much more educated and careful when buying a house. For instance, one thing that the real estate crisis and the market participants adjusted is the price of the houses in not easily accessible areas, or in areas with deficient infrastructure, the values of these units recording a subsequent decrease by approximately 40-60% in the last 6 years. The Bucharest residential real estate market participants' perception during this time period (2008-2014) is shown in Figure 11.

To be noted that, at a given time period equivalent with the time needed for the development of an area, the poles of interest as perceived by the market participants are changing, a fact demonstrated by the case study. The conclusion reached following the three time periods analyzed is that buyers' perception changes approximately at every 8 to 10 years.

Figure 11. Residential Real Estate Market Participants' Perception According to Prices and Areas of Interest (2008 -2014)



3. INTERPRETATION, FORECASTS AND CONCLUSIONS

Although it may be considered a demographic factor, birth rate is very important when referring to population for the simple fact that the demand for residential properties will come from the young population in the future. Consequently, may we bring to your attention the demographic phenomenon known as „baby boom”.

The „baby boom” phenomenon is actually a marked increase in birth rate. As a phenomenon, it naturally appears as a rule following armed conflicts, entailed by poverty and the lack of sexual education with people, or during crises (according to the latest Eurostat information). Throughout the history, several such phenomena were recorded. However, the most representative occurrence globally was that in the '50s which brought about a series of transformations, for instance both parents' employment market, an increase in the number of the population aged between 25 and 30 in the '70s and the '80s and generation determined consumption preferences, among others. All those changes led to a higher appreciation of urban life, which generally spelt a higher demand of houses.

This is one of the numerous demographic changes which determined the residential restructuring in the urban environment, a change with women playing an important part. Besides the changes within the family and the household, namely woman's employment, there appear phenomena such as delayed marriage and child birth.

In Romania there were registered two important “baby boom” type phenomena, one in the '50s, triggered by WW II (a natural one), and one as a consequence of the Decree of 1967 (a forced one) based on which the communist regime forbade abortions. The Decree was abrogated in 1990, thus putting an end to approximately 22 years during which abortion was forbidden.

As stated earlier, age is one of the main criteria determining purchase. It has been statistically proved that, in most cases, an individual or a couple decides on purchasing a house at the age of 35-55, as that is considered the time when they have the due maturity as well as the emotional and financial stability to make a long-term investment.

If we compare the influence of the two "baby boom" periods, we will get the following results:

The '50s "Baby boom": $1950 + 35 = 1985$ (beginning of the impact on house demand)
 $1985 + 20^* = 2005$ (end of the impact on house demand)

The '68 "Baby boom": $1968 + 35 = 2003$ (beginning of the impact on house demand)
 $2003 + 22^{**} = 2023$ (decline of the impact on house demand)

* the result of the difference between 55-35 years standing for the effect period – to be mentioned that this Baby boom triggered demand was mostly met before the end of the '80s.

**the result of the difference between 1990-1968 = 22 years – is the period during which the decree was in force.

The calculations before have in view the age bracket statistically considered to be valid in the developed states. In Romania's case, this calculation is infirmed by the statistical data shown at the end of the article.

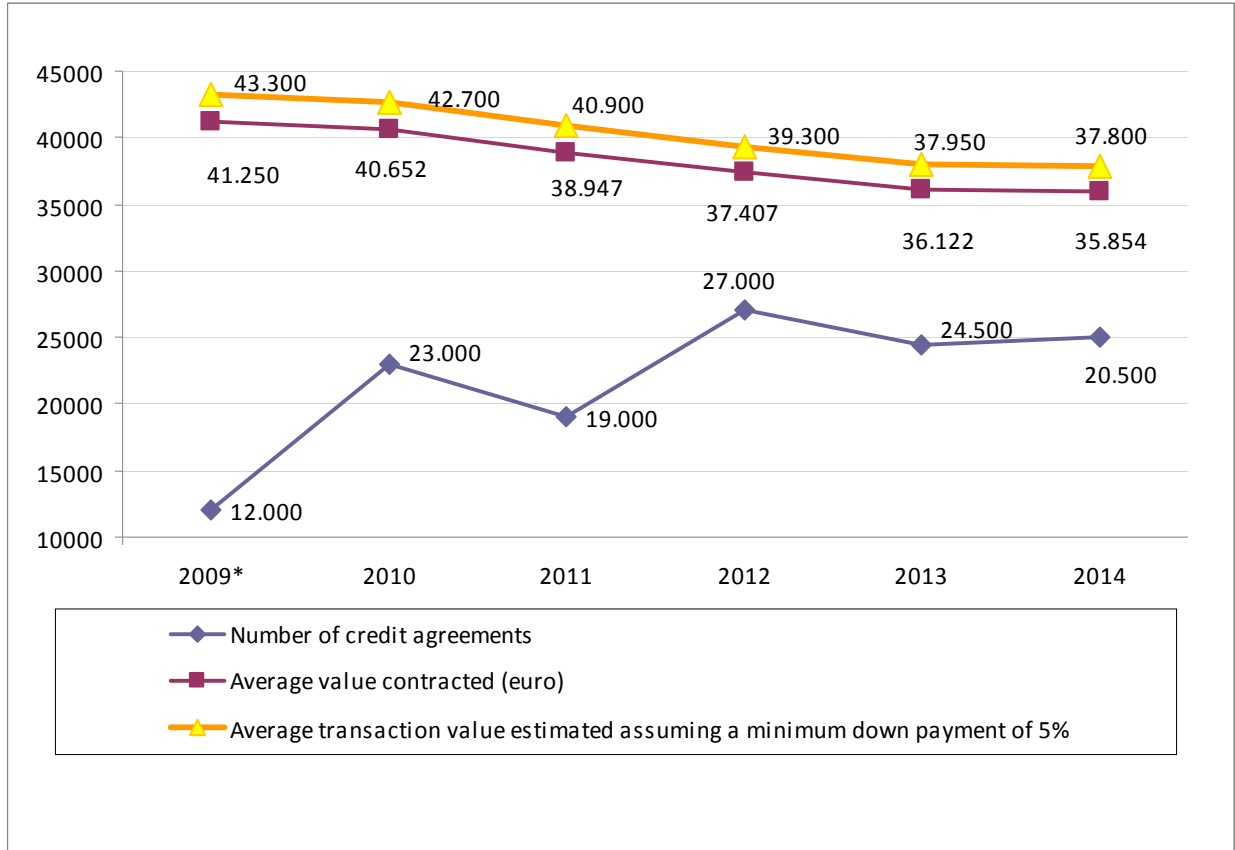
In Romania, according to the statistic data (see Figure 13), an individual or a couple decides on purchasing a house when aged between 26 and 35 in 70% of the cases. When remarking the calculations above by using the mid age bracket, we will get:

The '50s "Baby boom": irrelevant in this case.

The 68 "Baby boom": $1968 + 30 = 1998$ (beginning of the impact on house demand)
 $1998 + 22^* = 2020$ (decline of the impact on house demand).

The '50s "Baby boom" phenomenon reaches maturity at the beginning of the '80s and is considered to have ceased its effect before the real estate boom period, the demand being met at that time by a rapid development of the locative fund, a development that came to an end at the end of the '80s. The "baby boom" phenomenon number two, entailed by the Decree of 1968, was to reach maturity in 1996. During the time period 1990-2000 the supply of new houses was not enough as compared to the number of the population who was to reach maturity. The lack of loan products for the population contributed to the 2000-2008 boom as well.

Figure 12. Statistic Data of the Governmental Programme in Support of Demand – First Home –

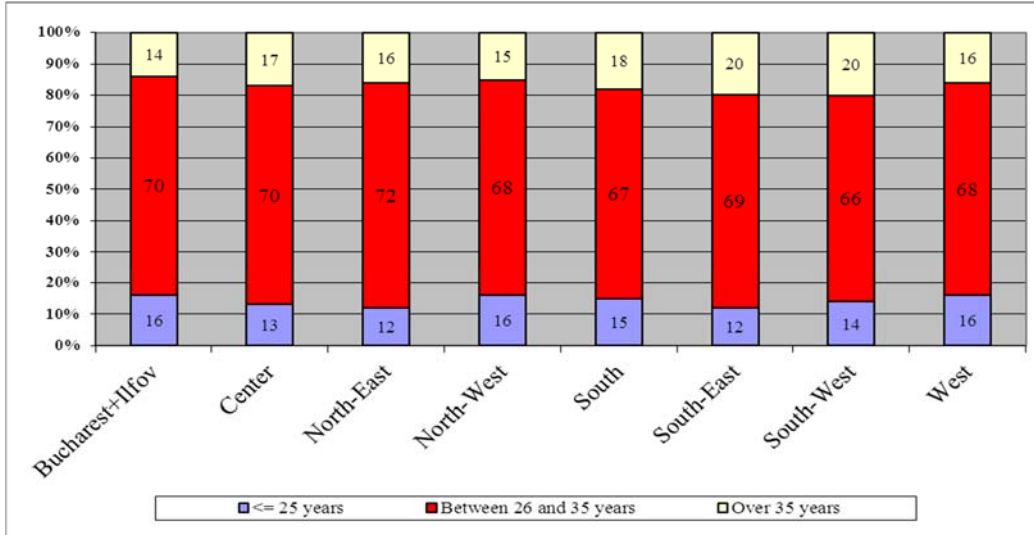


* Time period July – December;

Source: National Loan Guarantee Fund for Small and Medium Sized Enterprises (FNGCIMM)

In 1996, C.E.C. Bank made an attempt at preventing this problem by releasing a financing form for house purchase. This approach was subsequently supported by a law package at the end of the '90s (the law on mortgage loan), so that the first real estate mortgage loan in Romania was granted in 2001, that is about 3-5 years later than the start moment. Most probable, a few more years had passed before the population properly understood the products. Practically, it was in 2001 that all the conditions were met to stimulate the purchasing power. The excess demand, generated by this delay, was felt at the end of 2008.

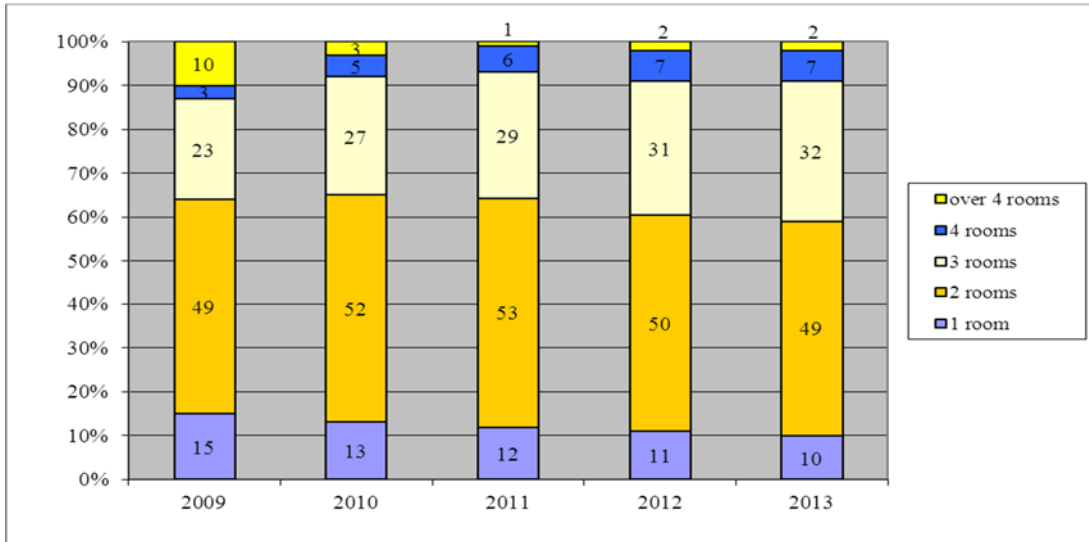
Figure 13. Distribution of the Beneficiaries Number per Age Brackets and Regions (2013)



Source: National Loan Guarantee Fund for Small and Medium Sized Enterprises (FNGCMM)

The year 2009 was characterized by a transaction deadlock against the background of the economic context put forth above. In order to revive certain branches of the industry involved in the residential area, the Romanian Government launched the programme “First Home” aimed at supporting the housing demand. This programme has held, since the very beginning, an important share in the overall number of transactions, a share which still accounts for over 55% of the overall housing transactions recorded at a national scale. That entitles us to consider the statistic data under the programme “First Home” representative for the home real estate market (see Figures 12, 13 and 14).

Figure 14. Distribution Beneficiaries Number per Number of Rooms of the Purchased House



Source: National Loan Guarantee Fund for Small and Medium Sized Enterprises (FNGCIMM)

Based on the statistic data recorded by the governmental programme, the following statements can be outlined:

- The housing market prices are still following a slightly downward grade, a fact pointed out by several sources.
- The number of transactions will go on ranging between 20,000 and 30,000 per year.
- The most residentially active areas in Romania are Bucharest and Ilfov (approx. 36%), Cluj- Napoca area (7%), Timișoara area (6%), and then Brașov, Constanța, Sibiu and Iași areas following with percentages ranging between 3 and 5%.
- The „First Home” programme has modified the minimum purchase age by approximately 10 years, a fact which is to negatively affect demand in the future.
- The demand is oriented towards the purchase of two and three roomed flats.
- The majority of secured funding, about 32% have a value of up to 30,000 euros, 25% are between 30,000 to 40,000 euros, 24% had a value of 50,000 euros and 19% are between 40,000 and 50,000 euros. Relative to the number of the rooms of the purchased real estate, there is a tendency to increase the weight of the properties with 3 rooms at the expense of one room properties. Statistically, the situation indicates a 51% preference for properties with two rooms and 30% for properties with 3 rooms. The studios and properties with 4 rooms and more were preferred in a percentage of 11% and 6% respectively. Of all properties purchased under the program, 69% were built before 2008 and 31% are new buildings built after January 2008.

Nationwide, during the next period, it is envisaged the fact that towns/cities which do not represent an attraction pole for the population shall face a more emphasized degree of depopulation.

Cities behave as living organism and react in a dynamic manner in based on the factors which influence them, they go through stages of birth, development and abandon/disappearance. In Romania, we have witnessed all four evolution stages, but the forth one has taken place up until present times solely in the rural environment and it seems that in the future it shall develop in cities as well. Still, the areas most affected by the internal and external migration shall be the localities found in the rural environment and cities inactive from an economic point of view.

Recent statistic data show the decreasing external migration of the population and the intensification of the internal migration from the rural environment to the urban environment, fact which indicates a surplus of faith granted towards the national economy and a future pile for the request of homes in big cities.

In the next three-five years we shall not face major changes on the demand level and perceptions of the consumer, but on a medium and long term it is possible that the request shall be diminished by the natural factor and by the change of consumer's options with respect to prolonged use goods.

The residential properties developers and salesmen shall continue to keep up with the trend dictated by the buyers and their preferences even though there shall be

transitory exceptions under which the trend shall be dictated by the salesman/developer based on a context generated by the synergy of factors. On a long term basis, the capacity to adapt to new conditions and the flexibility of developers/salesmen shall represent their success and vice versa.

Table 1 presents a “pessimistic” projection of the population in the year 2030, to be mentioned that it was chosen due to the fact that projections do not take into consideration any possible changes of the external migration of the population.

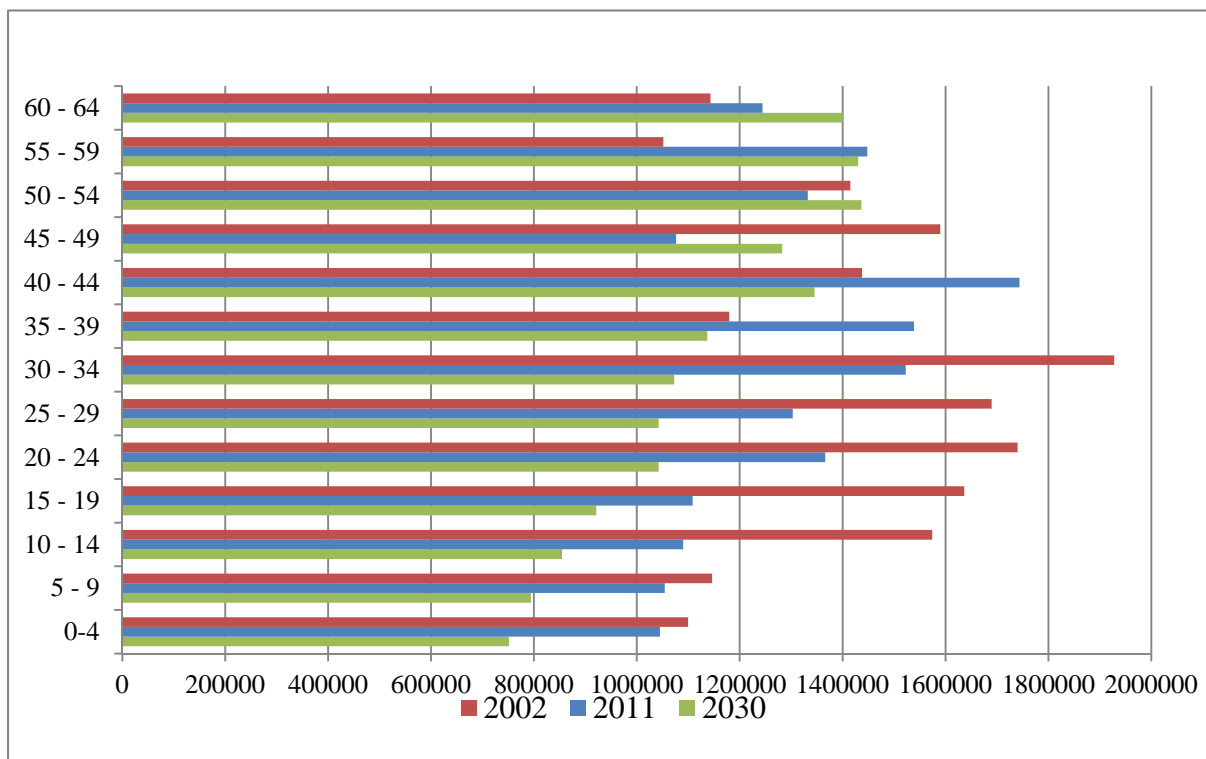
Table 1. Evolution of Stable Population in Romania and its “Pessimistic” Projection at Year 2030 Horizon

1948	1956	1966	1977	1992	2002	2011	2014*	2030
15,874,572	17,491,406	21,401,319	21,561,887	22,812,027	21,682,976	20,121,641	19,942,642	17,777,600
Variation	1,616,834	3,909,913	160,568	1,250,140	1,129,051	-1,561,335	-178,999	-2,165,042

* Preliminary data on January 1, 2014

Figure 15 presents the overlapped evolution of population projections on age groups performed based on statistics registered in 2002, respectively in 2011, and estimated statistics for the year 2030.

Figure 15. Projection of Population by Age 2002-2030



Source: National Institute of Statistics

The corroborated analysis of Table 1, Figure 15 and of a future possible variation of the age interval when in present times the majority of transactions take place, variation which might be generated due to the suspension of the government program „First Home”, lead to the following conclusions.

Nationwide, the request shall continue its descending trend, but it shall have either positive or negative variations based on regional evolutions. In the present, the positive evolution cannot take place but only in the following conditions: Romania’s transformation in to an economic pole, a devastating natural calamity or by destruction following a military conflict.

At a regional and local level, the request shall be characterised by an intense variation and shall evolve based on the economic context in the respective region or locality.

The fluctuation of the request at a local level does not represent a major danger for the developers who have analysed the market and who activate in polinuclear cities. Cutting down profits and increasing the exposure period in the residential property market represent situations which are cannot be avoided as long as the market is dominated by the buyer.

In addition, the natural potential and the membership in the European Union shall force Romani to adopt economy relaunching measures in the near future.

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About the Author



Vlad M. Poenaru is certified in both Real Estate and Business Valuation (EPI, EI) in ANEVAR (National Association of Certified Appraisers in Romania). Vlad started in 2005 as a real estate consultant and evolved due to his passion for the art of appraisal into a certified member of ANEVAR. Before his appraiser qualification, he was carrying out researches and initial preparation of valuation reports. As an appraiser, he gave more than value to his work by combining classic models with practice experience and individual study. His experience had an upward path because of his ambitions that helped him earn the necessary skills to work for affiliated companies of N.A.I. Global and

American Appraisal. His contact with the academic community occurred as a result of a market survey conducted on the top 17 cities in Romania that treats real estate price trends and whose primary objective was to provide information to the bank management for which he works. The study was submitted to the attention of professor Ion Anghel (MAA, FRICS, REV) from the Academy of Economic Studies-Bucharest who shared Vlad's vision. Mr. Anghel which is also the coordinator of the article you've read, believed in Vlad and his beliefs by encouraging him to write down his ideas.

Vlad M. Poenaru, ANEVAR (EPI, EI) is currently working for VENETO BANCA ScPA - Bucharest, Romania as Quality Manager in the field of valuations and collateral management. He may be reached at +40 723 629 255 or vlad.poenaru@vkg.ro.



My Personal ASA Experience

My ASA experience began in 1983. As a real estate appraiser I was very interested in not only broadening my knowledge in my discipline, but also to learn more about the other disciplines offered by ASA. I was attracted to ASA because of the diversity of discipline talent. No other appraisal society can offer such diversity.

In 1985 I sat for the real property urban exam at a hotel next to LaGuardia airport. It was an all-day exam and I needed the entire time to complete it. I received the good news from ASA that I had passed the exam and was awarded an ASA Real Property Urban (Now called ASA Real Property) designation.

After becoming accredited with ASA, I began moving through the officer chairs and became President of the ASA Northern New Jersey Chapter #73 in 1989. In 1997 I was asked again to serve as Chapter President. This was the first time any person served more than one term as Chapter President. It was my goal that year to win the Best Chapter award. We did not make it in my term but with the groundwork laid by our team, we did achieve this distinction in the following year.

In 2000 I was nominated by my Chapter to run for Governor of Region 15. I was unanimously elected by the five Chapters in my region and I served two terms on the Board of Governors. During my term I served as Chair of the Performance and Evaluation Committee and the Public Relations Committee. I along with other diligent governors fought to have ASA start to maintain a reserve fund. This hard work by all was rewarded when the reserve fund was established after I left the Board of Governors.

In 2010, the Real Property Committee nominated me to run for Real Property Discipline Governor. I was elected and served from 2010 until 2014. During my term I co-sponsored several resolutions which were geared towards promoting the real property discipline. The latest is an initiative to vastly expand the membership of our ad valorem specialty. We have changed the specialty to be more mass appraisal related which should bring in more assessors to ASA.

It certainly has been a long road and I am continuing my efforts as an officer on the Real Property Committee. The point is we need to give of ourselves if we are to continue to have a vibrant discipline and appraisal society. I have made many friends through the years which developed in to many business associations. But most important, it has led to lifetime friends.



Besides my accomplishments outlined above, I have benefited personally in many ways since my association with ASA. Here are a few examples of what ASA has done for me:

- Hone my organizational skills
- Improved my leadership skills
- Broadened my valuation knowledge of many different types of tangible and intangible assets
- Improved my financial and fiscal responsibility skills
- Foster camaraderie with other professionals
- Assemble a network of professionals for referrals and information
- Gain considerable respect from the public which ultimately led to new assignments.

I was rewarded recently for my efforts on behalf of ASA by being elected to Life Membership. This is an achievement which only a few attain and I am quite proud to be so honored. My journey continues and I expect to contribute much more to our great Society.

About the Author



Paul D. Roberts, ASA currently is Senior Vice President at International Appraisal Company. He served 8 years as both Regional Governor and Real Property Discipline Governor with ASA. Currently he is the Secretary/Treasurer of the Real Property Committee. Paul has over 44 years' experience in providing ad valorem tax consulting and valuation services to a myriad of different business industries. He is a graduate of Fairleigh Dickinson University with a degree in accounting and also holds a Certified Tax Assessor's certificate in New Jersey. Paul has lectured extensively, written several articles and appeared on CNN Headline News. He can be reached at 201-934-4573 or by email at paul@iacinc.com.



Applying Business Valuation Techniques to Determine Economic Obsolescence of Real Property and Personal Property Assets for the Purpose of Financial Reporting in Europe

Overview

Revaluation of assets for financial reporting in compliance with IFRS (International Financial Reporting Standards) is an important market for European appraisers. As USGAAP continues to converge to IFRS, it is expected that revaluation of assets for financial reporting will increase in the United States. This paper addresses the challenge of applying business valuation techniques and procedures to determine economic obsolescence of real and personal property assets (aka ‘fixed assets’) in compliance with IFRS using examples from European businesses.

Introduction

An integral part of the auditing process, and a joint responsibility of the firm and its auditors, is to ensure that all tangible and intangible assets are reported in the company’s financial statements and maintained in its accounting records at an accurate fair value¹. It is the responsibility of the appraiser to ensure that the Appraisal Report is prepared in full compliance with the requirements of IVS (International Valuation Standards) and IFRS, and that the Report contains sufficient data, information, calculation and analysis to render the valuation conclusion for each asset, reasonable, defensible and reproducible.

This article looks specifically at fixed assets. One particularly challenging aspect of fixed asset valuation is the application of business valuation (BV) techniques and procedures to determine economic obsolescence of individual assets (e.g. a building) or a group of similar assets (e.g. all buildings) or asset complexes – known as ‘cash generating units’ or CGU’s (the focus of this article).

Cash Generating Units

A CGU is defined as “the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets”². A company can be composed of a single CGU or a number of CGU’s. For example, a vertically integrated firm in the oil industry could have several hundred CGU’s, one for each oil deposit. A manufacturing plant may have separate CGU’s for each of its separate production lines, and so on.

¹ For a definition and discussion of Fair Value see <http://eifrs.ifrs.org/eifrs/bnstandards/en/2014/ifrs13.pdf>

² IAS 36.6, Impairment of Assets, Definitions. See e.g. <http://www.iasplus.com/en/standards/ias/ias36> for an overview and summary of this standard. All IFRS and IAS standards can be found in full through <http://www.ifrs.org>

In some countries, (e.g. low income or emerging market countries) companies may have accounting systems that recognize only one CGU, requiring the accounting system to be modified so that the structure of accounting will more accurately reflect the structure of the company. It is often necessary for appraisers to work with a company and its auditors to determine how many CGU's can be accurately identified given the current system.

One challenge with valuation of assets within CGU's is how to allocate assets that may be in joint use by more than one CGU. A factory may have separate CGU's for each production line as well as shared assets for energy distribution such as a boiler house for heat or transformer power station for electricity. Another challenge concerns the proper allocation of administrative and other costs (e.g. sales or corporate overhead costs) that are shared between CGU's.

Determining Economic Obsolescence Using the Income Approach

Fixed assets combined in a CGU exist for the purpose of generating adequate profitability, by which is meant that the sum of the CGU's risk-adjusted (discounted) annual net operating income (the 'value in use'³ of the assets) exceeds the combined value of the assets as recorded in the company's accounting records, which are based on an appraisal of the Depreciated Replacement Cost (DRC) of each asset (as of a certain date) with allowance made for two forms of depreciation - physical and and/or functional depreciation.

Value in Use is determined by application of the income approach based on modified business valuation techniques and procedures. It is important to stress that application of the income approach to determine value in use of assets in any particular CGU (or an entire company valued as one CGU) *is not the same concept as business valuation*. Although the income approach for value in use relies upon similar techniques and procedures as BV, the assumptions made and the economic meaning of the results are entirely different; moreover the purpose of valuation is entirely different. The purpose of BV is to determine the value of a business whereas the purpose of determining value in use of assets in a CGU is to determine if these assets are generating net operating income that exceeds the DRC value of these assets. If value in use of assets is less than the total DRC value of assets, then profitability is deemed insufficient and these assets are recognized as being 'impaired'. In this case, the DRC values of assets are reduced by an amount that reflects the insufficient profitability (economic obsolescence) and recognized as an impairment loss.

Certain restrictive assumptions are made when using the income approach to determine value in use, two of the most important being (1) that profitability is based on using only existing assets and cannot include any additions to the asset base; (2) capital investment

³ For IAS/IFRS definitions of all terminology relevant to IAS 36 Asset Impairment, see *ibid*



is restricted to only that required to maintain the capacity of existing assets and cannot include modifications that increase asset capacity.

Allocating Economic Obsolescence/Impairment Losses to the Value of Assets

If value in use for a single CGU is less than the sum of DRC of the assets comprising the CGU and the difference is recognized as asset impairment (economic obsolescence), the question then arises as to how to allocate these impairment losses among the assets comprising the CGU. IFRS does not include a directive concerning how impairment losses are to be allocated; it is an accounting policy decision taken by a company in consultation with its auditors working with the appraisers. Two opinions are prevalent: (1) losses can be allocated according to the relative value of each asset based on the sum of DRC value for all assets in the CGU: e.g. a single asset representing 15% of total DRC asset value would be allocated 15% of the total impairment loss, or (2) Identify the assets that are the main cause of the economic obsolescence and allocate losses mostly to those assets: e.g. if a certain piece of equipment has a capacity to operate at 100 hours per week but is only used 50 hours per week and all other assets are utilized at capacity, then the underutilized asset would be allocated most of the loss. A more complex example is a company with three CGU's but sharing common infrastructural assets. Economic obsolescence in, for example, one CGU would not only reduce the DRC value of that CGU's assets but would also reduce the DRC value of the common infrastructure assets; the reduction amount would depend on the relative size of that CGU's DRC value of assets and the amount of economic obsolescence in that CGU.

Another example of an allocation challenge is a branch office of a bank – a CGU which is composed of an office with a clearly identifiable market value and a group of specialized assets such as a safe, security systems and specialized bank operating systems. If value in use for this CGU is less than the market value of the building plus the DRC value of specialized assets, then the impairment loss is applied *only* to the specialized assets. No impairment loss is allocated to the building because it has market value. Therefore, if market value of the building is \$100 and DRC value of specialized assets is \$20 (\$120 in total) and value in use is \$80, the DRC value of specialized assets is reduced to \$0 but the *market value* of the building remains at \$100, with no impairment loss allocated to it.

Challenges to Determining Value in Use in Various Countries

Europe is composed of States that are high income, middle income and low income and States with highly developed market economies and those best characterized as emerging market economies. In the lower income and emerging market economies, application of the income approach for purpose of determining value in use for CGU's is challenging owing to a general deficiency in quantity and quality of data and information. For example, it is more difficult to determine an appropriate discount rate (owing to inadequate equity markets, the need to use proxies based on other countries, or interest rate volatility) and it is more difficult to forecast annual cost and revenue (owing to currency instability or inflationary expectations).



Conclusions

Valuation of fixed assets for the purpose of financial reporting according to IFRS requires application of the income approach using modified BV techniques and procedures to estimate value in use for CGU's in order to identify and, if required, to allocate economic obsolescence (insufficient profitability or impairment) to the DRC value of individual assets within a CGU. Various challenges exist to determining value in use and allocating any impairment losses.

About the Author

Ms. Simonova, President of IRE (Ukraine) L.L.C. is a Certified Ukrainian Appraiser and a founding member of the Ukrainian Society of Appraisers and Chair of the Methodology and Standards Committee. She is also a Senior Accredited Member of the American Society of Appraisers (ASA) and Vice President for Ukraine in the ASA European chapter. She holds a Candidate of Technical Sciences (Ph.D.) degree in Civil Engineering. She specializes in fixed asset appraisal for international audits and business valuations of companies and investment projects. During the last twenty years she has personally worked on over large 200 appraisal projects.

Ms. Simonova regularly teaches professional seminars, drafts methodological procedures and advises the Ukrainian Government on regulations and the development of the appraisal industry in Ukraine. She is the author of numerous articles and reports, for publication in Ukraine and presentation at international conferences, on problems of valuation in transitional economies, including the article in The Appraisal Journal, Spring 2009 - "Market Prices and Capitalization Rates for Commercial Real Estate in Ukraine"; and the Ukrainian chapter in the book "Real Estate Valuation in Global Markets", Second Edition, published by the Appraisal Institute. She was co-developer of two advanced international appraisal courses developed for the U.S. Appraisal Institute: (1) Valuation in Challenging Markets and (2) International Financial Reporting Standards for the Real Property Appraiser.

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VALUING LAND IN DISPUTE RESOLUTION USING COEFFICIENT OF VARIATION TO DETERMINE UNIT OF MEASUREMENT BY BRYAN YOUNGE, MAI, ASA

Investors of commercial land who are engaged in a legal dispute often find themselves in irreconcilable positions when trying to determine a fair price for real estate. The most common approach over the past several decades to the valuation of land by valuation experts has been the sales comparison approach. This approach is a method of developing an opinion of market value in which a property is compared to other similar properties that have been recently sold. While parties with various interests in the same tract of land might arrive at their price positions using a similar set of data—or in some circumstances the exact same set—the arbitration or dispute settlement process is often compromised in the analysis phase because the methodology used in the adjustment process among the parties involved can be appreciably dissimilar.

When employing the sales comparison approach to land value, it is foremost preferable that all of the properties being analyzed are in the same geographic area and of similar potential uses. One premise of the sales comparison approach is that the market will establish a price for the subject property in the same manner that the prices of comparable or competitive properties are established. Accordingly, the sales prices of the properties deemed most comparable to the subject property tend to set the range in which the value of the subject property will fall.

By quantifying and comparing the CV of at least two unit price results in a sample set (namely PSF and FAR for land analyses in dense urban markets), a major debate can be settled well in advance of the point in time when either party in a dispute begins to hazard speculative adjustments.

But oftentimes this range of value on a per-square-foot of land area is very wide, particularly in central business districts of major cities where zoning and various use restrictions are highly regimented about what can be built on the land. A substantial reason behind this wide range is the notion that one or more of the comparable properties could have a significantly higher potential building-to-land area ratio (Floor Area Ratio or FAR) than the other tract, thereby potentially generating a greater return. An investor of land in an area of high density would be compelled to analyze the land not only on its physical characteristics, but also on the permitted uses, the highest and best use and, ultimately, the potential size of the proposed improvements. In addition, there are highly complex legal instruments in existence involving—for example—ground leases of urban assets that require the thoughtful development of procedures and framework within periodic arbitration events during the term of the lease to keep all parties in equitable positions. Accordingly, we are seeing that the analysis of land sales on the basis of FAR in dense urban areas is a useful tool that is used by market participants, and that lately



there has been a proliferation of appraisal-related coursework and core publications that teach the statistical implications of selecting units of measurement such as FAR as part of standard valuation techniques. Such techniques are particularly useful in resolving disputes both within and outside of the courtroom.

In this case study, we examined prices that buyers have recently paid for 26 land tracts in two separate submarkets (13 sales within each submarket) within one central business district of a major Midwestern city. From this information, we show how to employ coefficient of variation (CV) as a statistical tool to ascertain the appropriate unit of comparison. The following paragraphs summarize the instruments that are used to develop CV.

FLOOR AREA RATIO AS A UNIT OF MEASURE

Floor area ratio (FAR) is a term for the ratio of a building's total floor area to the size of the plot of land upon which it is built. The terms can also refer to limits—governmental or otherwise—imposed on such a ratio. The formula for FAR is as follows:

$$\text{Floor area ratio} = \frac{\text{Total covered area on all floors of all buildings on a certain tract}}{\text{Area of the tract}}$$

In commercial transactions, particularly in dense urban areas, using price per square foot of land as the unit of comparison is often not appropriate. As discussed, this is because land value, particularly within central business districts, is almost entirely driven by the site's highest and best use as well as its propensity to generate future economic benefits. As will be demonstrated, without accounting for the varying FARs that are permitted within this analysis, one might be making inappropriate comparisons.

COEFFICIENT OF VARIATION: PRICE PER LAND SQ. FT. VS. PRICE PER MAXIMUM FAR

Overview

In probability theory and statistics, the sample set that produces the lowest coefficient of variation suggests the lowest degree of uncertainty, variability and/or error, and the highest level of confidence. According to Peter Klibanoff, Professor of *Managerial Economics and Decision Sciences* at the Kellogg School of Management, Northwestern University, variance is “a measure of the spread around the mean determined by averaging the squared deviations from the mean.”¹ Similarly, CV is recognized in the statistics world as a normalized measure of dispersion of a probability distribution or frequency distribution. The CV is useful in analyzing unit measures (such as land sales) because the standard deviation of data is expressed in the context of the mean of the data. For comparison between data sets with different units (i.e. price per land square-foot vs. price per maximum FAR) or widely different means (such is the case with our comparable land sales when considering the context of these two units of

¹ Also cited in his textbook: Klibanoff, Peter; Sandroni, Alvaro; Moselle, Boaz; Saraniti, Brett. *Managerial Statistics: A Case-Based Approach*. Thomson South-Western, 2006, p. 27.



measure), one should use the CV to make a quantifiable determination about which unit of measure is most applicable.

In order to calculate CV, we must first determine the standard deviation of our selection of land sales on the basis of:

- i. Price per Land Square Foot (Price Land PSF)
- ii. Price per Maximum Potential Floor Area Ratio (Price Max FAR)

Calculation of Standard Deviation

In statistics and probability theory, the standard deviation (usually expressed as SD or σ) shows how much dispersion or variation exists from the mean figure within a set of figures. A low standard deviation indicates that the data points tend to be very close to the mean (also called expected value). A high standard deviation indicates that, particularly in urban settings, the data points are spread out over a large range of values.

The standard deviation of a random variable, statistical population, data set or probability distribution is the square root of its variance. A useful property of the standard deviation is that, unlike the variance, it is expressed in the same units as the data, in this case, price per square foot.

Calculation of CV

In order to prepare the landscape for the argument, we have performed a statistical analysis of the sale prices of numerous land sales that have been consummated in two distinct submarkets of one major central business district located in the Midwest. The first sample set includes 13 sales that are located in a perimeter submarket of a downtown venue where the density is moderately high, and the second set includes 13 sales that are located in a CBD submarket where the density is very high. In both markets, due to the density and the vertical tenancy of the surrounding neighborhoods, it is reasonable to assume that price per maximum FAR could be the unit of choice.

The table below summarizes the price of each sale (all of which have been confirmed and have occurred within the past four-year period), its value expressed on a per-unit basis (both on a price per square-foot of land basis and on a price per maximum FAR) and the resulting CV for both sample sets:

FIGURE 1-A – SAMPLE SET: PERIMETER SALES

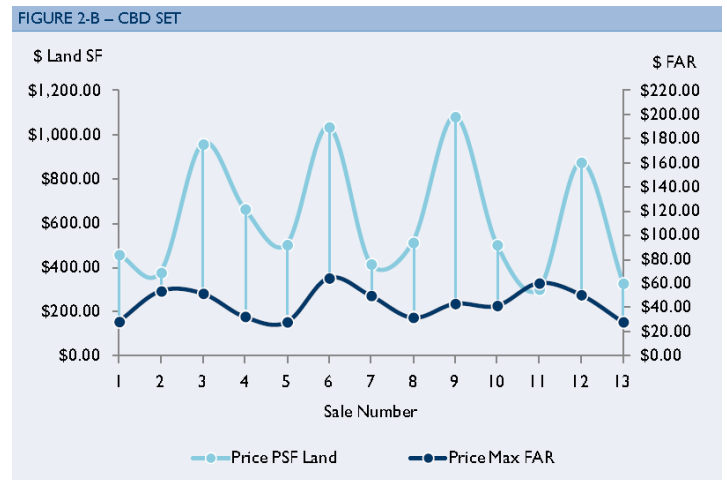
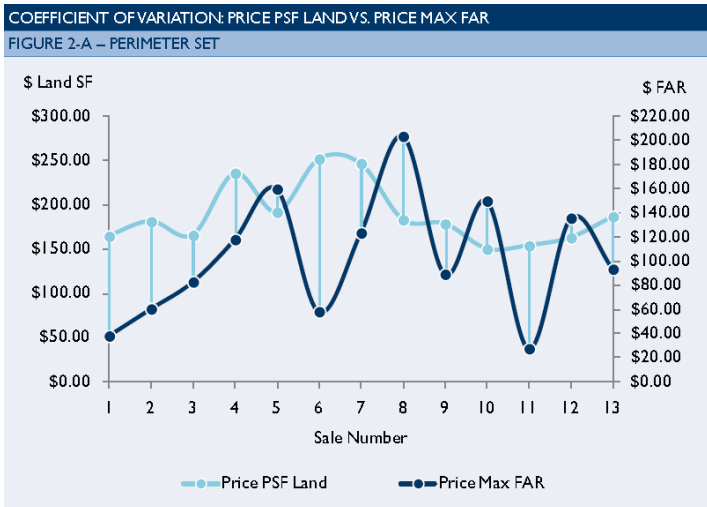
SALE NO.	SALE PRICE	SITE SIZE (SF)	POTENTIAL BUILDING AREA (ABOVE GRADE)	FAR	PRICE: PSF LAND AREA	PRICE: PSF MAX FAR
1	\$1,900,000	11,543	50,000	4.33	\$164.60	\$38.00
2	\$3,000,000	16,552	49,656	3.00	\$181.25	\$60.42
3	\$800,000	4,830	9,660	2.00	\$165.63	\$82.82
4	\$1,770,000	7,501	15,002	2.00	\$235.97	\$117.98
5	\$595,000	3,101	3,721	1.20	\$191.87	\$159.89
6	\$2,909,671	11,543	50,000	4.33	\$252.07	\$58.19
7	\$1,850,000	7,492	14,984	2.00	\$246.93	\$123.47
8	\$550,000	3,001	2,701	0.90	\$183.27	\$203.64
9	\$1,943,880	10,890	21,780	2.00	\$178.50	\$89.25
10	\$3,750,000	24,999	25,000	1.00	\$150.01	\$150.00
11	\$2,000,000	12,998	72,789	5.60	\$153.87	\$27.48
12	\$1,235,000	7,579	9,095	1.20	\$162.95	\$135.79
13	\$1,400,000	7,492	14,984	2.00	\$186.87	\$93.43
STATISTICAL ANALYSIS				PSF LAND AREA	PSF MAX FAR	
Standard Deviation:				\$34.56	\$51.42	
Population Mean:				\$188.75	\$103.10	
Coefficient of Variation				0.183	0.499	
Difference:					172%	

FIGURE 1-B – SAMPLE SET: CBD SALES

SALE NO.	SALE PRICE	SITE SIZE (SF)	POTENTIAL BUILDING AREA (ABOVE GRADE)	FAR	PRICE: PSF LAND AREA	PRICE: PSF MAX FAR
1	\$3,700,000	8,058	128,928	16.00	\$459.17	\$28.70
2	\$3,700,000	9,783	68,481	7.00	\$378.21	\$54.03
3	\$12,500,000	13,028	239,982	18.42	\$959.47	\$52.09
4	\$29,000,000	43,560	880,348	20.21	\$665.75	\$32.94
5	\$19,900,000	39,465	701,000	17.76	\$504.24	\$28.39
6	\$5,000,000	4,822	77,152	16.00	\$1,036.91	\$64.81
7	\$5,000,000	12,000	99,480	8.29	\$416.67	\$50.26
8	\$12,500,000	24,302	388,832	16.00	\$514.36	\$32.15
9	\$26,000,000	24,001	596,235	24.84	\$1,083.29	\$43.61
10	\$7,000,000	13,899	166,788	12.00	\$503.63	\$41.97
11	\$4,600,000	15,180	75,900	5.00	\$303.03	\$60.61
12	\$25,376,000	28,935	498,261	17.22	\$877.00	\$50.93
13	\$19,200,000	58,227	675,433	11.60	\$329.74	\$28.43
STATISTICAL ANALYSIS				PSF LAND AREA	PSF MAX FAR	
Standard Deviation:				\$276.93	\$12.74	
Population Mean:				\$617.81	\$43.76	
Coefficient of Variation				0.448	0.291	
Difference:					-35%	

Compiled by Cushman & Wakefield of Illinois, Inc.

While the CV metric produces a statistical figure that can easily be compared on a quantitative basis, it is also helpful to have a visual aid to represent the results. The following is a side-by-side graphic representation that illustrates the data being analyzed in each of the two submarkets.



As shown in figure 1-B, the CV using price per square foot of maximum FAR as a measure of unit in the CBD sample set is significantly lower than the metric produced using price per square foot of land. Specifically, the CV using Max FAR is 0.291, while the metric using PSF of Land Area is 0.448. This means that the amount of variation using Price PSF Land as a unit of measure is 54 percent higher than the variation using Price Max FAR as a unit of measure. In other words, there is a much higher level of confidence in analyzing the sales using FAR,



allowing for a cleaner platform from which to administer adjustments. Those adjustments will also be smaller, thereby naturally narrowing the gap between the strike points for the buyer and seller. This also likely proves that buyers were basing their investment decisions using this metric. The above right graphic shows that the peaks and valleys of the Price PSF Land category (blue line) are more dramatic than the results produced when analyzing the same sales on a Price Max FAR basis.

Conversely, the CV readings for the Perimeter Sales in Figure 2-A are such that there is a significantly lower degree of variation when analyzing the 13 sales on the basis of price per square foot of land area. This can be confirmed both by the lower CV produced by Price PSF Land, as well as the smoother blue line illustrated. Therefore, buyer and seller will more likely establish a negotiated price if the land is analyzed this way since unit price adjustments would be less drastic compared to using FAR.

It should be noted that the 13-property sample size in each case analysis represents is relatively large for appraisal standards but *might* be relatively small on the basis of developing a study with a high degree of confidence. The CV result is useful in providing a numerical solution to relationships in units of measurement no matter how large the sample size is. The purpose of comparing these two data sets is to highlight the inference that FAR, for example, is supported by statistical analysis as being the proper unit of measurement. Of course, there are likely CBD markets that have land transactional characteristics which do not lend credence to using FAR as a basis of measurement. Again, this can be simply supported by the development of CV.

SETTLING THE ARGUMENT

As a further analysis of the data above, we performed a demographic snapshot of each of the sales to understand the population densities in the immediate vicinity. The higher a population density is, the higher the propensity for that market to champion vertical construction (thereby indicating higher FAR potential). Accordingly, one can infer that, the higher the population density, the higher likelihood that a wider range of FAR zones exist. The average population density within one mile from each of the sales is approximately 65,000 for the perimeter set and 90,000 for the CBD set. We also note that the FAR for the CBD sales is much higher compared to the Perimeter Sales (14.64 versus 2.43, respectively). From this information, it can be inferred that using price per maximum FAR as a unit of measurement might be more applicable in areas of significant urban density with high maximum FAR metrics.

Investors and related parties alike often dispute about certain adjustments to the unit prices of comparable land sales when determining the value of land in urban markets. Can we use comparables with different zoning designations? Different intended uses? What about land that has a unique shape? Frontage? Access? Visibility? These are all pertinent questions when engaging in the adjustment process of the comparable sales and are customary topics that are addressed in an arbitration or dispute resolution process. The good news is that, by quantifying and comparing the CV of at least two unit price results in a sample set (namely PSF and FAR



for land analyses in dense urban markets), a major debate can be settled well in advance of the point in time when either party begins to hazard speculative adjustments. Equally important, the parties can be aligned where the valuation methodology is concerned.

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