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The Boom and Bust of the Greek Housing Market

Nicholas Chatzitsolis, CRE, FRICS, and Prodromos Vlamis, Ph.D.

The Greek housing market may be characterized as imperfect and opaque. The aim of this article is to present a review of the recent developments in the Greek residential market and identify the possible links with all of its “peculiarities.” Considerations under assessment include socioeconomic factors such as the ill-based concept that every family must own at least one residential unit for “security” purposes; the extensive land fragmentation in Greece; the trend to concentrate residential development in virtually two cities (Athens and Thessaloniki); and the “unique”—by global standards—development process known as “counter performance.” The authors expect their analysis of the Greek residential market to be useful for industry professionals, policymakers and real estate investors alike.

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Watch Your Real Estate Language!

Jack P. Friedman Ph.D., CRE, FRICS, MAI, Barry A. Diskin, Ph.D., CRE, and Jack C. Harris, Ph.D.

The same word, spelling and all, can take on different meanings. In this article, the authors hope to illustrate that when using a real estate term that has a different meaning in another profession, often as used in accounting, it may be necessary to explain the definition used in order to avoid misunderstanding.

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Landfills: Operations and Opportunities

Joe W. Parker, CRE, MAI, FRICS, and Curtis A. Gentry IV, MAI

Landfills are unique properties that present both questions and opportunities for real estate professionals. In this article, the authors emphasize that the better that real estate professionals understand what landfills are and how they work, the better they can help their clients who either have or anticipate business issues related to landfills.

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Form-Based Zoning from Theory to Practice

David Walters and Dustin C. Read, Ph.D., J.D.

In this article, the authors explore the potential advantages and disadvantages of form-based zoning to understand how it can be

used effectively to support development that is financially viable and socially beneficial.

Instead of focusing mainly on “use” as the controlling factor in regulating development, form-based zoning is primarily intended to enhance the “public good” derived from private sector development by defining the “urban character” of neighborhoods and districts. This involves managing the siting, massing and frontage design of buildings in ways that create safe, attractive and efficient public spaces for movement and public activities.

By emphasizing urban design features, as opposed to use restrictions, and by the inclusion of key “by-right” provisions in the code, form-based zoning can provide real estate developers with greater flexibility to respond to market forces. If properly administered, form-based zoning can also reduce the amount of uncertainty faced by developers in the entitlement process. However, both these advantages can be compromised through the structure and (mis)application of local regulations.

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Historic Tax Credit Transactions in the Wake of Revenue Procedure 2014-12

Doug Banghart, J.D., LL.M., and Jeff Gaulin, J.D.

The historic rehabilitation tax credit (HTC) market was all but frozen by the highly controversial *Historic Boardwalk Hall, LLC, v. Commissioner* (HBH) court decision of August 2012. Then last December, the HTC market was given new life by the Internal Revenue Service’s highly anticipated issuance of Revenue Procedure 2014-12. This article summarizes the HTC, describes typical investment structures before HBH, recounts the court case and its impact on those structures, and analyzes the practical implications of the Revenue Procedure. While the HTC industry is still adjusting to the new HTC landscape, the authors suggest that investors and principals should be able to craft arrangements that, though not free from risk for developers or investors, have far more tax certainty for both sides than was the case immediately after HBH. For that reason they anticipate the Revenue Procedure will bring old as well as new investors into the HTC market.

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Accuracy of Zillow Home Estimates

Charles Corcoran, Ph.D., CFA, and Fei Liu

This article compares *Zillow.com*’s home estimate values (Zestimates) with actual sale prices of 2,005 single-family residential properties in two markets in November 2013. A Zillow “four-star” market in suburban St. Paul, Minnesota, and a Zillow “one-star” market in suburban St. Louis, Missouri, are analyzed in terms of Zestimate accuracy between these two markets, as well as within specific price ranges. In aggregate, for both markets and within all price ranges, the mean difference between Zestimates and sale prices is 24.8 percent. Comparing the two markets, Zestimate accuracy is significantly better in

the four-star market as compared with the one-star market, with a mean difference between Zestimates and sales prices of 17.15 percent and 30.48 percent, respectively. However, with the possible exception of the middle market price range, \$203,000–\$253,000, differences between Zestimates and sale prices are so great as to render doubt about the usefulness of Zestimates, regardless of the market's star rating. Differences usually are overestimates, with subsequent sale prices below Zestimate values.

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Renewables, Tax Credits and Ad Valorem Taxes: Are Policies Aligned?

P. Barton DeLacy, CRE, FRICS, MAI

As the renewable energy industry matures, growing controversy swirls around its funding and, ironically, its sustainability. Left unchecked, local assessors can undermine the operating efficiencies of wind and solar farms with assessments based on replacement cost rather than market value.

In this article, the author explores the implications of how wind and solar farms are project financed and poses two questions that bear directly on their ad valorem assessment:

1. Given that, but for production or investment tax credits, most projects would not be built—do these credits accrue to market value, or are they a form of inverse economic obsolescence?
2. The relative productivity of a wind or solar farm is a function of its nameplate capacity. A “Net Capacity Factor” measures its efficiency. Might the latter serve as a measure of functional obsolescence?

These issues now are being raised in *Lost Creek Wind LLC v. DeKalb County Assessor* before the State Tax Commission and Circuit Court of Missouri.

VIEWPOINT

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The Death of Corporate Reputation

Bowen H. McCoy, CRE

For more than a century law firms, investment banks, accounting firms, credit rating agencies and companies seeking regular access to U. S. capital markets made large investments in their reputations. They generally treated their customers well and occasionally even endured losses to maintain their reputations as faithful brokers, dealers, issuers and gatekeepers. Many would conclude that this has changed. In this “Viewpoint,” the first of more to come, the author expresses his concern that today's

leading capital market participants no longer treat customers as valued counterparties whose trust must be earned and nurtured, but as distant counterparties to whom no duties are required. The rough and tumble norms of the marketplace have replaced the long standing fiduciary model in U. S. finance. The result has been unrelenting financial scandal.

RESOURCE REVIEWS

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The Metropolitan Revolution: How Cities and Metros are Fixing our Broken Politics and Fragile Economy

Reviewed by Owen M. Beitsch, Ph.D., CRE

In *The Metropolitan Revolution: How Cities and Metros are Fixing our Broken Politics and Fragile Economy*, Bruce Katz and Jennifer Bradley, both of the Brookings Institution, offer a blueprint for action which can rebuild economies and is determinedly self-reliant. They speak of a revolution in thought and actions stemming from “cities and metropolitan areas [as] the engines of economic prosperity and social transformation in the United States.” If they are correct in their outlook, they are capturing the essence of a sustainable movement because cities matter, and the strategic solutions breed largely from locally renewable resources.

Covering a range of community-building activities, Katz and Bradley make the case that local developers and their local governments can achieve an extraordinary range of major improvements by linking with grass root activists, civic institutions, local foundations, and local banks historically bypassed in favor of federal resources. Reviewer **Owen Beitsch, CRE**, gives the book a “thumbs up” saying “the kernels in this book...shine.”

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The End of the Suburbs: Where the American Dream Is Moving

Reviewed By Roy J. Schneiderman, CRE, FRICS

Not often does a book reviewed in *Real Estate Issues* get a “thumbs down,” but reviewer **Roy J. Schneiderman, CRE, FRICS**, recommends “giving a pass” to this one. “*The End of the Suburbs* presents a fairly superficial treatment of the issues, where all roads lead to “the end of the suburbs”—or at least some of the suburbs,” says Schneiderman. “No doubt this book will be very well-received by people who already agree with the title thesis. But it will do nothing to influence those who disagree, and little to inform those who are trying to form an opinion.”

Editor's Note

BY MARY C. BUJOLD, CRE



Welcome to our first issue of 2014! This year, we will be publishing three issues during the calendar year, a slight departure from past years. To that end, we are working hard to secure a full slate of interesting articles and features to bring to you. We are always looking for article submissions, both from our own CRE members and from others outside of the CRE organization. If you have an article or an idea for an article, we would like to hear from you.

Just back from an exciting and jam-packed session in Austin, Texas, we were treated, as always, to a wealth of information that will continue to fuel our consulting practices and the real estate industry. We continue to expand on ideas for *Real Estate Issues (REI)* and we always welcome your comments.

At the end of the Austin Midyear Meetings sessions, we were treated to a sneak peek of the External Affairs' **Top Ten List of Issues Affecting Real Estate for 2014**. These issues will remain under wraps until released to the public by **2014 CRE Board Chair Hugh Kelly** in June of this year at the annual conference of the National Association of Real Estate Editors. *REI* has, as one of its initiatives, a commitment to provide a deeper look into the topics that comprise the Top Ten. Once these issues are released, we will continue to source articles that expand on these topics for our membership.

In this issue we are launching a new category for articles entitled "Viewpoint." This category may appear periodically as we receive material that fits the criteria for this segment, which highlights the ability of an author

to more fully express an opinion. I am pleased to be able to launch this first category with an essay by **CRE Buzz McCoy** on the "The Death of Corporate Reputation." Buzz' submission of this piece was very timely.

We continue to feature articles on topics from our CRE members overseas. As our world is now globally connected, and an increasing number of CREs are working and collaborating with CREs and groups in other countries, it is important that we continue to expand our understanding and knowledge of real estate issues in other geographic locations. In this issue, **CRE Nicholas Chatzitsolis** and **Prodromos Vlamis, Ph.D.**, have written about the current state of the Greek housing market and how historical patterns of ownership and housing development led to a housing bubble from which the market has yet to recover. Development structures and government regulations are identified, and how they have contributed to the current situation is described. The authors also offer several suggestions on how to improve the current housing situation and how to correct some of the imbalances that exist.

David Walters, Ph.D., a British architect and **Dustin Read, Ph.D., J.D.**, the director of Real Estate at UNC Charlotte, have written an article on form-based zoning. The focus of the article is to "explore the potential advantages and disadvantages of form-based zoning in the hope of determining how it can be used more effectively to support development that is financially viable and socially beneficial." Form-based zoning is a hot topic and we are pleased to be able to feature this in *REI*.

Similarly, in the development vein, is the article by **Doug Banghart, J.D.** and **Jeff Gaulin, J.D.**, that discusses the new IRS 2014-12 Revenue Procedure for Historic Tax Credit allowable under Section 47 of the Internal Revenue Code of 1986. According to the authors, this revenue procedure is expected to break open the historic tax credit market which had been frozen because of a controversial legal decision in *Historic Boardwalk LLC vs. Commissioner* in May of 2013.

“Watch Your Real Estate Language,” an article by **Jack Friedman, Ph.D., CRE**, **Barry Diskin, Ph.D., CRE**, and **Jack Harris, Ph.D.**, discusses the use of language in describing real estate activities and how the proper use of words in real estate work and transactions can be critical. Although we may not often think of how we use some words such as “value” and “investment,” these words can and often mean different things to different parties. It is important that we consider how we, as real estate practitioners, use these terms.

As you will note, our cover photo is somewhat unique this time and shows a landfill. **Joe Parker, CRE, MAI, FRICS**, and **Curtis Gentry IV, MAI**, have written a substantive piece on landfills. As they were submitting this piece to *REI*, I happened to be driving one day past a landfill in Wisconsin and considered their function and operation in our society. Their article is timely, informative, and provides a discussion on business opportunities for real estate practitioners associated with these unique operations.

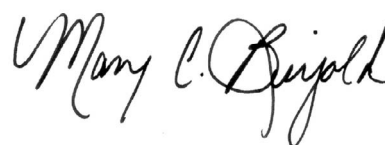
Barton DeLacy, CRE, FRICS, ASA, MAI, presents an article on renewable energy focusing on wind and solar, but discussing the property tax treatments for these types of projects across jurisdictions. This article sets the stage for additional treatment of energy-focused topics which are slated to be a focus of our second issue of *REI* for 2014. This is a thoughtful and insightful perspective on how, perhaps, the country as a whole needs to consider how property taxes are allocated towards alternative energy developments.

Charles Corcoran, Ph.D., CFA, and **Fei Liu, Ph.D. candidate**, present us with a review and discussion of the accuracy of Zillow’s home estimates in large and small markets as a test of how its technology is performing at the local level.

Although not an article in this issue, I want to mention a topic that is of significant importance to all of us as real estate practitioners, and one that is currently flying “under the radar screen.” Congress is currently working on budget allocations for the 2020 Census and for the American Community Survey (ACS). In the 2010 Census, the long form was removed and information that was previously collected through the Decennial Census (such as household income) and many housing structural and housing utilization variables were shifted to the ACS, which is now published annually. The accuracy of the ACS relies heavily on having a sufficient number of households in each area of the country fill out and return the forms accurately and in a timely manner. In addition, Congress must continue to support an adequate budget for the dissemination of the survey and its subsequent analysis.

The information collected through the Census and the ACS touches all of our lives in many ways. For the real estate practitioner, the information related to population and household growth, employment characteristics, average and median household incomes, owner and rental tenure are critical to development, appraisal work, and the informed and sustained growth and development of communities of all sizes and locations. Without critical data collected through the Census and the ACS, these decisions would be, at best, “guesstimates,” and the costs associated to obtain this information privately would be exorbitant and generally unable to be borne by private entities. I urge all our readers to become more informed on this topic and to understand how the lack of this information could significantly affect all of us in the future.

Enjoy this issue!!



MARY C. BUJOLD, CRE
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Banghart frequently speaks on issues related to partnership taxation and the legal and tax implications of various incentive programs. He served as executive editor (1999–2000) and associate editor (1998–1999) of the *Capital Defense Journal*. He is a member of the Massachusetts Bar Association and the Virginia Bar Association (Young Lawyers Division, Executive Council, 2003–2004).

Banghart received his bachelor of arts degree from The College of Wooster, where he was awarded the Raymond R. Day Prize in Urban Studies and the Pew Research Fellowship. He received his juris doctor degree from Washington and Lee University and his master of laws (LL.M) degree in Taxation from the University of Florida.

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Chatzitsolis' work experience includes specialised areas such as industrial plants, oil refineries, major hotel developments, as well as all types of commercial property. He also has been a member of feasibility study teams examining all aspects of town planning and development appraisal. Chatzitsolis has appeared as an expert witness in British, U.S. and Greek courts in property-related cases.

He is a member of the Greek Technical Chamber and a board member of the European Chapter of CRE. He is also a former member of the local (Greek) Board of RICS and a former member of RICS Governing Council. He also served as chairman of RICS Europe during 2001–03. Chatzitsolis has been a visiting lecturer at Panteion University, Athens, since 1999.

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Focusing on the real estate implications of power generation, DeLacy has built valuation models and studied property value impacts for geo-thermal, solar, wind- and coal-fired power generation. He has also developed adaptive re-use studies for obsolete thermal plants. Published in *The Appraisal Journal*, *Real Estate Issues* and *The Journal of the American Planning Association*, he has prepared testimony for federal and state circuit courts and energy siting councils. He has qualified to testify as an expert witness in tax court in several states.

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He served on the national Real Estate Accounting Committees of the AICPA and Texas Society of Certified Public Accountants and was a member of the Appraiser Qualifications Board of the Appraisal Foundation. Friedman earned his doctorate degree from Georgia State University.

Jeff Gaulin, a partner at Jones Day, Boston, has extensive experience in structuring transactions involving the historic rehabilitation tax credit, the new markets tax credit and state tax credits. Gaulin represents major institutional investors, developers, community development entities, and nonprofit organizations in projects that utilize a combination of various tax credits and other financing sources including mixed-use real estate developments, hotels, commercial real estate projects, and renewable energy facilities. He also has significant experience in corporate and partnership tax law.

Gaulin frequently speaks on issues related to the new markets tax credit program, as well as various other incentive programs and has contributed to industry publications. He received his bachelor of science and juris doctor degrees from Boston College.

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Parker has appraised commercial real estate throughout the South and Lower Midwest with appraisal experience in environmentally contaminated properties, fiber optic corridors, cemeteries, golf courses and country clubs, colleges and schools, hospitals, wetlands, conservation easements and historic properties. As well as regularly advising clients on a variety of real estate matters, Parker oversees all appraiser credentialing and reviewing processes at Equity Solutions USA.

Parker also serves as an expert witness on such issues as construction defects, mortgage fraud, title defects, environmental contamination and stigma. He was trained as a Mediator at the University of Houston's Bauer College of Business and at Harvard Law School.

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Prodromos Vlamis, Ph.D., is an economist specializing in financial analysis of the real estate markets. Currently, he is an associate of the Department of Land Economy/University of Cambridge, a research fellow at the Centre of Planning and Economic Research, and a member of the board of directors of the National Bank of Greece Real Estate Investment Company/Greece. Vlamis has held research and teaching posts in the U.K. at the London School of Economics and Political Science; in the U.S. at Harvard University; and in Greece at Athens University of Economics and Business, National and Kapodistrian University of Athens, and the University of Piraeus.

Vlamis earned a doctorate degree in Real Estate Finance and a master of philosophy degree in Land Economy, both from the University of Cambridge, a master of science degree in Economics from the University of York, and a bachelor of arts degree in International Economics from the Athens University of Economics and Business.

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The Boom and Bust of the Greek Housing Market

BY NICHOLAS CHATZITSOLIS, CRE, FRICS, AND PRODROMOS VLAMIS, PH.D.

INTRODUCTION

THE GREEK RESIDENTIAL MARKET (AND THE GREEK property market in general) has always been one of the pillars of economic growth in Greece. Since the early 1950s the development industry has been one of the major contributors to and one of the most important sectors of the Greek economy.¹ The construction industry in particular significantly affected the country's economic growth and because of that, its importance for the growth prospects of the Greek economy has never been questioned. The construction sector's contribution to the GDP since the year 2000 ranges between six and eight percent in both current and constant prices,² while it employs more than seven percent of the total country's labour force.³ Also, the construction sector affects heavily, although indirectly, other sectors of the Greek economy such as mining, building material, electrical equipment, etc.⁴

During the first four years of the economic crisis, public investment for development projects was dramatically reduced. To illustrate this point further, focusing on the construction industry in particular, according to the Hellenic Statistical Authority, a steady annual decline of more than eight percent since 2006 has been registered every year in terms of building permits issued. Thus, the crisis that the Greek residential market is currently facing can mainly be attributed to the current fiscal stance of the Greek economy.⁵ The 2008 crisis in the United States subprime loans market and the increase in oil prices are still affecting liquidity in markets, the cost of capital, economic growth and capital markets at large. This negative economic environment affects the European Union countries and Greece, too. Economic repercussions of the crisis cannot be entirely estimated since the crisis is ongoing.

About the Authors



Nicholas Chatzitsolis, CRE, FRICS, managing director, CBRE, Athens, Greece, began his career with Barclays Bank Property Division in London in the 1980s and has more than 25 years of experience as a real estate professional. He has worked for the Greek Public Estates and the Lambert Smith Hampton Athens office. Since 2008, Chatzitsolis has been managing CBRE – Axies, the appraisal company of CBRE Group in Greece.

Chatzitsolis' work experience includes specialised areas such as industrial plants, oil refineries, major hotel developments, as well as all types of commercial property. He also has been a member of feasibility study teams examining all aspects of town planning and development appraisal. Chatzitsolis has appeared as an expert witness in British, U.S. and Greek courts in property-related cases.

He is a member of the Greek Technical Chamber and a board member of the European Chapter of CRE. He is also a former member of the local (Greek) Board of RICS and a former member of RICS Governing Council. He also served as chairman of RICS Europe during 2001–03. Chatzitsolis has been a visiting lecturer at Panteion University, Athens, since 1999.

Chatzitsolis' earned a bachelor of science degree in Land Administration and a diploma in Estate Management from North East London University U.K., and a master of science degree in Urban Land Appraisal from the University of Reading U.K.

The Greek housing market may be characterized as imperfect and opaque. Though the commercial market has gone through a phase of regulation during the late 1990s and the early years of the 21st century, the residential market still retains all its peculiarities and is seen by the average Greek as the “peoples’ investment market.” Regardless of various fiscal and taxation measures aimed at regulating this market, a number of cultural, social and financial considerations, along with a recent dramatic drop in terms of property values, have prevented its improvement.

The Boom and Bust of the Greek Housing Market

The purpose of this article is to present a general overview and a critical discussion of the developments in the Greek residential market and identify and analyse the possible links with all its “peculiarities.” These peculiarities include: 1) the “counter performance” development process, which is unique by global standards; 2) the ill-based concept that every family must own two or three residential units for “security” purposes—and that this type of security was favoured, in light of the high inflation environment of the 70s, 80s and mid 90s, as the best type of inflation hedge investment by virtually all different income classes of Greek households; 3) the extensive land fragmentation⁶ in Greece; 4) the high rate of owner occupation; and, 5) the trend to concentrate residential development in virtually two cities (Athens and Thessaloniki).

Our analysis indicates that the above considerations result from a number of socioeconomic problems that are hard to resolve. This fact along with lack of demand for the acquisition of new homes makes developers more conscious and selective when measuring their risk. Residential real estate experts now state that recovery of the housing market may take up to eight years in order to reach 2007–2008 levels. Recovery, however, depends on property taxes—namely capital transfer tax and capital gains tax.

This article presents data regarding the recession in the Greek housing market, a number of considerations under assessment as well as their impact on the residential market, and the authors’ conclusions.

THE GREEK HOUSING MARKET AND THE CURRENT CRISIS

The latest available data from the Hellenic Statistical Authority⁷ reveals that the Greek economy is still in recession, with the growth rate of GDP being -2.6 percent (measured in fixed prices, base year 2005) in 2013Q4 (in comparison to 2012Q4). This recession is reinforced by the existing negative psychology—crisis of confidence—because the market participants are afraid of the not-yet-seen repercussions of the Greek debt crisis. Moreover, frequent changes to tax laws create uncertainty and reduce business confidence.⁸ This is expected to negatively affect property transactions and, consequently, the companies engaged in the Greek construction sector, real estate services, etc. Also, the so-called “objective values”⁹ of real assets for both urban and rural areas are to be reviewed upwards—sometime between now and 2016—because

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has held research and teaching posts in the U.K. at the London School of Economics and Political Science, in the U.S. at Harvard University, and in Greece at Athens University of Economics and Business, National and Kapodistrian University of Athens, and the University of Piraeus. Vlamis earned a doctorate degree in Real Estate Finance and a master of philosophy degree in Land Economy, both from the University of Cambridge, a master of science degree in Economics from the University of York, and a bachelor of arts degree in International Economics from the Athens University of Economics and Business.

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they are unchanged since the year 2007. This might have a further negative effect on property transactions.

VOLUME OF RESIDENTIAL PROPERTY TRANSACTIONS

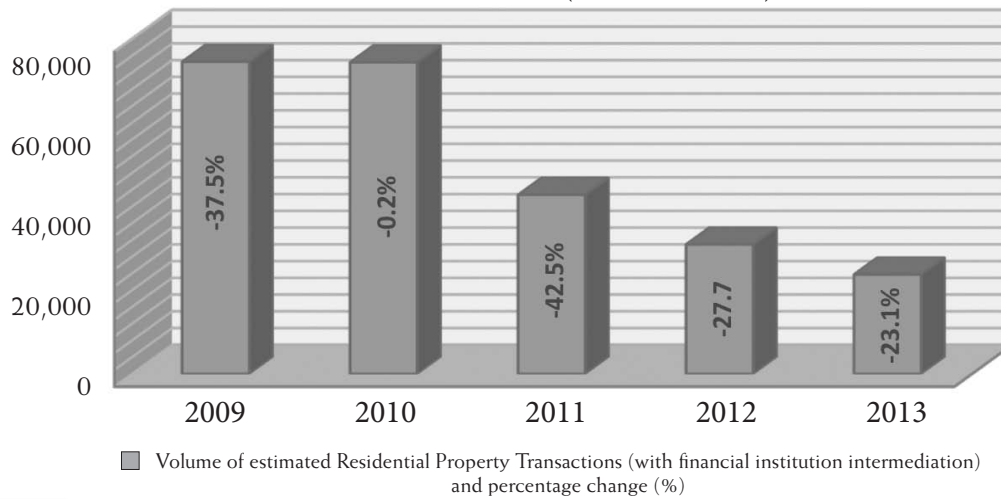
Data recently published by the (Central) Bank of Greece¹⁰ show that the number of real estate transactions continues to fall, from 74,586 in 2009 to 74,457 in 2010; 42,814 in 2011; 30,964 in 2012 and 23,801 in 2013 (Figure 1).

The Quarter-on-Quarter (QOQ) picture for the volume of the residential property transactions for 2012 and 2013 shows that property sales continue to fall, from 5,074 in 2013Q2 to 4,321 in 2013Q3, and 3,841 in 2013Q4 (Figure 2).

The Boom and Bust of the Greek Housing Market

Figure 1

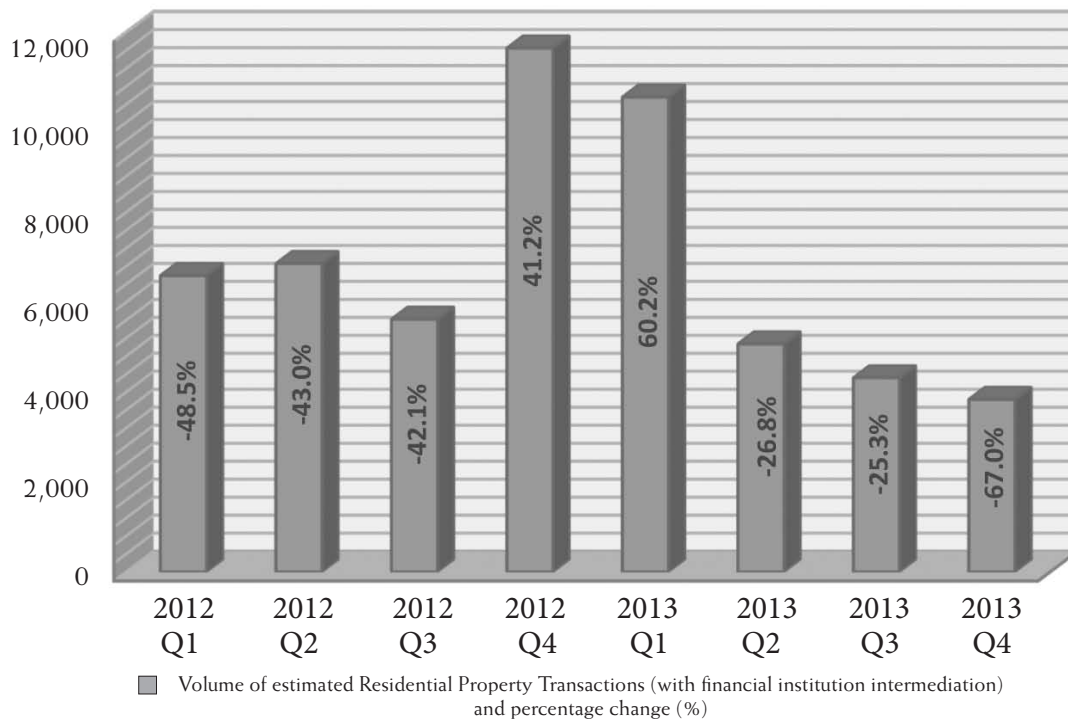
Volume of Residential Property Transactions in Greece for 2009-2013 (in thousands)



Source: Bank of Greece (2014a)

Figure 2

Volume of Residential Property Transactions in Greece for 2012-2013 (Q-o-Q, in thousands)



Source: Bank of Greece (2014a)

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BUILDING ACTIVITY

The latest available data published by the Hellenic Statistical Authority¹¹ reveals that the volume of the overall (private and public) building activity across the country (measured by the number of building permits, both residential and commercial)¹² has decreased by 27.4 percent during the period January – November 2013 (in comparison with the period January – November 2012). As well, recently published data by the Hellenic Statistical Authority¹³ reveals that the production index

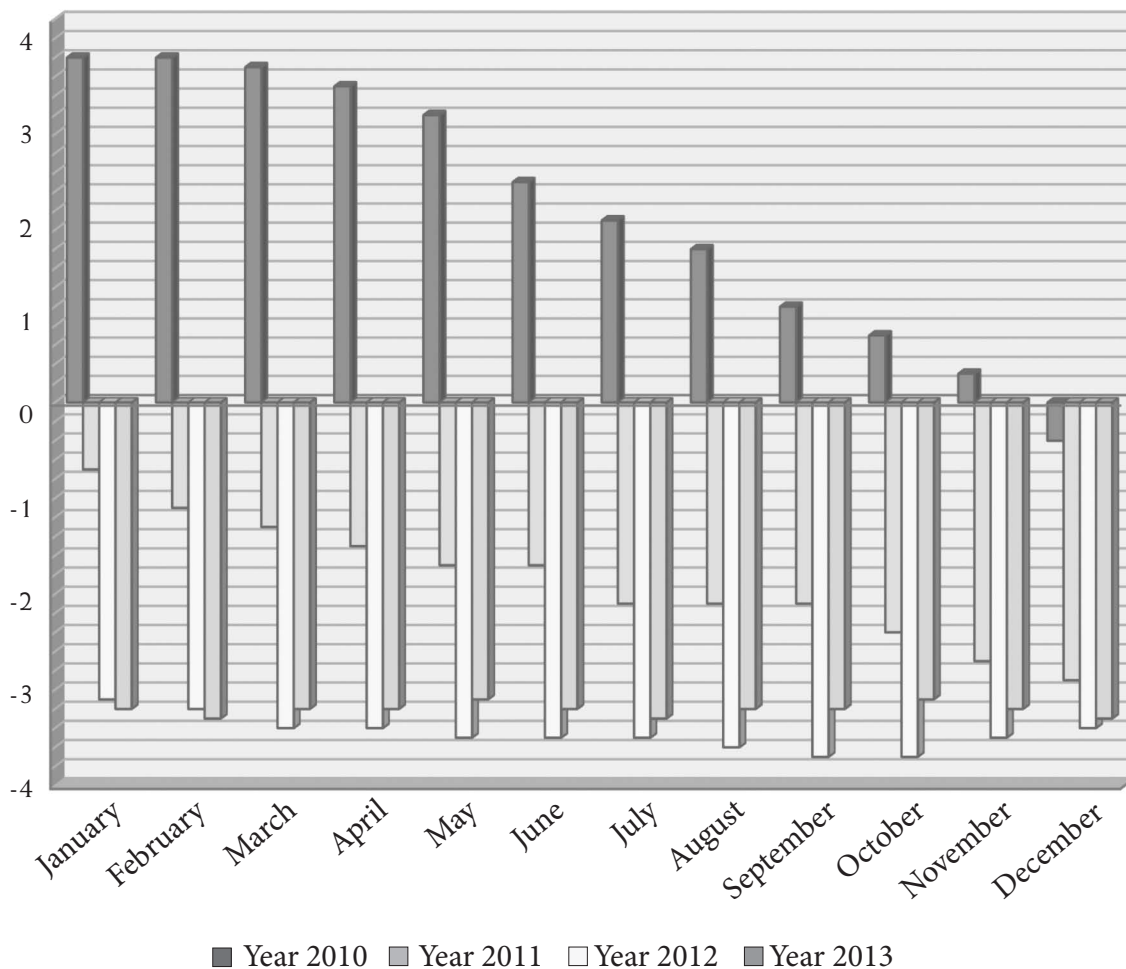
in construction has fallen by 8.3 percent in 2013Q3 (in comparison with 2012Q3).

BANK CREDIT FOR THE DOMESTIC PRIVATE SECTOR: RESIDENTIAL MORTGAGES

The crisis that the Greek property market is experiencing also has been crucially linked to the Greek banking crisis and the consequent credit crunch that has emerged; commercial banks are facing liquidity constraints and thus, since December 2010, they keep reducing the available funds to the domestic private sector¹⁴ (Figure 3).

Figure 3

Bank Credit to the Domestic Private Sector: Residential Mortgages (percentage change)



Source: Bank of Greece (2014b)

The Boom and Bust of the Greek Housing Market

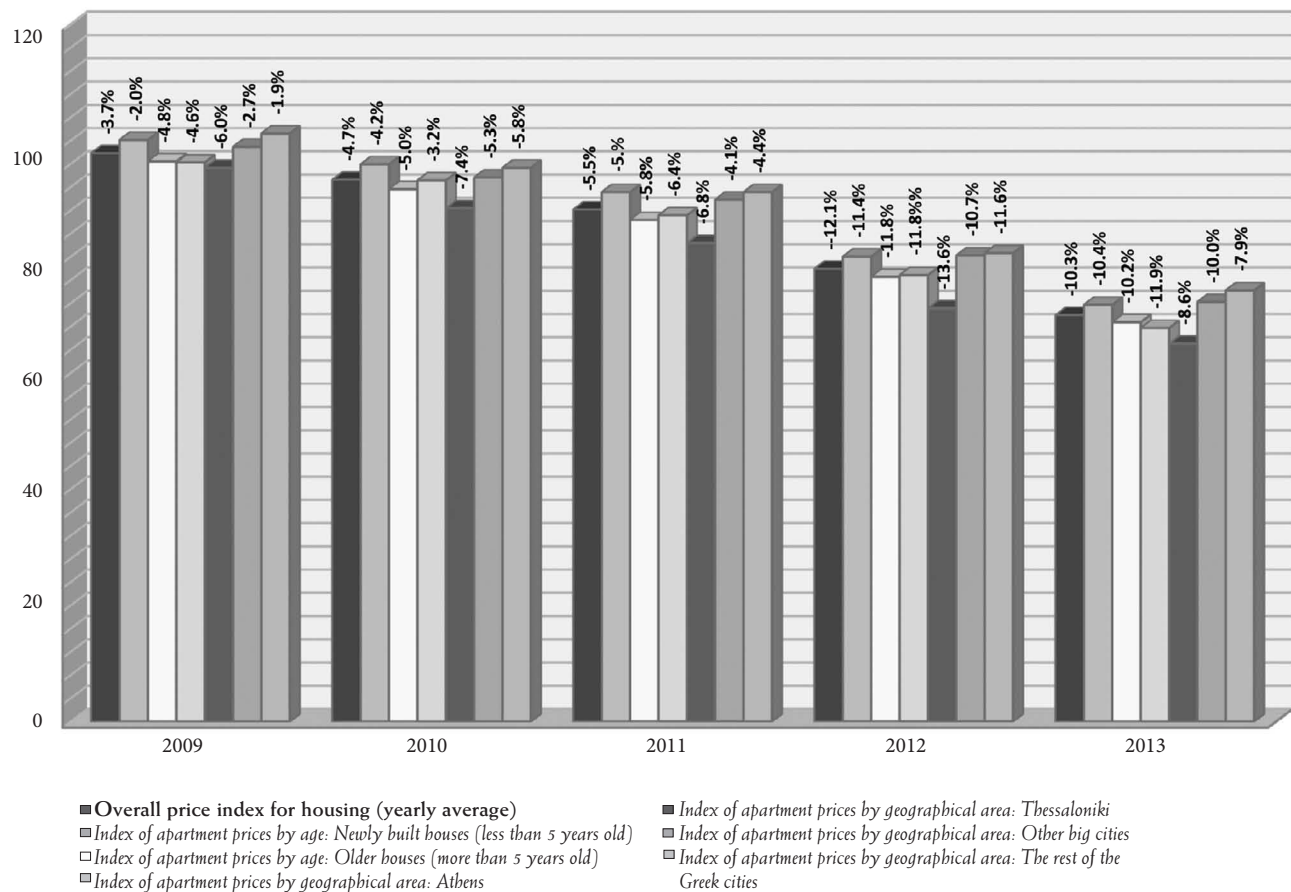
PRICE INDEX FOR GREEK HOUSING

The severe crisis the Greek property market is currently facing has been mirrored by considerably lower housing prices. The excess supply of newly built houses for sale across the country is estimated by real estate market participants to be approximately 200,000. Moreover, household demand for newly built houses has been consistently decreasing because of the macroeconomic

instability, which raises households' concerns about future incomes and employment. Figure 4 presents how the price index for newly built houses (less than five years old) and for older houses (more than five years old) has evolved since the year 2009. A price index of apartment prices by geographical area is also presented in the same figure. As evident from Figure 4, house prices today stand at approximately 36 percent of what they were in 2008.

Figure 4

Price Index (base year 2007:100) and Percentage Change (%)



Source: Bank of Greece (2014a)

The Boom and Bust of the Greek Housing Market

THE GREEK HOUSING MARKET AS AN IDIOSYNCRATIC CASE

A rather frequent and common topic in Greek newspapers is real estate investment. When papers and journalists refer to real estate investment and property prices, it takes only a bit of reading to understand that they refer exclusively to the residential property market. And thus, when they refer to property values, these are in fact prices of apartments, maisonettes and houses. Surprising as it may sound, for the average Greek, a home has always been an “investment” that will supposedly grow year after year and will predetermine the financial security of the younger members of the family. As a result, many middle-class Greeks invested most of their earnings and savings in a second home, and/or in an additional apartment for rental income, and maybe a third or a fourth residential property or small retail unit. Or so was the situation until 2008 when all this ideal world of property price growth collapsed. After more than fifty years of relying upon real estate as an investment, middle-class Greek households had to face the rapidly deteriorating house prices that today stand at approximately 36 percent of what they were in 2008 (see Figure 4).

The owner occupier sector in Greece, as far as the residential market is concerned, is very strong and is considered to be the one of the highest in the European Union. As of 2009, the home ownership rate in Greece was estimated to be around 80 percent.¹⁵ Furthermore, middle and upper middle income groups enjoy second homes situated in their home town/village, many acquired in the booming decades of the 1980s, 90s and the early years of this century.

Apart from the social, cultural and financial security considerations, another factor that has boosted the owner occupier sector is the high building development coefficient in most urban communities. The introduction of high density building regulations in conjunction with relatively cheap land may have contributed to satisfying housing needs, but had a detrimental effect on the aesthetics of cities and towns, as well as on internal migration and balance of population at the national level. Young people in the 1950s, 60s and 70s migrated to Athens, Thessaloniki and other big towns to find jobs, thus abandoning rural areas and the regions. The responsibility of the Greek political system at large is an important element here as it seems that the Greek political establishment has never aimed at a balanced development

between rural and urban Greek regions. They preferred to offer rural citizens promising jobs and a prosperous urban life through appointments to a central government department or the broader civil sector.

The destruction of the Greek architectural heritage of the late 19th and 20th centuries through mass demolitions of neoclassical buildings as well as traditional buildings of the 1960s and 70s, to be replaced by ugly multi-story structures, resulted in the creation of densely populated neighbourhoods, with no local identity, no aesthetics, no green space, no parking facilities, thus resulting in a poor quality of life. In the view of the Greek political establishment, the transformation of low density urban communities—characterized in the past by beautiful traditional buildings and open spaces—into densely populated neighbourhoods was seen as progress and full accomplishment of housing needs. If we may say so, this proved to be a very short-sighted approach.

Government authorities turned blind eyes to illegal structures, extensions and additions to buildings, all of which bloated the owner occupier sector. This resulted in almost doubling the useable floor areas, mainly in detached or semi-detached houses and maisonettes. In many cases, a surveyor measuring a building quite often finds no compatibility between actual floor space and title deed content. City planning authorities have become stricter and tougher recently but find it impossible to demolish illegal structures without then facing acute social problems. Accordingly, authorities try to resolve such issues through penalty payment enforcement measures. However, since mass breach of law has taken place, it is difficult to secure settlement of fines. It may take years until these illegal construction problems are fully resolved.

Other factors contributed to the transformation of low density urban communities into problematic urban agglomerations: 1) low land values, which made it easy for developers to build apartment blocks; and, 2) the introduction of quite an innovative form of development known as the system of “counter performance.” According to this system, a site owner assigns his/her land to a developer, and once building construction is completed, the owner receives in exchange a proportion of the newly completed structure. The proportion varies and depends on the building coefficient, the quality of the area and on the state of supply and demand for readily available accommodation.

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It should be noted that at least five years preceding the crisis, as a result of continuously rising demand and increasing housing prices, developers could no longer acquire land cheaply. Once the crisis started, the effect was detrimental; they were left with empty apartments and houses, which today exceed 200,000, almost half of the total vacant housing stock (this figure may be low by American standards but should be considered in the context of the population of Greece, which does not exceed 11 million people). Most developers—usually small local firms—acquired expensive land and paid high construction costs aiming for high specification buildings that reflected high selling prices. When the recession hit, nobody could afford to pay a high price for an apartment or a house. There was simply no market for residential units that would sell at 2007–2008 price levels.¹⁶ With so much development originally concentrated in the central cities of Athens and Thessaloniki, and still so many of these homes vacant—upwards of 200,000 units—it does not make sense to try to develop new housing in outlying areas.

A significant fact in post-crisis Greece is that regardless of the 400,000 empty residential properties (200,000 newly built units plus 200,000 older homes), the country is faced with a huge number of homeless persons. Even in the post-Second World War era of the 1940s and 1950s, this phenomenon was unknown in contemporary Greece. Greeks used to bitterly criticize homeless Parisians, Londoners and New Yorkers who sleep in the streets or in the subway waiting areas. Nowadays, the increasing number of homeless can be seen virtually everywhere in the large Greek cities. It is a relatively recent development (starting only five years ago) reflecting the results of the fiscal crisis.

The low quality urban residential environment in conjunction with lack of social housing and social services has had a detrimental effect on the quality of living of the average Greek citizen. This is certainly more acute in Athens and the major urban centers. We propose a number of solutions that could, in our view, help solve some of the housing problems that currently exist in Greece:

1. *Housing for the homeless.* The higher proportion of homeless is among the indigenous Greek population and the unemployed immigrants, most of whom are living in the country illegally. The government owns several abandoned public buildings, former army camps, etc., that

could be utilised for this purpose. Furthermore, regardless of the situation in the economy, there are some funds that could be allocated for renovation, construction and property management.

2. *Government subsidies for low income tenants with high personal debt.* The irony is that most of them are forced to pay enormous taxes to the state with virtually no return benefits. In Greece there is a graduated income tax system based on the amount earned. There are, however, heavy taxes on property, on “luxurious living,” on car possession (for vehicles over 2,000cc) and on car use, as well as a levy for all self-employed professionals that has to be paid regardless of earnings. It is undoubtedly an unfair system and has been subject to severe criticism.

3. *Improved environment in most urban centers, mainly in Athens and Thessaloniki.* Improving blighted inner city areas should help generate local and international tourism; consequently raising retail rental values along with interest in investment and the provision of services. Investment in such urban and social infrastructure will pay back benefits: increase overall consumer and commercial demand, stimulate the frozen property market and certainly attract investment from both home and abroad.

4. *Rationalize taxation of property ownership and take special care of first-time home buyers.* Paying enormous taxes to the state just because someone has inherited an apartment or a house has no rationale. In most developed countries, ownership taxes go to local governments and are used for the improvement of the urban environment, for services provided to local residents and for the maintenance of neighbourhoods. In Greece, most ownership taxes go directly to the central government and no one understands whether good use is made of the funds. Moreover, the unbelievable and unprecedented continuous change in terms of legislation can confuse even the most experienced tax expert who has good knowledge of government legislation.¹⁷ A permanent and rational taxation system, friendly to homeowners, potential buyers and investors, and accepted by all economic groups of society will only bring benefits to the government and investors alike. In light of this, the Greek government has recently announced a series of measures aiming to attract foreign direct investments. These measures include an ambitious privatisation plan aiming to generate employment, simplified procedures for the establishment of firms and enterprises, provide resident permits for foreigners outside the EU who acquire expensive property,

The Boom and Bust of the Greek Housing Market

and tax relief for international investors. The response from the market so far has not been that enthusiastic since the taxation situation is rather obscure at the moment, and it may take time until the potential benefits of the announced measures are realized.

CONCLUDING COMMENTS

The implementation of strict austerity programmes, designed by the Greek government to reduce the budget deficit and stabilize public debt, caused a substantial decrease in demand for goods and services, pushing the Greek economy and consequently the property market into deep recession.¹⁸ The severe crisis the Greek property market is currently facing is reflected in a deteriorating volume of residential property transactions; a low volume of overall (private and public) building activity across the country; reduced bank credit availability for the domestic private sector (residential mortgages); and eventually the considerably lower prices for housing. In this article, we also identified and critically discussed possible links between the recent developments in the Greek residential market and its peculiarities, such as the counter performance development process; the ill-based concept that every family must own two or three residential units for security purposes; the extensive land fragmentation in Greece; the high rate of owner occupation; and the concentration of residential development in two urban areas (Athens and Thessaloniki).

The possibility of the Greek residential market's coming out of the recession is crucially linked to market participants' expectations, improvement of the lending terms of construction companies, and the recovery of the economy at large. This is the case because the factors that contributed to the exemplary growth performance of the Greek property sector in Greece, particularly after the year 2000 (ample funding for public infrastructure; implementation of stabilizing macroeconomic rules and policies that led to low-cost financing; the organization of the Athens 2004 Olympic Games, which significantly boosted investment activity; and the inclusion of new land in the National City Plan, which expanded the available space for new construction) have now ceased to exist.¹⁹

Finally, we offered a number of useful policy proposals regarding the steps Greek policymakers should take in order to achieve the necessary property tax system reform. If such reform is implemented, a friendly environment for potential investors in the Greek real estate market will be created and fast, customized, investor friendly solutions for development projects on the residential market will

become available. Eventually, hopefully, all of the above will contribute to the restarting of the Greek economy and fuel economic growth.

ACKNOWLEDGEMENTS

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6. The number of owners of estates of substantial size is relatively small. Most land is fragmented into small parcels and a significant proportion of the population is property owners. Lack of a modern land registry, particularly in rural areas, creates disputes between individual land owners on many occasions, while trespassing is not uncommon. In urban centers, on the other hand, condominium principles are not applied in the same manner as in the U.S. In multi-story residential apartments, management and building

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maintenance is sometimes a difficult task, as some co-owners may not agree between themselves and building management rules cannot, in practice, be applied.

Other associated problems are concerned with public land that, on numerous occasions, has been trespassed on. Many cases of dispute between private individuals and the government are pending in courts for years. As a result of these disputes, on many occasions, the government cannot develop or offer land for sale or lease to investors.

Finally, in cases in which a large development project may take place—on a coastal picturesque site for example—the unification of small parcels becomes an extremely difficult task, as some owners do not agree to sell, while others require exorbitant sums of money in order to sell their properties.

The good news, however, is that a long-term solution can now be seen in the not too distant future, as a new National Land Registry is already underway and has produced, even at this early stage, positive results. The completion of the land registry may take a few years, but once concluded, property management will most certainly become more efficient.

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9. The “objective value” of the real estate assets is, in fact, the “taxable value” of transactions in the Greek real estate market. Sometimes the objective value of a property is lower than its actual market value. To adjust for the difference between the objective value and the market value of a property, the former is frequently reviewed (particularly when Greek governments are short of tax revenues). In most cases, the objective value distorts actual prevailing market conditions and is not substantiated by comparable evidence. Objective values for the different types of real estate assets are exogenously set by the Greek government and their estimations are theoretically based on prevailing market conditions (demand and supply).
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12. It is worth mentioning here that data published by the Hellenic Statistical Authority regarding the volume of the private and public building activity across Greece does not distinguish between residential and commercial building permits. In other words, residential and commercial building permits are both included in one single number and the Hellenic Statistical Authority does not disentangle the two figures.
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15. “List of countries by home ownership rate,” Wikipedia, available at: http://en.wikipedia.org/wiki/List_of_countries_by_home_ownership_rate (Accessed 25-02-2014).
16. Most of the Greek construction companies rushed to build new houses before the introduction of VAT on new residential buildings (effective from 01-01-2006). When they completed the construction of the houses in 2006–2007, demand for new houses had already started decelerating. Potential buyers are now looking for older properties (between 2–10 years old) due to lower and far more competitive values rather than buying the more expensive brand new ones. The Greek construction companies appear to be unwilling to start selling at lower prices the stock of newly built houses they own because if they do so, they will realize huge losses. Moreover, the majority of companies in the Greek construction industry are family-owned small- and medium-sized companies, which are not highly leveraged. They mostly use equity capital to finance the construction of new houses (by using the so-called “counter performance” process in the housing development field) and thus, they are sort of immune to interest rate volatility. Finally, most of the Greek construction companies accumulated considerable profits during the boom phase of the business cycle (1994–2007) and now they feel comfortable to follow a “wait-and-see” policy, believing the holding costs of these vacant homes will not exceed the potential loss the construction companies will take. On the one hand, if their assumptions are valid they will continue to hold onto these homes, hoping the market will rebound rapidly. It seems they are willing to wait until that happens. On the other hand, according to the new law the Greek government recently passed (Law 4223/2013), Greek construction companies will have to pay property tax on these units even if they are not occupied and not producing any income. This is something they will have to seriously take into account.
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Watch Your Real Estate Language!

BY JACK P. FRIEDMAN, PH.D., CRE; BARRY A. DISKIN, PH.D., CRE; AND JACK C. HARRIS, PH.D.

"I meant what I said and I said what I meant." Dr. Seuss' elephant character Horton provides speakers with a worthy goal. The same applies to writers.

IN THE ENGLISH LANGUAGE, THE SAME WORD CAN HAVE many different meanings. The word *run* reportedly has 100 different definitions, from a score in baseball to a tear in a knitted fabric. The word *strike* means one thing in baseball, another in bowling, still another in a fight, and something entirely different in a labor union activity. When an entrepreneur strikes out into a new venture, we wish him luck, but a salesman who strikes out has failed in a sales call. In the latter case, the baseball meaning of "strike out" is used figuratively.

It should be no surprise that many words have special meanings in real estate activities. This can cause misunderstanding between parties, whether intentional or not. For example, a real estate appraiser may provide a report with the word *value* in it. When modified by *investment* to become "investment value," it is related to but quite different from "market value." Investment bankers may not understand the difference in these terms when packaging a real estate offering for sale.

An appraiser of a regulated public utility explains that the term *cost* is important because *historical cost* is the amount that determines regulated utility rates charged to customers and returns to capital providers. The same appraiser then determines *replacement cost new* for the property, which is an entirely different, much higher amount that is not warranted while the property is within its regulatory shackles.

The misunderstandings often result from reports prepared by appraisers and accountants. Terms that the two professions share take on entirely different definitions, sometimes without either profession recognizing the validity of the other's use.

About the Authors



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Watch Your Real Estate Language!

The gap increases with education, as each group feels more strongly about its own lexicon and refuses to recognize any other. Anyone with a college degree in business administration has taken Accounting 101 (literally), where the accounting definition of terms such as *depreciation*, *amortization*, *capitalization*, and *lower of cost or market* are drilled in. Nearly all business majors get through their degree program *without* a course in real estate, and at least 99 percent without a course in real estate appraisal or finance. When the college graduate hears one of these terms, he/she may not recognize the different vernacular used by the real estate professional and may view the other party with misunderstanding or distrust, assuming that the real estate professional is ignorant of the proper (accounting) usage.

Here we explore a few of the commonly encountered terms in real estate and explain how the real estate definitions differ from other well-known uses. The list will be considered in alphabetical order.

AMORTIZATION

The most common use of *amortization* in real estate is the systematic reduction of a debt through payments toward the principal. Whenever a periodic debt payment exceeds the interest requirement, the excess reduces (or *amortizes*) the principal balance.

In accounting, amortization is the periodic write-down of an intangible asset over time, which may be its estimated useful life or another period, based on tax or accounting regulation.

AUDIT

To an accountant, *audit* means a test of the fairness of presentation (validity and accuracy) of financial statements. Taxpayers, however, may dread the audit that is an investigation to validate their compliance with tax laws, frequently concerning reported taxable income.

For real estate owners, an audit may be a test to determine the validity of the rent rolls or of tenant lease terms. It could be an effort to determine the accuracy of expense pass-throughs to commercial tenants or whether sales reports comply with overage rent requirements.

CAPITALIZATION

In real estate and economics, capitalization is a process of valuation of an income stream whereby the expected future income is converted into one lump-sum capital value.

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In accounting, capitalization is establishing an asset on a balance sheet. To qualify as capital rather than an expense, an acquisition must cost over a certain threshold amount set by corporate policy at, say, \$1,000 to avoid cluttering the balance sheet with trivial amounts, and the asset must have a useful life of more than one year.

The cost of repair to a roof or a parking lot may be expensed or capitalized in financial accounting statements depending on the amount and whether the repair will extend the useful life of the asset.

CASH EQUIVALENT

The financing of real estate, whether good or bad, is likely to influence the price paid. The *cash equivalent* is the result of converting the amount paid for real estate that comes with debt to an amount equal to what would be paid for the same property in cash. Land bought with below-market-rate seller financing may have a higher selling price associated with the sale than if it had been bought with cash. The process of cash equivalence then reduces the face value of the debt and the face selling price of the real estate to what it would have been in an all-cash transaction.

In financial statements, cash equivalents include corporate investments that are virtually the same as cash in value and liquidity. Treasury bills (which mature in a year or sooner) may be shown as an asset in an account called "Cash or Cash Equivalents."

COST

Generally, *cost* is the amount historically paid for an asset that was acquired.

Original cost in real estate is the amount the very first purchaser paid. *Historical cost* is the amount paid by the current owner. *Trended cost* is original or historical cost increased (or decreased) by changes in the price over time for that type of property. *Reproduction cost new* is the

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current cost of a replica, while *replacement cost new* is the current cost to acquire an asset with equivalent function, built to modern standards.

For accounting purposes, *cost* is the initial amount paid, including freight and installation. *Replacement cost* is the amount required to purchase the same asset, in its current age and condition, in the market.

DEPRECIATION

In economics, *depreciation* is a loss in market value from all sources. In most real estate situations, depreciation is a reduction from reproduction or replacement cost new in appraisal, having three possible sources: physical, functional and external (also called environmental or economic).

Depreciation expense for accounting purposes is generally original cost spread over useful life. The method applied may be straight-line (equal each period) or accelerated (more in early years). This is a method of allocation, not valuation. Should depreciation accounting approximate the economic loss in value over time, it is likely to be due largely to a knowledgeable selection of life and method from experience, or to coincidence.

For regulated utilities, the historical cost of prudent investments is accepted in the rate base, and depreciation is generally applied based on that amount, spread over its estimated useful life allowed by regulation.

Depreciation allowed for income tax purposes is based on tables with lives for different types of assets, as stated in tax law. Tax lives allowed for buildings have ranged widely, from as little as 15 years for assets acquired in 1981–1984 to the current 27.5 years for apartments and 39 or 40 years for commercial property.

EXTRAORDINARY ASSUMPTION

In real estate appraisal, an *extraordinary assumption* is an assumption directly related to a specific assignment, as of the effective date of the assignment results, which, if found to be false, could alter the appraiser's opinions or conclusions. It is a term of art describing an appraiser's presumption as fact otherwise uncertain information about physical, legal, or economic characteristics of the subject property; or about conditions external to the property, such as market conditions or trends; or about the integrity of data used in an analysis.

Since the dictionary definition of *extraordinary* will be something like "going beyond what is usual, regular or customary," it may appear that an extraordinary

assumption is one that is unwarranted or indefensible, and the appraiser's explanation may fall on deaf ears when provided to an attorney who wishes to discredit the appraisal in litigation.

FAIR VALUE

After numerous modifications, the Financial Accounting Standards Board (FASB) developed Accounting Standards Codification Topic 820 (ASC 820), previously FAS 157, to explain the accounting application of concepts related to value.

ASC 820 embraces many of the same concepts of market value that real estate appraisers use for financial institution appraisals. However, there are many nuances of ASC 820 that distinguish *fair value* measurement from the *market value* used by real estate appraisers.

LOWER OF COST OR MARKET

This is an accounting concept applied by CPAs to assets, carefully applied to inventory, but the term also has been embraced by business appraisers, with different meanings.

In accounting, "cost" is the amount in the company's records based on the cost paid plus freight-in and installation. For inventory, costs of purchases may be kept as first-in-first-out (FIFO), last-in-first-out (LIFO), average cost, moving average cost, and retail method. "Market" is the amount required to currently acquire the same products from suppliers.

In one appraisal meaning of "lower of cost or market," "cost" is the amount that must be paid to replace or reproduce the product. "Market" is the amount a willing buyer and willing seller (presuming the current owner would sell) would agree upon for the sale of that product.

DR. SEUSS CONCLUDES

Horton said, "I meant what I said, and I said what I meant." But do listeners hear what Horton said, or understand it as it was intended? Or do they hear something different, based on their different understanding of the words?

When the definition of a term is crucial to the execution of a transaction, it is often important to determine the writer's or speaker's understanding of a term, to be assured that the listener or reader is on the same page. It is particularly important when real estate appraisers or consultants are dealing with other professionals having their own technical vocabularies that use the same words with different meanings. ■

Landfills: Operations and Opportunities

BY JOE W. PARKER, CRE, AND CURTIS A. GENTRY IV, MAI

INTRODUCTION

LANDFILLS ARE UNIQUE PROPERTIES THAT PRESENT BOTH questions and opportunities for real estate professionals. The better that we real estate professionals understand what landfills are and how they work, the better we can help our clients who either have or anticipate business issues related to landfills.

A landfill is essentially a short- to long-term, going-concern business that is operated on a parcel of real estate. Generally speaking, a landfill is a hole in the ground that is operated as a business. The hole may exist before the landfill is opened, or it may be created as an early part of the construction process. A landfill's value is based on a combination of factors, but primarily on what can legally be dumped into it, the market demand to dump it there, at what price the market dictates it can be dumped, and the remaining capacity of the landfill.

LANDFILL CLASSES

Types of landfills range from the most basic Class I rubbish landfills to the more complicated Class III municipal landfills. The regulations for those classes may vary somewhat from state to state, even to the point of a Class I landfill in one state being called a Class One landfill in another state, but the differences usually are minimal.

Class I landfills generally do not require a liner and are designed to accept land-clearing debris and debris that will not endanger the groundwater, such as unwanted dirt, brush, tree stumps and limbs, etc. Household garbage and products containing petroleum, PCBs and other chemicals are not allowed in Class I landfills. Obtaining a Class I landfill permit is usually a fairly simple process, provided that zoning regulations allow it and that there are adequate buffers and distances from the landfill to residences, schools and drinking water sources.

About the Authors



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Parker has appraised commercial real estate throughout the South and Lower Midwest with appraisal experience in environmentally contaminated properties, fiber optic corridors, cemeteries, golf courses and country clubs, colleges and schools, hospitals, wetlands, conservation easements and historic properties. As well as regularly advising clients on a variety of real estate matters, Parker oversees all appraiser credentialing and reviewing processes at Equity Solutions USA.

Parker also serves as an expert witness on such issues as construction defects, mortgage fraud, title defects, environmental contamination and stigma. He was trained as a Mediator at the University of Houston's Bauer College of Business and at Harvard Law School.



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Gentry has a wide range of commercial real estate appraisal experience that includes a significant concentration in medical facilities, industrial facilities and landfills. He also is an active real estate investor.

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Class I landfills often reverse an earlier process that created the hole in the ground. Perhaps it was once a gravel pit or a dirt pit from which good quality construction dirt was removed and sold. The resultant hole in the ground creates an opportunity to both generate additional income and fill a community need. Builders, contractors and others haul unwanted dirt, rocks, tree brush, stumps and roots into the landfill where they pay a fee to the landfill operator to dump the unwanted materials. The dumping fee can be based on the weight of the materials if the landfill has truck scales, or it can be a dollar amount per load, per cubic yard or even per truck axle.

During this re-filling process, the landfill operator uses construction equipment, usually a landfill compactor which is essentially a steel-wheeled bulldozer, to spread the dumped materials and compact them as much as possible since compaction density and remaining space are keys to the value of the landfill. Once a Class I landfill is full, regulations usually require it to be reclaimed by adding a layer of soil directly on top of it. Depending on the location, regulations may require that trees or other vegetation be planted as part of the reclamation process. In some states, the landfill owner has ongoing liabilities for a Class I landfill for several years after it has been reclaimed.

Once the reclamation process is completed, the Class I landfill evolves into a tract of timberland or pastureland. Due to the nature of the dumped materials and the inability to uniformly compact the materials that were dumped there, a reclaimed landfill usually lacks the soil-bearing capacity for buildings to be constructed on it. Properly done, the reclamation process leaves a parcel of grasslands or woodlands that shows no trace of having ever been a landfill.

Class II landfills are legally allowed to accept a wider range of materials and matter, including a number of household items, but stopping short of municipal solid waste. These are usually mom-and-pop operations where the operator or an employee greets each arriving vehicle, eyes the contents to make sure nothing illegal is included and estimates the size of the load, and then shouts a dumping fee number to the driver who can then either pay the fee or drive off with what is usually unwanted junk. Exceptions are the more sophisticated landfills that charge by weight using truck scales. A Class II landfill is often a graveyard for old sofas, mattresses, televisions and household junk.

Class III landfills, often referred to as municipal landfills, are equipped to take biodegradable food and a variety of bio products including municipal and industrial solid waste. The garbage truck that picks up your trash at the street curb once or twice a week takes it to a Class III landfill. Dumping fees are almost always calculated on a price per ton, with long-term contracts in place for high-volume customers, often at reduced rates.

There are also specialty landfills. One may limit its intake to storing contaminated materials, while another may be designed for recycling. Two popular recycling projects involve concrete and asphalt paving. When concrete is recycled, the dumped concrete is crushed into smaller pieces, and any reinforcing metal is separated from the concrete and then melted down for recycling. Both the recaptured metal and the recycled concrete are re-used, usually with minimal loss of materials. Old asphalt paving is recycled in much the same way.

Both Class II and Class III landfills require liners to prevent infiltration of the decaying materials into the groundwater and onto other nearby properties. Liners are usually constructed of either rubber or plastic materials and are called geomembranes. Much like a vinyl liner in a swimming pool, landfill liners keep the dumped materials in the landfill and protect the adjoining lands from contamination as the dumped materials deteriorate. Landfill liners constitute a major expense for owners. The required thickness and type of the liner are based on the soil type. Landfills with heavy clay soils underlying the bottom and sides of the landfill can utilize thinner and less expensive liners than landfills with more porous soils. Thus, examining soil types is a major component in landfill site selection. Both Class I and Class II facilities are required to have run-off ponds or detention areas to keep rainwater on the sites.

In Class II and Class III landfills, dumping takes place in areas called cells, which are specific areas within the landfill. Compaction is a key since there is only so much air space within each cell. Operators strive for a compaction rate of 1,600 to 1,800 pounds of dumped material per cubic yard of air space, but they often get less, depending on the nature of the materials being dumped. Regulations for Class III facilities require that each cell be completely covered with at least six inches of dirt at the end of each day to deter air contamination.

Astute developers will move and store onsite the soil that was removed from the "hole" when the landfill was first

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created, thus having a ready supply of dirt on hand to complete the required daily covering processes. However, novice developers sometimes make the mistake of fully removing that dirt from the landfill site early on, thus resulting in significant additional future expense when the operator has to purchase "cover" dirt to replace the original dirt.

As the layers of cover dirt build up every day, the top elevation of the landfill rises. Landfills generally are permitted for a specific height restriction, but regulatory bodies often will grant variances that allow an existing landfill to fill to an elevation higher than that called for in the original permit, especially when there are no other operational landfills in the area or when remaining capacity of other area landfills is short.

As rainwater flows into a landfill, some of it seeps into the ground and mixes with decomposing matter, forming a liquid called leachate. To control the leachate in Class III landfills, the operator installs perforated pipes that enable it to be redirected to a containment area or facility where it can be chemically treated.

Methane gas also forms as the dumped materials decompose. It is usually collected and routed to the surface via pipes. As the landfill rises in height, the operator simply adds to the height of the pipes and those pipes get taller. The methane gas often is burned off above ground with a flare that operates much like an oil well flare. In some cases where it is economically feasible to do so, the methane gas is collected and used to produce alternative energy.

Landfills are not without liability. After an operator reclaims and closes a Class III landfill, the operator is required to monitor and maintain the landfill for an additional 30 years. The potential liability associated with the deteriorating matter, the leachate, the methane gas and the continued integrity of man-made liners is substantial.

Landfill owners and operators range from small mom-and-pop establishments to large multi-national corporations. Many landfills across the U.S. were started by small companies or mom-and-pop establishments. Many of those smaller operations have been sold to larger corporations that operate numerous other landfills, and many of the municipal landfills are owned and operated by cities and counties.

The larger operators simply have honed landfill operations into an art. They also understand that if they can control the market, they can control the price. They may also better understand how to achieve the maximum possible compaction ratios that add to the profitability of a landfill. After all, a landfill is a depleting, finite asset. Maximum compaction is essential because there are only so many cubic yards of space available, and when that space is filled, nothing is left but the ongoing liability.

THE PERMITTING PROCESS

Most real estate is considered to have a long, useful life. However, that is not the case with a landfill operation. Landfills cannot be created without a permit, and permits for Class II and Class III facilities particularly are extremely difficult to acquire. There are numerous legal, governmental and environmental steps, procedures and requirements that a parcel of land must overcome to even be considered for a landfill permit. Obviously, the more simplistic the landfill, the fewer requirements or steps an operator has to go through in order to get a site permitted. For example, a Class 1 rubbish landfill does not have nearly the number of legal and environmental hurdles to clear in the permitting process that a Class III municipal landfill faces. Because of the household and industrial products a Class III landfill takes in, the permitting and approval process can sometimes take years.

Once a permit is obtained, it will generally indicate to what degree or how much of a parcel of land can be utilized for the storage of whatever materials the land is permitted to take in for disposal. A landfill's life is directly related to its available air space. Air space is generally described as cubic yards of remaining storage area. A permitted landfill essentially sells air space to customers. Those customers bring whatever waste disposal they have to a particular landfill that is permitted for that waste, and they are charged per cubic yard.

The capacity of a landfill is generally described in cubic yards but also can be described in metric tons. However, the cubic yard unit of measurement is generally the most accepted. The remaining capacity can generally be calculated based on how much of the permitted air space remains available to use and the anticipated average compaction ratio for the materials likely to be dumped. Typically, permits will allow a certain landfill to go so deep into the ground and so high up into the air. A term known

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as “tree tops” stipulates that the landfill can go no higher than the surrounding local tree vegetation. Over a landfill's life, it is common for operators to petition governing environmental agencies for more depth or more height on their permitted acreage to thus increase their air space.

OPPORTUNITIES FOR REAL ESTATE PROFESSIONALS

Landfills present opportunities for real estate professionals with varying practice types. For a developer with the capital, connections and the sheer endurance to get a new site permitted, a landfill presents a relatively secure, long-range source of income. There also are opportunities for investors to find and acquire existing landfills to purchase.

For the real estate attorney, there are opportunities to assist with purchasing and permitting. Permitting is usually a long, drawn out process with many regulatory hurdles. Knowledgeable attorneys can alleviate many of the permitting pains for an owner. They can help with applications and hearings, and even negotiate with other nearby landowners who may not want the landfill in their backyard.

For brokers, there are often buy and sell situations. Learning where to look for buyers and sellers, and how to motivate those buyers and sellers to action, can lead to good sales transactions. One sale often leads to another since landfill sales often are at significant price numbers that call for tax-deferred exchanges, rather than highly taxed sales. There also are opportunities to locate and negotiate purchases of new sites for landfill operators.

For appraisers, there are valuation problems to be solved quite regularly, such as for financing, sales and purchases, and for estate and gift transactions. Some of the larger operations need them regularly for financial reporting purposes.

Landfills typically are valued using a discounted cash flow analysis, with valuations based on an annual absorption of air space, which is sold on the market at a rate generally supported by history of the appraised landfill and by market rates of neighboring or competing landfills. When long-term contract rates are involved for some customers, they can be adjusted for and weighted based on the amount of air space those particular customers are likely to purchase or consume per year. However, the potential gross revenue of a landfill generally is almost always

subject to how much air space can be sold in a year, the density to which it is likely to be compacted, and at what rate the remaining air space can be sold.

The landfill's annual net cash flow is then projected for each year over a holding period. There is no set holding period for a landfill in terms of an investment vehicle. Typically smaller mom-and-pop landfills have a relatively short holding period of five to seven years. Their plan often is to build the business up and then sell the landfill. Larger municipal landfills, typically owned by large corporations, have longer holding periods, but the value is still based on the amount of its remaining air space.

Once the appraiser has projected the gross annual income based on the amount of air space to be sold per month or per year at an average market price per cubic yard, expenses are then deducted over each time period in the holding period. Expenses can run the gamut depending on the Class of landfill being appraised. With a simple Class I rubbish landfill, operational expenses usually are no more than several employees, one or two bulldozers, and truck and scale equipment. Equipment expenses usually are projected based on long-term rental rates for the required equipment unless the owned equipment is part of the valuation.

Other expenses typical of investment real estate such as real estate taxes, insurance and other general fixed and variable expenses must also be considered and deducted. With larger Class III landfills, the expenses grow exponentially, and they continue well past the time when the landfill is expected to generate income.

Once expenses are deducted, the analyst selects a discount rate in order to arrive at the net present value of those income streams, including the value of any reversion. The reversion generally is always expressed as the price at which the landfill is expected to sell at a specified point in the future, assuming a certain amount of remaining air space, although a landfill nearing the end of its useful life may have a reversion only as a parcel of reclaimed land. The reversion number can vary significantly if the analyst does not accurately forecast absorption. For instance, if the analyst underestimates or overestimates the absorption, the reversion may be misstated.

The income-producing life of a landfill operation basically ends once all of the permitted air space has been consumed. Once that occurs and the reclamation process

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has been completed, a landfill usually holds very little value. Some landfills require monitoring and attention years after all the useful space has been filled. However, simpler landfills such as Class 1 rubbish landfills can be covered with dirt, landscaped and utilized as other types of real estate such as recreational land. Municipal landfills, however, have much less leeway in what the property can be used for once all the air space has been absorbed and sold.

An appraiser also can apply a "Sales Comparison" approach in appraising a landfill by collecting data on sales of landfills where the unit of comparison can be expressed as the price per cubic yard of remaining air space at the time it sold. For example, if a Class I rubbish landfill that had approximately one million remaining cubic yards of air space sold for \$2,000,000, the unit sales price was \$2 per cubic yard. Adjustments certainly can be made to each sale to account for such things as competition and location. Such sales data can be difficult to find and confirm, but it does exist.

In conclusion, landfills are and have been an important part of society for disposal of the basic by-products that we produce as a society. New and innovative ways of recycling will perhaps change the industry in the future but, as for now, most of the waste we generate needs to be stored in some type of landfill. As long as that continues, there will be opportunities for real estate professionals to help clients solve business issues related to landfills.

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The authors would like to thank David Briggs for his assistance in helping them prepare this article. Briggs is retired from a 25-year career with Waste Management. Beginning as a driver, he rose through the ranks to the position of market vice president where he was responsible for all facets of the company operation in Mississippi. In that position, Briggs also oversaw the operations of several municipal landfills in major cities in Mississippi and Alabama. He provided invaluable insight to the authors pertaining to day-to-day landfill operations. ■

The Death of Corporate Reputation

BY BOWEN H. MCCOY, CRE

Editor's Note: the "Viewpoint" column is intended to offer CRE members and others an opportunity to present their viewpoint on a topic that has an impact and/or implications for the real estate industry or other business-related topics.

FOR MORE THAN A CENTURY LAW FIRMS, INVESTMENT banks, accounting firms, credit rating agencies and companies seeking regular access to U. S. capital markets made large investments in their reputations. They generally treated their customers well and occasionally even endured losses to maintain their reputations as faithful brokers, dealers, issuers and gatekeepers.

Many would conclude that this has changed. Today's leading capital market participants no longer treat customers as valued counterparties whose trust must be earned and nurtured, but as distant counterparties to whom no duties are required. The rough and tumble norms of the marketplace have replaced the long-standing fiduciary model in U. S. finance. The result has been unrelenting financial scandal.

This change in values has been described in a recent book entitled *The Death of Corporate Reputation: How Integrity Has Been Destroyed on Wall Street*, by Jonathan R. Macey, professor of law at Yale. The author asserts that reputation matters far less than it used to for three reasons. First, improvements in information technology have lowered the costs of discovering information about people. As a result, individuals involved in the financial markets focus far more on the development of their own individual reputation rather than on the reputation of the companies for which they work. Second, law and regulation serve as a substitution for reputational capital. Participants have come to rely far more on the protections of the law and far less on the comfort provided by reputation. Third, the world of finance has become so complex that the rocket scientists who design complex financial instruments have replaced the simple, high reputation practitioners of "Old School Finance."

About the Author



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Stanford University in 2006.

An ironical thesis of the book is that firms that are subject to systematic and pervasive laws and regulations will have weak incentives to invest in developing and maintaining their reputations. Another thesis is that firms will expend human and financial capital maintaining a reputation only so long as there is a payoff in the marketplace for doing so. Firms that can make creditable commitments to clients that they are honest and reliable become more desirable contracting partners and should be able to charge more for their services. Historically, loss of reputation was fatal to accounting firms such as Arthur Anderson, and to law firms like Vinson and Elkins, and to credit rating agencies like Moody's. Such firms no longer depend on maintaining their reputations as a key to survival. Instead, regulations often require companies that issue securities to retain various Wall Street service providers. Because the demand for the services of these firms is driven by regulations, the firms do not need to maintain their reputations in order to attract business. Thus, reputation is no longer an asset in which it is rational to invest.

The primary purpose of investment in regulation is to assure investors that they can invest with some degree of confidence that they will not be defrauded. Like

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regulation, which is costly, developing and maintaining a reputation for honesty is very expensive. It is more expensive to be honest than it is to be dishonest. Profit-maximizing firms can be trusted to make costly investments in reputation only as long as the investments pay off. If the costs of investing in reputation are greater than the benefits, really honest people will be driven out of business (Gresham's Law), because businesses lose money by investing in reputation.

The traditional theory of reputation still appears to have more force in the financial world than in the worlds of manufacturing and technology where customers can receive product warranties. Financial markets, trading pieces of paper, have value only when there is an underpinning of trust that the relative value will always be there.

The decline in the value of reputation can be traced to the fall of Drexel. Three critical lessons emerged from the Drexel scandal. The traditional theory of reputation stated that sharp business practices were only mildly profitable. Drexel proved that sharp practices can be enormously profitable. Drexel also showed that the costs of swindling and cheating were far less than had been thought. Employees of companies that lose their reputations survive and thrive performing similar work at other companies. The Drexel scandal proved that individual reputations are no longer firmly linked to the reputations of the firms they work for. Other than the few who go to jail, scandals do not destroy the futures of the people involved in the scandals. Criminal indictments remain a horrific event, but civil indictments, even when brought by the SEC, have lost most of their shaming effect. Finally, the traditional theory of reputation was that people and companies have a single, unitary reputation. That theory has fallen to the immense rise in individual autonomy and free agency.

Macey asserts the regulatory environment over-enforces highly technical rules and under-enforces simple fraud, thereby undermining the reputational signaling of SEC action. All major investment banks and accounting firms have been involved in litigation, destroying the ability of investors to use regulation as a means of identifying good or bad companies. The firms also settle nearly all the cases brought against them without admitting wrongdoing, further complicating the information that investors can infer from regulation. As a result, regulation has become decoupled from reputation in modern financial markets.

For decades the SEC has kept the insider trading rules vague and undefined. This ambiguity increases the SEC's power and enables government lawyers to pick and choose among prosecution targets. Large brokerage firms expend huge resources in order to gain informational advantages over their competitors. Some of this informational advantage is legal, some is not. The government purposefully fails to provide clear guidance as to what is illegal insider trading and what is legitimate, aggressive research.

A reasonable interpretation of the traditional theory of reputation is that reputation is so important to the operation of the financial markets that such markets could virtually disintegrate and perhaps even cease to operate in the absence of trust. Unknown companies that wanted to raise capital by selling their securities used to be able to "rent" the reputations of powerful reputational intermediaries such as accounting firms, law firms, credit rating agencies and investment banks. People are also more willing to trust others with whom they share common characteristics such as culture, ethnicity, national identity and creed. As communities become more diverse, people tend to trust each other less.

My own experience was that of a "legacy partner" of a major investment bank where I was employed from 1962 to 1990. The early days were Dickensian, when we underpaid apprentices filled out huge sheets of yellow accounting papers with calculations made on electromagnetic calculators. The senior partners did not bother to learn our names. I don't know how we survived it, but it was mainly through humor and shared misery.

Yet the firm's values became deeply imprinted on each of us. As one of our founders once stated: "We shall do only first-class business, and that in a first-class way." Our work product had to be error-free and excellent. Everyone paid attention to the details. There were no short cuts. The clients' interests were put before those of the firm. Teamwork was vital. We were a true partnership, meeting all together twice a week, most of us owning equal percentages of the business. It was unthinkable to let the partnership down. We were the firm. We lived it out.

When I joined the firm, there were 140 employees. When I was elected a general partner eight years later, there were 250 of us. Today the firm numbers more than 55,000 employees. In the smaller firm, it was far easier to communicate and live out values. In the annual

The Death of Corporate Reputation

promotion cycle, each of the candidates was well known to those making the decisions. It was possible to rank order candidates and maintain consistent standards. Today, in the large remaining banks, it is promotion by assertion. The New York-based senior officers cannot be expected to know candidates located in India or Hong Kong or Des Moines. Likewise, it is difficult to transmit and engender a coherent culture. All the major banks have been sued for insider trading or other securities law violations. Fifty years ago it was possible to describe individual banks or accounting firms by their unique cultures. Today all the monolithic banks appear the same. It is interesting that Bill Hewlett and Dave Packard, founders of Hewlett Packard, felt that the largest business unit that could sustain their culture as they grew was 1,000. When a group reached that size, it was hived off to a new location.

The focus in the finance industry at present seems to be on establishing rules for regulation, negotiating rules, bending rules, getting around rules and the like. Responsible leadership involves living beyond the rules, living out personal values, respecting clients and customers, and educating the young people in our businesses on responsible leadership. Rather than trading off, compromising, maximizing outcomes, placing personal autonomy ahead of the group, values-based leadership changes the focus to: what are we willing to lose for? As Professor Macey points out, cheaters do prosper.

In my spare time I attempt to facilitate discussions of business ethics among MBA students. I emphasize the value of reputation to a firm and the need to constantly renew and reinforce values. I ask them, as professionals, what responsibility they feel they have in promoting values and good practice. I ask them to assume they are CEO of a company that has just been raided. You are frightened, angry and concerned about the loss of your large salary, corporate jet, tickets to Super Bowl and the Masters. First thing you must do is hire an investment banker to mount your defense. It comes down to two firms. The first has a stellar reputation and a fairly good record in takeover defense. The second is known as being a little sharp, playing it close to the edge, pushing the murkier aspects of the law, but it has the best record in defending companies. Which would you choose? The vote is usually two to one in favor of the edgier firm with the best record. I conclude the discussion by asking them what responsibility do they feel they have, as well educated professionals, to protect and raise the standards of American business? How do things ever get better?

The role of a true leader is to help clear away the debris and focus on the primary issues. It is to develop an orderly procedure for prioritizing important issues. It is to evaluate, admire and defend good practice and to critically and objectively evaluate bad practice. It is to create an atmosphere of professionalism and calm in the midst of controversy. It is, as usual, to help guide our associates to do the right thing. ■

Form-Based Zoning from Theory to Practice

BY DAVID WALTERS AND DUSTIN READ, PH.D., J.D.

INTRODUCTION

FORM-BASED ZONING HAS A LONG HISTORY AND IS increasingly being used by municipal governments throughout the United States to influence the composition of urban areas. These regulations offer real estate developers flexibility in project size, allowable land uses and product mix in exchange for the imposition of specific controls on some of the external features of buildings that influence how these structures interact with the public realm.¹ There are reasons to believe both the public and private sectors can derive significant benefits from this approach when it is managed appropriately.² However, some policymakers and planning departments have an established record of implementing form-based zoning in a manner that is inconsistent with its underlying principles. Reluctance on the part of municipal governments to provide true by-right flexibility, coupled with cumbersome aesthetic requirements extending beyond controls on urban form, contribute to tenuous support for these regulations amongst real estate developers. The purpose of this article is to explore the potential advantages and disadvantages of form-based zoning in the hope of determining how it can be used more effectively to support development that is financially viable and socially beneficial. This is accomplished by first reviewing the features of this type of land use regulation, before shifting attention to the ways in which it can aid or frustrate real estate development initiatives. The analysis concludes with a summary of best practices that can be adopted by municipalities to maximize the value of form-based codes in an effort to make their jurisdictions more attractive for real estate development projects capable of stimulating economic activity.

THE FUNDAMENTALS OF FORM-BASED ZONING

Although the scope and purpose varies across jurisdictions, effective form-based codes contain two unifying principles. First, they impose relatively strict

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controls on the external form and scale of buildings in order to define the character of a neighborhood or district in a desired way. Second, they provide broad flexibility in allowable land uses and by-right entitlements to developers willing to construct projects in conformance with a community's articulated vision. Both of these features represent sharp departures from traditional zoning ordinances that often discourage mixed-use development and subject developers to time-consuming and costly project entitlement processes.

A key to understanding form-based zoning is recognition that this type of land use regulation is primarily intended to enhance the "public good" derived from private sector development. This involves managing the siting, massing and frontage layout of buildings in ways that create public spaces promoting pedestrian interaction, usually through the incorporation of active streetscapes and squares.

Form-Based Zoning from Theory to Practice

Some basic examples include requiring buildings to be lined up along streets, with parking facilities moved to the rear, in order to create a pedestrian-friendly street edge. The objective is not to impose draconian aesthetic requirements upon real estate developers, but rather to better connect public spaces and reinforce the urban character of an area by incentivizing a specific type of built environment. Long before any specific development is proposed, stakeholders have the opportunity to help define the desired urban character by participating in design planning through public hearings and other forums for community engagement.³ Once consensus is reached through this pluralistic process and design codes are established, planning departments and policymakers are expected to entitle conforming projects. Examples of street design guidelines, district standards, and site and building standards from a prototypical form-based code can be found in Figures 1-3.

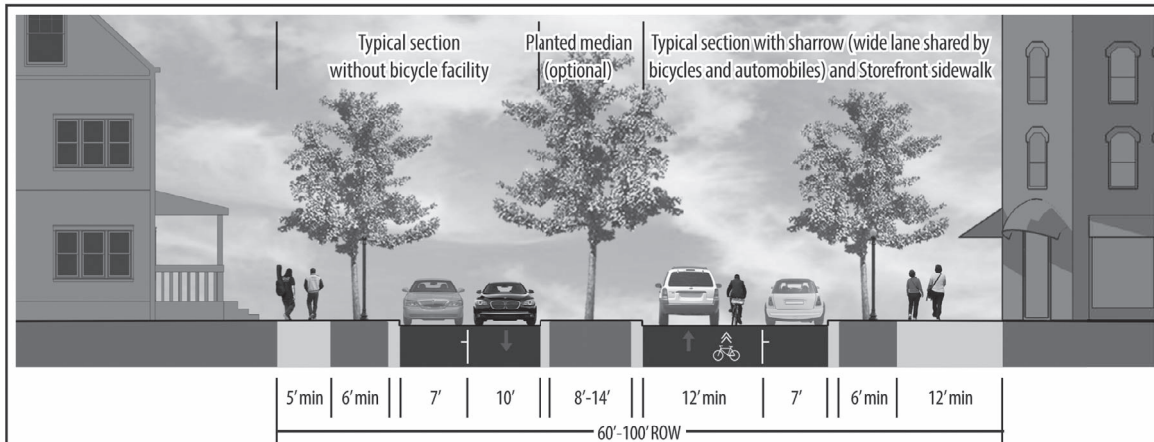
Form-based zoning encourages mixed-use development by providing real estate developers with broad discretion to horizontally or vertically integrate civic, commercial and residential space. Allowable use tables guide development within these zoning districts; with the authorized product mix becoming more permissive as locations become more urban in character. Building height is generally regulated by the number of stories, rather than the number of feet, to make differences in floor-to-floor heights less problematic across different product types. The ability to shift between allowable land uses over the course of a project is provided by-right in effective form-based codes, thereby providing the private sector with the ability to quickly respond to market forces without incurring rezoning costs that can mount into the hundreds of thousands of dollars in some jurisdictions. This flexibility, granted within the confines of controls on the external form of new development, benefits the public and private sectors by removing regulatory hurdles that have historically stifled mixed-use development projects. Zoning in this way ensures land uses are separated only when they are incompatible, not simply because they are different.

There are several ways in which municipalities can implement form-based zoning to achieve the aforementioned goals.⁴ Some communities regulate all development within their jurisdiction in this manner, while others have opted for application in much smaller geographies. The latter approach is more common, and is typically accomplished through the use of form-based overlays adopted for specific corridors or activity nodes. As opposed to the broad-reaching aesthetic requirements typically imposed through the conditional rezoning process, form-based overlays tend to focus primarily on factors influencing how buildings interact with streetscapes and public areas. This provides real estate developers with a higher level of predictability throughout the entitlement process.

At its very best, form-based zoning offers a means of liberating real estate markets and providing developers with the ability to respond to consumer preferences by delivering pedestrian-oriented, mixed-use projects that reflect the aspirations of a community. This can be illustrated by example. Consider a real estate developer interested in constructing a mixed-use project with residential units over ground floor retail. Regulatory entitlements are obtained by satisfying siting, massing and building frontage requirements clearly articulated in an existing form-based overlay. Should market conditions change, the developer has the by-right ability to alter the product mix to satisfy the existing tenant demand so long as the form and arrangement of buildings continues to meet the requirements of the code. A costly and time consuming rezoning is not necessary to modify the project in this manner. The predictability of the regulatory process reduces the time required to complete the project and the developer's risk exposure, thereby putting downward pressure on construction costs, rental rates and housing prices. The end result is a more affordable project that remains consistent with the urban character called for by community stakeholders. Examples of two projects completed using form-based zoning can be found in Figure 4.

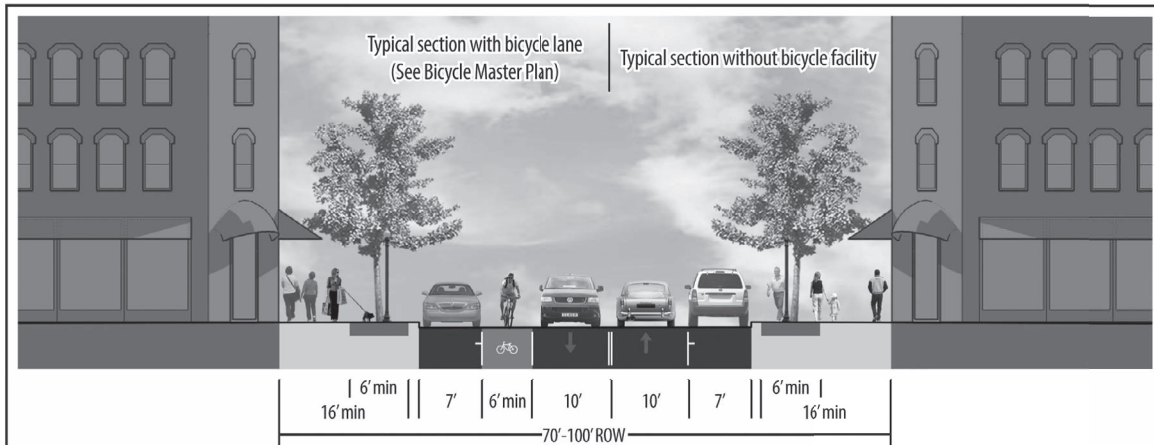
Form-Based Zoning from Theory to Practice

Figure 1.

Subdivision & Infrastructure Standards - I 6.8 Street Design & Classification
(adapts 9.1.1, 11.1 and 11.2)*

G. Urban Avenue/Boulevard: Urban Avenues/Boulevards are urban in character and provide low-speed, pedestrian-friendly access to neighborhoods and mixed-use areas. They serve as a primary neighborhood connector, often terminating at prominent buildings or plazas. On-street parking is provided on both sides of the street. (Previously "High Density Street Options A & B", and "Village Infill Street")

1. Right of Way Width	60-100 ft
2. Pavement Width	34-64 ft - including optional median (back-of-curb to back-of-curb)
3. Traffic Lanes	2 lanes at 10 ft each (or up to 14 ft with sharrow) - Marked
4. Median Width	8-14 ft (optional - where provided, must be planted with street trees at least 40' on-center)
5. Design Speed	20-25 mph
6. Parking Lanes	Both sides, Parallel (7 ft) or back-in angle (16 ft) parking - pervious pavement preferred
7. Sidewalk	Both sides - 5 ft min (12 ft min if located next to Mixed-Use/Storefront building)
8. Planter Type	6 ft min planting strip
9. Bicycle Facilities	Bicycle lanes - 6 ft min OR Sharrows - 12 ft min shared lane (as indicated on Bicycle Master Plan)
10. Curb Type	Vertical curb and gutter (2 ft width for curb and gutter pan)



H. Town Center Street: Town Center Streets are designed to accommodate the highest density of residential and commercial uses and the greatest concentration of pedestrian activity. They are urban in character and carry diverse traffic volumes at low to moderate speeds. Sidewalks are wide to support vibrant pedestrian environments, outdoor displays and/or cafe seating. On-street parking enables convenient access to storefronts.

1. Right of Way Width	70-100 ft
2. Pavement Width	36-50 ft (back-of-curb to back-of-curb)
3. Traffic Lanes	2 lanes at 10 ft each (or up to 14 ft with sharrow) - Marked
4. Median Width	None
5. Design Speed	15-20 mph
6. Parking Lanes	Both sides, Parallel (7 ft) or back-in angle (16 ft) parking - pervious pavement preferred
7. Sidewalk	Both sides - 16 ft min
8. Planter Type	Tree wells (6 ft by 6 ft) within sidewalk
9. Bicycle Facilities	Bicycle lanes - 6 ft min OR Sharrows - 12 ft min shared lane (as indicated on Bicycle Master Plan)
10. Curb Type	Vertical curb and gutter (2 ft width for curb and gutter pan)

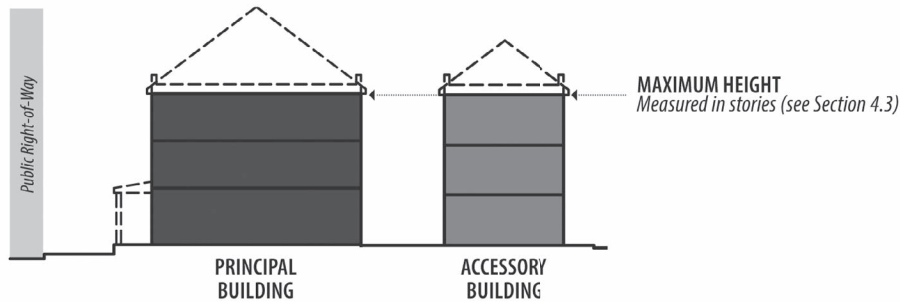
*Reproduced by permission of The Lawrence Group. The sample page presented in this figure is illustrative of the content and layout of a modern form-based code, but cannot be interpreted in isolation without the supporting information provided in the remainder of the code.

Form-Based Zoning from Theory to Practice

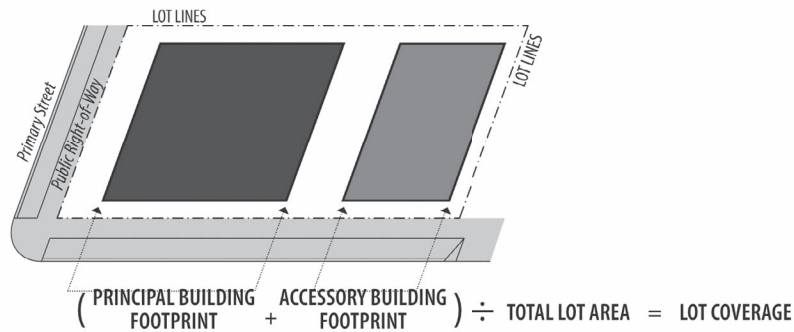
Figure 2.

District Standards I 2.2 District Standards*

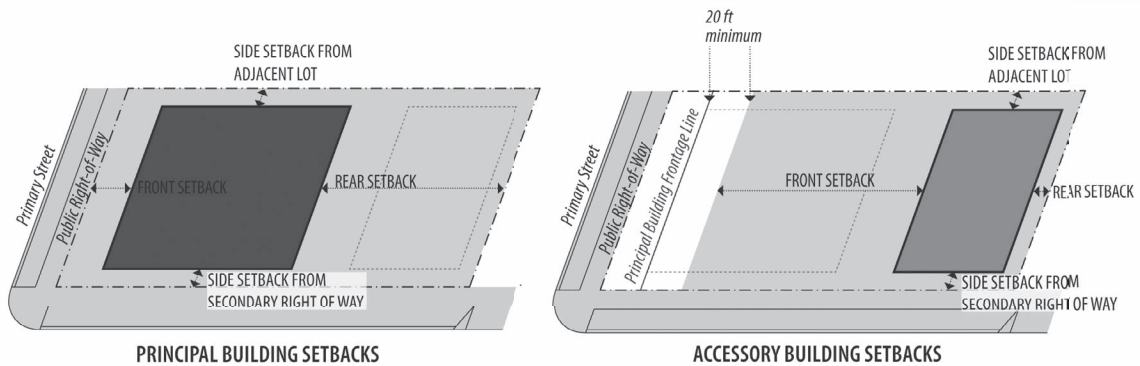
EXAMPLE: BUILDING HEIGHT



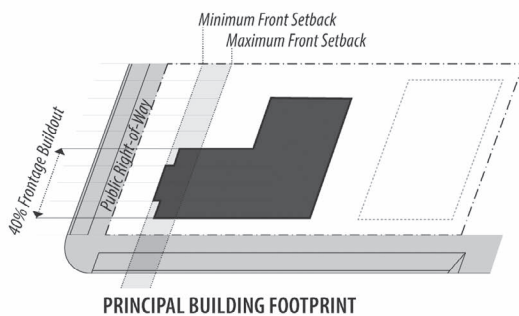
EXAMPLE: LOT COVERAGE



EXAMPLE: BUILDING SETBACKS



EXAMPLE: FRONTAGE BUILDOUT



FRONTAGE BUILDOUT

Frontage Buildout is the percentage of the lot width where the front elevation of the building is located between the minimum and maximum front setbacks established for the district.

Driveways and pedestrian use areas (such as walkways, plazas and sidewalk cafes) within the minimum and maximum front setbacks shall be exempt from Frontage Buildout requirement. The width of such areas shall be subtracted from the total lot width for the purposes of calculating Frontage Buildout.

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INSIDER'S PERSPECTIVE
Form-Based Zoning from Theory to Practice

Figure 3.

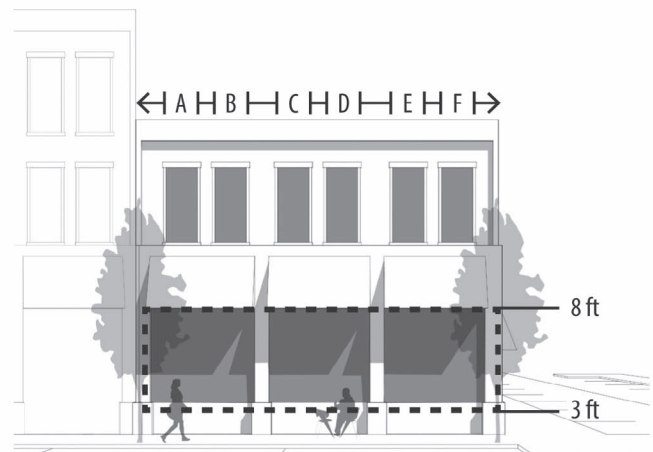
Site & Building Design Standards I 4.6 General Building Design Requirements*

		MINIMUM FACADE TRANSPARENCY		
		Ground Floor Facade*	Upper Floor Facades**	Total Facade Area
Building Types				
Residential Buildings	Detached House	-	-	10%
	Attached House (Duplex, Triplex, Quadplex)	-	-	10%
	Townhouse	-	-	10%
	Apartment	-	-	15%
Mixed-Use & Commercial Buildings	Live/Work Unit	50%	30%	-
	Mixed-Use/Storefront	65%	30%	-
	Suburban Campus (Commercial, Industrial)	25%	20%	-
	Civic/Institutional	-	-	-

*Minimum percentage applies to the area of the facade between 3 feet and 8 feet above the finished first floor.
 **Minimum percentage applies to the lineal footage of the facade with some type of window or fixed glass.



RESIDENTIAL FACADE TRANSPARENCY
(Transparent facade area / total facade area) ≥ min. % from table



MIXED-USE & COMMERCIAL FACADE TRANSPARENCY
Ground Floor: *Transparent facade % between 3 ft and 8 ft above finished floor ≥ min. % from table*
Upper Floors: *[(A+B+C+D+E+F) / total facade width] ≥ min. % from table*

*Reproduced by permission of The Lawrence Group. The sample page presented in this figure is illustrative of the content and layout of a modern form-based code, but cannot be interpreted in isolation without the supporting information provided in the remainder of the code.

Form-Based Zoning from Theory to Practice

Figure 4.

Development Projects Completed Using Form-Based Zoning: Rosedale and Birkdale Village in Huntersville, North Carolina*



Rosedale is a multi-use development project horizontally integrating multifamily housing and grocery-anchored retail.



Birkdale Village is a mixed-use development project with office space and multifamily units over street level retail.

* "Rosedale:" Photo courtesy of David Walters and the Town of Huntersville

* "Birkdale Village:" Photo courtesy of David Walters, Shook Kelley and Crosland Inc.

Form-Based Zoning from Theory to Practice

FORM-BASED ZONING FROM THEORY TO PRACTICE

The analysis presented to this point appears to suggest real estate developers should largely embrace form-based zoning, but this is not always the case, for a variety of reasons. Most concerns stem from an application of this regulatory tool in a manner inconsistent with its core principles or in conflict with market realities. Some of the most common criticisms found throughout the planning literature are summarized in this section to inform both policymakers and real estate developers.

Form-based zoning is widely praised for its ability to reduce the amount of uncertainty faced by real estate developers in the entitlement process. This outcome is, however, largely dependent upon the structure of local regulation. Municipalities enacting form-based codes often take different approaches when balancing their need for predictability and flexibility.⁵ Some codes authorize by-right development so long as stringent design standards are satisfied, while others favor a more discretionary approach recognizing “design sensibilities” and evolving stakeholder demands.⁶ The latter strategy is problematic because it amplifies regulatory uncertainty as form-based zoning effectively devolves into negotiated zoning. Even when established form-based standards are rigorously enforced, there is some concern that predictability may come at the cost of creativity in urban design.⁷ This critique has been raised by architects and planners alike who fear municipalities will seek out uniformity as a second-best alternative to thoughtful regulation.⁸ However, this critique can be overstated, as good urban design is predicated more on the consistency of functional public spaces, rather than on building style and aesthetics.

Form-based zoning is also criticized for seeking to recreate urban environments from the past, which developed in response to economic issues and technological constraints that may or may not continue to exist.⁹ This can result in the imposition of shape and bulk restrictions that do not reflect evolving consumer preferences, financial considerations or tenant demands. Consensus building activities and stakeholder participation throughout the policymaking process help ensure form-based codes reflect community interests, but there is no reason to believe the resulting design standards will be economically viable from the perspective of the private sector. Such is

the risk of allowing social and political agendas to dictate regulatory standards, as opposed to market realities. This concern can be addressed by ensuring form-based codes do not seek to recreate pastiche historical settings; rather they should rely on time-tested types of urbanism, such as public streets, squares, alleys and urban parks as the armatures of space-making for contemporary civic and economic life.

By emphasizing external design features, as opposed to use restrictions, form-based zoning can clearly provide real estate developers with greater flexibility to respond to market forces.¹⁰ Nonetheless, the magnitude of these benefits is mitigated by the amount of discretion a municipality is willing to grant the private sector. It is not uncommon for codes *purported* to be “form-based” to include use restrictions similar to those found in conventional zoning ordinances.¹¹ This is problematic because it may stifle innovation and discourage market-driven solutions throughout the development process.¹² It also effectively eliminates any intended development incentives that are derived from a by-right entitlement process. When up-front design requirements are subject to being arbitrarily expanded upon during a lengthy negotiated zoning process, the result is comparable to taking away a carrot and hitting the developer with two sticks.

Finally, and arguably most important, there appears to be considerable disagreement in the private sector regarding the economic merits of form-based zoning. This is evidenced by the fact that many jurisdictions have found it necessary to impose mandatory form-based regulations, as opposed to voluntary ones allowing developers to opt into form-based restrictions in exchange for more latitude in allowable uses.¹³ Those in favor of mandatory codes argue that they provide regulatory predictability; encourage improvements to the public realm that are capitalized into rental rates; and safeguard a developer’s investment by ensuring nearby property owners conform to form-based design requirements. Those opposed to mandatory codes contend that developers throughout a market should voluntarily embrace shape and bulk restrictions if they do in fact increase flexibility and property values. Additional research is needed to assess the economic merits of both of these positions.

Form-Based Zoning from Theory to Practice

CONCLUSIONS

Despite the concerns, form-based zoning has extraordinary potential to align the interests of the public and private sectors when it is implemented in a thoughtful and productive way. Municipalities considering this approach should assess their willingness to provide real estate developers with meaningful by-right flexibility, as well as their resolve to stand by adopted development standards in the face of the inevitable political pressure from neighborhood groups. Furthermore, municipalities must balance their desire for a defined urban character against the needs of the tenants who make neighborhoods and districts economically viable. This is necessary to ensure design codes do not unduly impinge on the marketability of buildings or simply price otherwise desirable tenants out of the market. Finally, municipalities must fight the urge to impose extensive aesthetic building

design requirements upon real estate development projects in ways that go beyond the urban design issues of how buildings interact with the surrounding public space. This is essential to preserve the legitimacy of this regulatory approach in the eyes of the private sector. All of these steps are anticipated to help ensure form-based codes contribute to economic development at the local level by making a jurisdiction a more attractive place for private sector real estate investment. ■

ACKNOWLEDGMENT

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Historic Tax Credit Transactions in the Wake of Revenue Procedure 2014-12

BY DOUG BANGHART, J.D., LL.M., AND JEFF GAULIN, J.D.

INTRODUCTION

ON DECEMBER 30, 2013, THE INTERNAL REVENUE SERVICE issued a widely anticipated revenue procedure related to the historic rehabilitation tax credit (HTC) allowable under Section 47 of the Internal Revenue Code of 1986, as amended (the Code). Revenue Procedure 2014-12 (as revised on January 9, 2014, the Rev Proc) is expected to break open the historic tax credit equity markets, which had been all but frozen by the 3rd U.S. Circuit Court of Appeals' highly controversial decision in *Historic Boardwalk Hall, LLC, v. Commissioner*¹ in May 2013 (HBH). This article provides an overview of the HTC and typical pre-HBH deals, discusses HBH and its effect on the HTC market, summarizes the Rev Proc, and concludes with some thoughts on the practical effect the Rev Proc is likely to have on HTC transactions in the future.

OVERVIEW OF THE HTC AND TYPICAL PRE-HBH DEAL STRUCTURE

Tax incentives (which took the form of accelerated depreciation allowances) with respect to the renovation of historic buildings were first enacted by Congress in 1976 and were intended to encourage the rehabilitation of buildings that the National Park Service (NPS) determined were of important historic significance.² The HTC itself was passed soon thereafter in 1978.³ Congress recognized that historic rehabilitation projects often are more expensive than new construction and involve significantly more construction risk. The HTC was intended by Congress to turn an activity it deemed important (historic rehabilitation)—but was not profitable on a pretax basis—into one that was profitable on an after-tax basis.⁴ To date, approximately 39,622 historic rehabilitation projects have been certified, resulting in 2.4 million jobs and more than \$69 billion in investment; in 2013 alone 803 projects were certified, representing almost \$3.4 billion in investment.⁵

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Doug Banghart, J.D., LL.M., a partner at Jones Day, Boston, practices in the areas of state and federal tax credit syndication, partnership taxation, and nonprofit organizations. Banghart represents major institutional investors, developers, local governments, community development entities, and nonprofit organizations, primarily in real estate redevelopment projects. He has extensive experience in closing new markets tax credit leverage fund transactions, including acting as lead attorney on the largest single qualified equity investment ever closed, and twinned historic and new markets tax credit transactions.

Banghart frequently speaks on issues related to partnership taxation and the legal and tax implications of various incentive programs. He served as executive editor (1999–2000) and associate editor (1998–1999) of the *Capital Defense Journal*. He is a member of the Massachusetts Bar Association and the Virginia Bar Association (Young Lawyers Division, Executive Council, 2003–2004).

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Gaulin frequently speaks on issues related to the new markets tax credit program, as well as various other incentive programs, and has contributed to industry publications. He received his bachelor of science and juris doctor degrees from Boston College.

Historic Tax Credit Transactions in the Wake of Revenue Procedure 2014-12

In general, the owner of an income producing historic building who undertakes a “substantial rehabilitation”⁶ of that building in accordance with the Secretary of the Interior’s Standards for Rehabilitation (NPS Standards), 36 C.F.R. 67 (2013), is entitled to the HTC. The HTC is a federal income tax credit (a dollar for dollar reduction of federal income tax liability) equal to 10 percent or 20 percent of “qualified rehabilitation expenditures” (QREs). QREs roughly correlate to (but will not necessarily equal) the depreciable basis of the rehabilitated building less acquisition costs.⁷

In order to qualify for the HTC, the owner must navigate the requirements of the Code and, in the case of the 20 percent credit, the requirements of the NPS. The 10 percent credit is available with respect to buildings that were first placed in service before 1936,⁸ whereas the 20 percent credit is available with respect to buildings that are either individually listed on the National Register of Historic Places or determined to contribute to the historic significance of a historic district that is listed on the register.⁹ To obtain either designation, the owner must file a Part 1 application with the NPS (unless, of course, the historic building is already so designated). In the authors’ experience, most historic rehabilitations are intended to qualify for the 20 percent credit because the subsidy is obviously significantly deeper than is the case with the 10 percent credit.

The primary distinction in the requirements for qualifying for the 10 percent versus the 20 percent credit is the need to satisfy the NPS Standards. With respect to a 10 percent credit rehabilitation, the NPS does not review the rehabilitation plans, but the Code and associated regulations require that a certain percentage of the walls and floor space of the rehabilitated building be retained. By contrast, the 20 percent credit requires that the owner submit detailed plans to the NPS (called a Part 2 application) so that the NPS can determine if the rehabilitation is in keeping with the historic character of the building as set forth in the NPS Standards. When the owner completes this rehabilitation, it then must submit a Part 3 application to the NPS to confirm that the rehabilitation was undertaken as set forth in the Part 2 application.

To qualify for the HTC (either the 10 percent or 20 percent credit), the historic building must be income producing. This requirement would, for example, exclude a personal residence from qualifying for the HTC. In addition, and in order to prevent taxpayers from stringing

together a series of routine repairs into a tax credit project, the amount of rehabilitation costs incurred by the owner over a two-year (or five-year in certain phased rehabilitations) period must exceed the greater of \$5,000 or the basis of the historic building as of the start of the rehabilitation.¹⁰ Finally, the HTC is earned entirely in the taxable year during which the building is placed in service but is subject to a five-year recapture period during which the building, may not (among other things) cease being a certified historic structure.¹¹ A variety of other issues can affect the availability and the timing of the HTC (for example the tax-exempt property rules are very complex), but those issues are beyond the scope of this article.

It will be helpful to define some terms used by the Rev Proc in explaining the typical pre-HBH deal structure; the defined terms used hereinafter are the same as those used in the Rev Proc. The Rev Proc refers to developers as Principals. Because many Principals do not have sufficient federal income tax liability to efficiently use the HTC on their own account, Principals and taxpayers who have federal income tax liabilities and low costs of funds (Investors) would form a partnership, with the Investor contributing capital and receiving in return the HTCs and a typically modest economic return. The most common deals included a negotiated one to three percent preferred return that was intended to give the Investors a minimum amount of cash distributions.

The Rev Proc acknowledges two different partnerships related to the two different HTC deal structures. The first, a Developer Partnership, is a partnership that owns and rehabilitates the building. The second, a Master Tenant Partnership, is a partnership that leases the rehabilitated building from the Developer Partnership. In what is called in the tax credit world a “single tier” deal, there is no Master Tenant Partnership and the Investor invests directly in the Developer Partnership in exchange for a 99.99 percent profits interest in the Developer Partnership. For a number of reasons that are beyond the scope of this article, few transactions are structured as single tier deals. Instead, most transactions are structured as a so-called “lease pass-through” deal in which the Investor invests in the Master Tenant Partnership in exchange for a 99.99 percent profit interest in the Master Tenant Partnership. Because the construction occurs at the Developer Partnership, the Master Tenant Partnership typically needs to get the proceeds of the Investor’s capital contribution to the Developer Partnership. This occurs in a number of ways: additional rent, as a loan, or more commonly as a

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capital contribution to the Developer Partnership. In all events, the Developer Partnership makes a special election under Section 50(d) of the Code to pass the HTC through to the Master Tenant Partnership; the Master Tenant Partnership is then treated as having incurred the QREs and therefore may allocate the HTCs to its partners.

In both the single tier and lease pass-through structures, the Investor typically received strong guarantees from the Principal and/or its affiliates of its anticipated returns, largely because those expected returns (the HTCs and the modest economics) were so limited.

As discussed above, although the HTC is earned entirely in the year in which the rehabilitated building is placed in service, Section 50 of the Code imposes a five-year recapture period that commences on the date the rehabilitated building is placed in service and prohibits the Investor from transferring more than a third of its interest in the partnership. At the end of the five-year HTC recapture period, the Investor would ordinarily have the right to put its interest to the Principal for a fixed price, usually between five and 15 percent of its initial equity investment. If the Investor did not exercise the put, the Principal typically had the right to call the Investor's interest at fair market value. Because of the Investor's modest economic return, that fair market value was generally far less than the amount of the Investor's capital contribution, although it was usually greater than the put price. In the authors' experience, most of the time the Investors exercised the put option for a variety of economic and non-economic reasons.

To summarize, prior to HBH, Investors would often invest their capital at or post completion and in some instances over the entire five-year compliance period. Investors required a fixed preferred return in addition to residual cash flow. Investors received a guarantee from the Principal and/or its affiliates, often covering nearly all aspects of the deal—completion, operations and tax credit recapture or disallowance. Investors would negotiate a put price fixed at some percentage of their capital contribution and Principals had the right to call the Investors' interests at fair market value.

Because of the relative certainty and stability of the foregoing, a large and efficient market developed over the last 20 years in which Principals would typically receive competing bids from multiple Investors. This would appear to be an ideal situation from a public policy standpoint. Assuming that the historic building is rehabilitated in accordance with the NPS Standards and

otherwise qualifies for the HTC, presumably someone should get the tax credit Congress enacted to incentivize that behavior, and if the government's fisc is to forego a dollar of revenue in the process, the closer the Investor's investment per HTC is to a dollar, the more efficient the tax credit.

HBH AND ITS EFFECT ON THE HTC MARKET

In HBH,¹² the Third Circuit Court of Appeals addressed a historic rehabilitation tax credit transaction involving a project partnership (HBH Partnership), an outside investor and the New Jersey Sports and Exposition Authority (NJSEA), a state agency acting as developer.

The building in question was an iconic building located on the Atlantic City Boardwalk in New Jersey, known commonly as the East Hall. The East Hall was completed in 1929 and was most famous for hosting the Miss America Pageant. It was placed on the National Register of Historic Places in 1987.

In 1992 the NJSEA was tasked with acquiring, renovating and operating the East Hall, and in that same year it leased the East Hall from the Atlantic County Improvement Authority under a 35-year lease for one dollar per year. Construction began in 1998 with funding from the Casino Reinvestment Development Authority (the Casino Authority). The Casino Authority was a state agency tasked with divvying up the proceeds from the state's casinos among development and community projects throughout New Jersey.¹³ By 1999, the Casino Authority had agreed to backstop any costs related to the East Hall project in excess of a contemplated bond issuance.¹⁴ The project was completed in October of 2001.¹⁵

Upon appeal from a judgment in favor of the taxpayer in the Tax Court, the Third Circuit reversed and ruled that the investor was not a partner for tax purposes and thus could not share in the historic rehabilitation tax credits. First, based on a tax credit guarantee and other protections, the court determined that the investor "had no meaningful downside risk because it was, for all intents and purposes, certain to recoup the contributions it had made to HBH Partnership and to receive the primary benefit it sought—the [HTCs] or their cash equivalent."¹⁶ Second, the court determined that the investor had no meaningful upside potential. Although the documents gave the investor a 99.9 percent interest in any residual cash flow of HBH Partnership, the court noted that even what the court viewed as unreasonably rosy projections showed that there would never be any such residual cash

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flow.¹⁷ In addition, the court said “[e]ven if there were an upside, however, NJSEA could exercise its Consent Option, and cut [the investor] out by paying a purchase price unrelated to any fair market value.”¹⁸ The court ultimately concluded that the way the HBH Partnership was constructed left the investor without a “meaningful stake in the success or failure of the enterprise.”¹⁹

While we disagree with the analysis set forth in HBH, the ruling raised several questions with respect to a typical HTC transaction. May an Investor defer its capital contribution until after completion and if so, by how much? Are all guarantees suspect or are only those that serve to “fix” a return invalid? Investors often required developers to provide guarantees even if the guarantor was unlikely to be able to make the Investor whole. Are these guarantees treated the same as the guarantor in HBH, which had substantial assets and revenue? Is an Investor’s attempt to fix some portion of its return problematic, or is it only problematic if the Investor’s entire return is fixed?

One issue left effectively untouched by HBH was whether a taxpayer who claims a tax credit intended to encourage behavior that Congress apparently believes is unproductive on a pretax basis must expect a pretax return and negotiate a transaction consistent with same.

The uncertainty created by HBH, coupled with an apparent surge of HTC audit activity, caused most Investors to withdraw from the market pending the issuance of guidance from the IRS. This stalled projects across the country. Particularly hard hit were projects with limited economics, such as historic theatres.

SUMMARY OF THE REV PROC

In the aftermath of HBH, the IRS appeared to grasp the issues created by the disruption to the HTC marketplace. The IRS, after consultation with industry participants, concluded that the best means of clarifying the practical implications of HBH would be through a “safe harbor,” similar to the wind ruling safe harbor.²⁰

The good news about the Rev Proc is that it and subsequent statements by the IRS and the Department of the Treasury make it clear that the Investor does not need to expect to receive a pretax profit. The bad news—which is in fairness a mix of good and bad—is that the Rev Proc is not exactly the “safe harbor” many in the industry wished for because it isn’t just a simple checklist of required magic words that give taxpayers a clear path to a free pass; as discussed below, some of its language

can be interpreted either as being flexible enough to accommodate a wide variety of economic arrangements or vague enough to allow the IRS to challenge good faith attempts at compliance.

So what isn’t the Rev Proc? By its terms, the Rev Proc does not apply to any tax credit other than the HTC. The Rev Proc also makes it clear that it is an all-or-nothing proposition: If you comply with each and every requirement of the Rev Proc, the safe harbor applies; if you miss even one, there is no “close enough” and the Rev Proc does not apply. Finally, compliance with the Rev Proc merely takes one item off of the table for the IRS: whether the IRS will challenge the allocations of the HTCs to the Investor. The valid existence of the HTCs themselves and other structural issues still must be analyzed and could be subject to IRS attack notwithstanding compliance with the Rev Proc.

So how does a taxpayer comply with the Rev Proc? There are four main categories of requirements, each of which is discussed below.

REQUIREMENTS RELATED TO THE PRINCIPAL’S AND INVESTOR’S INTERESTS

Principals must have a minimum one percent interest in material partnership tax items. This requirement likely will not pose many structural challenges, but it seems an odd issue to focus on, given the issue in HBH was that the Investor, not the Principal, was not a partner. Presumably, if the Principal was not a partner in the Partnership, the Investor would own a fee interest in the building (in a single tier deal) or a leasehold interest in the building (in a lease pass-through deal) outright, and there would be no doubt that the Investor would be entitled to all of the HTCs.

There are three requirements with respect to the Investor’s interest in the Partnership. First, the Investor must at all times maintain a minimum interest in each material tax item equal to five percent of the Investor’s largest share of each such material tax item. So if the Investor has a 99 percent share in the bottom-line profits of the Partnership at closing, the Investor’s interest in bottom-line profits cannot “flip” below 4.95 percent thereafter.

The second and third requirements applicable to the Investor’s interest represent the crux of the IRS’s theory regarding the division of partnership economics. As explained below, the gist of it appears to be that the size of the pie does not matter so long as the pie is sliced

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appropriately (the second requirement) and the parties do not play games to artificially minimize the size of the pie (the third requirement).

With respect to the second requirement, regarding the slicing versus size of the pie, the first two sentences of 4.02(b) provide as follows:

The Investor's Partnership interest must constitute a bona fide equity investment with a reasonably anticipated value commensurate with the Investor's overall percentage interest in the Partnership, separate from any federal, state, and local tax deductions, allowances, credits, and other tax attributes to be allocated by the Partnership to the Investor. An Investor's Partnership interest is a bona fide equity investment only if that reasonably anticipated value is contingent upon the Partnership's net income, gain, and loss, and is not substantially fixed in amount.

There are two points to unravel in this paragraph. The first, and the one that has by far caused the most consternation in the HTC markets, is what the words "reasonably anticipated value commensurate with the Investor's overall percentage interest in the Partnership" means. Does the "reasonably anticipated value" need to tie in some way to the size of the Investor's capital contribution? The clear answer from the IRS in a number of informal settings has been that the answer is "no," and the critical issue is simply how one divides whatever are the Partnership's economics. For instance, the examples in the Rev Proc contemplate a one percent/99 percent split (which would insure 99 percent of the HTCs end up with the Investor) followed by a 95 percent/five percent flip in favor of the Principal (which minimizes the amount of cash going to the Investor) in year five. That economic sharing arrangement, combined with any other special rights to cash, is the Investor's "overall percentage interest." Must the parties structure the transaction with these exact cash flow splits? No; this is the baseline, or floor. It appears that the parties can vary the economic arrangement between them in any way they like as long as the Investor ends up with a projected value, presumably incorporating time value of money concepts, which is equal to at least the floor.

The second point, again related to the pie slicing, deals with what constitutes a "bona fide equity investment." Given the last sentence's clarification that the Investor's return must be based on partnership operations and not fixed in amount, this is presumably intended to give the IRS a facts and circumstances argument that a transaction

that otherwise meets the requirements of the Rev Proc but nevertheless is more properly characterized as debt (which is very hard to imagine) falls outside the Rev. Proc's safe harbor.

We will turn now to the third requirement, which as discussed above relates to the size of the pie. The main point is that although the size of the pie doesn't generally matter, it is a problem if the transaction is structured to artificially reduce the size of the pie by stripping cash that would otherwise go to the Investor out of transaction. Any arrangements that move cash out of the Partnership must not be "unreasonable as compared to" a comparable arrangement in a transaction not involving HTCs.

The Rev Proc singles out subleases back to the Principal for special attention unless they are "mandated by a third party unrelated to the Principal." Developers are a creative bunch and many who are on friendly terms with their lenders adeptly noticed a hole through which to drive their many busses with respect to this exception. The IRS has indicated informally that it is on to this and expects a tiny fraction of transactions will actually have such a "requirement." We believe collusion between the Principal and the "third party" will effectively be assumed absent regulatory requirements clearly requiring the sublease.

REQUIREMENTS RELATED TO THE INVESTOR'S CAPITAL CONTRIBUTION

Two related concepts apply to the Investor's capital contribution. First, the Investor must contribute at least 20 percent of its total expected capital contribution prior to the date that the building is placed in service. The Rev Proc also indicates that this amount (and presumably not a greater amount) must remain in the partnership for the duration of its ownership in the partnership. Interestingly, this ostensibly permits Investors to structure the capital pay-in in a way that reduces or nearly eliminates construction risk (by contributing the 20 percent required capital immediately prior to completion) and reduces operating and HTC recapture risk (by paying in the remaining capital over a longer period of time and only after the satisfaction of negotiated benchmarks). The mitigation of these risks was one of the issues raised by the court in HBH as indicative of the Investor acting as something other than a true partner.

The second point relates not to what the Investor must contribute, but instead to what amount the Investor must agree to contribute by when. Specifically, "[a]t least 75 percent of the Investor's total expected capital

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contributions must be fixed in amount before the date the Building is placed in service.” The IRS and Treasury have made it clear that “fixed in amount” does not require that the capital contributions cannot be subject to reasonable conditions, although the Investor must reasonably expect to make its capital contributions when due.

The Rev Proc also makes it clear that the Investor cannot borrow the funds to make its capital contributions from any of the Developer Partnership, Master Tenant Partnership, or any of their respective Principals.

GUARANTEES IN FAVOR OF THE INVESTOR

As discussed above, prior to HBH, Investors typically required a number of guarantees from Principals and occasionally required those guarantees to be collateralized. The Rev Proc puts certain restrictions on this practice.

At the outset, only “unfunded” guarantees are permitted. A guarantee is funded (and therefore not “unfunded”) if cash (other than a reserve not in excess of the Partnership’s reasonably projected operating expenses for a twelve-month period) or property is set aside to fund the guarantee or if any person agrees to a minimum net worth covenant in connection with the guarantee. Note no mention is made of, for example, liquidity covenants, which are presumably permitted.

The Rev Proc then divides the universe of guarantees into two boxes: those related to the tax credits themselves and those related to the operations of the Partnership. The underlying obligations related to the former are typically called “tax credit adjusters” in the tax credit industry and govern the circumstances under which the Partnership must make a payment or distribution to the Investor with respect to HTC that the Investor expected but did not receive. The scope of that liability was always a point of negotiation prior to HBH, and a broader tax credit adjuster usually accompanied a larger proposed capital contribution from the Investor. Some Investors were comfortable effectively limiting the scope of the adjusters merely to the acts or omissions of the Principals. Other Investors went much further and required the Principal to make a payment if the Investor did not receive the HTCs for any reason other than the acts or omissions of the Investor.

The Rev Proc deals with guarantees of tax credit adjusters by defining what they can and cannot be. A loss of HTCs

can relate to any acts necessary to claim the HTCs, as well as any acts or omissions of the Principal that would cause the Partnership not to qualify for the HTCs or that would result in a recapture of the HTCs. Examples of these acts would be failing to complete construction or failing to satisfy the NPS Standards. This type of guarantee is permissible.

On the other side of the spectrum, if the IRS challenges the “transactional structure” of the Partnership, then no party can guarantee the HTCs and no party can pay or indemnify the Investor for its costs related to any challenge to the HTCs (apparently even if unrelated to the transactional structure). The Rev Proc explicitly permits the purchase of third-party insurance, which presumably would include tax credit insurance. It is important to note that nothing in the Rev Proc prevents the Investor from receiving a cash distribution from the partnership itself for the loss of HTCs, even if caused by a challenge to the “transactional structure.”

The Rev Proc also contemplates more traditional guarantees, including completion guarantees, operating deficit guarantees, environmental indemnities, and financial covenants. Financial covenant guarantees presumably must not contain minimum net worth covenants, as doing so would cause the guarantee to no longer be “unfunded,” as discussed above.

In pre-HBH transactions, as noted above, Investors often received a guarantee of payment from the Principals with respect to a negotiated annual cash-on-cash return, typically in the one to three percent range. That type of guarantee is now explicitly prohibited under the Rev Proc.

PURCHASE AND SALE RIGHTS

As discussed above, in the pre-HBH world, the Investor typically had the right to put its interest in the Partnership for a fixed price, usually a percentage of the Investor’s capital. If the Investor did not exercise that right, the Principal generally had the right to call the Investor’s interest for its fair market value.

The Rev Proc permits the Investor to have a put right, so long as the price with respect thereto does not exceed fair market value at the time of exercise. The Rev Proc explicitly forbids call rights held by the Principal, even if for fair market value (although it does not, of course, forbid a present sale).

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CONCLUSION

So what does all of this boil down to? From a practical perspective, there are six main changes from the Principal's point of view. Of course, these are the same changes from the Investor's point of view as well, only in reverse.

First, all Investors, at least those who intend to comply with the Rev Proc, are now going to be contributing a minimum of 20 percent of their equity prior to completion of the project. In pre-HBH transactions, many Investors made their first substantive capital contribution immediately following completion.

Second, Principals and Investors will have substantial flexibility in structuring their economic arrangements. So long as the "reasonably anticipated value" of the Investor's interest is expected to be "commensurate with" the Investor's "overall percentage interest," the Principal maintains a one percent interest, and the Investor's interest does not fall below five percent of its largest interest, the parties should be able to divide economics as they choose, including the economics available after the put rights have expired. Whether the IRS will agree with the parties' decisions about what "reasonably anticipated value" and "commensurate" means is, of course, anybody's guess. But in theory, because it is how the pie is sliced, not the size of the pie (absent "unreasonable" mechanisms to reduce the size), that matters, deals with naturally thin economics, like historic theatres, should be much easier to structure.

Third, Principals will no longer have the comfort of fair market value call options. In pre-HBH transactions, Principals typically had the right to call the Investor's interest for fair market value if the Investor did not exercise its put price. The Rev Proc makes it clear that call rights, even at fair market value, are prohibited. The comfort of holding a fair market value call right should logically be limited because, as an academic matter, the Principal should be indifferent to the choice of paying the Investor the fair market value of its interest and having the Investor remain a partner. However, we anticipate this restriction may cause a significant amount of concern to Principals who want to retain some level of control over the Investor's exit.

Fourth, Principals should expect an easing on guarantee requirements. So-called "structural" tax credit guarantees

are prohibited, as are guarantees of priority returns and any guarantee that is "funded." However, the cash flow of the partnership itself is still available to compensate the Investor for a loss of tax credits, even if caused by a structural issue. Therefore, Investors can be expected to require priority cash distributions or deferrals to any flip in the event of an HTC loss for which the Investor is not made whole by a guarantee.

Fifth, Principals can expect substantial scrutiny to be placed on related party fees, in particular developer fees. Prior to HBH, the development budgets of most historic tax credit projects included a fee equal to 20 percent of the project's costs. The Rev Proc appears to say that if even a single fee is "unreasonable" compared to fees charged in a non-HTC project, the Partnership will not qualify for the safe harbor. The problem this presents for HTC projects relates to trying to find accurate comparables; the services provided by HTC developers are unique. How does one make accurate comparisons to the services an HTC developer provides without looking to the services other HTC developers provide?

Finally, Principals can expect substantial scrutiny related to the amount of the master lease payments. Again, the payments will be compared to those in non-HTC transactions, presumably with respect to similar asset classes and geographic locations.

As of this writing, the HTC industry is still digesting the Rev Proc and the verdict is not in as to what its long-term effect will be. It is clear that Principals will be unable to structure transactions in which they all but insure the Investor will not get a penny more than the Investor paid; by the same token, the Investor will not be able to button down its position so tightly that it is all but assured it will not lose any portion of its return. But Investors and Principals should be able to craft arrangements that, though not free from risk on either side, have far more economic and tax certainty on both sides than was the case immediately after HBH. For that reason we anticipate the guidance will bring old as well as new Investors into the HTC market. All of that is good public policy because it increases competition and raises equity pricing, which provides a greater return on investment for the government with respect to its tax expenditure. ■

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ENDNOTES

1. 694 F.3d 425 (3d Cir. 2012), cert. denied U.S., No. 12-901, May 28, 2013.
2. See Staff of the Joint Committee on Taxation, General Explanation of the Tax Reform Act of 1976, p. 643.
3. Revenue Act of 1978, Pub. L. No. 95-600, 92 Stat. 2763 (1978).
4. See, e.g., Staff of the Joint Committee on Taxation, General Explanation of the Tax Reform Act of 1986, p. 149: "The Congress concluded that the incentives granted to rehabilitations in 1981 remain justified. Such incentives are needed because the social and aesthetic values of rehabilitating and preserving older structures are not necessarily taken into account in investors' profit projections. A tax incentive is needed because market forces might otherwise channel investments away from such projects because of the extra costs of undertaking rehabilitations of older or historic buildings."
5. *Federal Tax Incentives for Rehabilitating Historic Buildings, Statistical Report and Analysis for 2013*, U.S. Department of the Interior.
6. Code § 47(c)(1)(C).
7. Code § 47(c)(2).
8. Code § 47(a)(1).
9. Code § 47(a)(2).
10. Code § 47(c)(1)(c).
11. Code § 50(a).
12. *Historic Boardwalk Hall, LLC, v. Commissioner*, 694 F.3d 425, 455 (3d Cir. 2012).
13. *Ibid.*, (court opinion) note 8.
14. *Ibid.*, p. 443.
15. *Ibid.*, note 16.
16. *Ibid.*, p. 455.
17. *Ibid.*, p. 459–60 and note 63.
18. *Ibid.*, p. 460.
19. *Ibid.*, p. 454.
20. Rev. Proc. 2007-65, which establishes the requirements under which the IRS will respect the allocation of Code § 45 wind energy production tax credits by partnerships in accordance with Section 704(b) of the Code.

Accuracy of Zillow's Home Value Estimates

BY CHARLES CORCORAN, PH.D., CFA, AND FEI LIU

INTRODUCTION

ZILLOW IS A REAL ESTATE WEBSITE THAT ENJOYS tremendous name recognition. Buyers use it to search for homes; sellers type in their addresses and get what they believe to be a value of their homes. But is the site accurate and should consumers rely upon it?

LITERATURE REVIEW

In recent years, home value estimates have been subject to heightened scrutiny, with a housing price bubble followed by a sharp downturn. Interested parties such as appraisers, tax assessors, buyers and sellers seek reliable data from which they can derive an unbiased estimate of value. The real estate industry is based on “information asymmetry,” which means that one party (typically the seller) knows more about a product than the other (the buyer). It’s an opaque market that encourages obfuscation and leads to flawed pricing. A motivation behind the founding of *Zillow.com* in 2006 was to make real estate more like a stock exchange, a transparent market where all information about every property is readily available and, as a result, pricing is less imperfect.¹

Zillow provides an estimate of market value for more than 100 million homes based on a proprietary formula. In general, it offers free value estimates, or “Zestimates,” using data from appraisal districts and from multiple listing services (MLSs), depending on availability. Zillow uses a “static” formula employing tax information, and applies it uniformly across the country. Their stated mission is “to empower consumers with information and tools to make smart decisions about homes, real estate and mortgages.”² Zillow is a home and real estate marketplace created to help homeowners, homebuyers, sellers, renters, real estate agents, mortgage professionals, landlords and property managers find and share vital information about homes, real estate, mortgages and home improvement. They assert to be “transforming the way consumers make home-related decisions and connect with professionals.”

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Zillow partnered with Yahoo! in 2011 to provide the vast majority of Yahoo's real estate listings online, cementing their place as the largest real estate network on the Web according to several online measurement agencies.³

The focus of this article is to determine whether Zillow's Zestimates reflect actual sale prices. Realtors generally have been critical of the values produced by Zillow, claiming the data are secondhand, not locally sourced and out of date. Realtors with specific market knowledge are more likely to know specific factors affecting the sale of a home such as the overall condition of the home, room flow, landscaping, views, traffic noise and privacy. These factors have been called *unzillowable*.⁴

Hagerty⁵ studied the accuracy of Zillow's estimates and found that they “often are very good, frequently within a few percentage points of the actual price paid. But

Accuracy of Zillow's Home Value Estimates

when Zillow is bad, it can be terrible.” O’Brien⁶ asserts that “Zillow has Zestimated the value of 57 percent of U.S. housing stock, but only 65 percent of that could be considered ‘accurate’—by its definition, within 10 percent of the actual selling price. And even that accuracy isn’t equally distributed.” The article cites the state of Louisiana as an example, where “the site is just about worthless.” The National Community Reinvestment Coalition filed a complaint with the Federal Trade Commission stating that Zillow was “intentionally misleading consumers and real-estate professionals to rely upon the accuracy of its valuation services, despite the full knowledge of the company officials that their valuation Automated Valuation Model (AVM) mechanism is highly inaccurate and misleading.”⁷

Zillow often overestimates home values, much as homeowners themselves do. Goodman and Ittner⁸ compare owners’ estimates of value with subsequent sale prices; their results indicate that homeowners overestimate value by approximately six percent. Riel and Zabel⁹ find an 8.4 percent overestimate compared to sale prices. These findings suggest that Zillow estimates are not as accurate as homeowners’ estimates. Hollas, Rutherford and Thomson¹⁰ find that Zillow estimates overvalue homes by 10 percent compared to the sale price. Zillow also overestimates values for approximately 80 percent of the houses in their sample by at least one percent. They conclude that homeowners’ estimates of value may be more accurate than Zillow’s estimates. The coefficients on a Zillow model compared to the coefficients on a sale price model indicate that Zillow prices some housing characteristics differently than the market. Specifically, vacant properties are overvalued. It appears that Zillow does not track the occupancy of a property, yet vacancy is known to affect value. Moreover, Doshan¹¹ asserts that Zestimates are “gamed.” Zillow uses the Zestimate “on or before the sales date.” In other words, they use the Zestimate after the listing price becomes public. That makes their Zestimate look more accurate than it really is since the Zestimate can be drastically affected by the listing price.

In response to homeowners’ complaints about the quality of the data Zillow extracts from public archives across the United States, in 2011 Zillow added tools that enable homeowners to edit facts and add information about their properties. Zillow also offers listing services for homeowners and real estate agents, which enable these users to edit and add information, both manually and

through automated data feeds. These tools are becoming increasingly popular. At present, nearly 20 percent of archived properties have been edited through such tools. By default, Zillow shows the facts that are supplied by the owner or agent, and these facts are supplemented by public data. Zillow also uses the user-contributed facts when computing Zestimates. Zillow’s website declares: “we’ve made it easier for our users to help us improve accuracy by incorporating edited home facts into our Zestimate calculations.”¹² Zillow asserts that the improved algorithm models have improved the Zestimate median margin of error to 8.5 percent from 12.7 percent. However, Gelman and Wu¹³ find that edited facts improve the completeness of the information that Zillow has in store, but the “accuracy of Zillow’s edited facts is not high.”

An inherent shortcoming in Zillow’s AVM formulation is its reliance on assessed valuation. If a property happens to be in a Proposition Thirteen (California) type of jurisdiction, with limited periodic assessment increases, over time its assessed valuation could be well below market value. Recent sales and reassessments of valuation impact the Zestimate. So Zestimate values can be “off” significantly for a property with no sales history, in a jurisdiction where assessed value is not significantly increased until a sale occurs.

Zillow’s no-cost, no-hassle model seems to stand apart from most competitors. Redfin¹⁴ offers a free, no-strings-attached service but its model is rudimentary, considering only comparables in deriving value. *Trulia.com* and *HomeValues.com* require a return contact from a realtor; *RealEstate.com* requires registration, including disclosure of phone number and email address; *RealEstateABC.com* relies on Zillow’s Zestimates. FreddieMac offers its Home Value Explorer. This AVM tool generates an estimate of property value quickly, relying on a proprietary algorithm that blends model estimates, a repeat sales model and a hedonic model. This product is licensed and serviced through a distributor network. Each distributor adds services and charges fees.¹⁵ LexisNexis provides a seemingly sophisticated AVM model incorporating price indexing, tax assessment values, and a hedonic model that utilizes comparables sold in the previous year. There is a fee for this service.¹⁶

METHODOLOGY

The objective of this research is to compare differences between Zillow’s Zestimates and actual sale prices in different markets and at different price ranges for single-

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family homes. For 2,005 transactions, the following model was developed for measuring mean error:

$$(\text{Zestimate value} - \text{sale price}) / \text{sale price}.$$

To measure for significant differences between the two markets, and within five price ranges in each market, a one-way analysis of variance (ANOVA) was used. The ANOVA is used to determine whether there are significant differences among the means of three or more independent groups. In this study there are ten groups altogether, five price ranges within two markets—suburban St. Louis, Missouri, and St. Paul, Minnesota. ANOVA compares the variance (or variation) between any two markets' data sets to variation within each particular market sample. If the between variation is much larger than the within variation, as measured by the F-ratio¹⁷, the means of different samples will not be equal. If the between and within variations are approximately the same size, then there will be no significant difference between means. Tukey's test is a post-hoc test, meaning that it is performed after an ANOVA test. The purpose of Tukey's test is to determine which groups in the sample differ. The ANOVA measures only whether groups in the sample differ; it does not measure which groups differ.

This study seeks to measure Zestimate accuracy along two dimensions. First, measuring accuracy between markets. Is the Zestimate value more accurate in markets with better data inputs? And second, between price ranges. Is Zestimate accuracy between the markets affected by property price?

For comparison purposes, a Zillow one-star market (suburban St. Louis) and a Zillow four-star market (suburban St. Paul), segregated into five price ranges, are analyzed. These are both large suburban markets in the Midwest, for which the quality of valuation information differs considerably, according to Zillow's four-star rating scheme. Four-star markets supposedly provide the most accurate, "best" Zestimates, followed by three-star markets, noted as "good," "fair" two-star markets and, finally, one-star markets where estimates cannot be computed accurately or are simply the tax assessor's value. Zestimate accuracy is computed by comparing a property's final sale price to the Zestimate on or before the sale date. Ratings are based on accumulated data over the previous three months. Zillow promotes the star-rating scheme from an implied presumption that a four-star rating must

be good, as it exceeds the other three-star categories and is termed "best." A Tukey post-hoc test was conducted on multiple price range comparisons between the two markets.

Of the 2,005 properties analyzed, 849 were in the St. Paul market and 1,156 were in the St. Louis market. Five price ranges were employed: (1) < \$103,000; (2) \$103,000–\$203,000; (3) >\$203,000–\$253,000; (4) >\$253,000–\$353,000; and (5) > \$353,000. The \$203,000 price benchmark was based on the median existing single-family home price for the second quarter of 2013.¹⁸

FINDINGS

In aggregate, for both markets and for all prices ranges, the mean error is 24.8 percent. Mean error rates in the four-star (St. Paul) market compared with the one-star (St. Louis) market are significantly different, with a mean error rate of 17.15 percent in the four-star market and 30.48 percent in the one-star market. The significance level is 0.000 ($p = .000$), which is below 0.05. Note the large F-ratio. See Figure 1 and bottom of Figure 2.

Figure 1 One-Way ANOVA					
Difference	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	85.976	9	9.553	138.143	.000
Within Groups	137.958	1995	.069		
Total	233.934	2004			
Significance at .05 level Source: SPSS statistical package					

Even though Zestimate values are significantly closer to sale prices in the four-star market compared with the one-star market, the differences are most prevalent among properties with sale prices under \$203,000, the benchmark price level used in this study. For homes under \$103,000, four-star market data may not have significantly better information value than the one-star market, given mean error rates of 52.43 percent and 64.23 percent, respectively. Further, overestimates are far more common on the lower-priced homes. Zestimates exceed actual market values in 63.44 percent of all transactions, but for properties with sale prices under \$103,000, 93.08 percent (121/130) of properties in the four-star market and 95.14 percent (333/350) of properties in the one-star market are associated with overestimated Zillow values.

Accuracy of Zillow's Home Value Estimates

For homes priced between \$103,000 and \$203,000, the four-star market does provide an outcome significantly different from the one-star market, with mean error rates of 10.77 percent and 19.68 percent, respectively.

Within higher price ranges, above \$203,000, differences between the two markets are not significant, with mean error rates ranging from 9.53 percent to 14.63 percent. See Figure 2.

Figure 2 Tukey Post-Hoc Test for Multiple Comparisons				
Price (x1000)	Differences between markets (mean values)	Significance	Mean percent difference within markets, (sample size) (Zest.-sale price)/sale price	
	SP - SL		SP	SL
<103	-.11793235*	.001	0.52434 (130)	0.64227 (350)
103-203	-.08910191*	.000	0.10771 (434)	0.19682 (344)
<203-253	.02845627	.997	0.09531 (133)	0.12376 (138)
<253-353	.008355306	1.000	0.11541 (99)	0.12376 (208)
<353	.02245725	1.000	0.12386 (53)	0.14632 (116)
All			0.17147 (849)	0.30475 (1,156)
*denotes significance at the .05 level. SP=St. Paul, SL= St. Louis Source: SPSS statistical package				

CONCLUSION

The four-star market had a significantly lower mean error rate than the one-star market, 17.15 percent versus 30.48 percent. High mean error rates are concentrated among lower-priced homes. At prices above the median home price of \$203,000, differences between the four-star and one-star markets are not significant.

While differences between the two markets are significant for homes selling for less than \$103,000, the mean error rates are so great that they are of little value in either the four-star or one-star markets. A four-star's mean error of 52.43 percent indicates little more credibility than a one-star's 64.23 percent. While differences at all price levels in both markets are usually overestimates, at this lowest price level they are almost always overestimates.

Differences between the two markets are also significant in the \$103,000–\$203,000 price range. But with a mean error in the four-star market of 10.77 percent, this is close to the

10 percent error level noted by O'Brien as an acceptable threshold. So for properties in this price range, a four-star rating may be meaningful.

For the three price ranges beginning with the national median of \$203,000 and above, differences between the four-star and one-star markets are not significant. With the exception of the \$203,000–\$253,000 price range, this does not imply improved outcomes in the four-star market for the top two price ranges. Differences in both markets, while not statistically significant, are quite large, with mean error rates ranging from 11.54 percent to 14.63 percent.

Within the middle price range, \$203,000–\$253,000, the smallest differences are found within both markets. In the four-star market, the mean error rate is 9.53 percent, while in the one-star market it is 12.38 percent. This difference is, again, statistically insignificant.

Zillow's value as a pricing tool is questionable. With the possible exception of the \$203,000–\$253,000 price range, the four-star designation is of little value. Even the best results in the four-star market produce mean error rates approaching 10 percent. In both markets and for all other price levels, mean error rates are above the 10 percent level. Accuracy of 10 percent still implies an error of more than \$20,000 for an average price property. While Zillow may be a useful tool, providing an ever-changing snapshot of home prices, don't bet the ranch on it. ■

ENDNOTES

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Renewables, Tax Credits and Ad Valorem Taxes: Are Policies Aligned?

BY P. Barton DeLacy, CRE, FRICS, ASA, MAI

INTRODUCTION

Renewable energy projects, particularly wind and solar farms, are seldom built absent a portfolio of incentives. At the federal level, these incentives include tax credits and favorable depreciation treatment. State and local governments have property taxes to play with. Long supported by public policy, power-generating projects relying on renewable fuels are often sold as economic development for rural communities.

Yet, while hundred-million-dollar construction projects are not unusual, few permanent jobs are ever created. Maintenance can be managed remotely. The power is uploaded to a regional grid, not distributed locally. Thus, expansion of the property tax base may be the only way renewable energy projects benefit the local economy.

However, we have found no consistency across U.S. jurisdictions for property tax treatment of utility-scale renewable energy projects. For instance, what type of property is a wind turbine or an array of solar panels: real or personal? In some places personal property is exempt from property taxes. In many other places, developers have proposed so-called Payment in Lieu of Taxes (PILOT) programs. Such programs are designed to replace or defer property taxes while securing local political support for necessary entitlements to build. Some states have passed ad hoc legislation promoting some renewables, but not others. Finally, the lack of any consensus on appropriate valuation methodology, when ad valorem taxes are imposed, robs the industry of certainty and inhibits the commonwealth from enjoying the real benefits of green energy.

About the Author



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Focusing on the real estate implications of power generation, DeLacy has built valuation models and studied property value impacts for geo-thermal, solar, wind- and coal-fired power generation. He has also developed adaptive re-use studies for obsolete thermal plants. Published in The Appraisal Journal, Real Estate Issues and The Journal of the American Planning Association, he has prepared testimony for federal and state circuit courts and energy siting councils. He has qualified to testify as an expert witness in tax court in several states.

DeLacy holds a master's degree in Urban Planning from Portland State University and a bachelor of arts degree from Willamette University. He previously served as adjunct professor at the Business School at Portland State University.

AD VALOREM PROTOCOLS FOR PURPOSE-BUILT IMPROVEMENTS

Property taxes are typically administered at the county level with the actual assessment or appraisal functions undertaken by an assessor at the township or county level. Some states also have Department of Revenue staff appraisers for complex properties. Ideally, assessed value is based on market value, derived from qualified arm's length transactions. This system works well for single-family

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houses, agricultural land and conventional commercial structures. The difficulty comes with purpose-built structures like a semi-conductor fabrication plant, a hospital or a wind farm. If special purpose properties do not regularly trade, then assessors typically turn to replacement cost as the best measure of value.

While few would dispute actual construction costs for either a wind or solar power plant, this article explores what the taxable residual asset is worth after incentives are earned.

The obsolescence concepts discussed here affect both the wind and solar facilities; however, the case has been first developed for wind.

HOW RENEWABLE ENERGY PROJECTS ARE FINANCED

In practical terms, renewable energy projects share characteristics of both real and personal property. The turbine tower, for example, constructed of steel sections that are bolted together, is attached permanently to a reinforced concrete foundation. The foundation is poured, beginning ten feet below grade. The turbine blades are manufactured of composite material and attached to a nacelle atop the 350-foot towers. The nacelle, the size of a boxcar, houses the generator and other necessary mechanical apparatus.

Similarly, photovoltaic solar panels are attached to steel racks, bolted to poles driven into the ground.

Renewable energy power plants are typically funded through project financing. The anticipated revenue stream from sale of the power is used to pay off the debt. However, project financing seldom covers total installation costs. The difference, often up to a third of cost, must be made up by some type of tax credit or cash incentive.

The following considerations drive the enterprise value of a particular renewable energy project:

- Available investment incentives (to overcome the relative high capital construction costs);
- The quality of the renewable resource in a particular location;
- Proximity, availability and cost to connect to the local power transmission grid;
- Revenues generated by the Power Purchase Agreement (PPA) to an off loading entity.

Other variables, such as the efficiency of the turbine or the panels and the quantity of power generated are reflected in Net Capacity Factors (NCF). Curtailment is the occurrence of downtime for repair or because of grid capacity constraints. Curtailment rates may vary with location and with the age, design and performance of individual turbines or solar arrays. Hence, while we might develop a formula, or model to uniformly assess power-generating facilities, the actual assessment of value must be made on a case-by-case basis, much like any other uniquely located parcel of real estate.

At issue here is the market value of the installed renewable energy power plant and what should be the appropriate ad valorem assessment given project costs, risks, potential revenue and public policy.

Wind or solar farms are appraised as whole plant enterprises combining value contributions from all asset classes including real property, personal property and intangibles. Most assessing authorities are limited to taxing only tangible assets since intangible value can be taxed in some other form as income.

THE METRICS OF RENEWABLE ENERGY

The metrics of renewable energy count the installed “nameplate” power capacity as the best measure of market presence. This capacity can be expressed in terms of multiple megawatts, a common unit of energy comparison. Hence a utility scale solar farm might be rated as “10 megawatts (MW).” A single wind turbine might be rated as “2 MW,” while a large wind farm can be rated in the hundreds of MW in capacity.

Today, as of late 2013, the U.S. has at least 60,000 MW, or 60 gigawatts (GW) of installed wind power; from Alaska and Hawaii to Maine and south to Texas.¹ Of interest, there are virtually no significant wind installations east of Texas and south of Tennessee. The wind resource is simply not very good in the humid, southeastern U.S.

Solar development is growing more rapidly, but is not yet as pervasive as wind, accounting for 4,751 GW of nameplate capacity, about eight percent of total installed wind capacity in the U.S. However, according to the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE), solar technology may have better long-term upside.

For perspective, consider that the average wind turbine installed today is rated between 1.0 and 2.0 MW. Hence,

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there are at least 50,000 wind turbines operating at that capacity today across the U.S. Yet, at best, wind accounts for less than two percent of all electrical power produced in the U.S.

One could compare a large 250 MW wind farm (say 150-plus turbines spread over 30,000 acres) with a small 500 MW coal-fired power plant. The power plant might be sited on as few as 10 acres, plus a cooling pond. While nameplate capacity suggests the coal plant could barely double the output of the wind farm, in fact, the wind farm would produce far less. Wind blows intermittently and at inconsistent velocity. If the coal-fired plant has fuel to burn, it can generate power 24/7.

In general, a wind energy power plant (referred to as “utility-scale” and typically having sufficient turbines to produce 10 MW or more power) will generate its nameplate capacity 30–35 percent of the time. For coal, that number is closer to 90 percent. Coal-fired units are curtailed only periodically for servicing. Natural gas “peaker” units, much more compact and efficient, can be brought online at the flick of a switch.

THE ADVANCE OF RENEWABLES: POWERED BY PRODUCTION TAX CREDITS

The issue of government subsidies for energy production is controversial. It can be argued all energy resource development has benefited from some form of subsidy. From ongoing oil depletion allowances to Depression-era dam-building projects, the federal government has helped fund the building of U.S. energy infrastructure for decades.

Yet, but for enabling state and federal policies, most renewable energy projects would not have been built. The steady increase in installed capacity has been propelled by two critical incentives:

1. Production Tax Credits (PTC);
2. State by State Renewables Portfolio Standards.

In 2012, the wind industry suffered a near death experience when Congress delayed renewing the PTC program until the last minute and then only for one year. Industry advocates have long lobbied for a permanent entitlement to better sustain the renewable energy business and its domestic supply chain for components and parts. Solar tax credits expire in 2016.

The American Wind Energy Association (AWEA) explains that the late extension of the PTC and historic levels of installation during the fourth quarter of 2012,

led to the anemic levels of turbine installations through 2013. Without tax credits, the growth in renewable energy projects is expected to slow. Profits and performance will then shift to operational efficiencies. Property taxes are the major variable operating expense confronting many of these projects. Hence, debate over appropriate taxation of these power plants is unlikely to abate any time soon.

THE CONTEXT FOR THE AD VALOREM TAXATION OF RENEWABLES

Although the first utility-scale renewable energy projects date to the 1970s in Southern California, the proliferation nationwide did not commence until the present century. As with other nascent industries responding to shifting public policies, renewable energy projects looked to incentives as much as the resource. Often seen as an economic boon to sparsely populated rural counties, how the power plants might be taxed evolved ad hoc.

Renewable energy development provides short-term construction jobs, sales and use taxes, but limited long-term employment. Thus local governments and school districts covet potential contributions to the property tax base.

As with rural zoning codes, renewable energy projects had not been foreseen by most taxing jurisdictions. Just as many rural planning commissions legislated variances or exceptions to allow electric power generation in farm and pastureland, so too, taxing jurisdictions had to decide if a wind turbine or solar array was some type of farm implement or an industrial power plant.

Not surprisingly, state and local ad valorem assessment practices have yet to converge on any uniform treatment. An excellent resource detailing this variance is the Database of State Incentives for Renewable Energy (DSIRE), maintained by the EIA. DSIRE inventories the 41 states and Puerto Rico, where renewable energy incentives have been put in place.

See http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=PA26F.

INCONSISTENT AD VALOREM POLICIES

To highlight inconsistent ad valorem tax policies for renewable energy projects, we will concentrate, going forward, on “big wind,” where the fiscal impacts of property tax policy is greatest.

Across the 35 or so states where utility-scale wind farms have been installed (defined as over 10 MW in size), ad valorem valuation practice ranges from complete

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exemption to conventional depreciated replacement cost. We must remember, wind farms have two unique characteristics:

1. The land they occupy is often leased, not owned outright. Lease terms may vary and include a fixed rate, a royalty-type percentage of output from the turbine, or a combination of the two income streams.
2. The wind turbine is properly characterized as a machine bolted to its reinforced concrete base, and thereby secured to the ground.

Some jurisdictions merely tax the increment in value created by the land lease where personal property is not assessed. Other jurisdictions have deferred the ad valorem issue by accepting PILOTs. Seldom has the issue been dealt with legislatively. A brief overview of some state assessment practices demonstrates this variability:

- Some states, like Wisconsin, exempt renewables from ad valorem taxation.
- In Pennsylvania, non-realty assets are not subject to property taxes. A 2006 statute classifies towers, blades, nacelles and all transmission infrastructure as non-realty. Only the concrete base and road improvements are subject to replacement cost valuation. Leased land is valued using an income approach if comparable sales are not available.
- California, Washington and Oregon tax real and personal property and provide no special tax incentives for wind. Oregon and California, however, do incentivize distributed renewable energy, where power produced is consumed onsite rather than merely uploaded to the grid.
- Colorado exempts facilities under 2.0 MW in nameplate capacity, but otherwise applies a template that factors in nameplate rating and the NCF to calculate assessed values. Importantly, Colorado assessment rates are tied to the relative productivity of utility-scale wind farms as power generators.
- Other states, such as New York, accepted so-called PILOTs from developers in exchange for go-forward exemptions limited to a period of years. Otherwise, New York had had a 15-year exemption for property taxes on renewable energy installations. Oklahoma has a five-year exemption period.
- In New York and Pennsylvania, modest income from turbine land leases offsets unrelated declines in small dairies, making small 200–300 acre landholdings marginally sustainable. Township and county assessing authorities in poor districts have been reluctant to discourage wind development by being too aggressive on taxes.
- In Missouri, the legislature has seen fit to exempt solar farms from property taxes, but is silent on wind.
- However, at least one state, Illinois, reached a fair legislative solution. Prior to 2007, wind energy devices generating electricity for commercial sale were assessed differently depending on where they were located. Some counties valued the entire turbine structure (tower plus generation equipment) as “real property,” subject to taxation, while others deemed only the tower portion as taxable property. This difference varied from county to county, and sometimes from township to township. This created dramatically different tax loads and complicated siting projects that crossed jurisdictional lines.

Hence, a legislative compromise was crafted whereby the statutory “value” of a wind farm in Illinois is based on approximately \$360,000 per MW, about one-third the installed costs. A formula is then applied to that “market value” to calculate an actual assessed value. As shall be shown, the Illinois formula may have gotten it right.

The contribution of industrial utility-scale wind projects to local economies is mixed. Property tax receipts in Sherman County, Oregon, a remote wind swept jurisdiction of 1,800 people in the Columbia River Gorge, have reaped tens of millions of dollars for local governments—a literal “windfall.” Yet the balance between enrichment and the perceived degradation of scenic landscapes varies with population density and the proximity of wind farm to urban area.

Notwithstanding the variable socio-economic political environment of a particular state, professional valuers should still be ready to advise local assessors on best practices for valuing this complex improvement to the land.

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APPLICABILITY OF THE THREE APPROACHES TO VALUING RENEWABLE ENERGY PROJECTS

In this section, the applicability of each of the three approaches to value is discussed. In the end, most assessing authorities will likely rely on a cost approach. As with any purpose-built facility where it may be difficult to demonstrate a discrete property market, assessors will look at actual costs or defer to a cost service like Marshall Valuation.

A. The Income Approach

Most utility-scale renewable energy developments are project financed. This means lenders tie debt repayment to the anticipated revenues to be generated by the PPA. The financial model is essentially a discounted cash flow analysis where the revenue of the project has been predicated based on wind studies, the efficiencies of the installed turbines and the price paid for the power to be offloaded to the grid. This is an enterprise model with no relation to the real estate except for the land lease; an incidental operating cost. Assessors will value the land separately, in part because another party typically owns it in fee.

The PPA, which drives the value, is an intangible asset, typically ineligible for ad valorem taxation. While the PPA is modeled like a net lease, it is tied to electricity output and the price of that commodity.

B. The Sales Comparison Approach

Renewable energy projects do occasionally sell, but those transactions also have been at the enterprise level without clear allocations of value to the tangible asset classes involved. Hence, we find that the Cost Approach to value is the default indicator for taxing authorities. Further, as we shall show, obsolescence theory can be used to reflect some of the unique attributes of operating wind farms.

C. The Cost Approach

Whenever transactional market data is limited, assessing authorities typically look to a traditional Cost Approach to estimate ad valorem market value. In essence, the Cost Approach is comprised of two components; the market value of the land, as if vacant, and the depreciated replacement cost of the improvements. This method is also appropriate for special use properties where use value can approach market value if the case can be made for a viable enterprise within a stable or growing industry.

We first start with replacement cost or actual costs if available. Replacement Cost is the estimated cost to construct as of the effective date of value, a substitute, using contemporary materials, standards, design and layout.² Component costs can be volatile, so the valuer should consider construction costs as of the valuation date. Costs may actually decline as the supply chain mobilizes to serve demand.

MISSOURI WIND FARM AS CASE STUDY

To demonstrate how these theories on obsolescence might work, we cite the following example as a case study. Lost Creek Wind Farm is a 150 MW, 100-turbine renewable energy projects, built in northwestern Missouri. It has operated since mid-2010. The owners are appealing the county's ad valorem assessment.

The DeKalb County assessor based her ad valorem assessment on reported actual construction costs. The taxpayer has argued that actual market value (the basis for tax assessment) is much lower because earned tax credits constitute economic obsolescence, while the inverse of the NCF constitutes functional obsolescence for this power plant.

Estimating Replacement Cost New

Actual construction costs are based on an contract engineering, procurement and construction contract where the contractor designs the installation, procures necessary components and builds the project. The chart below shows how replacement cost might be evaluated on a per installed turbine basis.

<i>Figure 1</i> Replacement Cost New		
1.5 MW Turbine cost	\$1,700,000	
Installation (per EPC contact)	\$ 510,000	30.00%
Soft Costs	\$ 102,000	6.00%
Total installed cost/turbine	\$2,312,000	/turbine
Installed cost/MW	\$1,541,333	/MW

Source: P. Barton DeLacy, CRE

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These costs can then be applied to the entire project. We have assumed one hundred 1.50 MW turbines.

Figure 2 Project Nameplate Rating		
A	Number of Turbines	100.00
B	Nameplate Rating	1.50 MW
	System Peak Rating (AxB)	150.00 MW
Total Project Cost		
	Total installed cost/turbine	\$2,312,000 /turbine
	Number of Turbines	100.00
	Total Project cost	\$231,200,000
Source: Barton P. DeLacy, CRE		

These costs include labor, materials, supervision, contractor's profit and overhead, architect's plans and specifications, sales taxes and insurance.

The overall cost per megawatt is a significant indicator here because when compared with the costs to install alternate means of conventional thermal power, wind and solar plants have had a significantly higher installed cost per megawatt of nameplate capacity. When the NCF is included, the up-front cost differential becomes even more dramatic.

For perspective, consider that conventional combined natural gas-fired turbines can cost less than \$1 million per MW installed (compared to more than \$1.5 million per MW for a wind turbine in this example). Natural gas-powered turbines have a much higher NCF, meaning they can be efficiently operated close to 90 percent of the time, where even the best wind farms struggle to have an NCF higher than 40 percent.

The EIA has published a comparison of Total System Levelized Costs that calculates overall costs on a per kilowatt-hour (kWh) basis over an expected 30-year financial cycle and "duty" life of a power plant. This model surcharges coal for creating greenhouse gas externalities and takes into account the relative low fuel costs for wind and solar power.

Figure 3 Levelized Cost Projections 2018*		
Plant Type	NCF	Levelized cost/ kWh
Conventional Coal	85.00%	\$100.10
Natural Gas		
NG Combined Cycle	87.00%	\$ 67.10
NG Conv. Combustion	30.00%	\$130.30
Geothermal	92.00%	\$ 89.60
Biomass	83.00%	\$111.00
Wind	34.00%	\$ 86.60
Solar PV	25.00%	\$144.30
* DOE EIA Projections w/o tax credits or incentives, assumes 30 yr. life		
Source: P. Barton DeLacy, CRE		

These costs are projected five years out and will vary regionally. They emphasize the relative economy of wind over time and may not account for sustained low natural gas pricing.

The fact remains that as of 2014, capital costs for wind development in the U.S. exceed the present value of the revenue wind farms generate at an acceptable rate of return. Thus, wind development remains dependent on tax credits and/or other incentives to help overcome wind's relative high capital costs. This leads to discussion on what forms of obsolescence, both functional and economic, should properly be applied in a cost approach for ad valorem assessments.

APPLICATION OF DEPRECIATION CONCEPTS

The key to appealing or modifying assessor cost estimates of wind farms is the careful application of accepted depreciation concepts. Application of a conventional Cost Approach contemplates application of the three types of accrued depreciation:

1. Physical deterioration
2. Economic obsolescence
3. Functional obsolescence

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Assuming the absence of any incurable defect, most assessors acknowledge a traditional straight-line age-life method for simple physical depreciation. Alternatively, they rely on a cost service or other conventions.

The application of economic and functional obsolescence to the high replacement costs helps bring wind farm assessments into line with other means of conventional power generation. As noted above, installation costs for wind, based on the electric power it produces, are significantly higher than gas-fired alternatives.

The Case for External Obsolescence

Does the necessity of a significant tax credit to make a wind farm a viable investment constitute an externality, qualifying as economic obsolescence?

External obsolescence is the adverse effect on value resulting from influences outside the property. External obsolescence may be the result of lagging rental rates, high inflation, excessive construction costs, restricted access, the lack of an adequate labor force, changing land use patterns and market conditions, or proximity to an objectionable use or condition.

This means the high capital costs to develop wind power capacity can cancel out the benefits to investors, save for financial incentives like PTCs. The AWEA and the DOE have shown that wind farm development falls off dramatically as these credits expire. In our cost model we show that the need for up-front capital incentives should be treated as economic obsolescence. The present value of such tax credits can amount to 30–35 percent of total project cost.

It can be argued that but for the PTCs, most U.S. wind projects would not get built. In fact, as AWEA predicted, wind farm development has once again stalled, as it has in the past, because of continued uncertainty over PTC incentives. They were extended through 2013, but are once again in limbo.

Hence, we find this necessary supplement a potential measure of *inverse economic obsolescence*. If the PTC goes away, many planned wind farms will stay on the drawing board pending some other form of subsidy or change in the economics of electric power generation.

An analogous situation is the treatment of Low-Income Housing Tax Credits LIHTC, a federal subsidy also referred to as Section 42 credits, referencing the applicable section in the Internal Revenue Code. Many (though not all) taxing jurisdictions exempt or deduct tax credits from ad valorem assessments.

Tax credits are provided for low income housing because the government regulates the maximum rents that can be collected based on the income level of the occupant; it also limits the number of occupants who earn above a certain income level. These regulatory limitations restrict the developer's cost recovery. But for the tax credits, subsidized housing would not be built.

The tax credits, created under the Tax Reform Act of 1986, were intended to incentivize private investment in affordable housing. Typically the all-in cost to deliver qualifying units exceeds any capitalized market value based on net income after allowing for restricted rents. The owner's value thus falls well below costs to build. While selling tax credits to qualifying investors can make up the difference in construction cost, those benefits cannot be passed on to the next buyer. Thus, the argument goes, ad valorem property taxes should be based on an income approach. The amount of the tax credit subsidy would be deducted from any replacement cost estimate to reconcile with the lower net value projected by the income approach (without the subsidies).

With renewables, the long-term PPA, based on local avoided utility costs, seldom is sufficient to generate an acceptable return on cost to the project developer. Should the valuer deduct the outright subsidies offered by such tax credits as a type of economic obsolescence?

The Case for Functional Obsolescence

According to the Appraisal Institute, functional obsolescence can be caused by changes in market conditions that have made some aspect of a structure, material or design, obsolete by current market standards. Functional obsolescence can also be curable or incurable.

To be curable, the cost to correct the deficiency must be equal to or less than the anticipated increase in value. We discussed the NCF as a relative measure of wind farm efficiency. It is a particularly useful metric to compare the efficiency of one type of power generator with another. Since the price of the power derived from wind farm operations is predicated on the cost of alternate fossil fuels, then the cost to use alternative fuels must be balanced against the relative efficiency of its generation. Hence, the inverse of the NCF is considered a reliable method to gauge functional obsolescence, as we will calculate in our model.

As mentioned above, individual renewable energy projects can be distinguished from one another by their relative efficiency as measured by their NCF. Essentially, an NCF

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calculates what percentage of the time a renewable energy project is actually generating electricity. It also reflects the relative mechanical proficiency of the installed power plant, regardless of its fuel.

The NCF of a coal-fired power plant might be close to 90 percent because it operates 24/7. In contrast the NCF of a solar farm can be as low as 10–12 percent of its nameplate capacity because of cloud cover, night darkness, etc. Wind falls somewhere in the middle.

Hence, the NCF can be used as a measure of functional obsolescence for renewable energy projects where the NCF can vary from 10–40 percent of nameplate capacity, based on the fuel resource, coupled with the performance of the power plant. It should be noted that the NCF for wind farms using larger, more advanced turbines is approaching 50 percent. This suggests this measure of utility can be improved with technology.

Calculation of Values: Wind Farm Example

In the table below we have calculated a market value for ad valorem assessment purposes based on the following assumptions:

1. Replacement Cost New (RCN) based on turbine and wind farm specifications discussed above;
2. We have assumed that the net present value of PTCs and other incentives would account for 30 percent of total costs to install the hypothetical 100-turbine wind farm on leased land;
3. Given a leased land scenario, land value or land assessments are not included;
4. The RCN is first adjusted for economic obsolescence: with wind farms, this is quantified by tax credit incentives that can average as much as 30 percent of project costs;
5. Net RCN adjusted for tax credits then must be charged for physical depreciation; here we project four percent per year based on an expected 25-year economic life. In this example, the plant is assumed to be two years old.
6. A NCF of 35 percent would mean the plant produces its nameplate output only 35 percent of the time; thus, it is the inverse, or 65 percent impaired by the intermittency of the wind.

Figure 4

Project Nameplate Rating

A	Number of Turbines	100.00	
B	Nameplate Rating	1.50	MW
	System Peak Rating (AxB)	150.00	MW

Total Project Cost

C	Total installed cost/turbine	\$2,312,000	/turbine
D	Number of Turbines	100.00	
E	Total Project Cost (Cx D)	\$231,200,000	

Depreciation and Obsolescence Factors

F	Age	2	years
G	Tax Credits as % of RCN	30.00%	
H	Net Capacity Factor (NCF)	35.00%	

Application of Age and Obsolescence Factors

J	Total Replacement Cost New (RCN)	\$231,200,000	
K	Economic-less TC incentives (GxJ)	-\$69,360,000	
L	Net RCN less econ. obs. (J+K)	\$161,840,000	
M	Physical (straight-line/yr.)	-\$6,473,600	4.00%
N	Accrued Phys. Dep. (L+N)	-\$12,947,200	
O	RCN less Phys. Dep. (L+N)	\$148,892,800	
P	Functional Utility (1-H)	65.00%	
Q	Adj> for Functional OBS. (OxP)	-\$96,780,320	
R	MV based on Cost Approach (O+Q)	\$52,112,480	
S	MV/turbine (R/D)	\$521,125	
	MV/MW (S/B)	\$347,417	

Source: P. Barton DeLacy, CRE

The resulting market value for assessment purposes is \$52,112,480 in this example. That is equivalent to approximately \$521,000 per turbine or \$347,000 per megawatt of nameplate capacity. This value should be compared, on a net capacity basis, with assessed values for alternate means of generating electric power.

Based on these assumptions, not atypical for a utility-scale wind power plant of this size, we have reduced the nominal replacement cost value by more than 75 percent. Absent market sales of wind power plants to challenge theory, the appraiser must apply his/her best curbside judgment and ponder, "Is this reasonable?"

Renewables, Tax Credits and Ad Valorem Taxes: Are Policies Aligned?

PERSPECTIVE: WIND AND SOLAR FARMS AS POWER PLANTS

Renewable energy projects are fundamentally electrical power generating plants. Their fuel may be wind, sunlight or biomass. In the case of wind, it performs the same function that pressurized steam does in a compact gas-fired thermal plant or falling water in a hydroelectric dam. In each case, the kinetic energy of turning rotors in a turbine spin magnets generating electricity. Thus it can be argued, for perspective, the valuer should look to relative costs or the occasional sale of a power plant in use to test the reasonableness of these adjustments.

The critical value drivers here are the tax credit incentive and the NCF. Both can vary with the renewable energy project. The tax credit provides a subsidy when the negotiated PPA does not pay enough over time to yield an adequate return to the investor. The PPA is typically a 20–25 year contract negotiated with the off loading utility and is based, in part, on avoided costs of electric power generated conventionally. When natural gas or coal prices are high, the PPA will be higher and wind more competitive.

At the same time, renewable energy projects of identical specification will perform dramatically differently depending on the long-term consistency of the local wind or sunlight resource.

We have focused here on wind farms, the major consumer of tax credits to date. In some locations the NCF for wind farms approaches 50 percent. Offshore wind can raise the efficiency further. However, when incentives are increased, wind can be built where the NCF is below 30 percent. Finally, the turbine itself can be made more efficient by increasing its height.

The wind industry and public policies pursuing renewable energy solutions are still young. As the industry matures and power plants age, operating efficiencies will demand closer attention. Volatile property taxes and unsettled ad valorem policies will create economic inefficiencies and potentially hinder power delivery.

This article has attempted to raise issues for further study and, inevitably, debate. ■

Editor's Note: Portions of this article have been previously published in The M&TS Journal.

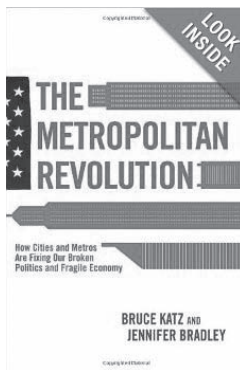
ENDNOTES

1. AWEA U.S. Wind Industry Second Quarter 2013 Market Report.
2. Ibid., p. 385.

The Metropolitan Revolution: How Cities and Metros are Fixing our Broken Politics and Fragile Economy

by Bruce Katz and Jennifer Bradley (© 2013, Brookings Institution Press, 288 pages)

REVIEWED BY OWEN M. BEITSCH, PH.D., CRE



RELIANT ON SHARED FUNDS, grants and direct expenditures from federal sources, the next big ideas in many parts of the country are being reduced in scale or abandoned altogether. In more aggressive settings, the ideas are being retooled as local ventures, cobbled together using the strength of community capital and vision.

For the real estate industry, oft-given federal incentives or inducements to engage in complex public-private initiatives have not infrequently been the means to support workers, address environmental or social obligations, correct technological deficiencies, construct transportation projects, and provide other infrastructure. In the past, dollars for these activities flowed generously from the nation's capital, not uncommonly controlled by party loyalists. Such funds will become more difficult to secure, impossible in many cases, forcing both the entrepreneurial community and the entrepreneurial developer to find and implement new approaches to assure their own success. Party loyalty may be a discriminator at some point but it isn't a strategy for funding. America's cities and its urban places, it seems, are on their own. Going forward, they must chart their own way into a brighter and more prosperous future. Anything else: wishful thinking.

About the Reviewer



Owen M. Beitsch, Ph.D., CRE, FAICP, is a senior principal with Real Estate Research Consultants, an Orlando-based firm affiliated with GAI that provides economic advisory services to public and private clients throughout the United States. Beitsch serves on the editorial board of Real Estate Issues and is a research associate and adjunct faculty member at the University of Central Florida.

For those with local government clients, the models constructed decades ago may no longer be sufficiently robust. Certainly, that is often the case when local priorities may not interface well with the objectives of federal programs where bipartisan voices are much louder and angrier.

In *The Metropolitan Revolution: How Cities and Metros are Fixing our Broken Politics and Fragile Economy*, Bruce Katz and Jennifer Bradley, both of the Brookings Institution, describe the experiences of several communities. The pair describes projects, they believe, offer a blueprint for action which can rebuild economies and is determinedly self-reliant. They speak of a revolution in thought and actions stemming from "cities and metropolitan areas [as] the engines of economic prosperity and social transformation in the United States." If they are correct in their outlook,

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they are capturing the essence of a sustainable movement because the critical and strategic solutions breed largely from locally renewable resources.

Covering a range of community-building activities, Katz and Bradley make the case that local developers and their local governments can achieve an extraordinary range of major improvements by linking with grass root activists, civic institutions, local foundations, and local banks historically bypassed in favor of federal resources. Indeed, they make the case that local creativity succumbs to inertia and economic malaise when it patiently, but unwisely, awaits competitive capitalization doled out by Congress. Today the near-term success of urbanization projects depends on local actions and political leaders. Close to the resources in their communities, they can build the partnerships to achieve results by asserting financial independence.

The real estate industry is a natural advocate to push for these kinds of changes since many of its professionals claim to be fiscally conservative and eschew Washington's financial generosity. Further the industry is comprised of risk-takers and community builders, large and small. Key decisions respond to trends at a local level because they drive demand for the products and services of the real estate industry. Since "cities and metropolitan areas are... on the frontlines of America's demographic change," those who would harness those trends must be able students and stewards of the social order. In these urban settings, "every major demographic trend that the United States is experiencing—rapid growth, increasing diversity, an aging demographic—is happening at a faster pace, a greater scale and higher level of intensity." It is often the local real estate entrepreneur with the creative skills and business network that can assemble the planning and implementation team willing to both rebuild and redeploy essential community assets in this evolving context.

The Metropolitan Revolution charts success stories in New York, Denver and Houston, among others. These are both organic and inorganic places. These are communities with diversity and challenges. Nonetheless, they have a wellspring of talent and skills that are making transformative investments in public-private ventures. These efforts will facilitate streams of continued investment and long-term growth. As we think about the

momentum being unleashed in these cities, we might also acknowledge that there is an "inversion of the hierarchy of power in the United States."

Suddenly, cities and regions do matter. But haven't they always? It is not without some historical irony—think Savannah, Charleston, New Orleans, and Philadelphia—cities and regions that literally created the economic framework on which the nation still thrives. As much as anything, *The Metropolitan Revolution* pushes us to recall that the federal system is a series of related local and regional areas that must function together as both *economically independent* units and functioning *socially dependent* units.

America's local leaders and its development community can and should set the agenda for the direction of our civic and private spaces. Ironically, Katz and Bradley explain that many of these changes were already underway—quietly, changes were already occurring—but, less quietly now, they are accelerated by the paralysis in Washington and the disruptive technologies being experienced locally. Because entrepreneurial spirit is such a local phenomenon, it is not a surprise to realize that rebuilding our economy also means rebuilding our cities and their infrastructure, however broadly that term is defined. And if cities do matter, then they should matter to all real estate professionals active within them.

To be clear, the case studies comprising the backbone of *The Metropolitan Revolution* are not about steely resolve to resist federal monies. They are about a resolve to resist dependence upon those monies. There are important distinctions between dollars that make a good project better or that advance its timetable. There are distinctions between a stimulus and maintenance. And sometimes (dare it be said), federal funds are appropriate because of their high value multiplier effects across regions that are the same whether your loyalties lie with Keynes or Reagan.

Likewise, states are implicit and complicit in what their regions may accomplish. Statehouse partisanship in some parts of the country is no less divisive. Consider the states capable of building or expanding their rail and health care industries based on an infusion of federal dollars, ultimately paired with local dollars tied to local ventures. Much of that money has been turned away. In several cases, these amount to opportunities squandered.

The Metropolitan Revolution: How Cities and Metros are Fixing our Broken Politics and Fragile Economy

State or federal, locals must have a role and should have a voice, if not a vote, in ranking the options. In both cases, the theme is about harnessing and leveraging capital. *But*, only on terms keyed to clearly articulated local objectives.

It is well that Katz and Bradley have outlined the reasons and the principles basic to jumping the nation's local economies. Nonetheless, details do matter, and some cities will fail to recognize their own barriers or their particular advantages. Despite the branding, bunting and banners pushed as economic development in many communities, *critical* thinking remains at the center of the next local idea. Progress may occur only incrementally as part of a longer-term initiative. Occasionally, it may even

be necessary to curry the support of objective outsiders but not if the final strategies and implementation mean surrendering local leadership.

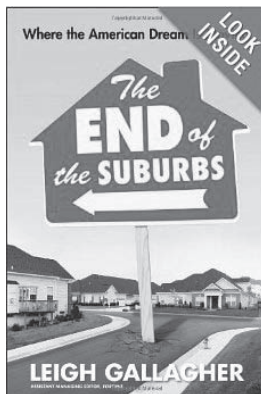
Whatever their quick lessons overlook, the kernels in this book still shine. Set aside the old-fashioned boosterism that rings across almost every chapter, and simple, but valuable, lessons remain. With patience and care, their energy can be plowed into our communities making them more prosperous. If Richard Florida's science has a claim, the regenerative benefits of the creative class are nurtured by the power of the local settings in which they take root.

Sometimes, the genie and magic lamp just ain't enough.... ■

The End of the Suburbs: Where the American Dream Is Moving

by Leigh Gallagher (© 2013, Penguin Group, 273 pages)

REVIEWED BY ROY J. SCHNEIDERMAN, CRE, FRICS



THERE ARE MANY INTERESTING and important issues to discuss with respect to the residential real estate sector in America today: regional population shifts, aging demographics, changing immigration patterns, the impact of transportation costs, heightened environmental awareness, rapidly changing technologies, and generational preferences

(either cyclical or structural), just to name a few.

If someone is interested in a thoughtful, well-researched, and balanced discussion of these issues, I recommend giving a pass to *The End of the Suburbs* by Leigh Gallagher. Rather, *The End of the Suburbs* presents a fairly superficial treatment of the issues, where all roads lead to “the end of the suburbs”—or at least some of the suburbs, a point which will be examined later in this review. No doubt this book will be very well-received by people who already agree with the sentiment implicit in the title. But the book will do nothing to influence those who disagree, and only moderately inform those who are trying to form an opinion.

The book contains interviews with a diverse group of people in support of its central thesis: urbanites who think the suburbs are ended, former suburbanites who think the suburbs are ended, homebuilders who think the suburbs are ended, homemakers who believe the suburbs are ended, academics who believe the suburbs are ended, and activists who believe the suburbs are ended. Well, you get the idea. Homebuilder Toll Brothers, frequently both praised and quoted throughout the book, is used to represent both the suburban and the urban perspective.

About the Reviewer



Roy J. Schneiderman, CRE, FRICS, principal, Bard Consulting LLC, San Francisco, has provided real estate consulting services since 1984. Prior to founding Bard Consulting in 2004, Schneiderman was a partner for Sedway Group (acquired by CBRE in 1999). He earlier worked as a real estate consultant at Deloitte, a global accounting and consulting

firm. Schneiderman's areas of expertise include real estate investment analysis, quantitative analysis, asset and manager workouts, investment manager due diligence, development feasibility, real estate investment strategy formation, land-oriented investment strategies, and real estate litigation. His professional affiliations include: Fellow of the Royal Institute of Chartered Surveyors; The Counselors of Real Estate; Pension Real Estate Association; National Council of Real Estate Investment Fiduciaries; Editorial Board member of Real Estate Issues journal; Editorial Board member of The Institutional Real Estate Newsletter—North America, and NASD Dispute Resolution Board of Arbitrators. Schneiderman earned a master's degree in business administration from Education University of California/Berkeley; a master's degree in philosophy from Yale University in New Haven, Connecticut; and a bachelor's degree in philosophy and religious studies from Beloit College in Beloit, Wisconsin.

The End of the Suburbs acknowledges that there are still many people living in the suburbs, but for whatever reason, Ms. Gallagher cannot seem to locate them—at least not those that are happy. There is also very limited reference to academics or essayists who challenge the book's thesis, although dissenting voices do make a cameo appearance starting on page 192 of the 273-page book, including one fairly bland generic reference to the prolific New Urbanism skeptic Joel Kotkin.

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Interestingly, the author acknowledges that 2013, the year of the book's publication, does not mark the end of *all* suburbs. Indeed the last chapter of the book contains a fairly balanced discussion, wherein it is acknowledged that the future will likely contain a multitude of living options. And an earlier chapter ends with the eminently reasonable "[People] will increasingly be able to choose their own adventure, whether that's a house in classic suburbia, an urbanized suburb like the ones preferred by the New Urbanists and a growing number of traditional developers are creating—or, as ever increasing numbers of singles, boomers and even young families are opting for, the urbanized lifestyle of settling down in a big city."

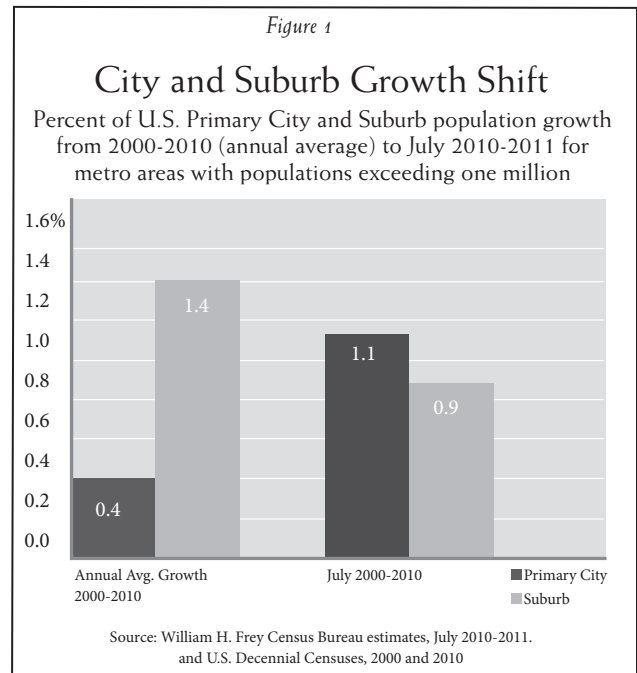
Thus, it is both surprising and unsurprising to find that the central thesis of *The End of the Suburbs* is not actually that the suburbs are ending. Ms. Gallagher frequently mentions that there are good suburbs that are walkable, have a diverse housing stock and utilize certain contemporary design characteristics. These "good" suburbs are not ending. It is only "bad" suburbs that are "ending." An entire chapter entitled "The Urban Burbs" is devoted to this suburban version New Urbanism, a concept which is also interspersed throughout the book.

So, on the one hand it is argued that the suburbs are ending because of issues like long commutes, high transportation costs and a lack of diversity. This points toward a "return to the city." But more often, Ms. Gallagher's criticism is with the design of some suburbs and great praise is heaped upon older suburbs that maintain or adopt New Urbanism principles or new suburbs designed with New Urbanism specifications, even though these locations often suffer from long commutes, high transportation costs, do not necessarily have a diverse population, etc. On balance, the book is at least as much about redesigning suburbs as it is about suburbanites returning *en masse* to the cities, although many of the personal testimonials in the book are of the latter nature.

The book also has a tendency to latch onto specific statistics and declare a sea change. For example, Ms. Gallagher writes "Our nation's big cities have blossomed in the last decade. Reversing a 90-year trend, in 2011 our largest cities grew more quickly than their combined suburbs" and sources a Brookings Institute piece based upon Census Bureau data. Fair enough. But is a short break in an almost century-long trend enough to draw the conclusion that the "trend reversal" is permanent or even long-term? Certainly not according to the author of

the Brookings Institute piece, William Frey, who writes (emphasis added) "At least temporarily, this puts the brakes on a longstanding staple of American life—the pervasive suburbanization of its population..." And he continues "This ... reversal can be attributed to a number of forces. Some are short-term and related to the post-2007 slowdown of the suburban housing market, coupled with continued high unemployment which has curtailed population mobility, now at a historic low. However, at least some cities may be seeing a population renaissance based on efforts to attract and retain young people, families and professionals." While Mr. Frey and the author of this review see an interesting statistic that may point in a certain direction, for certain cities, Ms. Gallagher sees a demographic sea change that needs little further examination.

And as a matter of fact, in the previous decade, Suburb handily outgrew Primary City as shown in the graphic below from the same Brookings Institute piece cited in *The End of the Suburbs*, which suggests, but by no means proves, that the 2010/2011 reversal is not the result of a long-term, inexorable shift of sentiment, but could be a short-term blip.



Although the book does occasionally address facts or thoughts pointing in conflicting directions, more often they are left unexamined. The partial tension that exists between the "back to the city" thesis and the

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“New Urbanism” thesis is mentioned, but not explored in any depth.

Other representative examples include Millennials being identified as wanting “lots of space for entertaining, enough room for the Wii, open kitchens to cook for themselves and their friends, outdoor fire pits, maybe a space for their dog.” Then one page later it is noted that there is “a rush to build what the market thinks Millennials are going to want in cities: hyper-small apartments and condos....” The book praises multi-generational homes constructed by Lennar without noting that most of those are being built in the suburbs— many in traditional suburbs. Libertyville, Illinois, is praised for its New Urbanism development in one chapter, and then noted for losing a corporate headquarters that

is moving to downtown Chicago in another. While these items may point in disparate directions, it is not impossible to reconcile them. However, to do so requires an acknowledgement that changing housing patterns involve a complex set of issues that defy the generally unchallenged pronouncements and isolated data-points that make up much of *The End of the Suburbs*.

By way of disclosure, although born in a city, the author of this review spent almost all of his childhood and high school years in the suburbs, and has lived in walkable, urban infill neighborhoods ever since. he does not, however, believe that the suburbs are ended just yet. ■



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