

REAL ESTATE ISSUES

- *REIT Private Placement:
Investment Opportunity for Pension Funds?*
John McMahan, CRE
- *The Information Revolution and Real Estate
Analyses*
Maury Seldin, CRE
- *Property in the European Economy*
Christopher W. Jonas, CRE
- *A Primer on Proximity Impact Research:
Residential Property Values Near High-Voltage
Transmission Lines*
William N. Kinnard, Jr., CRE, and Sue Ann Dickey
- *An Evaluation of the Asset Integrated Mortgage*
G. Donald Jud and Daniel T. Winkler
- *Metropolitan Area Cost Competitiveness,
Growth and Real Estate Performance*
William D. Anderson and Kenneth M. Lusht
- *Talking with Accountants about
Income-Producing Real Estate*
Jack P. Friedman, CRE
- *Technology Review: Real Estate Begins to Go Online*
Mark F. Bates, CRE

The **JAMES E. GIBBONS EDUCATIONAL DEVELOPMENT TRUST FUND**, of The Counselors of Real Estate, announces that in 1994 scholarships were presented to 19 graduate students in 10 identified university real estate programs nationwide. Scholarship recipients were:

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A Special Issue of
Real Estate Research Issues Monograph Series
devoted to
ETHICS IN REAL ESTATE

The American Real Estate Society, with co-sponsorship of the Summa Corporation, is pleased to announce a special issue of the *Real Estate Research Issues* monograph series on the subject of *ETHICS IN REAL ESTATE*. With an increasing focus on ethics issues in business generally, and the financial markets specifically, consideration of ethics in real estate is an especially important, as well as timely, topic.

Contributors are encouraged to employ a broad, multi-disciplinary view of ethics embracing philosophic, physical, political, societal, economic, legal and regulatory considerations. This includes, but is not limited to, the following:

- agency problems
- seller disclosure obligations
- rent control
- fair housing policy
- plant closings
- performance record disclosure
- presentation of probable future performance
- analytic methodology
- fiduciary responsibilities
- due diligence
- valuation

Particularly encouraged are multi-disciplinary contributions from such fields as the arts, sociology, philosophy, ecology, law and related disciplines. Prospective contributors are encouraged to think broadly and widely on ethics issues in a real estate context. Consultations with the special issue editor and/or editorial board members concerning proposed topics and approaches are welcome.

The special issue editor is Stephen E. Roulac. Manuscripts should be submitted in quadruplicate no later than February 1, 1996 to:

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JOSEPH STRAUS, JR., CRE, NAMED 1995 RECIPIENT OF THE LUM AWARD



Joseph Straus, Jr., CRE

Joseph Straus, Jr., CRE, who combines finely honed analytical skills with superb deal-making ability, has been awarded the 1995 Louise L. and Y.T. Lum Award by The Counselors of Real Estate. This award recognizes his 50 years of distinguished service in advancing the principles, theories and practice of real estate counseling and his personification of The Counselors' high ethical and intellectual standards. The award was established by the late Y.T. Lum, CRE, to encourage achievement in real estate.

Straus' career truly represents a hallmark of real estate accomplishments. He was a director of the Massachusetts Mutual Life Insurance Company and served on its Investment, Audit and Compensation Committees; he is a trustee of the Urban Land Institute, a director and member of the Executive Committee of the National Realty Committee and vice chairman of the Homer Hoyt Institute Advisory Board. He formerly served as chairman of the boards of trustees of The Appraisal Foundation and the National Society for Real Estate Finance.

Prior to its January 1, 1992 merger with The Rubin Organization, Straus was chairman of the board of Strouse, Greenberg & Co., Inc. This firm was the exclusive leasing agent for the retail portions of Water Tower Place in Chicago and Copley Place in Boston. He presently is chairman of the board of The Rubin Organization, Inc., a Philadelphia based company which develops, sells, leases and manages major enclosed regional malls, high rise office buildings and luxury apartment houses and condominiums throughout the United States. Straus' real estate reputation was recognized by a British property company which retained him to educate and train its staff in United States shopping center leasing, management and development practices.

Community and charitable commitments have played an important part in his life. He is a life trustee of the Medical College of Pennsylvania and Hahnemann University Hospitals and emeritus directors of Delaware Valley College and the Albert Einstein Healthcare Network. The Alexis de Tocqueville Society of The United Way, the Wharton School of the University of Pennsylvania and Federation Day Care Services are a few of his favorite charities.

Straus joins a distinguished group of Louise L. and Y.T. Lum Award recipients including CREs Richard D. Simmons, Sr., (1994), Eugene G. Bowes, (1993), John McMahan (1992), Wayne D. Hagood (1991), Charles W. Bradshaw, Jr. (1990), Jared Shlaes (1989), John R. White (1988) and Thurston H. Ross (1987).

REAL ESTATE ISSUES

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SEASONAL MUSES

Welcome to the Spring edition of *Real Estate Issues*. As we recall, in the Spring a young man's (and a woman's) fancy turns to thoughts of *amore*—undoubtedly *amore* for issues affecting real estate! Certainly, one could fall in love with many of the articles in this issue. The sweet face of REIT Private Placement would turn anyone's head. The flawless skin of the Information Revolution would cause anyone to look twice, and the silky hair of the Evaluation of the Asset Integrated Mortgage would lead to hours-long daydreaming.

These are but three topics out of the 8 covered in this edition. Peruse the Contents page for other swooners as Property in the European Economy, Proximity Impact Research, Metropolitan Area Cost Competitiveness and Talking with Accountants (although admittedly this last one has dubious sex appeal).

True, everyone has his/her own preferences: slim (REITs), tall (information revolution), plump (proximity impact research)—but in this edition it's the total package that will propel you to a grassy knoll to while-away a few hours contemplating the various aspects of beauty. As you may recall, this is the edition of *REI* that does not have a theme. The Special Edition in December will be devoted to institutional investment, while the August Focus Edition will focus on the impact of government and politics on real estate. The April edition, in contrast, contains articles on a variety of topics.

As you fall in love with the writings of our authors, consider the possibility of your becoming the object of intense affection. **Write an article!** We can't guarantee that it will be published, because we accept only the fairest of the fair. Thanks to the reputation of *REI*, our editorial board can be selective. Nevertheless, we believe there are many would-be *amanti* (lovers) out there who could share their bewitching qualities with an eager and grateful audience. Remember, it takes two to tango. *REI* is your journal as well as ours; make it an even better one by contributing your analysis, your wisdom and your experience.



Halbert C. Smith, CRE

Editor in chief

THE PRESIDENT SPEAKS

REI PLANS FOR A BANNER YEAR

We are pleased to send you the first edition of *REAL ESTATE ISSUES* for 1995. It is the first of three issues for this year. The Counselors of Real Estate has been publishing *REAL ESTATE ISSUES* since 1976. Dr. Halbert C. Smith, CRE, is only our third editor in chief since this publication's inception 19 years ago. As you can surmise, the Editorial Board and its editor in chief take their honorary positions seriously.

The Editorial Board strives to bring our readers a wide variety of real estate topics that are informative, educational and thought provoking. Our readers are primarily owners and top corporate officers of real estate companies and financial organizations, plus professors and university personnel.

This copy of *REAL ESTATE ISSUES* contains such forward thinking articles as "Real Estate Begins to Go Online" and the "Information Revolution and Real Estate Analyses." We also are global in our perspective with an article entitled "Property in the European Economy" by Christopher W. Jonas, CRE, FRICS, past president of the Royal Institution of Chartered Surveyors, London, England. Articles on "An Evaluation of the Asset Integrated Mortgage" and "REIT Private Placement" give this issue a financial perspective. We hope you will enjoy these articles and the other excellent treatises presented.

Our future publications this year will include a *Focus Edition* in August on the *Impact of Government and Politics on Real Estate* and a *Special Edition* in December on *Real Estate Counseling and Institutional Investment*.

We trust you will enjoy this and future issues of *Real Estate Issues*.

A handwritten signature in black ink that reads "Macdonald West." The signature is written in a cursive, flowing style. Below the signature is a horizontal line that ends in a small flourish on the right side.

Macdonald West, CRE, FRICS, MBA
President, The Counselors of Real Estate

CONTENTS

**April 1995
Volume 20, Number One**

1 REIT Private Placement: Investment Opportunity for Pension Funds?

John McMahan, CRE

As today's modern REIT enters a new era, author John McMahan foresees many opportunities opening for the resourceful investor. In this article McMahan discusses REITs and stringent tax regulations, who supplies the capital and who are the intermediaries, investment instructions, ownership vehicles and underwriting and monitoring standards.

6

The Information Revolution and Real Estate Analyses

Maury Seldin, CRE

The information revolution will alter society's way of life just as the industrial and transportation revolution did in the past. In particular, for those concerned with the use of real estate resources, it will alter the way in which the business is being conducted. The key is how to ride the wave without getting wiped out.

13

Property in the European Economy

Christopher W. Jonas, CRE

In this keynote address at MIPIM 1994, Jonas discusses the vital part property people have to play in the European Community. He looks at the changes in property currently underway, along with a look toward future trends both for the EC and the United Kingdom.

23

A Primer on Proximity Impact Research: Residential Property Values Near High-Voltage Transmission Lines

William N. Kinnard, Jr., CRE, and Sue Ann Dickey

Claims of value decreases for residential properties which are close to high voltage transmission lines often are based on opinion polls. These polls commonly demonstrate decreased expected demand for these properties because of fear of living in proximity to sources of electro-magnetic fields. Paired sales analysis also is sometimes used by appraisers to test evidences of widespread public fear. However, from the point of view of systematic market analysis and support, proximity impact studies which utilize multiple regression analysis are preferred. This article presents the basic steps and thought processes involved in proximity impact analysis with MRA modeling.

30

An Evaluation of the Asset Integrated Mortgage

G. Donald Jud and Daniel T. Winkler

The Asset Integrated Mortgage (AIM) is a new hybrid mortgage that blends a home loan mortgage and an insurance annuity. Instead of a 20 percent down payment, a borrower puts down as little as 5 percent, with the difference invested in an insurance annuity for the duration of the mortgage. The article compares the cost of the AIM with a conventional mortgage, and solves for the required rate of return on the insurance annuity of the AIM that equates the cost of the two mortgages.

33

Metropolitan Area Cost Competitiveness, Growth and Real Estate Performance

William D. Anderson and Kenneth M. Lusht

In this article, the authors rank metropolitan areas on several measures of cost competitiveness and relate past rankings to real estate investment performance. The results indicate a familiar regional slant, with the Southwest and South continuing to offer the most cost competitive business environments. While prior research suggests low cost is a reliable predictor of metropolitan growth, this does not necessarily translate into attractive investment opportunities. However, in the current market, it appears there is time to take advantage of the low cost/growth relationship.

41

Talking with Accountants about Income-Producing Real Estate

Jack P. Friedman, CRE

This article offers an explanation on the terminological and computational differences in analyses between tax and financial accountants and real estate counselors regarding the different types of services each provides. Though these professions may never agree on terms or meaningful computations, an understanding of the similarities and differences between the two can be useful to everyone involved.

DEPARTMENTS

- v Advertisers' Index
- vi About The Counselors of Real Estate
- 48 New Technology:
Real Estate Begins to Go Online
Mark F. Bates, CRE
- 49 Contributor Information/
Editorial Calendar 1995
- 50 Subscription/Reprint Information

Advertisers' Index

American Real Estate Society . . . Inside Back Cover	
D.L. Evans Co., Inc.	32
Alfred Gobar & Associates	32
Jerome Haims Realty, Inc.	47
Lewis Realty Advisors	12
Maps & Facts Unlimited, Inc.	22
RGK Associates, Inc.	47
The Rosenthal Group	5

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You can order additional copies of *Real Estate Issues* and single and multiple copies of articles that have appeared in any edition of the journal. For further information and fee structure, see Page 50.

ABOUT THE COUNSELORS OF REAL ESTATE

The Counselors of Real Estate, now in its 40th year, is an international group of high profile professionals including members of prominent real estate, financial, legal and accounting firms as well as leaders of government and academia who provide expert, objective advice on real property and land-related matters.

Membership is selective, extended by invitation only on either a self-initiated or sponsored basis. The organization's **CRE Designation** (*the Counselor of Real Estate*) is awarded to all members in recognition of superior problem solving ability in various areas of specialization such as litigation support, asset management, workouts, valuation, feasibility studies, acquisitions/dispositions and general analysis.

Networking is the hallmark of The Counselor organization. Throughout the year, educational programs provide Counselors with opportunities, both nationally and locally, to meet with fellow members and professional colleagues to discuss the latest trends affecting commercial real estate. A publications program, highlighted by our award winning professional journal, *Real Estate Issues*, provides a venue for members to showcase their knowledge of such areas as office buildings, retail centers, hotels/motels, real estate counseling, etc.

What is a real estate counselor?

A counselor is a real estate practitioner whose primary business is providing expert, experienced advisory services to clients for agreed-upon fees. Counseling denotes an activity that is, by its nature, relational. The client relies upon the counselor for skilled and objective aid in the client's real estate needs, implying both trust on the part of the client and trustworthiness on the part of the counselor. The counselor typically has acquired a broad range of experience in the real estate field, possesses technical competency in more than one real estate discipline, and places those competencies at the service of the client. While objective in analysis, the counselor directs his efforts toward the client's best interests through the development of particular strategies, evaluating options available to the client,

advocacy of the client's interests, and - where required - execution of strategy on the client's behalf.

Those designated as Counselors of Real Estate (CRE) have been recognized and esteemed by their peers as persons meeting the above definition in an exemplary fashion. They have demonstrated knowledge, experience, integrity and judgment in their real estate expertise. The CRE subscribes to and is bound by The Counselors' Code of Ethics and Standards of Professional Practice and endeavors to generously assist fellow CREs who are performing client services in a spirit of collegiality. Thus, the commitment to the individual client is complemented by a commitment to raise the standard of counseling practice for the industry as a whole.

Users of counseling services

The demand increases for expert counseling in real estate matters worldwide. Through the years, institutions, estates, individuals, corporations and federal, state and local governments have recognized the necessity and value of a Counselor's objectivity in providing advice. These real estate professionals honor the confidentiality and fiduciary responsibility of the client-counselor relationship.

CREs service both domestic and foreign clients. Assignments have been accepted in Africa, Asia, the United Kingdom, the Caribbean, Central and South America, Europe and the Middle East. The Counselor has the benefit of proven knowledge and experience which qualifies him for practical application and proper interpretation of trends affecting real estate. A major player in the technological revolution, the Counselor regularly accesses the most advanced methodologies, techniques and computer-generated evaluation procedures available.

Determinants of compensation

The CRE is compensated by pre-agreed fee or salary for services, rather than by commission or contingent fee. The counseling fee itself is assured and rendered for advice rather than achievement or outcome of the transaction. Overall compensation can be determined by the complexity of the service performed, its value to the client, the time and expense involved, the breadth of the Counselor's knowledge and experience, and the responsibilities assumed. **Anyone involved in real estate should consider consulting with a CRE.**

For more information on The Counselors of Real Estate, contact The Counselors' office, 430 North Michigan Avenue, Chicago, Illinois 60611; 312.329.8427; fax 312.329.8881. ■

REIT PRIVATE PLACEMENT: INVESTMENT OPPORTUNITY FOR PENSION FUNDS?

by John McMahan, CRE

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The capitalization of Real Estate Investment Trusts (REITs) has grown at a remarkable rate over the last five years as investors sought to capitalize on advantageous pricing opportunities in real estate. As these opportunities have dwindled, investors are shifting their focus to participation in the future economic growth of geographic areas and property types through investment in companies with the ability to add value through development, redevelopment and active management.

This shift reflects a broader, more fundamental shift in the role of REITs—from passive investment vehicles to real estate operating companies. To attract investors, REITs must have a strategy for future growth in shareholder value and the management resources for successful implementation. Due to the high cash payout ratios required to maintain their favorable tax status, however, REITs cannot retain any meaningful amount of earnings to finance these strategies. Therefore, if they are to deliver what investors are expecting, REITs frequently must return to the capital markets for needed funds.

Largely as a result of increasing interest rates and a torrid financing pace over the last three years, public capital markets are closed to many REITs and are expected to remain so for some time. Private placement financing—mostly in the form of equity—will be a major source of new REIT capital during this period. However, traditional institutional sources of private placements—commercial banks, insurance companies and private investors—are limited in their ability to provide REITs with private placement financing. Pension fund investors may have a unique opportunity to fill this need and, in so doing, realize solid returns with moderate risk.

This article explores how this situation developed, why REITs will desire private placement financing, who will provide the funds, who will be the intermediaries and the underwriting and monitoring considerations involved.

Historical Perspective

REITs didn't start out to be go-go operating companies with high expectations for future growth in earnings. In 1960, the changes in the Internal Revenue Code, which established special REIT tax treatment, envisaged a conservative investment vehicle

John McMahan, CRE, is a real estate investor and consultant. Previously, he was chairman of the 15th largest real estate pension advisory firm and served as chair of the National Association of Real Estate Investment Managers (NAREIM). McMahan managed a public REIT for five years and currently is chairman of two public REIT boards. He is an adjunct professor at the Haas Graduate School of Business, University of California, Berkeley, and he formerly taught at the Stanford Graduate School of Business.

with pass through features which would encourage long term investment in real estate by individual, taxable investors. Less than half the REITs operating in the 1960s were self-advised (internally managed; no external advisor) and, even in these cases, management did not participate extensively in stock ownership. There was little market activity and not much research coverage by the financial community.

In the late 1960s, REIT Initial Public Offerings (IPOs) shifted from an emphasis on long term equity investment to short term mortgage investment, largely in the form of construction and development loans. Mortgage REITs were the largest single source of capital funding for the 1971-1975 real estate boom, borrowing short and lending long in order to arbitrage the yield curve. This bubble collapsed in 1973-1974, and REITs became tarred with a negative image which has only been overcome in recent years.

Largely as a result of this debacle and the tax advantages of limited partnership financing prior to 1986, REITs missed the real estate boom/bust cycle of the 1980s. With the collapse of real estate markets at the end of the decade, most forms of capital for real estate evaporated. Developers and other owners of real estate found themselves with highly leveraged properties often built with short-term financing and few sources of refinancing. With interest rates falling and real estate yields rising, Wall Street saw an opportunity to arbitrage private and public markets.

The Kimco offering in 1991 was the first sign that REITs could play a major role in financing real estate and, more importantly, real estate operating companies. During 1991, eight initial public offerings (IPOs) involving REITs raised \$808 million. A similar number were completed in 1992, raising \$919 million.

The Class Of 1993

While this represented a meaningful capital raising activity, particularly in a capital-starved real estate market, 1993 proved to be the real turning point—82 equity issues raised \$12.1 billion. Compare this with 62 issues raising \$3.7 billion over the prior five years combined!

Perhaps more significant, the character of the 1993 IPOs was dramatically different. Virtually all the IPOs represented real estate operating companies, specializing by property type. The new REITs also were significantly larger—ten equity REITs had market capitalization of over \$500 million (versus two at the end of 1991), and 40 had capitalization exceeding \$200 million (versus 10 in 1991).

Almost all the 1993 IPOs were self-administered and self-managed and, in many cases, management had significant equity positions which minimized conflicts and enhanced congruency with investors. Most of the management groups had spent their careers specializing in the particular property type and had worked together effectively as a team for many years, including at least one full real estate cycle. In essence, they were fully-integrated, real estate operating companies.

The momentum of 1993 continued into the first nine months of 1994. Over \$10.0 billion in equity capital was raised for a widely divergent group of firms. New property types were added (e.g., outlet centers, hotels, golf courses, net leased properties, etc.) and geographical coverage extended to parts of the country not previously represented.

The Modern REIT

Although regulations have loosened considerably over the years, REITs still must meet several fairly stringent rules if they are to maintain their REIT status and avoid taxation at the corporate level:

- Seventy-five percent of assets must be in real estate equity, mortgages, REIT shares, or cash.
- Seventy-five percent of annual income must come from rents or mortgage interest. No more than 30% of annual gross income can come from the sale of properties held less than four years.
- Ninety-five percent of taxable income must be paid out annually.
- REITs must have at least 100 shareholders. Five individuals cannot own more than 50% of the stock (5/50 rule).¹

In terms of organization, all REITs must be a corporation or a trust which is managed by a board of directors or trustees. For publicly traded REITs, the majority of trustees must be independent of REIT management. In fact, any major conflict of interest is usually penalized through share pricing.

As a pass-through vehicle, REITs should be expected to trade on the yield of underlying real estate assets, less a liquidity discount. However, today some REITs sell at premiums over the underlying yield, largely in anticipation of earnings growth through development, refinancing or restructuring investments. Often referred to as "enterprise value," this reflects the premium added by good management. The demand for REIT shares also is influenced by dividend spreads over treasuries (institutional investors) and money market funds (retail investors).

Earnings usually are measured in terms of funds from operations (FFO) which is net income (according to GAAP), excluding capital gains, plus depreciation and amortization. Stock prices increasingly are compared to FFO flows, much the same as

price/earnings ratios for non-real estate stocks.² Other factors that analysts and investors track are payout ratios (percent of distributable income that will be paid out as dividends), total debt to total capitalization (the market doesn't like leverage exceeding 45%), and the proportion of floating debt in the capital structure.

REIT Dependence On Capital Markets

With modern REITs, the good news and the bad news are the same—REITs are largely dependent upon capital markets for investor-anticipated growth. This is good news in that REITs have a great deal of market flexibility in terms of how they access the capital markets (e.g., corporate and property debt/equity), certainly more than other types of real estate companies. It is bad news, however, in the sense that if they are going to grow in an environment of high annual earnings payout ratios, REITs are forced to go to the capital markets.

In years such as 1993 and the first half of 1994 when the REIT IPO markets were hot, securing secondary financing on reasonably favorable terms was not difficult. Almost \$5.0 billion in secondary equity offerings (41.2% of total equity raised) were placed during this period. This situation was enhanced, of course, by the presence of historically low interest rates. As 1994 unfolded and interest rates continued to rise, the REIT IPO market dried up and with it, the secondary market. Secondary issues during the last quarter of 1994 fell to \$201.6 million, off substantially from the \$1,051.0 million average for the first three quarters.

The near term future appears to be more of the same. A considerable amount of floating debt taken on by the REITs will need to be refinanced over the next few years. Some REITs, particularly those founded by developers, may need to liquefy the positions of large single investor ownership. Smaller REITs may need to bulk up in order to avoid being taken over by larger REITs. For those that consolidate, capital may be required to extinguish or restructure old debt in order to complete the transaction.

The REIT capital market over the next few years should be marked by a great deal of turmoil as firms struggle to balance shareholder pressure for continued growth with prudent balance sheet management. As in most periods of market turmoil, investment opportunities are created. A significant opportunity over the next few years will be to provide private market solutions to public market diseconomies.

Who Will Supply The Capital?

Traditional suppliers of private placement capital include banks, insurance companies and private investors. Commercial banks are primarily oriented toward debt financing, generally on the corporate

level, to avoid adverse mortgage-related risk capital requirements. The balance sheets for a large number of REITs will make it difficult for them to take on additional debt. For those that can, the cost may be prohibitively expensive.

Insurance companies undertake both debt and equity placements. As noted above, debt financing opportunities will be limited. With much tougher rating requirements, most insurance companies also must be careful when adding real estate equity investments to their balance sheets, even though the security status of REIT shares makes this cosmetically plausible. On balance, the outlook is for a limited number of conservatively financed insurance companies to be active in the equity private placement market.

Private investors will no doubt be active in the REIT private placement market, mostly through large venture pools originally organized to take advantage of pricing opportunities in the securitized debt market. With fewer of these opportunities available, these pools are logically positioned to move into the equity financing area. A big question, however, is the extent to which their investors, who are used to phenomenal returns and short turnarounds, will adjust to longer holding periods and somewhat lower (but still attractive to institutional investors) levels of return.

With limitations on the level of activity from traditional private placement players, pension funds emerge as a logical provider of badly needed REIT private placement capital. Real estate property markets have bounced-back from the severe depression of the last few years, at a time when investment opportunities in the stock and bond market are limited. Purchasing a position in a REIT, possibly at a discount to underlying real estate values, is a relatively efficient way to participate in the future of real estate.

Large pension funds, the most likely private placement players, often are interested in obtaining unique investment positions in order to use their sizable capital base and longer term investment horizon to achieve higher investment returns. As public vehicles, REITs also offer pension funds the corporate guidance, investor/manager goal congruence and ultimate liquidity that is lacking in private real estate markets.

Who Will Be The Intermediaries?

Investment banking firms can be expected to play a major role as intermediaries in REIT private placement financing. Wall Street firms, in their position as bankers to the REITs, will control a large part of the potential deal flow and no doubt will initiate many of the transactions. Investment bankers also will play a major role in the consolidation of the

REIT industry, a potential source of private placement transactions. Several firms also will be investing on their own account or through pools they control.

Since most Wall Street firms are not investment fiduciaries, pension funds will have to decide whether or not to invest through an investment manager. Some of the larger pension plans, many with competent security and/or real estate investment staff, may choose to invest directly and not delegate the fiduciary role. Most plans, however, will wish to have a fiduciary involved in the process. The question is, who will this be?

Pension fund plans viewing REITs as a security will no doubt invest through their small cap managers. In fact many plans, which already have sizable positions in REITs through their managers' prior activities, feel comfortable proceeding in this manner. Several of the small cap managers have beefed up their real estate analytical skills, although this has been mainly in the publicly traded securities area which does not contemplate the diligence required in private placement financing.

A relatively new player, real estate mutual fund advisors, have placed private equity funds in the past and reportedly have sizable amounts of capital to invest. These firms, however, face the problem of representing an investor base of both retail and institutional investors. At a minimum, this diverse base is difficult to manage, and, at the extreme, may represent serious goal incongruencies (e.g., tax vs. tax exempt status, long vs. short term hold, etc.). Also, the largely retail investor base is rate sensitive and is currently redeeming mutual fund holdings as interest rates on competing money market instruments (some FDIC insured) become more attractive.

A few traditional pension real estate advisors have established security investment groups within their organizations and have raised pension capital for REIT investment. These firms can be expected to play a major role in the private placement arena, because they have not only the confidence of their pension clients but also the staff necessary to undertake property level diligence in a relatively short time frame.

There is also the possibility that new firms will emerge that combine the real estate underwriting skills of the traditional real estate managers with a broader understanding of security analysis and REIT management. With structures similar to venture capital investment firms, these entities would invest their own funds side-by-side with their pension clients.

Investment Instruments

Private placements can take the form of debt, hybrid debt and all equity vehicles. Debt vehicles may be secured by portfolio assets on either an individual or pooled basis. Unsecured debt can be structured in the form of bonds or debentures with a wide variety of amortization, pre-payment and call features. Hybrid instruments, such as convertible bonds or preferred stock, afford an opportunity for investors to realize the security of debt financing with an opportunity to participate in the firm's future growth.

Most of the opportunities, however, will be in form of equity investments. For the most part, these will take the form of private placement stock available for later public distribution. Liquidation alternatives would be quite extensive including public sale, private sale, trade, etc. Positions could be liquidated partially or in total, although some investors may choose to hold the stock for long term appreciation.

Given the desperate need of many REITs for capital and the lack of practical alternatives, pension investors should be able to obtain discounts from the public market price, generally in the 2.0%-5.0% range, but, in some situations, possibly higher. This discount could be taken in the form of less capital for the same amount of stock or a greater amount of stock for the same amount of capital. Additional stock could be available to the extent that third-party fees are avoided or reduced.

Ownership Vehicles

As previously discussed, some pension funds may choose to hold the privately placed securities directly in their small-cap portfolios. However, this approach makes it more difficult to diversify portfolios, and participation in larger placements may not be prudent. There is also a considerable amount of ongoing monitoring required to make sure the investment is proceeding as planned and to determine when and in what manner to liquidate.

As a result of these problems, many investors may prefer investment pools. These pools most likely will take the form of private REITs or limited partnerships similar to those utilized in the venture capital arena. Since the sponsors of limited partnerships will be investing their own money, this vehicle provides the additional attraction of a congruent goal environment with pension fund partners. Regardless of the ownership vehicle ultimately selected, the key role played by the manager will be to rigorously underwrite the investment, monitor its progress and determine the appropriate time and method of liquidation.

Underwriting Investments

The successful underwriting of REIT private placements requires a skillful blend of real estate and

security skills, as well as a fundamental understanding of successful REIT management. An appreciation for the quality of the underlying real estate portfolio is essential to successfully forecast the long term growth prospects of the REIT and to evaluate pricing alternatives. This means an underwriting of every significant asset in the portfolio. In most cases, this will require a visit to the property and an evaluation of where it stands in its individual market and its future prospects for growth, including an identification of an exit strategy.

Real estate skills are critical since many investments will be in situations where the public price of the stock is less than or equal to net asset value per share. Determining the net asset value of the portfolio therefore, will be an important component of the underwriting. Finance skills also will be essential to understand how each element of the REIT's capital base (both debt and equity) is structured and will interact under various economic scenarios. Various alternative methods of structuring the private placement must be analyzed in order to come up with the optimum arrangement for both investors and the REIT.

A critical third element will be an assessment of REIT management and its capacity to grow the firm over time. This will require extensive interviews not only with senior management but with those responsible for acquiring, developing and managing the property portfolio. Discussions will be required with investment bankers, stock analysts, rating agencies, vendors and competitors.

Monitoring Investments

An easy, but potentially dangerous, assumption is that REIT private placements, being securities, can be put on the shelf and reviewed only when its time to sell. More realistically, these investments should be treated like venture capital investments and carefully monitored over the holding period.

Since pension investors may be one of the largest shareholders, continuing contact with REIT management is essential. Strategic management initiatives should be reviewed and considered in terms of their impact on long term value. Procedures should be established to independently verify the quality and value of the underlying assets. New financing and restructurings should be analyzed in terms of their impact on the investor's position. Obviously, mergers and acquisitions must be evaluated on similar terms.

One of the most important aspects of monitoring will be the decision to liquidate the position. This decision may be limited by security restrictions in the early years, but ultimately a wide variety of alternatives could emerge. Investors may choose to sell all or part of their position, either at a single point or staggered over a period of time.

Stock trades may be possible as well as asset trades for those plans with direct investment portfolios. Investors in pools may choose to take direct possession of their stock rather than cash distributions.

Each of these monitoring activities will require a continuing capability in each of three essential underwriting areas—real estate, securities and REIT management. How pension plans insure that these capabilities are present will differ, but if they are not present, investors risk losing much of the advantage bargained for at the time of underwriting.

There seems to be no question that REITs are entering a new era. What it will bring can only be conjecture at this point. Given the shift in basic investment relationships, however, it will no doubt be dynamic and full of opportunities for resourceful investors. For pension funds, private placement financing should prove to be one of the more interesting opportunities over the next few years.

NOTES

1. Recent legislation clarified that, in the case of pension funds, the IRS must look through to the plan beneficiaries as being the REIT shareholders. This is in contrast with the earlier view that the plan counted as a single shareholder.
2. Although widespread, the use of FFO is criticized for not taking into consideration the cost of capital improvements. In order to overcome this problem, there is a current move to supplement FFO with Capital Available for Distribution (CAD), also referred to as Funds Available for Distribution (FAD).



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THE INFORMATION REVOLUTION AND REAL ESTATE ANALYSES

by Maury Seldin, CRE

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The information revolution is here. History will record it as having ranked with the agricultural, industrial and transportation revolutions which fundamentally altered how things were done and how we lived.¹ This article addresses the impact of the information revolution on real estate analyses. The new technology is fundamentally altering the way in which we conduct the analyses for making real estate decisions. The impact will be not only a higher quality of decisions, but also a structural change in the way business and professional support systems provide assistance to the decision makers.²

What constitutes a revolution? The answer is a fundamental change in the way the activity is carried out. The industrial revolution changed the way in which goods were manufactured. The transition was from using hand tools to using machinery, from handcrafted noninterchangeable parts to standardized parts manufactured by mass production methods. As a result there was a concentration of manufacturing activities in large plants, an agglomeration of physical facilities. It, along with the agricultural revolution, led to the urbanization of our society.

The transportation revolution was a fundamental change from using animals as the source of energy for transport, to the use of engines. The evolution took us to rail systems, to self-propelled rubber-wheeled vehicles, and on to heavier-than-air craft. All of these had a far-ranging impact on the growth of cities and the patterns of land utilization, especially suburbanization.

The Information Revolution

The information revolution involves a transition from mechanical communication to electronic communication. In the mechanical form, information can be put on paper and physically transmitted. Additionally, information can be mechanically transmitted, as in ringing a bell for the butler or maid two floors below. The transition to electronic communication began when impulses could be sent by wire and then by the wireless. What is making the difference now is the ability to store and process humongous amounts of information electronically. This is referred to as the computer revolution.

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I am reminded of the story about the marketability study conducted for IBM on the use of the early computers. The consultants reported back that, based upon their analyses of the volume of information processed in the U.S., IBM would only be able to sell 100 computers. Why only 100? Because given the existing patterns of processing information, there were only about 100 organizations which had enough information to process. What consultants failed to recognize was that since the existence of the computer would facilitate the low cost processing of far greater amounts of information than had ever been processed before, more information would be processed. The technological innovations generated the demand for more usage and innovations.

Technological Advances

The information revolution goes beyond computers as simply information processing machines which function using electronics rather than the mechanics of earlier calculators. It involves additional technology which expands the nature of computers readily available to decision makers. More data are available to facilitate a higher order of thinking.

One of the great technological advances facilitating this information revolution is the combination of the computer, as an information processing device, with the telecommunications technology which transmits vast amounts of information by fiber optics and satellite. The results are transmissions which not only include words and numbers, but the visual representations which present information in picture format including drawings and photographs. Included with this must be the geographical information systems which show the information in a spatial dimension according to location.

As a result, real estate information may be processed, transmitted and presented showing geographic location, photographs, spatial attributes of construction (including detailed pictures), financial statements and marketability and feasibility results in words and numbers. Furthermore, on-line adjustments may be made such as a monitoring of changed information reports and a real time processing of the new data's impact upon the analytical results.

Fundamentals Of The New Technology

Decision Making Systems

Decision making systems have three major components. First, there is information. Second, there is some system for managing or processing the information. And, finally there is the model and/or paradigm which sets forth the way in which, given the perspective, the analysis is conducted and the decision reached.

Information

In real estate we often think in terms of maps, numbers and words. The maps are used for spatial relationship in terms of location. The numbers are used for quantification, and the words are used as a qualitative language. Obviously, this is an oversimplification, so let's refine it just a bit.

Spatial Dimension

Spatial dimension is important in two contexts. The first has been alluded to in terms of the geographical relationship between a subject parcel and other parcels containing activities which will influence the subject. Included in this spatial relationship dimension is access to infrastructure which will influence the usefulness of the real estate and the costs of using the real estate.

Previously we had hand drawn maps which showed various characteristics of the land ranging from the physical attributes to the demographics of the population and a variety of quality of life attributes. To show more characteristics on a map than could reasonably be accommodated with a single illustration, we used mylar overlays in which data were drawn on transparencies so that different maps could be integrated into a single map by placing one on top of another.

Now, we can draw the maps using a computer-based geographic information system. We can combine and recombine the attributes to form new maps and conduct analyses of the relationships among the attributes to provide even better quality of information on geographic-based spatial relationships.

In an earlier era we depicted the spatial relationships of building design, as well as site use, by drawing floor plans, construction documents and site plans on a drafting board. The construction documents now are done by computer-aided design (CAD); there is not only greater efficiency in getting the design drawn, but greater flexibility in adjusting it. Furthermore, the information is in an electronic form, and it may be combined with site specific data. Another aspect of spatial dimension is pictorial. The drawings are, in fact, models of particular dimensions or aspects of structure. The aesthetics of the structure can be better communicated by photographs which now, technologically, can be integrated into the information system.

Information Processing Systems

Information processing systems can be thought of as ways to handle large amounts of data, including maps and other information. Maps, tables, reports and other information in file cabinets are, in fact, parts of an information system. When information comes in, it can be processed, classified, filed and later retrieved when needed. We have moved from file cabinets to computer files.

Management information systems are designed to give management the information it needs to reach decisions and achieve particular objectives. The information is organized to feed management the information it needs to utilize the analytical systems involved in reaching the decisions. Management systems generally contain analytical models which routinely process data to give information at a refined level. A computerized management information system may be rather sophisticated and carry the process a long way toward making the decision. Indeed, the computer may be programmed to output the decisions.

Models And Paradigms

"The computer did it," often is the excuse when a particularly poor decision sparks a customer complaint. That's the problem of routinizing decisions to the level where no human interaction is involved in reaching the judgment. In the real estate arena we are accustomed to a great many decisions being made based upon judgment. Historically, analytical systems have been relatively unroutinized partly because they are so complex.

In recent decades, spreadsheet analyses enabled many MBAs and others to go through some highly quantified analytics to arrive at projected rates of return which proved to be totally unrealistic. The "muddy shoe" types who lived through earlier cycles were able, with the sophistication of judgment, to know better. That's the old style, and it has merit. The new style has its merit, too, because it can handle humongous amounts of information and conduct sophisticated analysis. But none of this substitutes for judgment.

The Paradigm

The judgment starts with the paradigm. Simply put, the paradigm is a way of looking at things. The following is a classic diagram.

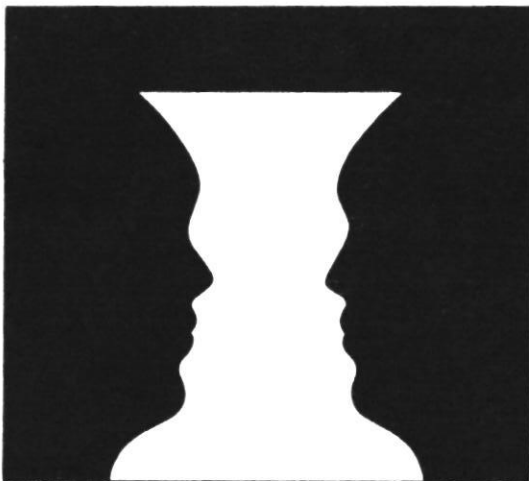


Figure 1. The visual gestalts or "paradigms"

Source: Casti, John L., *Paradigms Lost*. New York, NY: Avon Books, 1989.

Do you see a face? Or, do you see a vase? It depends on how you look at it. Galileo met with great trouble when he said that the sun was the center of the universe, not the earth.³ And, particularly not Rome. That paradigm shift enabled astronomers to explain numerous phenomena not previously explainable. In a somewhat similar vein, if one looks at real estate decisions from a real estate paradigm instead of a finance paradigm, one is able to explain some relationships and, in fact, see the situation somewhat differently and make better decisions.

The models for real estate, historically, have been judgmental models in which certain relationships may be mathematically depicted. Exhibit 1 is an example.

In this new era, econometric models are being used. Econometric models use historic information to quantify the relationships between the variables and then predict the future based upon the continuation of past relationships. The judgmental models may lack the rigorous quantification of historical relationships; they judgmentally insert the best estimate to quantify the variable and proceed with the analyses. When there are changing relationships so the new structural arrangements are different from the old, the models can accommodate the judgments on the outcome of certain courses of action for which there is not enough evidence or at least not enough for the rigorous models. The art in the judgmental model is to be roughly right, rather than rigorously wrong.

The econometric models, however, are tremendously useful in quantifying relationships among the variables, and thus, they are useful as inputs to decisions. There have been attempts to use artificial intelligence to integrate analytical systems so new situations can be dealt with effectively. However, artificial intelligence has not been able to mirror the human mind. Apparently, the complexity of the human mind enables it to not only select an appropriate frame of reference, but to search out previous experience of whatever kind and integrate it into the analytical system. That aspect of the human mind has not yet been mirrored.

Mirroring The Real Estate Paradigm

What the technology of the information revolution permits us is to mirror the real estate paradigm. We can assemble vast amounts of information including maps, numbers, words and, of course, diagrams and pictures as well. We can process this information to aid in our decision making. We can apply it to our analytical models.

Exhibit 1

Mathematical Formulations and Classification of Analyses

Look at these ideas in terms of mathematic formulas although it is not necessary to quantify them at this point:

Analysis of Local Economy: Economic Base

1. $\frac{\text{Non-basic}}{\text{Basic employment}} = \text{economic base ratio}$
2. Project increase in basic employment
3. Change in basic employment \times ratio = change in non-basic employment
4. Change in basic + change in non-basic = total change
5. Existing employment + change = total employment
6. $\frac{\text{Population}}{\text{employment}} = \text{ratio of population to employment}$
7. Change in employment \times ratio of population to employment = Change in population

Aggregate Analysis: Housing Market

8. $\frac{\text{Population}}{\text{Household size}} = \text{households}$
9. Households + inventory loss + vacancy change = Net additions

Segmented Analysis: Ownership Market for Sub-Metro Area

10. Net additions \times ownership ratio = ownership units
11. Ownership units \times local area share = units demand in local area
12. Units by income class (according to distribution of household income for local area) \times ratio of income

to house price by class = units (share of market) by price class

Absorption Analysis: Includes Segmented, Supply and Bottom Up Analyses

13. United by price class – units in pipeline in subject class = net demand for additional space in period
13. (alternative) Units by price class \times competitive share obtainable = absorption rate for period
13. Bottom up Summation of absorption rate of computative projects most similar to subject – number of competition projects = average absorption rate
Average absorption rate \times superior factor = project absorption rate

Feasibility Analyses

14. Projected absorption rate \times gross receipts per unit = projected gross
15. Projected gross – costs = projected profit for period
16. Summation of projected profits for period to sell-out discounted to present value = aggregate profit
17. Expected profit – minimum profit, if positive signals go

Note that substantial refinement in analyst's technique is available for steps 13-17. Only one crude measure has been used. What is critical are steps 1 through 13 which is where opportunity is determined.

Source: Seldin, Maury, "A Reclassification of Real Estate and Market Analyses: Toward Improving the Line of Reasoning," *Real Estate Issues*, Spring/Summer 1984, Vol.9,p.40.

Application Of The New Technology

Site Developability

The traditional process for site developability analyses started with a review of the physical limitations of the land and the legal constraints. The analyst then examined the economic potential, came up with a proposed use and conducted a feasibility analyses. The feasibility analyses was not only a financial feasibility analyses, but a development feasibility analyses on what would fly with the local regulation.⁴

The design and application process would get underway, the astute developers would make contact with the neighbors and other political constituencies, and then attempt to work out something which could get through the regulatory maze. The regulatory maze became so great, some local areas

introduced one-stop shopping to provide coordination. Over the last couple of decades, the approval system has become not only complex, but onerous. Perhaps the greatest relief to the pressure was overbuilding which slackened the demand. But, the system as it stands now is dysfunctional. In some rapidly growing states, the authorities have imposed regulations on local governments which they have neither the ability or resources to handle. Sometimes these regulations are imposed by local governments themselves. The results are leapfrogging and inefficient land use patterns.

What is the capability of technology in the information age? Visualize, if you will, a computer mapping of all the land in a metropolitan area which indicates each parcel's land use and developability. The developability includes not only

availability of water, sewer and transportation capacity, but of slope and soil conditions. The only thing missing is the owner's willingness or interest in selling or developing, and that might be included, if not on a parcel by parcel basis, on some aggregate expectational basis.⁵

Visualize the maps of the current conditions as the last in a series of historical maps which show physical change, how the city has grown, along with the activities involved in generating that growth, e.g., employment growth in the local economy, changes in regulatory environment and changes in quality of life. In addition to this historical perspective, imagine a real time reporting of not only what is happening in development, but of what is happening in infrastructure development and other activity which will impact the supply of and demand for developable land. Add to this a forecasting level of what is likely to develop based upon employment forecasts, demographic changes and other demand side variables. And, now put yourself in the position of the political leadership of the local government faced with making capital improvement decisions to facilitate or deny growth. Would all this information more effectively manage the growth process? Obviously, yes.

Now, put yourself in the position of the landowner or would-be developer. With access to this information, the feasibility is determined much more readily. There are tremendous economies of scale in such information. The cost of the developability analyses has been externalized to be recovered perhaps from impact fees, but nevertheless, the way in which the analyses is conducted has changed. Indeed, the way in which the system is operating has changed.

Building Development

The current system has been described as one in which there is either a site in search of a building or a building in search of a site.⁶ Predicated on such a mirror image system, the potential for a specific site could be readily analyzed utilizing the new technology, or the search for potential sites would become a rather quick computer sort. In either case, what was previously a long and expensive process now is made somewhat more efficient because of the economy of scale by which the analyses were done. At this point, one has a site and proposed use, and there is a decision made on what to build.

Since it will take some time before this technology is generally applied, assume there is a case where someone is considering to build an office building with some space not pre-leased. Under the current system, there would be a market analyses and building design responsive to that analyses. With the information revolution, the logic may not

have changed, assuming the key always has been responding to societal needs as indicated by markets. What has changed is the technology by which it is done. The technology in the new era would show the current space situation, with occupancy/vacancy rates by class of building. It would show occupancy/vacancy by submarket location and other variables. These other variables could include floor plate size, building amenities, building character of occupancy (business or profession of user), and special features such as access to fiber optics, transportation network, cluster shopping, restaurants or other focal points of activity. The analyses would not only forecast quantity of space required, match it against pipeline and announced pipeline additions, but focus on characteristics which differentiate among space suppliers who meet anticipated demand changes. Based upon those inputs, the architect has a design input. With that input and the constraints of the site developability, a computer-aided design program (CAD) can provide a preliminary drawing of the building's design for the purpose of determining floor plate size and other spatial characteristics. The CAD system could then complete the design of the building.

There is a key difference in the way office buildings historically have been built and the way this new system will work. Previously, builders would build whatever they could finance, and unknowledgable lenders would finance projects for which there was no societal need. Under the new system, the lenders would actually understand what was needed to be built. In any event, the analytical system will be different. It will be driven by more sophisticated market analyses which are inputs to the process of designing those space requirements. Furthermore, the way in which the space is utilized, e.g. arranged, may be significantly different.

Asset Management

The asset management of these structures will involve a new technology which is involved at the property management level, and the asset management level. Property management is appropriately concerned with service to space users. In this context, supplies and services are provided in response to space user needs. If the space is unused, or will shortly become unused, property management is charged with marketing the space.

The property management system involves a series of managerial and financial controls. In the financial control arena pro formas are prepared and actual income and expenditures are reported and compared with the pro formas. In essence, the property is managed to produce the desired results.

While computerization is the general rule for handling the financial information, it is not necessarily the general rule for dealing with the other management information. Under the new technology, floor plan drawings are computerized; tenant needs may be anticipated and responded to by utilizing a number of what-ifs regarding allocations and reallocations of space. This extends to altering air conditioning systems, electric wiring and other construction characteristics necessary to resolve design problems. Sprinkler systems, security systems and other components of building design now are computerized, and the cost of new tenant improvements can be calculated using standardized models. The key is the change in the system by which the space is managed. The models used are replicable, i.e., they may be used in other buildings. Even the purchasing process is replicable. Compare this with the prevailing practice where only the accounting financial reporting systems are replicable.

The asset manager, who looks at the asset in the context of a portfolio, focuses on the effective management of the asset, e.g., overseeing the property management. Generally, the current asset management of most USA real estate is a ma and pa operation in which each asset is individually managed according to the style of the asset manager. Sure there are patterns in replicability of many management policies, but it is far from a franchise operation.⁷

Consider the way in which the retail franchise operations work. Not only is the financial management system standardized, but so is the purchasing and other physical management aspects. With new technology, the asset manager may use the same model for every similar asset. The key difference, though, is that the top level executive may take, with what has been called, "top-sight",⁸ an overview on the operation of all the assets and in real time, examine the performance of each.⁹ The result is tremendous economies of scale and an upward shifting of management decisions. American business already has been going through a downsizing because the information revolution obviated the necessity of many middle managers. In an earlier era, information was painstakingly and expensively gathered and moved up the chain of command. At each level, some manager would process the information, make some decisions and pass more information along to the next level. Finally at the top the chief executive would receive information which was heavily processed and the end result of much human capital. The revolutionary structure reduces the need for many intervening managers. Not only are fewer people needed, but more information is processed. The processing may provide guides for the routine decisions. Top management now has access to the entire system

and may employ high powered analytical tools for forecasting market changes, repositioning properties and developing more effective marketing plans. The result is higher revenues, a lower level of expenses and indeed a larger bottom line.

Portfolio Management

Portfolio management also will be significantly different. Currently, a great many U.S. real estate portfolios are managed on a bottom up basis. The portfolio is built, deal by deal, by the real estate investment manager. Some of the more progressive portfolio managers look for diversification and set forth target geographical distributions and target property type distributions. They attempt to build a portfolio by selecting property types and locations which provide the desired diversification. At the cutting edge of the spectrum are the techies who look to apply modern portfolio theory by using property returns variability to get a diversification of real estate assets. Their use of the technology is in the analytics of what constitutes diversification.

While there is a broad spectrum of technology application in portfolio management, an integrated system is absent to move the asset management information system into the portfolio management arena. This *Mirror World*¹⁰ image of portfolio management would take the technology much farther than applied, to date, in the portfolio management arena. It would go beyond the analytics of selecting the portfolio, but it would have a real time monitoring of portfolio performance with analytical systems for the what-ifs in portfolio management and forecasting.¹¹

In portfolio management the what-ifs are what happens to the efficient frontier if properties C, D and E are dropped or properties X, Y and Z are added. Such analyses may be conducted not only by looking at the economic base of the area where the property is located, but at the tenants, particularly their SIC code. When this is done, the diversification analyses is based on the business as well as the spatial dimension, which represents basic underlying economic forces.

To this add the ability to integrate the forecasting models according to basic changes in the underlying forces. The impact of these models enables the portfolio manager to forecast performance and diversification under a variety of alternative scenarios, and top level decision makers receive substantially more information. Their decision support structures can rely less on middle management expertise and more on understanding what is happening in the real estate sector. Indeed, the technical material may be transformed into management information systems where the decision makers see and understand variables and are able to determine effective courses of action.

Conclusion

With new technology, the decision making process can improve substantially, and it should be easier to avoid the big error, the big expensive error. In business as in golf, the key is to stay out of trouble, and this requires a topsight view of what is going on. Our society recently went through a restructuring of the real estate capital markets because we failed to stay out of trouble. The restructuring occurred, in part, because of changes in the federal tax policy, but also because those with the capital didn't know enough. Those who survived the last round now have experience for the next. But, their new counterparts will be able to rely heavily on the technology of the new information age. The information revolution will enable them to make better decisions than their predecessors, because they have better resources. The next key question is how to use the information that is available, and that depends in part on its development and implementation. If we do it right, the next round will not be nearly as expensive as the last.

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NOT ALWAYS BE SOMETHING
YOU WISH TO HEAR.**

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PROPERTY IN THE EUROPEAN ECONOMY

by Christopher W. Jonas, CRE

This keynote address was presented by Mr. Jonas at MIPIM 1994.

The formation of the European Community has dominated our adult lives. The first steps toward a common market were taken by Robert Schuman in 1950. Major events since then have included the famous French "non" to Harold Macmillan in 1963, the eventual signing of our first accession, the Treaty of Rome, by Edward Heath in 1973 and our final commitment to the union in 1993.

Much was made of the build up to 1992 and our full membership of the community. But even that was the subject of public confusion. Some years beforehand it was easy to focus on 1992 as a target date. And yet as the time approached it became clear that it really meant 1993, because the actual date was 31st December 1992. So to some extent it was an anti-climax when the great day arrived eventually. As a result those who wished to ignore things felt they could do so in peace and impunity.

Now that all the preparation and negotiation is behind us, the property industries of the twelve states must seize the initiative and play their full part in the economic development of our new and enlarged home market. There is a lot of work ahead of us but it is accompanied by tremendous opportunities.

I am honoured, therefore, to be asked to present this keynote address to the fifth MIPIM here in Cannes. MIPIM has established itself over the last five international conventions as *the* international convention for the world's property markets. The emergence of Europe as a powerful trading block will strengthen the case for a greater integration of the property markets of the member countries. And with that will go a responsibility for us as the leading property professionals to clarify the role played by property in the EC economy, as well as explain our sector's contribution to a wider European audience. I hope this paper will stand the test of time as one of the foundation blocks on which that campaign can be built.

The European Union is now the great trading force in the world. It ranks ahead of the USA and Japan in terms of GDP.

Our home market is the largest in the world, but we suffer from fragmentation when we compare our position with our principal competitors. This difference between us and our principal competitors is potentially so important that it warrants discussion before we consider the opportunities and challenges presented by a single property

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TABLE 1

World League

	Europe	USA	Japan
GDP	5,073	4,528	2,720
Cons. Exp're	8,831	1,933	1,610
Exports	1,116	340	254
Population	345	253	124
Pop. per sq. km	146	27	328

GDP '000 million, ECU
 Consumer Expenditure Per capita, ECU
 Exports Million, ECU
 Population Million
 Population Density Per square km

Sources: OECD, EC

market. From this discussion I have three principal policy pointers for the property industries of Europe to consider.

Structural Challenges To The Growth Of Europe

Language

First, there are as many languages or strong local dialects in the EC as you chose to acknowledge. At any count there are five principal and separate ones, English, French, German, Spanish and Italian, as well as a host of others.

This is one difference we shall have to put up with. I consider it to be so deeply rooted a piece of European history and culture that we had better not try to interfere with the use of languages. For business people it is an impediment, but market forces will sort things out. For tourists the multiplicity of languages adds to the charm of Europe.

Currency

Secondly, we have twelve different currencies. This represents a huge overhead to the cost of doing business in Europe if an alternative is available. The sheer cost of exchanging money between countries is a major imposition. Someone leaving London with £1000 in his pocket and visiting each of the EU nations would have parted with nearly £400 in foreign exchange spreads and commissions before he got home again. And this is before he buys any goods or services in the countries he visits. Patently this is unacceptable on a long term basis. It diverts money and effort away from productive long term investment and diverts it to an essentially parasite sector.

Put another way, it has a huge impact on the true cost to many of us attending MIPIM. Fifty percent of the delegates come from outside France.

If they each spend £750 in cash and on hotels and sundries, the extra cost of simply undertaking the necessary foreign exchange transactions, before buying any goods or services, totals a staggering £62,000.

Exchange Rates

Likewise with currency parities. The US and Japan trade internally with a single currency unit for their powerful domestic economies. This maximizes the potential of their own markets and provides a large boost to their exporting efforts. We have the disadvantage that intra-European trade still contains exchange rate risks and so increases both the price and complexity of it relative to our competitors.

Immigration Controls

These internal disadvantages create enough difficulty without the further disincentive to trade with Europe suffered by our non-European colleagues. Have you considered the deterrent effect of the time they have to endure in gaining immigration rights to each country? We can use the blue channel, but it can take up to an hour each time a US citizen, or anyone else from outside the EC, lands at a European airport. And this applies even if the person concerned is travelling within the EC.

I suspect that many of us in the UK would have thought at least twice before expanding our own businesses into the United States if we had to put up with passport controls every time we moved from one state to the next.

Policy

To overcome some of these disadvantages I offer the following two proposals as priorities which the property industries of Europe should adopt. We should press them on our respective governments and on our own representatives to the European parliament.

A single currency is an imperative for the reasons already stated. Foreign exchange charges and the risks of currency fluctuations are two totally unnecessary burdens for business to bear in the EC. They are a real disincentive to foreign businesses to set up here. There are always political reasons for delay in these circumstances, but I would urge us to press for this immediately.

We must press for non-discriminatory treatment of businessmen visiting from outside the community. There should be a first time entry process for those landing from outside the EC and then the facility for non-Europeans to travel around within the community at will.

Commercial Property

Against this background we can move on to look at the state of the property industries and their role in Europe. Property people are renowned for complaining that the relevance of our market is not

understood by the majority of the business world. We are told that people underrate the impact of property and thus their own need to understand it better.

Within our business lives values of property generally have gone steadily upwards. There has been little need to worry about it. This has lulled a number into complacency, the result of which has been that less attention than necessary has been paid to the economics surrounding the property markets. But in reality, property has never been anything different from any other market. Prices are a direct function of supply and demand. There is no inherent stability which protects property prices from other economic influences.

The thing missing in the past, in my opinion, has been the ability of property people to articulate properly the structure of their markets and the property market's function and influence in the economic system. Therefore, it is our fault if we have a poor press.

The key issue in our message for the future is that property is essential to all activities. It ranks alongside capital and labour as one of the essential factors of production. But it is similar to other basic commodities in that it reacts like any other market to changes in the forces bearing on it. Property is linked inextricably to its surrounding economy. Understanding the way it reacts as a function of the events in the wider world is vital for the successful businessman. And property people have an equally vital role to play in achieving a wider understanding of the way these reactions occur.

The difficulty faced by the public has been the mystique with which property people have surrounded their art. Many property people have believed that the lack of public information has given them an advantage. This may have been so in the short run, but the opacity of parts of our markets are now doing us all a disservice. Even for those interested in a wider understanding of the way the property market works have had on principal difficulty. There has been the relative scarcity of good data. Other markets, like securities and finance, have been more active in promoting a wider understanding of themselves through published research and flows of reliable market information. This is improving, at least in the UK property markets, but only slowly and a little late.

There are two separate influences on property which we need to understand before we can explain them to our public: first, the market or systematic pressures applied from the economy as a whole; and secondly, the specific and local risk attached to each, by definition, unique property.

The macro picture provides great scope for analysis and as such will be open to a wide variety

of interpretations. The local picture will rely on the market knowledge of professionals to unravel the confusing noises coming from any local market. Accordingly, I welcome the recent move of the Royal Institution of Chartered Surveyors to establish an organization on the continent to provide clients with a mirror image of the quality services they receive in the UK market. The European Society of Chartered Surveyors has tremendous potential and a crucially important role to play. It has to establish the high standards of our profession as the industry standard here and across the whole single market.

Maybe it is the local influences on property which have been the ones most understood by the professionals working in the market. The need now is for a better understanding of the way movements in the European economies influence changes in demand and values for commercial property. The time and space allowed for this paper is not sufficient to give a detailed analysis of this, and the author is not the best person to choose to do it. But I can identify the issues and offer some thoughts built on experience for the next very necessary steps.

The principal hurdle we have to surmount is the shortage of good data. To my knowledge the data on the main property markets in the continent are even more scarce than in the UK. At least the British profession has the results and benefits of the enlightened work of some surveyors' practices who have established their own research departments. Others financed the start of IPD, an internationally respected data collection house in London.

On the continent the source of data is limited in the main to the big brokerage houses who publish information on their local markets. This means that there is no consistency nor is there any security that the data have not been dressed in a way which presents the city or firm concerned in the most favourable commercial light.

But the author of a foundation paper such as this has to do more than wallow in the lack of information. Accordingly, I have prepared my own digest, culled from the wide range and quality of information available.

There are 92 separate sources of property data—for commercial property alone—outside the UK in the main European economies. There are great opportunities here for anyone interested in a combination of lamp posts and statistics! The clear and urgent message from this is that we need a central and accepted source of European property data. Within the attached series are so many inconsistencies that any attempt at analysis based on them is open to criticism that one has just taken the particular series that suited a preconceived answer.

ANNEX 1

Sources of Long-Run Property Data for the Major European Markets

	Town	Data Source	No. of Series Available		Town	Data Source	No. of Series Available
German Office CV	Frankfurt	ICPA	2	Spain Office Rent	Madrid	Spanish Real Estate	1
	Frankfurt	DTZ	1		Barcelona	FIABCI	2
	Dusseldorf	ICPA	2		Barcelona	DTZ	1
German Office Rents	Berlin	Zadelhoff	4		Barcelona	ICPA	3
	Berlin	Munich Institute	1		Barcelona	RE	1
	Frankfurt	Zadelhoff	1		Barcelona	H&B	2
	Frankfurt	RE	1		Barcelona	JLW	1
	Frankfurt	DTZ	1		Barcelona	Spanish Real Estate	1
	Frankfurt	WGS	1		Seville	FIABCI	2
	Dusseldorf	Zadelhoff	4		Seville	ICPA	1
	Dusseldorf	ICPA	2		Seville	H&B	1
	Dusseldorf	Munich Institute	1		Bilbao	ICPA	1
	Dusseldorf	DTZ	1		Bilbao	H&B	1
	Hamburg	Zadelhoff	4		Valencia	ICPA	1
	Hamburg	ICPA	1		Valencia	H&B	1
	Hamburg	DTZ	1		Zaragoza	H&B	1
	Stuttgart	Zadelhoff	4	Netherlands Office CV	Amsterdam	RE	1
	Stuttgart	ICPA	1		Amsterdam	FIABCI	1
	Munich	ICPA	1		Amsterdam	ICPA	5
	Munich	DTZ	1		Amsterdam	JLW	1
	Munich	Schauer	1		Amsterdam	DJTZ	1
	Cologne	ICPA	1		The Hague	ICPA	1
France Office CV	Paris	DTZ	4		The Hague	JLW	1
	Paris	RE	1		Rotterdam	ICPA	1
France Office Rent	Paris	ICPA	3		Rotterdam	JLW	1
	Paris	JLW	5		Rotterdam	DJTZ	1
	Paris	H&B	6		Utrecht	ICPA	1
	Paris	DTZ	1		Utrecht	JLW	1
	Paris	KFR	1	Netherlands Office Rent	Amsterdam	FIABCI	2
	Paris	Bourdais	19		Amsterdam	RE	2
Space Office CV	Madrid	DTZ	1		Amsterdam	ICPA	5
	Madrid	ICPA	4		Amsterdam	JLW	1
	Madrid	JLW	1		Amsterdam	H&B	3
	Barcelona	DTZ	1		Amsterdam	DTZ	1
	Barcelona	ICPA	1		The Hague	ICPA	1
	Barcelona	JLW	1		The Hague	JLW	1
	Bilbao	ICPA	1		The Hague	H&B	3
	Seville	ICPA	1		The Hague	DTZ	1
	Valencia	ICPA	1		Rotterdam	H&B	1
	Madrid	FIABCI	2		Rotterdam	DTZ	1
Spain Office Rent	Madrid	DTZ	2		Rotterdam	JLW	1
	Madrid	ICPA	3		Utrecht	H&B	1
	Madrid	RE	1		Utrecht	ICPA	1
	Madrid	G&B	4		Utrecht	JLW	1
	Madrid	JLW	1		Utrecht	DTZ	1

Main European Economies

In my experience, the greatest influence on the performance of a property portfolio of any size will always be the national economy.

Local influences, such as the differences in supply and demand for a particular street corner, will have an overriding influence at the level of the individual property, but the overall pressures applied by the economic environment generally will always dominate across a diversified holding. Thus, in considering the European market we need to look at the state of the key European economies and their position in their respective cycles. These have a clear relationship between each other, but a detailed study of the differences between them is necessary before action. Many a finger has been burned by unwise and ill-timed investment in the UK market between 1987 and 1989. Similarly, those who

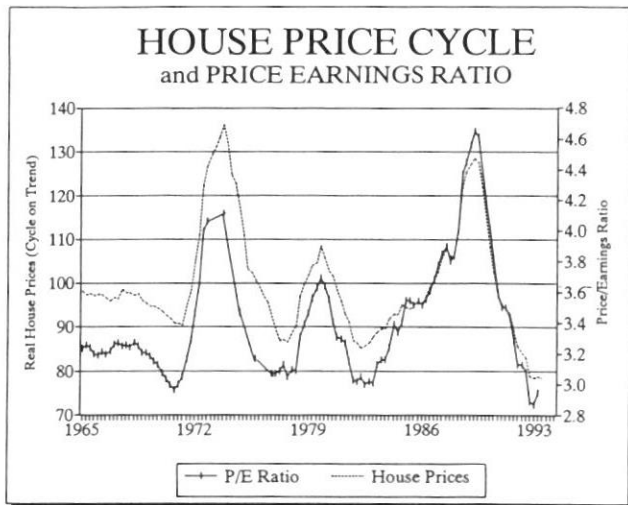
ignored obvious warnings about the impending downturn of the German economy in 1991 have had a hard three years pounding the pavements of Frankfurt and Berlin looking for business where there could never be enough to go round.

Cycles in economic activity have long fascinated people who are far more erudite in economics than I am. Despite any academic shortcomings, it has always seemed to me that cycles have a very attractive logic to the intelligent businessman, if only because they reflect the experience we all have had in the real world.

There is a natural relationship between the demand for goods and the customers' ability to pay. There is an inevitable link between movements in macro-economic performance and price levels in particular parts of the whole system. If one

commodity starts to appreciate faster than the underlying level of eventual demand, it can only be a matter of time before a correction is necessary. This seems such a blinding glimpse of the obvious that it should not need restating. And yet the way markets move day by day make one wonder if any lessons are learned as time passes. Perhaps the only reliable thing that we learn from history is that we don't learn from history!

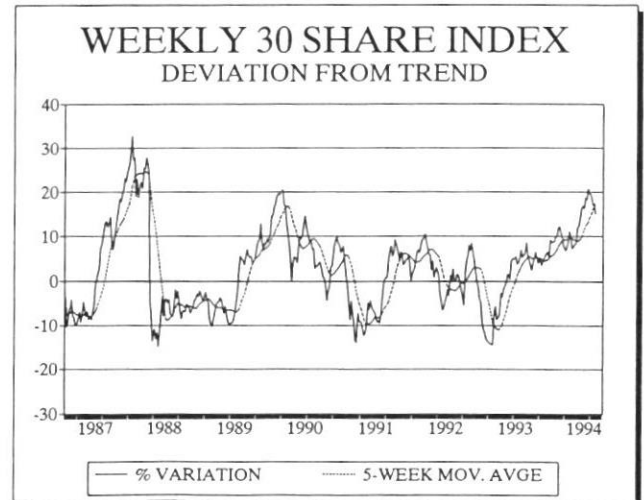
As an example, quite separate from the commercial property market, look at the cycle in UK house prices. As recently as 1990, commentators were saying that the worst that could happen to house prices in a recession was that they would remain static. We were told that there had been a fundamental and permanent shift in the amount of income which the average family was prepared to allocate toward its housing costs. No-one I know forecast the inevitable fall off in demand which would follow the violent upswing in prices. The prices ran way ahead of the rate of value and price increases elsewhere in the UK. But a reversion to a long run mean always seems to take place eventually. And so it was in the last few months of 1989. "Safe as houses" is no longer an expression in much use.



Source: Nationwide Building Society

And the same applies to the cycle in the stock market, itself a residual of all the economic news which the dealers can factor into their prices. For some reason, as the market gets more than 10% above the long term trend of growth in the economy as a whole, a reversion to the norm seems to become inevitable. I grant you that the skill is to determine exactly when that will take place, but it seems logical to me that the market should apply some restraint when the level of stock prices starts to run so far ahead of the underlying economy's ability to generate ever-increasing dividends.

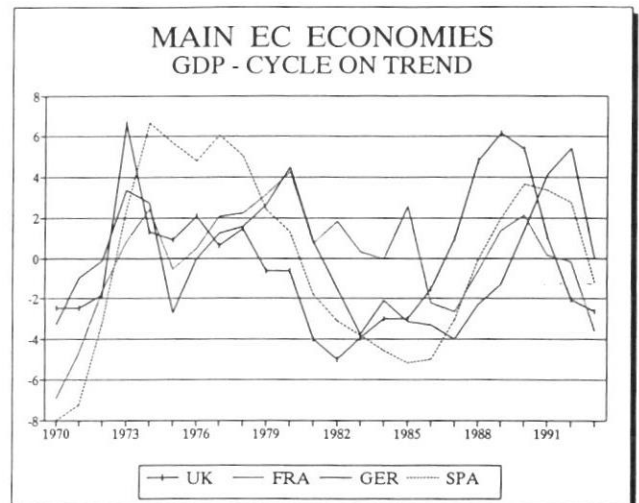
Events in February seem to have borne out this analysis.



Source: Financial Times

To say that some of these linkages are simplistic does not weaken the case. It strengthens it. It acknowledges a series of often elementary but unavoidable links and that, do as we might, we are always subject to the pressures they exert at a particular time.

The main economies in Europe are pulling out of recession at different speeds. At the moment each one is in a different stage of its own local cycle.



Source: OECD, EC, Datastream

Given the remarkable coincidence in the turning points of these samples, it is surprising to an extent that we all go on trying to outguess the system. But then if logic and probability analyses were the only things ruling us, the casino operators would never have a regular customer for their roulette wheels! Nonetheless, the European economies

all show similar tendencies and at roughly predictable times in their cycles.

There is at least one clear message from this data. The UK economy seems to change direction ahead of its counterparts after a period of growth and to turn up again first after a recession. The clear sign of recovery is evident in the 1993 data for the UK, whereas at the end of last year the other economies were clearly still shrinking relative to their long run trends. Each of the others will be helped back to growth by the influence of the UK recovery. Interestingly, the German economic cycle gives a picture somewhat different from the one we are used to seeing. Maybe it is now more a case of Deutschland nach alles!

For the property markets there is now a clear order of priority set by the speed with which the main economies of Europe are pulling out of recession. Beware, on the one hand, of sweeping generalizations on such complex matters as these. But beware also of ignoring the obvious messages in such fundamental analysis. My examples give an insight as to how things work. This sort of study has further to go, but it must be better than ignoring it altogether.

In order to look a little closer at the relationship between these economic analyses and the property markets, I have done some work on the UK. This is supported by reasonably good data on property. Better data on continental property would enable us to test this further with continental markets as well.

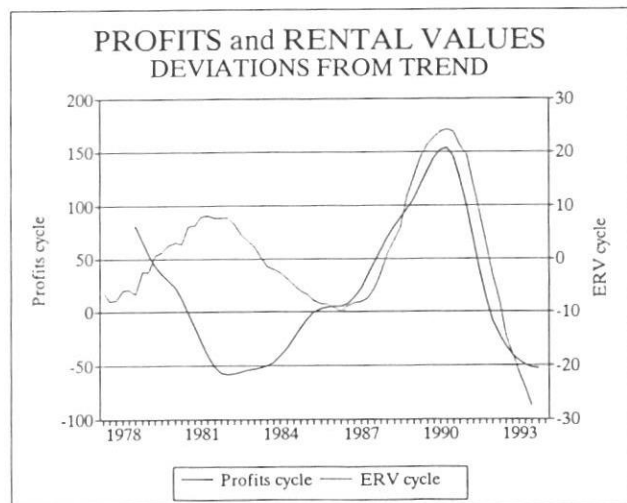
UK Property

As last year's president of the Royal Institution of Chartered Surveyors, I tried to focus our members' attention on the way in which UK property reacts to changes in the wider UK economy. To explain this I carried out some research on these links. Subsequently, the RICS commissioned the University of Aberdeen to do some formal research on the relationship between cycles in the whole economy and those in the property markets.

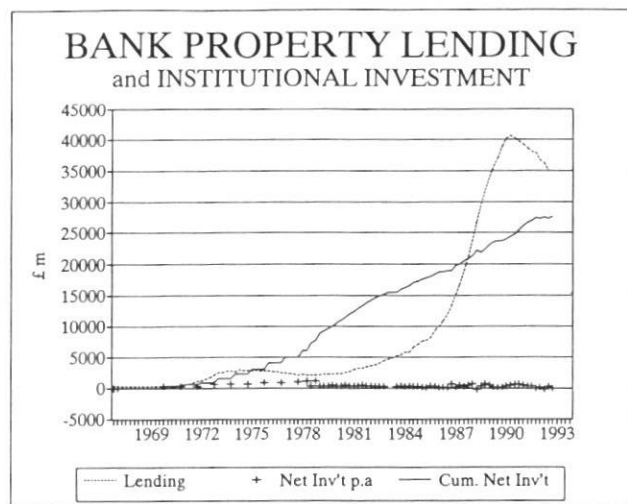
My work was intended to whet appetites, and so I was delighted to find RICS research funds going into the development of my themes in a more formal way. Samples from work have been well publicized and so I should not take up much space with them here. The following extracts will serve to illustrate my point.

Rents are driven by tenants' ability to pay them. This may seem self evident, but the way in which some landlords sought to dictate terms when the market was high showed how some of them at least had forgotten this fundamental fact. The cycle of rents follows neatly behind the leading

changes in company profitability. This relationship gives the lie to the concept of the institutional lease. Who heard of a suppliers' product? It is the consumer who dictated what the supplier provides long term. Landlords will have to adapt over time to the changing needs of their tenants.



Series: Company Profits; Rental Values
Sources: UBS Phillips & Drew; Jones Lang Wootton



Bank lending to property companies is one of the principal barometers of the health of the banking/property sectors. Over time there has been a natural market in bank debt to developers which was equal to roughly three times the annual demand for property investments from institutions. Most schemes took about that period to complete and to let. At that point a developer could sell and refinance his debt. The degree to which this got out of gear in the late 1980s is clear.

PROPERTY AND GILTS REAL YIELDS



Property yields show a remarkable relationship with the redemption yield on long government bonds. This puts the recent drop in property yields into context with movements in other markets.

The report from the RICS and the University of Aberdeen has the following main conclusions:

- There is a recurrent cycle in the UK property investment markets, although it is irregular in depth and length, the cycle is the compound result of a range of other economic pressures on the property market. The inherently cyclical nature of much of the rest of the UK feeds through with varying lengths of time lag.
- It is possible to build models which explain the relationship between property markets and the wider economy, although not all of them will be of much use in forecasting the future. Yet, the report urges that the industry spend more time still on developing better models, particularly in relation to the length of the cycles and their lag behind the economy; more research is needed to record historic property market movements; and businessmen generally should pay more attention to the essentially cyclical nature of our markets.
- These coincide very much with my own analysis and conclusions. In my submission there is enough evidence to satisfy us that these links are more than coincidental. Much more data is needed and more research effort necessary.

This can all be done later by the profession and the industry. There must be a strong case for greater cooperation between practitioners to cut out the cost and waste of the present duplication of effort. But it will be essential if we are to capture the imagination of the very business people who we have criticized as being insufficiently aware of the contribution made by the commercial property markets.

Trends For The European Market

The integration of the European market will bring into focus some of the differences between countries. It will also serve as a catalyst to the de facto harmonization of others.

Geography

Increasingly European businessmen view their home market as covering the whole of the EC. These self imposed barriers to completely free trade have got to be removed for us to compete on the world stage with our goods and services.

From the property market's viewpoint there are some interesting variations between countries, both socially as well as economically. These have developed over the centuries, but have wider implications than just the economic power and geographic distribution of the population. These indicators show the fundamental differences in the social and economic structures of the member states of the union.

TABLE 2

	FRA	GER	SPA	ITA	HOL	UK
GDP/head	17.3	18.3	12	15.9	15.6	14.7
Cons Exp	10.1	11.1	6.5	9.3	8.5	8.3
Exports	185	324	51	137	108	147
Imports	200	315	73	147	111	169
Wages/hr	6.8	9.8	7.1	n/a	8.8	88.9
Density	105	225	77	188	367	237

GDP per head	Per capita, '000 at Purchasing Power Standard (PPS)
Consumer Expenditure	Per capita, '000 ECU
Exports	Per capita, '000 million ECU
Imports	Per capita, '000 million ECU
Wages/hour	Hourly earnings in industry, at PPS
Density	Per square km

Sources: OECD, EC

The way in which our principal European counterparts have developed is interesting. There is a wide spread between the distribution of population in the different countries. This has major implications for the way in which each country's infrastructure has to develop, as well as for the likely impact on rents at times when demand is high. Those with a more diffused population can expect lower volatility than those where a large percentage live and work in the few main cities.

The population of each country and its geographical distribution is as much a function of its starting size and past growth as any planned method of economic development. But, for the future I

TABLE 3

	FRA	GER	SPA	ITA	HOL	UK
Top 5 towns	26	<10	18	12	25	19
Largest city	19	4	8	5	7	11

Top 5 towns Population of top 5 towns as a % of country's total

Largest city Population as a % of country's total

Source: EC

suspect that many of the problems facing one country will become significant in the other principal ones. And as such this will impact on the way the different markets develop. From this will come changes to the real estate services the markets demand.

For the purposes of this paper I should like to focus on a few which I believe will be fundamental to the next century's development. The fact that they are not all original strengthens my argument. They are big issues and ones which so far have defied resolution.

Environment And Conservation

First, the environment—a well flogged subject, but one of increasing threat to world stability. An international trend toward protection of the environment can only mean that the issues affecting the development and management of property across Europe will converge increasingly. Concern in the UK about the impact of large scale out-of-town shopping development is less prevalent elsewhere. This is often because there are fewer pressures on land use in some continental countries than in the UK. But as time passes we shall find the social principles adopted in the leading economies will become the accepted standard in those who follow. Furthermore as business becomes more European, the demands of the population in different countries within the same market will become harmonized in practice, even before the European Commission starts to turn its regulatory mind to the question as well.

Next, a real concern about conservation. We can expect international concern about conservation to bear down on our markets. This will inevitably increase costs and so eventually will reduce land values.

But a word of warning. We shall have to learn to temper our environmental interests to the realities of the world economy. Europeans are well developed and sophisticated compared to many less developed economies. As such we are well up the Maslovian scale of needs. We shall have to be aware that other countries may be less concerned about

the global environment than about attracting their fair share of the world's income—and in some areas enough for their people to eat. If they can supply white collar workers at a salary level well below ours, and arrange available to western businesses via direct satellite linkages, many basic clerical jobs in Europe will become economically redundant.

There are huge social issues afoot here, let alone the implications for the UK office market.

Technology

Thirdly, we shall all be subjected to tremendous changes resulting from technological advances.

IT (information technology) has been a latent threat as well as an operational opportunity for decades. The last five years have seen the dramatic increase in the penetration of PC usage across the whole of industry, just at the time when management has been trying to lower the fixed overhead costs of many businesses. In the last decade we have seen enthusiastic adaptation to PC usage. If we learn anything from earlier recessions in essentially blue collar industries, it is that the jobs taken out are not replaced directly when things start to pick up again. On this basis the impact of our recent white collar recession will be to lower permanently the administration/production ratio which management is prepared to tolerate.

But I forecast that this stage of the technology revolution will be of mega-proportions. I expect that the advent of the personal portable computer will be seen as another of those very rare but fundamental occurrences which have created a sea change in behaviour and social evolution over the centuries. The first of these seems to me to have been mastery of the supply and use of water; second, the invention of the wheel; third, mechanical power, then the telephone; now the portable PC, with its attendant facility for communicating with one's own network or by fax anywhere in the world from anywhere in the world. This is a giant step on from the traditional need to use paper and a pen and to store information and transfer it on hard copy. The capacity that this technology gives us to change work practices makes it inevitable that practices will change and with them the demand for traditional work space. Anyone who believes he can carry on ignoring the implications and the seismic changes they will bring about is even less well advised than King Canute.

Increasingly I find people anxious to use IT facilities not only to make the working day more efficient, but to use at least part of its productivity gains to increase choice and leisure time. This is an interesting concept as the regular benefits of PC technology are made available to the middle management of companies. For those senior people who have had access to IT, to date, the result has

often been no more than an increase in the pressures placed on them. Faxes demand far quicker responses than letters ever did. Mobile telephones mean you are never out of touch. One finds it a real discipline, therefore, to find time for consideration of the issues of the day.

But demand for human skills is likely to polarize. There will be increasing demand for those to whom IT is the servant, and more demand for those who are really skilled in some way with their hands. The middle ground of under-skilled middle management and clerical staff will find themselves in shorter and shorter demand. This bodes badly for their earning potential.

Property markets will have to do a lot of adapting if they are to keep up to the fast changing needs of their users. Change they must, if other more nimble professions are not to steal the very bread from our mouths.

New Work Patterns

This new IT and the flexibility which PCs now provide is available to people at all levels. My guess is that the demand for flexible hours—and the chance work in a less constrained relationship on contract will increase. This will alter the long run demand for office space and the balance between under and over supply.

The popular reaction to suggestions that choice will change work patterns is that people have to come to work in an office to be effective. This has applied in the recent past, but has actually not applied for very long. Before the typewriter and a more sensible attitude toward women working in an office at all, very little office clerical work was undertaken. The advent of modern technology will, in my submission, mean a return to the average white collar worker turning out his own material once more and using administrative support only if they are senior people with complicated offices to run.

Leisure—Demand And Deliver

Next, a change in work patterns would impact seriously on the demand for access to leisure.

I am far from clear how this will emerge, because there are few guiding principles on which we can rely. Not the least is where will all the apparently underemployed people get the spare cash with which to afford to go to leisure parks and so on?

One answer may be that increasingly leisure will become either very low cost or even free. The American trend toward leisure being added to shopping centres is well worth watching. These are unlikely to be revenue generators of any size, but like the provision of free car parking, may become the sort of facility which the customer comes to

expect. Certainly the trend toward leisure being increasingly reliant on and driven by software developments will assist this trend. In the old days you had to travel miles and spend the best part of a day to enjoy a theme park. Today the wonders of virtual reality mean that one person can experience a wide range of excitements in a tiny physical space and without moving from his immediate surroundings.

Transport

People demand faster and more frequent travel opportunities. The speed of communication and the obvious increase in living standards since the 1950s have widened peoples' horizons. More seem to start their day in the wrong place and so are on the move more than ever before.

We face a major debate on how best to satisfy this demand while not totally ruining our environment from road building and emissions. Car versus rail will become the next large big social debate. As director of Railtrack, the new public limited company which will own and operate all the railway lines in the UK, I am hardly unbiased. But I am convinced we shall have to do something to arrest the relentless advance of the use of cars. Railtrack has a huge job to do to change the way in which rail services are delivered in the UK. Their mission can be no less than the reversal of the last 30 years trend in domestic and European travel patterns.

Within Europe the advent of new international high speed trains and the opening of the channel tunnel will introduce a real element of competition to the air routes. Fast trains, if properly staffed and reliable, are a real threat to the presumption that the fastest way between capital cities is always by air.

Property Market Data

All of these challenges will be the harder to meet if we have to rely on the present fragmented availability of property data. Other industries have progressed beyond the stage of internal competition on the availability of the data. This is often pooled in order that businesses can concentrate on the more important things, such as its interpretation. Some good progress has been made in the UK, but there is a long way to go.

The start of a true single market in Europe seems to me to be an excellent time at which to have a major drive toward cooperation on the supply of data and to encourage a much greater amount of effort being put into the analysis of it.

This is an issue of such importance that I suggest it should be on the government's agenda as well as our own. The Department of the Environment in the UK has led the way in the pooling of construction industry data. The property industry

should make a combined approach to invite the department to act as a catalyst for a similar exercise in the property market.

Property Market Issues

Two principal issues are likely to affect the way property markets evolve in Europe in the late 1990s.

First, shopping patterns. The experience which shopping now is taking on in the USA and to an increasing extent in the UK will become the standard demanded by increasing numbers in Europe as a whole. Over the last ten years developers have improved beyond recognition the quality of the environment in which we can now shop.

This means that the whole process becomes more one of pleasure than of duty or drudgery. Increasingly, entertainment and other non-shopping diversions are provided in shopping malls in town and out of town. This leads the way to developers being expected to produce a much higher quality product, a process which I believe will accelerate in the times ahead when value for money is so much more in demand.

The other systemic influence will be the reduction in the number of people who reckon on

commuting daily to an office. Technology and a wish to have more choice in one's lifestyle will mean that fewer are willing to undergo the discipline of turning up to an office to do work which can easily be done elsewhere. Not only will many office buildings become redundant in both design and location, but also in terms of the total office space in demand.

The result of this is that the rate of return demanded by investors should rise, and that some buildings will become the flatted factories of the last few years in this century. Furthermore the change to the pattern of office employment will mean that smaller sized suites will be needed. There will probably, at last, be a need for the serviced office suite for use by increasing numbers of people working in a semi or fully free-lance capacity.

So far these phenomena are little more than a glint in the eye of the futurists, but trends are evident even now which indicate to me that the pattern of work, and thus the design and number of buildings, will have to change dramatically to adapt to new circumstances.

Conclusion

If anything I expect some of the issues which press down on us in the UK will be a menu of issues for the wider community in the next few short years. As one of the most crowded countries in the community, we have had to face some of the more difficult trade-offs between mutual responsibility and personal freedoms. For example, we have a long record of the result on the environment of essentially politically influenced planning decisions. And as the first one into the industrial age, we are experiencing the pain of being among the first ones to have to adapt to the next economic generation.

Europe is at the beginning of an exciting period of change and opportunity. The property market has a critical role to play in it. Let us work now toward a cooperation within our industry which lays the ground for the industry increasing its relevance and contribution to business in Europe in a way which is more effective than the record in our different countries today.

There is great scope, therefore, for the property profession and its industry to make a major contribution to the future development of the European Union. We shall not have the right to decide when and how to do this. Much is expected of us by those who rely on property either as part of their accommodation needs of those who wish to invest in it by equity or debt. The property professions of Europe must grab the initiative—and now. If we do, the greatest period of growth in our profession is still ahead of us.

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A PRIMER ON PROXIMITY IMPACT RESEARCH: RESIDENTIAL PROPERTY VALUES NEAR HIGH-VOLTAGE TRANSMISSION LINES

by William N. Kinnard, Jr., CRE,
and Sue Ann Dickey

When land is taken through eminent domain by an electric utility company for a new or expanded right of way to accommodate high-voltage transmission lines (HVTL), or even feeder or distribution lines, owners frequently claim damages to the remainder properties after the taking. These damage claims include assertions that property value is diminished for residential use¹ because potential purchasers will pay less for residences close to the HVTL, feeder or distribution line.²

If vacant residential acreage is affected, the owners typically claim that the prices of lots or newly constructed residences close to the right of way (hence the line and its accompanying structures) will be lower due to the presence of the HVTL within the right of way. Alternatively, land-owners argue that such lots or residences will take longer than usual to sell. Frequently, both arguments are made with the additional assertion that proximate lots or houses may not be marketable at all.

The same general type of claim occurs when enhancements of the voltage or increases in the number of existing transmission, feeder or distribution circuits are made within an existing right of way. This is generally referred to as upgrading.

How far the HVTL right of way is from the resident or lot, to remain proximate (therefore purportedly affected), varies from case to case. In two recent cases, claimants have charged that the effect extends as far as half a mile³—*Zappavigna v. Power Authority of the State of New York* and *Criscuola v. Power Authority of the State of New York*. Others have alleged that the negative impact on price or marketing time (or both) extends as far as one can readily see the line and its structures.

In any event, the claims of diminished property value through decreased marketability are based on reported **fear** of hazards to human health and safety associated with living in proximity to the transmission or distribution line(s). In the *Zappavigna* and *Criscuola* cases, previously cited, the

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claims for damages were based on the allegation by the owners of residentially zoned acreage that so-called cancerphobia would cause potential purchasers to avoid buying and living in proximity to a new HVTL (the Marcy South Line of the New York Power Authority). With increasing frequency, similar cases have been instituted throughout the United States. Although the facts have differed with specific circumstances, the underlying theme is the same: the value of residential property (vacant land and/or houses) is alleged to be diminished because of proximity to HVTLs.

Types Of Proximity Impacts

Under the general rubric of diminution in the market value of residential properties, three possible alternative effects have been claimed, singly or in combination:

1. *Diminished Price.* This is the most obvious and presumably most readily demonstrated negative value effect associated with closeness to HVTLs. Diminished value generally is identified by comparing unit prices of houses, residential lots or vacant residential acreage that are proximate to power lines, with unit prices of otherwise identical (or similar) and competitive properties more distant from the HVTL right of way (the Control Area). If the control properties are far enough from the right of way, their prices can be used as the standard against which to compare the proximate properties.
2. *Increased Marketing Time.* Even when some proximate residential properties sell at or near the same prices as more distant Control properties, claimants often argue that proximate properties take longer to sell. Such increased marketing time (Days on the Market—DOM) represents a real loss to the seller by deferring receipt, availability and use of sale proceeds.
3. *Decreased Sales Volume.* A more subtle indicator of diminished property value in proximity impact situations is decreased marketability if potential buyers choose not to purchase in the alleged Impact area. In real estate markets, "No news is bad news." Thus, a measurable decrease in sales volume in the Impact area, compared with the sales volume in the Control areas where otherwise similar properties purportedly still are selling, can represent evidence of decreased market value from proximity to the HVTL.

Methods Of Measuring Proximity Impacts

Three generally accepted procedures are used to measure any difference between sales prices, marketing periods and/or sales volume of proximate properties and those of competitive properties in Control areas:⁴

1. *Paired Sales Analysis.* This traditional appraisal procedure has been applied in varying form (and quality) for at least 75 years in the United

States. In its simplest form, it consists of finding sales of properties within the claimed Impact area and comparing them with sales of similar, competitive properties in the Control area. Any price differentials are noted, and any pattern of such differences is identified. More recent studies apply some statistical testing procedures to the results, when sufficient numbers of paired sales are available for such analysis.

There are two potential shortcomings to this otherwise acceptable market procedure. First, identifying what constitutes a pair of virtually identical properties is often a matter of subjective judgment on the part of the analyst-appraiser. Different analysts studying the same market frequently produce different pairs. Secondly, the relative paucity of appropriate pairs can render the entire procedure (and its results) questionable in terms of its representing the market.

2. *Survey Research/Opinion Polling.* Survey research, or opinion polling, has been used increasingly in recent years as either a supplement to or a substitute for analysis of market sales transaction data. The rationale for using survey research and opinion polling as a substitute for market sales transaction analysis is twofold. First, it is often claimed that the available market sales transactions data are insufficient to serve as a basis for supportable analysis and defensible conclusions. This argument frequently masks monetary budget and time constraints imposed by the sponsor of the research. The second argument is that sales transactions data necessarily deal with the past, while the behavior that the analysis seeks to identify and analyze is going to occur in the future. Potential purchasers either will or will not buy; they either will or will not pay the same or similar prices for proximate properties.

Survey Research, or opinion polling, frequently is used to produce a contingent value (CV) model that attempts to quantify likely, probable market behavior by potential buyers.

The design and execution of a survey research or opinion poll study that results in a CV model is fraught with potential difficulties. These are eloquently expressed and explained in the Report of the National Oceanic and Atmospheric Administration Panel on Contingent Valuation, published in January 1993.⁵ The distinguished economists appointed to study the applicability and effectiveness of CV stressed the need for a meaningful budget, adequate information, careful delineation of the pertinent market and emphasis on respondents' willingness to pay in order to avoid the hazard being studied (rather than "desire to be compensated" to live in proximity to that hazard).

3. *Market Impact Studies Using Multiple Regression Analysis (MRA) in the Hedonic Pricing Model Format.* Since the early 1970s, increasing numbers of studies have employed large, market-wide data sets to measure proximity impacts in the context of other identifiable market influences on sales prices, on marketing periods and on sales volumes of residential properties and vacant residential land. This approach has become the norm for supportable, defensible market impact studies.⁶ As with survey research and opinion polling leading to a CV model, MRA applications require substantial amounts of time, specialized analytical tools, personnel and money.

The essence of MRA-based market impact analysis is to gather data files on as many market sales transactions as possible, within the claimed Impact area, and within one or more similar Control areas, over a specified time period. That time period generally includes a few years prior to a public announcement, or some other source of public awareness, of the proposed right of way or line improvement. This extended time period makes possible the identification and measurement of whatever price/value impact might occur within the claimed Impact area after the public announcement or awareness. Such a before-after analysis supplements the comparison of levels and trends in prices, marketing time and sales volumes within the claimed Impact area with those in the Control area(s). The post-announcement sales information also provides a basis for testing the likely duration of any value impact that might be identified.

For more precision in defining and delineating proximity, the claimed Impact area is frequently divided into distance zones. This makes it possible to test whether any observed value impact decreases as distance from the right of way increases. It also helps to identify how far from the HVTL right of way any such value impact most probably extends.

Market impact analysis, using MRA in the Hedonic Pricing Model format, allows the analyst to identify the *reliability* of the results and the measures already noted. The MRA approach to market proximity impact analysis generally is preferred in the current professional and academic literature.⁷ The models reflect what buyers and sellers actually do, opposed to what potential buyers say they might do, under specified hypothetical circumstances. Further, the use of large sets of sales data in MRA-based market impact analysis indicates that the results are more nearly representative of the market than those of paired sales studies. There is also some evidence that the results can be transferred from one market area to another.

Trends In Court Decisions On Fear

Starting in 1981 with *Willsey v. Kansas City Power* (631 P.2d 268), the supreme courts of several states have enhanced the importance of survey research. These cases addressed the reasonableness of fear reported to be associated with proximity to sources of electro-magnetic fields (EMF), especially HVTLs. The *Willsey* case was followed in 1987 by the combined cases of *Florida Power & Light v. Jennings* and *Florida Power & Light v. Roberts* (518 So.2d 895), which contradicted the view that, in order to be admissible, evidence of widespread public fear had to be reasonable (i.e., supported by the weight of scientific evidence).

These cases furthered the position that the fear of proximity to EMF (or any other identifiable hazard to human health or safety) need not be reasonable. Rather, it is only necessary to demonstrate that the fear exists. This provides an *explanation* of any demonstrated diminution in property values close to sources of EMF or other hazards.

In November 1988, the California Appellate Court reinforced this position in *San Diego Gas & Electric v. Daley* (205 CAL APP 3d 1334). It was further strengthened in *Ryan v. Kansas Power & Light* (815 P.2d 528). Both the *Ryan* and the *Daley* Courts took approving notice of the earlier *Willsey*, *Jennings* and *Roberts* decisions.

Most recently, in October 1993, *Criscuola v. Power Authority of the State of New York* (592 N.Y.S. 2d 79) cited all of the foregoing cases in overturning a Court of Claims decision that *Criscuola* had not carried the burden of proof to demonstrate that fear of EMF (cancerphobia) was reasonable. The *Criscuola* case was a claim for damages to remaining vacant residential acreage following a right-of-way taking for a 345 kV transmission line.

In 1992, the New Mexico Supreme Court held in the parallel case of *City of Santa Fe v. Komis* (845 P.2d 753) that evidence of widespread fear of living in proximity to a highway on which transportation of radioactive waste was planned, was sufficient to *demonstrate* the claimed loss in market value of a remainder parcel of vacant land suitable for residential development. That parcel extended for approximately one mile from the boundary of the right of way taking.

At present, fear (whether reasonable or not) is admissible as an explanation of why diminution in property value has occurred. It is not a measure of the diminution in market value. Nevertheless, in the *Komis* case and a recent pipeline taking case, counsel for the property owners sought to use the results of survey research opinion and attitudinal studies to indicate both the existence and the amount of property value diminution. There was

no corroborating market sales data. The New York Court of Appeals stated in *Criscuola* that

"We, of course, do not hold that claimants are relieved from giving any proof to establish their claims and adjust compensation damages....Claimants should have to connect the market value diminution of the property to the particular fear in much the same manner that any other adverse market effects are shown..."

One serious potential problem associated with broad, unchecked application of the fear decisions already discussed is that dissemination of casual or bad survey research procedures is encouraged. This is demonstrated by recent attempts to apply directly the opinions of survey interviewees (selected at random from the telephone directory for a given area) as the basis for claimed property value losses. Moreover, the literature of survey research suggests strongly that respondents frequently do not do what they advocate when confronted with an actual decision. Inconsistency and bias are reflected in the usually substantial spreads between desired compensation and willingness to pay in order to avoid the hazard. Remember, it is not necessary to attract the entire potential market in order to sell a property at a competitive market price: 10%-15% of the market is more than sufficient.

Finally, it is critically important to identify whether the widespread public fear affects probable buyers in the same way that it affects current owners (or potential sellers) who live in an area where a new or enhanced HVTL is proposed. The market impact of uncertainty, which is concentrated among owners (potential sellers), is generally much greater than the price effect of the actual construction and installation of power lines.

Fear Of Health Effects v. Real Estate Market Behavior

There is a sharp dichotomy between fear of health hazards by current and potential residents of an area and the market behavior of buyers and sellers in that same area. It is both improper and misleading to confuse the two. Market proximity impact analysis identifies actual past and likely future behavior of buyers in market areas identified as proximate to HVTLs, whereas opinion survey research typically reflects responses to hypothetical situations by interviewees who are not necessarily prospective purchasers—especially in the impact area under study.

One interesting finding in studies of both attitudes and market behavior of purchasers who are in proximity to HVTLs (and other sources of claimed hazards) is that the more informed a potential buyer is about the claimed hazard, the less likely that buyer is to be deterred from purchasing near the claimed hazard. Knowledge of occurrence

probabilities, awareness of the findings of the reproducible scientific studies, and understanding of the causal nexus (if any) generally lead to greater willingness to live in proximity to the hazard. This tends to minimize price effects on proximate residential properties.

The strong implication of these findings is that conscious efforts to disseminate known factual information is in the interest of all parties concerned. Moreover, for identifying and measuring any impact on property value, buyers' attitudes and perceptions about the effect of claimed health and safety hazards are the major influences, not the science. Indeed, what really matters is what people actually do when confronted with a purchase decision, rather than what they say they will do in an artificially contrived, hypothetical decision-making environment.

Procedures In Proximity Impact Research

The first and arguably the most critical step in a scientifically designed market proximity impact study is to gather data on every residential property sales transaction within one-half mile of the pertinent section of HVTL right of way over the designated study period. This minimizes sampling bias and associated sampling error. The specified study period extends for a number of years prior to the public announcement of the new line or line enhancement and as long after that date as data availability permits.

Every data file must contain information on all the same variables. Any incomplete files will be rejected automatically by the multiple regression (MRA) modeling process. Data verification is required, as is exterior inspection of every property, to confirm the information obtained from public records.

Some transactions are screened and eliminated from further consideration, typically on the basis of standard statistical measures. Market conditions (represented by date of sale), property characteristics and transaction characteristics are incorporated into the models. Distance from the HVTL right of way and location in a specified distance zone are necessary property characteristics.

To make the sales price comparisons more useful, price indexes by distance zone are frequently calculated. These identify the most probable selling price of a standard quality residential property of specified size, age and lot size within each distance zone. Changing market conditions are accommodated by incorporating a variable for each pertinent time period (year, quarter, etc.). Then, the effect of proximity to (or distance from) the HVTL right of way over time is dated, identified and demonstrated graphically. Table 1 illustrates the type of distance

TABLE 1

Comparative Findings From Three Regression Studies

Model Component	New York (Land)	Maine (Land)	Maine (1-Family)	California (1-Family)
Number Sales	381	247	305	1,816
Dependent Variable	SP per Ac.	ADJSPAC	ADJSPSF	SP (\$000)
Zone 1	−\$490 (.57)	+\$432 (.51)	+\$3.41 (.28)	− \$4.4*
Zone 2	+\$138 (.82)	−\$758 (.22)	+\$2.83 (.09)**	− \$5.6
Zone 3	−\$832 (.40)	NA	NA	− \$5.5
Zone 4	NA	NA	NA	− \$0.5
Zone 5	NA	NA	NA	− \$0.5
Zone 6	NA	NA	NA	+ \$2.5*
Year 0	NA	NA	NA	− \$8.0*
Year 1	NA	NA	NA	− \$7.3*
Year 2	NA	NA	NA	− \$7.5*
Year 3	NA	NA	NA	− \$6.1*
Year 4	NA	NA	NA	− \$1.1
Year 5	NA	NA	NA	− \$1.6
R ²	.71	.65	.57	.84
F-Ratio	70.8	11.1	17.7	NA
Standard Error	\$3559	\$3686	\$12.32	NA
Intercept	\$3712	\$4797	\$52.24	−\$227
Mean Unit Price	\$7861	\$5140	\$48.21	\$111.4

NOTE: Distance Zone specifications vary from study to study. Numbers in parentheses are probabilities based on t-values.

* Significant at .05 level (95% Confidence)

** Significant at .10 level (90% Confidence)

Percent "impact" derived by Dividing Zone or year coefficient by mean price

In California study, "Distance Zones" are actually proximate neighborhoods.

zone and time information produced through MRA modeling.

MRA modeling requires large data sets. A general rule of thumb is there should be at least 10 usable sales transaction files for each variable incorporated in the models. The leanest, sparest model(s) that provides optimum levels of explanatory power (R^2), statistical significance (F-Ratio and t-Values) and reliability of results (Standard Error of the Estimate) is sought and identified. Selecting the best combination is in part a matter of judgment, but it can be supported through comparison of statistical results from alternative models.

Examples of the types of models that are produced through multiple regression analysis in the Hedonic Pricing Model format are provided in Table 1.

Findings Of Recent Market Research Studies

The MRA studies cited in the Notes, at end of this article,⁸ indicate that the appropriate application of MRA in the Hedonic Pricing Model format tests whether any price/value impact (and how much) is experienced by properties close to HVTLs and distribution lines. The studies also measure how long

and how far away any such effects extend, whether those effects diminish with increasing distance from the right of way, and (in some instances) how long any price or value effects are likely to last.

The studies have shown that visual and/or aural impact generally has a substantial effect on price. These continuing reminders of the transmission line or distribution line presence (and its towers or poles) had discernible price effects (aesthetic impact) in studies conducted prior to the widespread publicity about EMF and its claimed effects on human health.

The MRA studies (cited in Footnote 8) generally indicate that any observed negative price, marketing time and sales volume effects tend to be statistically nonsignificant. The results could easily have occurred randomly or by chance. Therefore, they do not necessarily represent a consistent, systematic market response to locations proximate to the HVTL.

In some instances, notably those of the Colwell and Ignelzi-Priestley studies, negative price effects in the range of 5%-9% were identified up to 200 feet distant from the edge of the right of way. It is also

generally accepted that effective screening of views of the HVTL, primarily with trees and shrubberies, can diminish or even eliminate the negative price effect. Both Colwell and Ignelzi-Priestley have found that any observed negative value impacts decrease, and most likely disappear, over time (4-10 years). This is partly the result of increased screening as trees and shrubbery grow, as well as diminished sensitivity to HVTL proximity in the absence of adverse publicity.

Many studies have found no price, marketing time or sales volume effect. Others have suggested price decreases in the 2%-5% range, usually up to 200 feet from the edge of the right of way.⁹ In open, flat areas without effective screening, the effect may extend as far as one-quarter mile, especially if the new line or line enhancement occurs in an already developed residential area.

The proximity impact study findings as a group also demonstrate that whatever value effects may be felt, they are dramatically less than those suggested in the survey research studies published to date. Recent published market studies generally have confirmed findings from earlier, sometimes less sophisticated, studies.¹⁰ One point continually argued in the past was whether general market studies were able to identify specific price or value impacts on individual properties. The advent of price index construction for standard quality properties, by distance zone location, seems to resolve that question in the affirmative.

Buyer attitudes have been strongly emphasized in recent years with the emerging support of fear concerns in both court cases and market-wide survey research studies. While such studies focus directly on the attitudes and opinions of potential buyers, market proximity impact studies reflect, identify and measure the influence of those attitudes and opinions through actual market behavior.

Quantitative market sales data analyses generally focus on data sources and data reliability, appropriate analytical techniques and precisely measured price differentials. They tend to restrict their findings to the data sets and the markets covered by the research, although there is increasing evidence regarding the transferability of findings in one market area to other similar market areas under similar market conditions.¹¹ Attitude and opinion studies, on the other hand, generally tend to be more sweeping or global in their conclusions.

Quantitative market proximity impact studies and opinion/attitude studies alike typically focus on buyer behavior. This emphasis results from belief in (and market evidence of) the primacy of

demand in setting real estate prices in the short run. As a corollary, the market behavior of the sellers appears simply to be assumed. In market sales studies, sellers are generally taken to be informed, prudent optimizers. Conversely, opinion/attitude studies tend to treat sellers as satisficers at best, by implicitly assuming that sellers will accept whatever the questionnaire results indicate will be offered by buyers. This approach tends to ignore the willing buyer-willing seller basis for market value or price on the open, competitive market.

Unresolved Issues Requiring Further Research

Differing, sometimes conflicting, findings have emerged from the market studies reported since 1989. The conflicts are usually with the findings of earlier studies, especially those of Paired Sales studies and of opinion/attitude survey research. Moreover, questions on the consistency and comparability of results arise because of variations in data sample sizes and data sources, as well as differing techniques of sampling and modeling.

For analytical purposes, these essentially unresolved issues fall into five (5) categories:

1. *Property Characteristics*

Does the amount (or existence) of any effect on sales price vary with distance from the right of way? How far out does any price effect extend? Are the answers to the foregoing questions the same for improved residential property, vacant residential land and non-residential property?

2. *HVTL Characteristics*

Does the type of tower construction or height of towers affect the existence or amount of price effects on proximate properties?

How is the existence or amount of any price effect altered by the level of voltage carried by the line, EMF readings at the edge of the right of way, or the width of the right of way?

3. *Consistency*

Data Sets: How can study results be reconciled when data availability varies greatly among market areas and at different times? What minimum standards should be established for the size of data sets (sales transactions, interviews)?

Terminology: What does proximity to a HVTL right of way mean? What is an informed buyer, an informed seller, a potential or likely buyer?

Analytical Techniques and Models: How can multiple regression and covariate models (and their results) be reconciled?

4. *Buyer and Seller Behavior*

Which indicator of buyer and seller behavior is preferable for proximity impact analysis: recorded market sales or estimated/forecast activity based on interview questionnaire responses? Are both required to achieve appropriate market impact indicators?

5. Transferability

Are there any general patterns in market responses on proximity to HVTLS that are found among different property categories, under different market conditions (time), or in different market areas?

Despite the fact that many technical and conceptual issues remain untested and unresolved, it is clear that a strong thread of consistent, statistically robust findings has emerged from systematic proximity impact studies using MRA in the Hedonic Pricing Model format. When the market impact research applies the steps and process outlined above to a large data set of appropriately screened property sales, the results that emerge will be supportable, usable and convincing.

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NOTES

1. In our experience, and in works cited in the References, most proximity claims are made by owners of residences and of residential land "close to" HVTLS. No studies of market price reductions of commercial, retail and/or industrial properties have come to our attention.
2. Throughout the remainder of this paper, "HVTL" is used to mean high-voltage transmission line, feeder line and/or distribution line.
3. See, for example, *Zappavigna v. State of New York* (186 A.D.2d 557); also in *Criscuola v. Power Authority of the State of New York* (592 N.Y.S.2d 79). Both cases were claims for damages from "cancerphobia" to remainder acreage after right-of-way takings for the 345kV Marcy South transmission line in Orange County, NY.
4. See, for example, Kinnard, William N., Jr., "The Impact of High-Voltage Transmission Lines on Real Estate Values," *Journal of Property Tax Management*, 1, No. 4, 1990; and Kroll, Cynthia A. and Thomas Priestley, *The Effects of Overhead Transmission Lines on Property Values: A Review and Analysis of the Literature*. Edison Electric Institute, Washington, DC: December 1991.
5. See Federal Register, Vol. 58, No. 10, Friday, January 15, 1993, pp. 4601-4614.
6. See Kinnard, op. cit., and Kroll & Priestley, op. cit.
7. Note the preponderance of MRA modeling studies reported and analyzed in the References section of this article.
8. See, for example, Colwell, Peter E., "Power Lines and Land Values," *The Journal of Real Estate Research*, Vol. 5, No. 1, Spring 1990; Kinnard, William N., Jr., Phillip S. Mitchell and James R. Webb, *The Impact of High-Voltage Overhead Transmission Lines on the Value of Real Property*. Paper presented at American Real Estate Society Annual Conference, Arlington, VA, April 1989; Ignelzi, Patrice C. and Thomas Priestley, *A Statistical Analysis of Transmission Line Impacts on Six Neighborhoods*, Washington, DC: Edison Electric Institute, February 1991.
9. See, for example, the Ball, Beasley, Kinnard et al, Kung-Seagle and Rhodeside-Harwell studies cited in the References.
10. This is especially true of the Ignelzi-Priestley, Kroll-Priestley and Kung-Seagle reports, as well as the 1989 and 1992 Kinnard papers at Edison Electric Institute conferences.
11. See, for example, the Kroll-Priestley report and the Kinnard papers at Edison Electric Institute conferences in 1989 and 1992.

AN EVALUATION OF THE ASSET INTEGRATED MORTGAGE

by G. Donald Jud and
Daniel T. Winkler

The Federal National Mortgage Association (FNMA) recently approved a new type of hybrid mortgage, the Asset Integrated Mortgage (AIM), that combines a home loan and a fixed insurance annuity. The borrower invests most of the money in an annuity that is normally earmarked for the down payment. As long as the annuity investment plus the down payment exceeds 20 percent of the home's worth, the borrower avoids mortgage insurance costs, just like a conventional mortgage with 20 percent down. The AIM is being promoted as a way for consumers to save, diversify their asset base and build a nest egg for retirement.¹

The purpose of this article is to evaluate the Asset Integrated Mortgage (AIM). A valuation model is established that compares the AIM with a conventional mortgage and finds the rate of return required on the annuity investment that equates an identical value to the AIM and the conventional mortgage.

Properties Of AIMS

AIMs combine a home mortgage and an insurance annuity. A large portion of the down payment for a house is invested in an annuity which serves as collateral for the loan. Frank Demarais, vice president of Product Development at FNMA, states "At the end of the mortgage term, consumers will own their homes free and clear and have accumulated a significant nest egg."² The nest egg refers to future value of the annuity invested upfront that otherwise would be used as the down payment. With an AIM, the borrower's monthly payments will be higher than with a conventional mortgage and a 20 percent down payment, because less money will be put down with an AIM and more will be borrowed. For example, a home buyer who would normally put down the customary 20 percent on a house, instead would put down 5 percent and invest the other 15 percent in an annuity. If a borrower is considering a \$100,000 house, 20 percent, or \$20,000, would be a required down payment to avoid paying mortgage insurance costs, and the remaining \$80,000 would be borrowed. With an 8 percent annual interest rate, the monthly payment would be approximately \$587. Over 30 years, the

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home owner would pay \$211,324 in total payments and \$131,324 in interest charges.

An AIM, by contrast, would require a down payment of only 5 percent, or \$5,000. The other \$15,000 would be used to purchase an annuity which would serve as collateral in addition to the 5 percent down payment. The monthly payment with this AIM arrangement would be \$697, or \$110 more per month than the conventional mortgage with 20 percent down. Interest charges with the AIM would total \$155,947, and the total payments over 360 months would be \$250,947. The difference in total payments between the two mortgages is \$39,623.

Van P. Carter, president of Financial Integration Inc. which created the AIM, estimates that at a 6.2 percent rate of return (compounded monthly), the AIM annuity value would exceed the \$95,000 borrowed for the house. However, the guaranteed rates of General Life Insurance Company and AIG Life Insurance Company, the only insurers currently approved by FNMA for the program, are offering 3.5 and 4.0 percent, respectively.³ After 30 years, the \$15,000 annuity would be worth about \$42,800 at an annual rate of 3.5 percent with monthly compounding, far less than \$95,000 using a 6.2 percent return. In addition, if the \$110 difference were invested in a tax-deferred annuity offering a 6.2 percent return, it would grow to \$114,820. Therefore, the value of the AIM is suspect from a valuation standpoint. In addition, the amount chosen for investment in the annuity is committed until the mortgage is repaid.

AIMs offer benefits separate from direct valuation. For example, Carter suggests that the reallocation of funds to the annuity diversifies the assets of the borrower and minimizes risk. The annuity "lowers transaction costs and provides a financial safety net."⁴ Transaction costs are saved because the annuity serves as the alternative to mortgage insurance. Besides acting as a hedge, Carter suggests that AIMs allow investors to eventually use the money in the annuity without having to sell their house or borrow against it. Also, because home buyers are borrowing as much as 95 percent on the value of the house, instead of 80 percent, the mortgage interest deduction is larger for AIMs.

However, as some financial planners explain, AIMs are most attractive to those home buyers who just cannot save money, since they will pay a higher rate on the amount borrowed than they will earn on the annuity.⁵ In addition, the gain on the annuity is tax-deferred, but it is not tax exempt.

Conventional AIM loans of \$203,150 are eligible for sale to FNMA using proper documentation and servicing, and loans above this amount and non-conforming loans can be sold to a restrictive group

of private secondary market purchasers, such as Kidder Peabody Capital Corporation, Capstead Mortgage Corporation and Hamilton Financial Corporation. In addition, Mortgage Guaranty Insurance Corporation (MGIC) has developed mortgage insurance coverages for AIMs, and other companies are providing the document preparation, custodial and filing services.

Valuation Of AIMs

The net present value of AIMs is determined by comparing the present value of cash flows from a conventional mortgage with those from AIMs. Let I_C and I_A denote the interest expense from the conventional and AIM mortgages, respectively. Further, let P_C and P_A be the principal payments for the conventional and annuity mortgages, respectively. The future value of the annuity grows to A_F from a present amount A_P . The borrower's marginal tax rate is T and the monthly interest rate on both mortgages is i_M . The net present value of the AIM mortgage for a 360 month term is (1):

$$NPV_A = \sum_{t=1}^{360} \frac{(I_C - I_A)(1 - T) + (P_C - P_A)}{(1 + i_M)^t} + \frac{A_F - (A_P - A_P) \cdot T}{(1 + i_M)^{360}}$$

The first term on the right hand side of equation (1) represents the present value of the difference in the after-tax interest plus repayment expense. The second term is the present value of the after-tax dollar return on the annuity. Equation (1) can be simplified as follows (2):

$$NPV_A = (L_C - L_A) + T \cdot \left(1 - \frac{L_C}{L_A}\right) \left[L_A - \left[\frac{P_A - (L_A \cdot i_M)}{1 + i_M} \right] \cdot 360 \right] + \frac{A_P(1 - T)(1 + i_A)^{360} + A_P \cdot T}{(1 + i_M)^{360}}$$

In equation (2), L_C and L_A are the loan amounts for the conventional and AIM mortgages respectively, P_A is the payment on the AIM, and i_A is the monthly interest rate earned on the annuity investment.

As an example, compare a \$100,000 loan, 8 percent annual interest conventional loan with 20 percent down, with an AIM requiring 5 percent down. The AIM offers an annuity with an annual investment rate of 6.2 percent. Over 30 years, the NPV is -\$5,110 as follows (3):

$$\begin{aligned} NPV_A &= (\$80,000 - \$95,000) \\ &+ .28 \cdot \left(1 - \frac{\$80,000}{\$95,000}\right) \left[\$95,000 - \frac{\$697.08 - \left(\frac{\$95,000 \cdot .08}{12}\right)}{1 + \frac{.08}{12}} \cdot 360 \right] \\ &+ \frac{\$15,000(1 - .28) \left(1 + \frac{.062}{12}\right)^{360} + (\$15,000 \cdot .28)}{\left(1 + \frac{.08}{12}\right)^{360}} \\ &= -\$15,000 + \$3,192 + \$6,698 \\ &= -\$5,110 \end{aligned}$$

The first term on the right hand side of equation (3) represents the difference in the loan amount between the conventional and AIM mortgages, or -\$15,000. The second term captures the present

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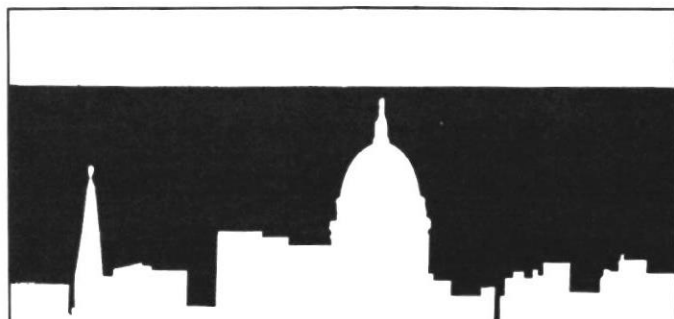
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value of the difference in the tax shield between the two mortgages. The tax shield is larger for the AIM, therefore, it reduces the negative impact on the difference in the initial mortgage amounts. The third term represents present value of the after-tax annuity. In this example, the AIM has a cost disadvantage of \$5,110 relative to a conventional mortgage.

Finding The Indifference Investment Yield On AIMS

To find the monthly interest rate earned on the annuity investment that would make the home buyer indifferent to the conventional mortgage versus the AIM, solve for i_A with the NPV = 0, as follows (4):

$$i_A = \left\{ \frac{\left[(L_A - L_C) - T \cdot \left(1 - \frac{L_C}{L_A} \right) \left[L_A - \frac{P_A - (L_A i_M)}{1 + i_M} \cdot 360 \right] \right] (1 + i_M)^{360} - A_P \cdot T}{A_P(1 - T)} \right\}^{1/360} - 1$$

Using equation (4), note that -\$15,000 and -\$3,192, the first and second terms from equation (3) also are present in equation (4). Therefore, the shorthand solution is as follows (5):

$$i_A = \left\{ \frac{(\$15,000 - \$3,192) \left(1 + \frac{.08}{12} \right)^{360} - (\$15,000 \cdot .28)}{\$15,000(1 - .28)} \right\}^{1/360} - 1$$

= .6824

Solving for i_A , the required monthly interest rate on the annuity is .6824 percent or 8.19 percent annually. In general, because taxes are paid on the gain of the annuity, the required return on the annuity will exceed the mortgage interest rate.

Conclusion

Asset Integrated Mortgages (AIMs) are a recently developed financial instrument that combines a mortgage with an insurance annuity. The study presented in this article investigated the net present value of AIMs compared to conventional mortgages. It solved for the required return on the AIM annuity that will make the borrower indifferent between a conventional mortgage and an AIM. The findings indicate AIMs are generally negative NPV propositions with required rates of return on the annuity instrument that exceed the borrower's mortgage rate.

NOTES

1. Winninghoff, Ellie. "Evaluating Mortgages Linked to Annuities," *The New York Times* (August 27, 1994), 29.
2. "New Asset Integrated Mortgage Can Pay You Back What You Borrowed," News Release from Financial Integration, Inc., July 26, 1994.
3. Winninghoff, *op. cit.*
4. "New Asset Integrated Mortgage. . .," *op. cit.*
5. *Ibid.*

METROPOLITAN AREA COST COMPETITIVENESS, GROWTH AND REAL ESTATE PERFORMANCE

by William D. Anderson
and Kenneth M. Lusht

This study was funded by a grant from the Prudential Realty Group. The paper benefited from the comments of participants at the 1993 Prudential Pinehurst Seminar.

Recent trends highlight the changing fortunes of regional, state and local economies in the United States. During the 1980s, much attention was given to the frost belt/sun belt dichotomy.¹ There was talk of a bi-coastal economy, with the nation's east and west coasts leading the way during the mid-and late-1980's economic recovery while interior regions lagged.² However, in the 1990s, the tables have turned. Unemployment rates on the east and west coasts are not systematically lower than they are in other parts of the country.

Many studies have searched for the underlying causes of varying patterns of growth. Several explanations have revolved around differing cost structures, and cost of doing business studies have proliferated. For those states and localities which fare favorably in specific comparative studies, the results are used as promotional tools. For those which do not fare so well, economic development officials quickly point out the study's shortcomings.

Erickson provides an excellent review of the history of business climate studies.³ Most important, he notes the changing components of the overall cost structure. In reviewing earlier studies from the 1950s and 1960s, Erickson points out that (p. 63) "...comparative state and local taxation represented a substantial section of each of these studies." Over time however, concern with these direct costs was joined, and in some cases dominated by, concern with cost components related to productivity, such as right-to-work laws, the level of remuneration and the educational attainment of the work force. Erickson also highlights the growing concern with comparative costs of energy and quality of life factors. Clearly, depending on how they are defined, business costs go well beyond the traditional emphasis on wages, salaries and taxation.

This article provides an updated look at metro area cost competitiveness, its implications for real

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estate markets and likely future trends. The article summarizes the evidence linking costs and growth; ranks metropolitan areas according to several cost categories; and discusses the extent to which differing cost structures help explain real estate performance. Lastly, the article provides a forecast of future cost trends and the implications for real estate markets along with a summary and conclusions.

A Summary Of The Evidence Linking Cost Structure And Economic Growth

The research community has devoted considerable time and effort to examining the impacts of relative cost structures on regional economic growth and activity. Early results neither confirmed nor denied a causal relationship between business climate rankings and state industrial growth.⁴ More recently however, the emerging consensus is that costs, whether defined narrowly (direct costs of doing business, such as labor, tax and energy costs) or more broadly (i.e., direct costs plus cost of living and quality of life indicators), do impact regional economic fortunes. At the same time, the results are not uniform; they vary on a case by case basis. In some instances, the impacts are marginal. In others, relative cost structures explain considerable amounts of inter-regional growth disparities.

Bartik provides a comprehensive and up-to-date review of the literature.⁵ Most importantly, he summarizes the results of several studies which relate directly to some cost factors which are utilized in this article. Specifically, he offers a review of 79 studies to gauge the findings as they relate to the impacts of wage and tax structures on state and local economic growth. Over half the studies reviewed measure at least one negative and statistically significant wage effect. These effects measure the degree to which relatively high/low regional wage structures inhibit/encourage economic growth and activity. Most of the studies also find significant and negative long run wage elasticities which measure the responsiveness of one variable, business activity, to changes in another, wages.

In addition, the vast majority of studies find at least one negative and statistically significant tax effect on regional economic growth which adds to the evidence that relative tax burdens influence the distribution of economic growth and activity.

Blair and Premus note the growing importance of nontraditional cost factors, including regional quality of life, in the industrial location decision.⁶ They also highlight the pivotal role of market access in overall regional cost structures, especially in light of the ongoing technological changes in the economy.

The analyses of Bartik and Blair and Premus suggest that examining relative cost structures is an

important step in accounting for differences in regional economic fortunes. Indeed, comparative cost of doing business studies have proliferated at the state and local level. However, several studies stand out. Beginning in 1979, *A Study of Business Climates of the Forty-Eight Continuous States of America* was first published by Alexander Grant and Company.⁷ The study has been updated several times. In October 1981, *Inc.* magazine published the first in a series of studies entitled "Report Card on the States."⁸ For metropolitan areas, *Inc.* also published annual reports on the nation's fastest growing cities.⁹ *Fortune* also published an annual report on "The Best Cities for Business."¹⁰

In general, the studies tend to focus on a single aspect of cost: either labor or tax, or more recently, the environment for globalization. This partly indicates that there is not one best way to approach an examination of regional cost competitiveness. Thus, we view cost broadly to produce rankings based on traditional direct costs, cost of living, market access and quality of life. We also extend the analysis by comparing earlier cost rankings to subsequent real estate investment performance and then speculate on how well one might do in the current market if a low-cost strategy is followed.

Metropolitan Area Cost Competitiveness: Some Comparisons

Selection of Metro Areas. An Arthur Andersen & Co. survey asked 1,724 real estate executives their opinions on those metropolitan areas likely to show the most and least potential for return on real estate investment.¹¹ Their responses provide a workable set of urban areas which differ according to size, region and recent performance. In addition, Kasarda put forth a list of smaller metropolitan areas which he thought offered considerable real estate potential.¹² His suggestions also are incorporated into the set of 50 metro areas which are the focus of this study. These areas are listed in Appendix A.

Cost Categories. Following Erickson's observations, we have opted for a broad definition of regional cost structures. Four cost categories are developed:

1. Direct costs of doing business which include labor, tax, energy, facilities and transportation costs.
2. Cost of living indicators which include median housing prices and state and local per capita tax burdens.
3. Market access measures which include growth between 1980 and 1990 in the share of the U.S. population accounted for by each region and an international presence index generated by Moran Stahl & Boyer, a location consulting firm.¹³
4. Quality of life indicators which include crime rates and access to physicians.

Data sources are identified with each table.

TABLE 1*

Quality-Adjusted Direct Business
Composite Cost Indicator-Top Five, Bottom Five
(Direct business costs adjusted for
worker productivity.)

Top Five		Bottom Five	
Austin	64.8	Honolulu	144.0
Raleigh-Durham	70.7	Pittsburgh	146.0
Fort Worth	71.6	New York	146.7
Orlando	71.6	Detroit	157.2
Phoenix	74.2	San Francisco	163.2

Sources: Labor Costs: Wages and Earnings . . . U.S. Bureau of Labor Statistics. *Employment and Earnings*; Unemployment Compensation . . . Pennsylvania Department of Labor and Industry. *Pennsylvania's Unemployment Insurance Program Compared to Other States*; Tax Costs: U.S. Department of Commerce. *State Government Tax Collections*; Energy Costs: Electricity . . . Edison Electric Institute; Gas . . . American Gas Association. *Gas Facts*; Facilities Costs: *Means Building Construction Cost Data*; International Transportation: "The Best Cities for Business," *Fortune*. November 2, 1992.

*For complete listing of Tables 1-9, contact Kenneth M. Lusht, 409 BAB, Pennsylvania State University, University Park, PA 16802.

The Results. Direct business cost information for each of the metropolitan areas was tabulated. Labor costs were represented by a weighted average of the following: average annual pay (weight = .45), average hourly wages (weight = .45) and two measures of unemployment compensation tax burdens (each with a weight of .05). These weights are representative of the wage/unemployment compensation mix in total labor costs. Tax costs were represented by corporate profit tax payments per private sector job. Corporate profit and unemployment compensation tax burdens were measured at the state level, rather than metro area. Energy costs were represented by an average of commercial and industrial gas and electricity rates and were also measured by state, as opposed to individual metro areas. Facilities costs were measured by the Means construction cost index. Transportation costs present some problems. We question the degree to which traditional proxies for transportation costs, such as gasoline taxes and highway user fees/taxes, are applicable. Given the internationalization of the economy and the growing importance played by computerized information-sharing, such proxies appear to be outdated. We followed Saporito who highlighted the increased importance of access to international travel in the modern economy.¹⁴ Like Saporito, we used the number of international flights available to the residents of a region as a proxy for transportation costs.

Table 1 shows the adjusted direct business composite cost indicator for the top and bottom five of the 40 metro areas where information is available for five categories. The indicator shown represents a weighted average of the five direct cost components, weighted for work force productivity. Labor costs are given a weight of .50; tax, energy and facilities costs each receive a weight of .15; transportation costs receive a weight of .05. These weights reflect the relatively large share of total direct costs accounted for by labor-related costs. The original international flight data had to be adjusted to fit into our scheme so that relatively low/high flight access translates into relatively high/low transportation cost measures for purposes of the composite indicator. Finally, the weighted average is quality adjusted by dividing it into a regional work force productivity measure developed by Moran Stahl & Boyer and used by Saporito.

The Moran Stahl & Boyer measures take into account trends pertaining to employment, wages, exports, value-added per worker and high-tech jobs. A given region may be characterized by high direct business costs, but those costs may be offset by a highly productive workforce. Likewise, some of the potential advantages for a low cost region may be lost due to a relatively unproductive work force. For example, Charlotte is home to a below average cost structure for four of the five direct cost categories. However, when the composite indicator is divided by the productivity measure (which indicates that its work force is relatively unproductive), the real cost of doing business is actually above average.

There is a noticeable regional slant to the direct cost indicators. Those areas characterized by relatively strong cost competitiveness tend to be located in the south and southwest, especially Texas. Texas does not have a corporate profits tax which contributes heavily to its strong showing. The only non southern regions in the top 12 are Seattle, ranked eighth, and Denver, ranked tenth. Those regions which are least competitive tend to be the larger metro areas of the northeast and California. Nine of the ten least competitive regions fall into one of these categories.

There are two ways to consider the relationship between the regional cost of living and local economic growth and development. First, the empirical literature points to a positive relationship between economic development and the cost of living, largely because increased demand pushes housing costs higher. At the same time, a high regional cost of living can be viewed as an impediment to future economic growth and activity. For example, much attention was given to the labor shortages in the northeastern United States during the mid and late 1980s. Employers had difficulty

TABLE 2

Composite Cost of Living Indicator—
Top Five, Bottom Five

Top Five		Bottom Five	
New Orleans	75.2	New York	164.9
Memphis	76.3	Anaheim-Santa Ana	168.4
Birmingham	77.7	District of Columbia	171.7
Kansas City	78.1	San Francisco	180.3
Ft. Myers	78.7	Honolulu	233.6

Sources: Median Housing Prices: National Association of Realtors. *Home Sales*; State/Local Taxes: U.S. Department of Commerce. *Government Finances*.

attracting qualified workers to the region due to the high cost of living.

Table 2 presents a composite indicator of regional cost of living, consisting of housing prices and tax burdens weighted equally. A comparison of the top and bottom five areas sheds considerable light on the regional slant to the findings. New Orleans is home to the lowest cost of living, followed by eight other southern regions. Pittsburgh falls into the 10th slot, followed by four other regions from the south. Regarding the bottom five (highest cost), all are from either the northeast or the Pacific coast. Honolulu has the highest cost of living by a considerable margin.

Two measures of market access are utilized in this study: the 1980-1990 change in the population and, in light of the growing internationalization of the economy, a measure of local international presence developed by Moran Stahl & Boyer and used by Saporito. Included in the international presence index are measures of the number of foreign banks, consulates, service firms and regional employment in foreign-owned companies. Goldberg ranked metropolitan areas using a different measure of multiculturalism.¹⁵ While his results are generally similar with those generated by Moran Stahl & Boyer, his measures are generated for six fewer metro regions from among our metropolitan areas. For this reason we utilize the Moran Stahl & Boyer measure.

A composite measure of market access is shown in Table 3 of the top and bottom five areas in which both population (weight = .75) and international access (weight = .25) data are available. These weights are used to indicate that while the economy is becoming more global, domestic markets still play a relatively large role. As with several other cost factors, the more competitive regions, in terms of market access, tend to come from the south and west. The bottom five are not as easily generalizable, although there is a heavy midwest presence.

TABLE 3

Market Access Composite Indicator—
Top Five, Bottom Five

Top Five		Bottom Five	
Los Angeles	89.5	Cleveland	178.7
District of Columbia	132.3	Detroit	178.7
Atlanta	133.1	Memphis	179.6
Houston	133.8	Birmingham	184.2
San Diego	142.6	Pittsburgh	188.0

Sources: Population: U.S. Department of Commerce. *State and Metropolitan Area Data Book*; International Presence: "The Best Cities for Business," *Fortune*. November 2, 1992.

Regional quality of life infers many things to many people. Fosler captures the vastness of the concept:¹⁶

The general quality of life affects the economy in two principal ways: it is a direct source of business enterprise (e.g., tourism, travel, recreation, leisure); and it is an important factor in attracting and retaining businesses and workers. States affect the quality of life through most of their actions in other areas but, in general, by providing good public services, directly providing or encouraging the private provision of other desirable public amenities (e.g., hospitals, educational institutions, museums, cultural activities, etc.) and assuring an attractive and healthy physical environment.

Clearly, there are varied and numerous ways to measure quality of life. Two of the more commonly used measures, the crime rate and access to physicians (i.e., the number of physicians per 100,000 population) are shown in Table 4. The data are expressed in index form with the U.S. average = 100 for the crime rate and Raleigh-Durham = 100 for the access measure. (Raleigh-Durham is home to the highest physician/population ratio.) Low/high index readings for the physicians access indicator correspond with low/high cost structures.

Unlike most other cost measures, there is no regional slant to the results shown in Table 4, nor does quality of life appear to be related to metro area size, at least when measured by crime rates. For instance, the lowest crime rates are found in areas from Pennsylvania to California. The regions range in size from Washington, D.C. (the result of including Virginia and Maryland suburbs in the region) to Oxnard-Ventura. Hence, generalizations are not warranted. However, physician access appears to vary according to metro area size. Except for Raleigh-Durham, the highest physician/population ratios are in relatively large metropolitan regions.

TABLE 4

Quality of Life Indicators

(U.S. Average = 100 for rate; Raleigh-Durham = 100 for access)

	Crime Rate	Access to Physicians		Crime Rate	Access to Physicians
Anaheim-Santa Ana	103.4	152.0	Memphis	126.1	151.9
Atlanta	165.3	161.8	Miami	244.1	135.4
Austin	151.0	166.0	Minneapolis/St. Paul	97.9	155.2
Baltimore	110.9	133.9	Naples	121.7	168.1
Birmingham	96.0	148.1	New Orleans	151.3	140.2
Boston	n.a.	125.1	New York	154.3	126.7
Charlotte	138.3	173.5	Oakland	129.9	167.2
Chicago	n.a.	146.7	Orlando	150.6	167.2
Cincinnati	85.1	151.9	Oxnard-Ventura	66.4	167.2
Cleveland	81.5	139.7	Philadelphia	81.6	144.1
Columbus	116.8	159.5	Phoenix	149.6	162.4
Dallas	190.5	160.6	Pittsburgh	59.1	146.3
Denver	114.8	149.4	Portland	128.9	148.7
Detroit	121.5	161.2	Raleigh-Durham	102.9	100.0
District of Columbia	96.0	136.7	Riverside-San Bernardino	n.a.	170.6
Fort Worth	166.6	175.2	Sacramento	122.2	158.0
Fort Lauderdale	154.5	163.1	San Diego	128.2	156.5
Fort Myers	87.2	171.0	San Francisco	116.5	110.8
Fort Pierce	132.2	173.0	San Jose	84.3	147.5
Hartford	n.a.	144.1	Santa Rosa	83.9	161.5
Honolulu	108.6	156.8	Seattle	131.5	145.1
Houston	147.5	154.7	Stockton	146.8	172.2
Kansas City	126.8	158.4	St. Louis	n.a.	153.2
Las Vegas	117.0	174.4	Tampa/St. Petersburg	149.2	164.0
Los Angeles	129.3	148.6	West Palm Beach-Boca Raton	171.2	161.2

Sources: U.S. Department of Commerce. *State and Metropolitan Area Data Book*.

Regional Cost Structures And Real Estate Performance

What role, if any, do regional cost structures play in the performance of local real estate markets? We used vacancy rates as a proxy for performance, with Tables 5 and 6 providing information on the top and bottom five 1989 and 1990 rates for commercial and industrial properties.

While there was a noticeable regional slant to relative cost structures, and costs tended to vary with metro area size, the rankings in Tables 5 and 6 suggest generalizations cannot be drawn with respect to vacancy rates. It is enlightening to examine the regions ranked at the upper or lower extremes. Relatively high regional cost structures do not necessarily correspond with a poor market showing.

Relative Regional Cost Structures: Some Speculation About Future Trends

Two trends are likely to go a long way in shaping the U.S. economy over the next several years. The first relates to the continuation of the much-publicized shift to a more global economy. Simply put, sound investment decisions will be made,

more and more, in an international setting, as opposed to a strictly local setting. Second, the structural changes taking place in the economy, reported so often in both the popular and scholarly literature, are expected to continue and intensify. More important aspects of this structural change revolve around efforts to get the federal budget deficit under control, defense-related cutbacks and demographic changes.¹⁷

The result is expected to be a U.S. economy that is not as likely to fall into the boom-bust cycle as it has done frequently in the past. Although there will continue to be cycles, current expectations are for a very moderate, yet sustainable, economic expansion in coming years. Against this broad backdrop, we can put forth some specific thoughts on future trends pertaining to cost competitiveness.

First, it is important to point out that regional cost structures do not change overnight. Certain regions, especially in the southern United States, and, to some degree, in the west have maintained a historical advantage with respect to the cost of doing business. These regions are expected to

TABLE 5

Commercial Office Vacancy Rates:
1989 and 1990 (percent)—Top Five, Bottom Five

Top Five		Bottom Five	
Honolulu	5.1	Dallas	26.0
Las Vegas	12.3	Phoenix	26.6
San Jose	14.0	Houston	26.6
Cleveland	14.5	Austin	30.0
District of Columbia	14.8	West Palm Beach-Boca Raton	30.1

Sources: Coldwell Banker Commercial Office Vacancy Index of the United States.

maintain that advantage relating to direct business costs, the cost of living and market access (especially population growth). Regions such as New York City, the District of Columbia, Los Angeles and San Francisco will not soon become low-cost centers of economic activity, with respect to direct business costs and the cost of living.

At the same time, we expect some lessening of regional cost differentials, especially as they pertain to direct business costs and the cost of living. As economic activity expands at a relatively rapid rate in low-cost metro areas, upward pressure on wage rates, taxes and prices will be the end result over time lessening, but certainly not eliminating, their comparative cost advantage.

As a result, a second major trend likely to influence regional cost comparisons over the next decade is other cost-related components, especially market access and local quality of life. These too will play an increasingly important role in investment decisions. As regional differentials in direct business costs and the cost of living lessen, the role of these other factors in the decision-making process will grow.

Market access concerns are likely to play a key role. Here, demographic trends are likely to continue which favor metropolitan areas in the south and the west. Several population forecasts utilized by Kasarda suggest that the south and the west will continue to expand at a relatively rapid rate with the industrial north lagging behind.

At the same time, a third major trend, also revolving around market access, is expected to favor the largest cities in the U.S. Historically, international commerce has been concentrated in such U.S. cities as New York, Chicago and San Francisco. In light of the growing internationalization of the economy, certain relative advantages that these cities and their surrounding communities currently maintain will be enhanced.

Unfolding events will benefit other large cities which have the capacity to take advantage of the opportunities provided by the global economy.

TABLE 6

Industrial Office Vacancy Rates: 1989 and 1990
(Percent)—Top Five, Bottom Five

Top Five		Bottom Five	
Portland	1.8	Dallas	7.9
Seattle	2.0	Cleveland	9.1
Detroit	3.0	Houston	9.5
Cincinnati	3.4	Hartford	11.1
Orlando	3.6	Miami	11.8

Sources: Coldwell Banker Commercial Industrial Office Vacancy Index of the United States.

Seattle already has capitalized on U.S. trade relationships with Pacific-Rim nations. Miami is a center of Latin American commerce. The larger Texas metro areas might benefit from the North American Free Trade Agreement.

By the year 2000, metropolitan areas in the south and west are expected to maintain their relatively favorable cost structures. Any lessening in direct business cost differentials and cost of living advantages is likely to be offset by relatively favorable developments on the market access front, especially in terms of population growth. On the one hand, economic globalization will favor the nation's larger cities, traditional centers of international commerce. Conversely, some of the nation's non-traditional larger cities, such as Seattle and Miami, also are likely to benefit greatly from growth in international trade.

Is Growth Linked To Real Estate Performance?

The consensus view that metropolitan cost structure is associated with economic growth does not necessarily translate into investment opportunities. The supply side of the equation also must be considered, and there is indirect evidence that in the past the market has recognized the cost/growth link, and (more than) fully discounted the resulting real estate investment opportunities. Table 7 shows the lowest and highest vacancy rates for office and industrial properties in 1989-90, along with a ranking of their respective states measured as the average cost rankings from the Alexander Grant and Inc. studies, as summarized in Biermann.¹⁸

Though the methodology of some early studies has been criticized as relatively crude, it is difficult to dismiss the negative relationship between comparative costs in the early 80s and real estate performance almost a decade later. Clearly, the market recognized the link between cost and growth, and the supply (more than) anticipated growth.

There is also evidence that current low cost areas have been identified. Results from the 1992

Arthur Andersen survey of market participants and observers are summarized in Table 8 (top five and bottom five). They show a close relationship between what we have identified as low cost areas and what the survey respondents identify as areas with high and low real estate investment potential.¹⁹

Will History Repeat?

Despite the poor track record of following a low cost strategy to locate development and the survey evidence that low cost areas are targeted for investment, opportunities may still remain in presently depressed markets.

Table 9 shows changes in capitalization rates from 1985 to 1994 for three of our lowest cost cities—Dallas, Houston and Phoenix—and nationally.²⁰ The key observation is that the trends are consistent; capitalization rates moved significantly higher during this period, and the changes for our selected growth areas were of similar magnitudes to the changes nationally. These data suggest there

is time to take advantage of the historical link between the cost of doing business and future growth.

Summary And Conclusions

We have developed rankings of metropolitan areas on the basis of a wide array of cost of doing-business measures. The results have a strong regional slant with the South and Southwest looking relatively better and the North relatively worse for most measures. While the link between cost structure and future growth is reasonably well established, the link between growth and real estate investment performance is not. Over the past decade, the market has recognized the cost-growth link and more than fully discounted the resulting demand for space. Given the strong association between our current cost rankings and those areas market participants have identified for low and high investment potential, it is tempting to conclude that it is once again too late to take advantage of future growth. However, the structure of capitalization rates over the recent past suggests that in the present case opportunities may remain.

TABLE 7

1981-83 Rankings

Office, 1989-90			
Lowest Vacancy		Highest Vacancy	
	1981-83 Rank		1981-83 Rank
Honolulu	NR†	Hartford	24
Las Vegas	18	Tampa	2
San Jose	6	Miami	NR
Cleveland	38	Denver	3
Washington, D.C.	NR	Ft. Worth	1
Charlotte	14	Dallas	NR
Seattle	20	Phoenix	9
Philadelphia	39	Houston	NR
Boston	22	Austin	NR
San Francisco	NR	West Palm	NR
Average	19		8

Industrial, 1989-90			
Lowest Vacancy		Highest Vacancy	
	1981-83 Rank		1981-83 Rank
Portland	31	Dallas	1
Seattle	20	Cleveland	38
Detroit	40	Houston	NR
Cincinnati	38	Hartford	24
Orlando	2	Miami	2
Average	26		16

†Not Ranked

Sources: (1981-1983 Rankings) Calculated from Biermann (see References).

TABLE 8

1992 National Real Estate Opinion Survey—
Top Five, Bottom Five

Most Potential—Top Five		Most Potential—Bottom Five	
Dallas/Ft. Worth	26%	Boston	3%
Atlanta	22%	Cincinnati	3%
Houston	22%	Kansas City	3%
Las Vegas	18%	Minneapolis/St. Paul	3%
Seattle	17%	New York	3%
Least Potential—Top Five		Least Potential—Bottom Five	
Boston	36%	St. Louis	4%
New York	29%	Memphis	3%
Los Angeles	19%	Minneapolis/St. Paul	3%
Detroit	18%	Pittsburgh	3%
Hartford	16%	Cincinnati	2%

Sources: Arthur Andersen (see References).

TABLE 9

Capitalization Rates

	1985/4	1988/4	1992/4	1994/1*
NATIONAL				
Office	.083	.080	.091	.091*
Warehouse/Distribution	.094	.090	.097	.097
Retail	.094	.087	.097	.096
DALLAS				
Office	.073	.089	.097	.097
Warehouse/Distribution	.089	.089	.100	.095
Retail	.092	.097	.098	.095
HOUSTON				
Office	.101	.097	.104	.102
Warehouse/Distribution	.099	.099	.104	.094
Retail	.101	.098	.096	.106
PHOENIX				
Office	.086	.088	.097	.092
Warehouse/Distribution	.090	.092	.096	.092
Retail	.084	.087	.098	.097

*For National, data is fourth quarter, 1993.

Sources: *National Real Estate Index Market History Reports* (see References).

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APPENDIX A

Anaheim-Santa Ana, Atlanta, Austin, Baltimore, Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver, Detroit, District of Columbia, Fort Worth, Fort Lauderdale, Fort Myers, Fort Pierce, Hartford, Honolulu, Houston, Kansas City, Las Vegas, Los Angeles, Memphis, Miami, Minneapolis/St. Paul, Naples, New Orleans, New York, Oakland, Orlando, Oxnard-Ventura, Philadelphia, Phoenix, Pittsburgh, Portland, Raleigh-Durham, Riverside-San Bernadino, Sacramento, San Diego, San Francisco, San Jose, Santa Rosa, Seattle, Stockton, St. Louis, Tampa/St. Petersburg, West Palm Beach-Boca Raton.

TALKING WITH ACCOUNTANTS ABOUT INCOME-PRODUCING REAL ESTATE

by Jack P. Friedman, CRE

Real estate investors, like everyone else, react to accounting and taxation dictates. Their accountants tell them how much they made or lost in a year, and their tax experts discuss submitting last year's results to the Internal Revenue Service and planning ahead to minimize future taxation.

Taxation certainly motivates real estate development. The 1981 Tax Reform Act gave great tax advantages to equity real estate investors, thus creating new development opportunities and higher prices; the 1986 act removed these incentives, and many hold it responsible for the ensuing real estate bust. The 1993 act generally was neutral. Equity investors are certainly motivated by accounting-defined income and taxation, yet real estate counselors do not always consider the accounting or tax situation of a proposed transaction or investment.

This is not to imply that a tax or financial accounting practitioner can provide more meaningful information than a skilled real estate counselor. It's just that their perspectives are different. The accountant is able to provide financial statement presentation or tax implications of a proposed transaction through a mechanical extrapolation of market data with the assumptions supplied by a client (developer, syndicator or broker) or to record historical data. The real estate counselor usually seeks out market data independently.

While accountants and real estate counselors share the same words, their usage provides entirely different meanings. Now that many Big Six accounting firms offer real estate consulting services, the chasm is more apparent between tax, audit and management consulting services, even within a firm. This article focuses on differences between tax, accounting and real estate consulting matters regarding income-producing property. It will begin with terminology differences and proceed to after-tax cash flow and resale analyses.

Terminology Differences

Some of the terms commonly used in both real estate consulting and tax and financial accounting which take on different meanings are *amortization*, *capitalization*, *cash flow*, *depreciation*, *gain from sale*, *net income*, *net operating income* and *value*.

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Amortization:

Real estate counseling: the systematic reduction of a mortgage loan, through periodic payments in excess of interest.

Tax, accounting: (1) The systematic write-off of the cost of an intangible asset over its expected life. For example, leasing commissions are set up as an intangible asset on a financial statement and deducted ratably over the lease term. The same is true of mortgage placement fees. (2) Same as the real estate definition.

Capitalization:

Real estate counseling: Conversion of an expected stream of income into one lump sum amount of present value.

Accounting: Recording on the entity's balance sheet the cost of an asset having a useful life of more than one year.

Cash Flow:

Real estate counseling: (1) Rental income minus all cash outflows to operate and finance property. (2) In certain computer programs, including *PROJECT*, net operating income minus leasing commissions and tenant improvements.

Accounting: Rental income minus operating expenses and financing payments. This may also be called before-tax cash flow.

Tax accounting defines after-tax cash flow: Accounting definition of *cash flow*, plus any income tax savings attributable to owning the property, or minus income taxes due to property ownership.

Depreciation:

Real estate counseling: (1) Loss in value from original cost.

Real estate appraisal: (1) Loss in value from current replacement or reproduction cost new. (2) In Ellwood formulation, expected loss in value over a future holding period.

Accounting: Method of allocating cost over estimated useful life.

Tax accounting: Method of allocating tax basis over an arbitrary period of time specified by tax law.

Gain From Sale:

Real estate counseling: Enhancement in value from original cost.

Tax or accounting: Difference, selling price minus expenses of sale; and original cost minus (tax) depreciation.

Net Income:

Accounting, taxation: Rental revenue minus the sum of: operating expenses, interest expense, amortization of intangible assets and tax or accounting depreciation. Replacement reserves and mortgage principal payments are not subtracted.

Net Operating Income (NOI):

Real estate counseling: Potential gross rental income, after deducting allowances for vacancies and collections, operating expenses and replacement reserves. Financing expenses and depreciation deductions are not subtracted.

Value:

Book value is a financial accounting term for an asset presented on the balance sheet. It is generally based on historic cost, reduced by accumulated book depreciation. Compare with *adjusted tax basis*, a similar term for tax purposes (tax cost minus accumulated tax depreciation). Contrast with *market value*, an economic term meaning what it could be expected to sell for under certain conditions.

Major Differences Between Tax And Financial Accounting Practitioners

Though it may be convenient to treat all accountants as one group, such a description is inappropriate for our discussion. Financial accountants are concerned with Generally Accepted Accounting Principles (GAAP), a set of rules that govern financial statement presentation. Tax accountants are concerned with the Internal Revenue Code (IRC), which applies a different set of rules. Many of these differences revolve around issues of timing and accrual of income recognition and expense deductions.

Cash-basis accounting recognizes revenue and expenses when they are received or disbursed, rather than when they are earned or incurred. Using an *accrual basis*, revenue is recognized when earned and expenses when incurred. For example, salaries may be paid on January 2 for work performed in December. On an accrual basis, salaries are expenses of the prior year, whereas on a cash basis, the salaries are an expense when paid.

Tax rules, however, may preempt consistent accounting. Rents received or accrued in advance, for example, are taxable income to the lessor, under IRC Section 61. That is, rents received in advance are taxable income regardless of whether the taxpayer is on an accrual basis or a cash basis. By contrast, financial accounting demands a matching of costs with revenues. For financial reporting purposes, advance rent is not treated as revenue until it is earned. A guide for recognition of revenues and other important matters is the Financial Accounting Standard Board's (FASB) Statement of Financial Accounting Concepts (SFAC) No. 5, "Recognition and Measurement in Financial Statements of Business Enterprises." It states that revenue generally is recognized when both these conditions are met: (1) The revenue is realized or realizable, and (2) the

revenue is earned. Thus, for financial reporting purposes, rent received in advance is not treated as revenue when received, but rather as revenue in the period it is earned.

Depreciation claimed for tax purposes is done according to arbitrary IRS rules. Through the years the IRS has changed allowable depreciable lives and methods a number of times. Before 1981, most commercial property was to be depreciated for tax purposes under "guideline lives," generally 40 years or more. However, if an owner could demonstrate that a shorter life was in order, it could be used. Component depreciation was allowed whereby taxpayers could elect to depreciate different components of a building over different useful lives. In the 1970s, most new property bought could be depreciated using an accelerated method, whereas second-owner property bought was to be on a straight-line basis. For most purchases in 1981-1983, a tax depreciation life of 15 years was allowed with an accelerated method though component depreciation was barred. The life was raised to 18 years in 1984 and 19 years in 1985. Events changed dramatically with the Tax Reform Act of 1986. The tax depreciable life was raised dramatically to 31.5 years for commercial property (27.5 years for apartments) and the straight-line method mandated. For purposes of commercial property tax depreciation, lives were extended to 39 years in the 1993 tax act.

By contrast, the aim of *depreciation expense for financial accounting* purposes has not changed through the years. Its purpose is to match costs with revenues. A building with a 50-year expected useful life is to be depreciated over that period. If greater depreciation is expected during the early years (as an analogy, an automobile depreciates more early in its life than it does later), the financial accountant should provide an accelerated depreciation schedule. Whether tax or financial accounting is used, depreciation accounting is a method of systematic allocation, not of valuation. Accounting or tax depreciation allocates the cost of an asset over some period of time.

There may be differences in accounting for operating expenses, e.g., tax vs. financial accounting. For example, suppose the building has been built on leased land. First consideration must be given to whether the lease is a true (operating) lease or a financing device. Rules for tax purposes differ from financial accounting. If the lease is a financing device, then the rent payments are recast to become interest and principal.

Suppose, instead, it is found to be an operating lease. If the rent is prepaid, the taxpayer may deduct only the portion of rent that applies to the

current tax year. As noted earlier, however, the lessor who receives rent in advance must report it on the tax return in the year received or accrued. There is not symmetry between the payor and recipient of advance rent for tax purposes. For financial accounting purposes, there should be symmetry.

Differences in tax and financial accounting purposes may be significant. Corporations and partnerships must, on their annual tax returns, provide a reconciliation of their books with their tax returns. This is done on Schedules M-1, Reconciliation of Income (Loss) per Books with Income (Loss) per Return, and M-2, Analysis of Unappropriated Retained Earnings Per Books (for corporations) or Analysis of Partners' Capital Accounts (for partnerships).

Major Differences Between Real Estate Counseling And Tax Accounting

The real estate counselor typically builds a cash flow model as shown in Table 1:

TABLE 1

Cash Flow Estimated By Real Estate Counselor

Rental income available:		
50,000 sq. ft. at \$20 psf		\$1,000,000
Add: Miscellaneous income		<u>25,000</u>
Equals: Potential gross income		1,025,000
Less: Vacancy and collection allowance		<u>- 100,000</u>
Equals: Effective gross income		925,000
Operating expenses:		
Advertising	\$ 30,000	
Insurance	28,000	
Grounds maintenance	20,000	
Management	56,000	
Payroll	48,000	
Payroll taxes	9,000	
Repairs	45,000	
Taxes (ad valorem)	175,000	
Utilities	<u>54,000</u>	
Subtotal	465,000	
Replacement reserves (carpets, appliances)	<u>35,000</u>	
Total		<u>500,000</u>
Net operating income*		425,000
Less: Leasing commissions	30,000	
Tenant improvements	<u>40,000</u>	<u>- 70,000</u>
Net operating income†		355,000
Less: Debt service		<u>- 300,000</u>
Cash flow (also called before-tax cash flow)		<u>\$55,000</u>

*Traditional net operating income computation.

†Net operating income after leasing commissions and tenant improvements. A computer program, *PRO-JECT*, refers to this as cash flow.

By contrast, a tax accountant estimates income or loss for the same property as shown in Table 2:

TABLE 2

Taxable Income (Or Loss) As Estimated By Tax Accountant

Rental revenue	\$ 900,000
Miscellaneous revenue	25,000
Total revenue	925,000
Deductible expenses:	
Advertising	\$ 30,000
Insurance	28,000
Grounds maintenance	20,000
Management	56,000
Payroll	48,000
Payroll taxes	9,000
Repairs	45,000
Taxes (ad valorem)	175,000
Utilities	54,000
[Subtotal memo]	465,000
Interest expense	250,000
Depreciation:	
Building cost: \$5,000,000	
Useful life: 40 years	125,000
Appliances, carpets at cost: \$500,000	
Useful life: 5 years	100,000
Land cost: \$330,000 (not depreciable)	
Amortization:	
Leasing commissions: \$30,000	
Lease term: 5 years	6,000
Unamortized mortgage fees: \$100,000	
Remaining mortgage term: 25 years	4,000
Tenant improvements: \$40,000	
Term 20 years:	2,000
Total expenses	\$ 952,000
Taxable income	<u>(\$ 27,000)</u>

At this juncture, it may be instructive to describe the differences between tax and real estate counseling methodology, especially for each of the items where there is a difference. These are reconciled on Table 3.

Potential gross income. This term is used by the real estate counselor to describe the rent collections if all units are fully leased. It tends to be a hypothetical figure that serves as a basis for estimating the amount that will *not* be collected due to vacancies and collection losses. Some real estate counselors include miscellaneous income (concessions, tenant security deposits forfeited, interest on a replacement reserve) in this figure; in other situations, the miscellaneous income is not included in potential gross income.

For accounting and tax purposes, there is no such thing as potential gross income, nor a vacancy and collection allowance. The accountant is interested in what was accrued or collected, not what was missed. The counselor needs vacancy information to help decipher the market and understand this property in relation to other properties in the market.

Operating expenses. For real estate, tax and accounting there should be few differences, unless the owner is on an accrual basis for one purpose and a cash basis for another. These should be ordinary and necessary amounts that are needed to operate the property. However, a replacement reserve is not tax deductible.

Replacement reserves. The real estate counselor often regards the wear on short-lived components, such as appliances and carpets, as an operating expense that is properly accounted for by spreading the replacement costs over their expected lives. For example, suppose that carpeting in an apartment complex is expected to last an average of five years. If the replacement cost is \$10,000, then, in theory, the owner should put aside \$2,000 each year to stabilize the expenses (and net operating income). This avoids possible lumpiness of NOI, which is important in order to avoid capitalization into a value estimate of too much or too little. However, few owners actually put amounts aside in a replacement reserve; they do so only when required by lenders or government agencies.

For accounting purposes, there is no replacement reserve. Instead, the historical cost of the asset is depreciated over a period of time that is related to the asset's expected useful life. The same is true for tax purposes, except that the depreciable life applied is legislated and not necessarily related to the expected life of the asset.

Leasing commissions and tenant improvements. The real estate counselor might assert that these are nonrecurring capital expenditures that should not reduce net operating income. Certain computer programs widely used by real estate counselors provide results that conform to this notion. Real estate textbooks describe them both ways, as deductions to derive net operating income or from that amount to derive cash flow.

For tax and accounting purposes, these amounts are capitalized and amortized generally over the period of time for which they are expected to provide useful benefit. This is ordinarily the life of the lease or the tenant improvement. One concern here is when a tenant improvement is expected to outlast the term of the tenant's lease. In that case, the improvement is amortized over its useful life; if the tenant vacates while there is still a balance left to amortize and the improvement is torn out as useless to another tenant, the unamortized remainder is tax deductible.

Cash flow. This term is also known as *before-tax cash flow* and *cash throw-off*. It has customarily been used to describe the amount of cash available after deducting debt service, which includes both interest and principal repayment from net operating income. There are a number of computer programs in use by real estate counselors that attempt to define cash flow as net operating income minus leasing commissions and tenant improvements without considering debt service. Yet, without including debt service the definition of cash flow is inadequate or ambiguous.

Before-tax cash flow generally follows the real estate considerations described above, though the replacement reserve is a questionable item. Also, the lumpiness of tenant improvements and leasing commissions should be smoothed out if a single-period NOI is to be capitalized into a value estimate. In a multi-period discounted cash flow analysis, the future cash in- and outflows are articulated so they appear in the year they are expected to occur.

The definition of cash flow should be qualified as to before-tax or after-tax. "Tax," in this sense, relates to income taxes as contrasted with ad valorem property taxes that are operating expenses which are subtracted to derive cash flow.

Income taxes payable (or saved) due to project ownership are subtracted from (or added to) before-tax cash flow to derive after-tax cash flow. A computation of taxable income is necessary. Basically, rent collected, plus miscellaneous income, minus tax-deductible ordinary and necessary operating expenses, is used to derive taxable income. Tax-deductible expenses, in addition to operating expenses, include interest, tax depreciation and amortization of intangible expenses. However, a replacement reserve is not deductible, nor is the amortization payment for mortgage reduction.

When there is taxable income, it is added to the investor's other (nonproject) income to derive the investor's total taxable income. The investor's tax burden, added by the project income, is estimated. For simplicity, one flat rate often is applied as the marginal rate to represent the tax paid on the next dollar of income.

When there is a tax loss from project ownership, there may or may not be a current tax savings depending on a number of variables. First, philosophically, should a tax savings which is due to shielding nonproject income from taxation be attributed to the project? If so, it may create a false sense of additional value to the project. Proponents of adding tax saving as a benefit may assert that the loss often is caused by a non-cash tax deduction for tax depreciation. Therefore, it is only a paper loss, and, second, it results in saving tax money that was made possible only from project ownership. So why shouldn't this benefit be associated with the investment? To the contrary,

others argue. The savings was a reduction of tax that was assessed on nonproject income. Some assert it is wrong to ascribe a value to the real estate investment on the basis of either income tax losses or anything related to income that was earned outside the property.

The 1986 Tax Law And Depreciation Schedules

The 1986 tax law brought major changes in depreciation schedules that serve to reduce the potential for a tax loss. The most significant was the change in the depreciable life from 19 years and an accelerated schedule to 31.5 years, straight-line, for commercial property, then extended to 39 years by the 1993 tax act. Depreciation of apartments was changed to 27.5 years in 1986, also straight-line, and still remains there. So now the likelihood of a tax loss from a paper tax deduction is lessened due to the reduced depreciation allowance.

If there is a tax loss, its application depends on a variety of factors. Generally, the tax loss is called a passive activity loss (PAL). This cannot be applied against other income, though there are two important exceptions. A PAL is suspended to be released against a passive income generator (PIG). That is, when the property (or other real estate the taxpayer owns) begins to earn taxable income, the PALs are released to offset PIGs. When they are not released against PIGs, they remain suspended until a property sale when they are released to offset a taxable gain.

Starting in 1994, one important exception applies to small investors, the other to real estate professionals. For small investors, up to \$25,000 of loss may be used as an offset to nonproject income by an owner who manages his own property. However, this opportunity is limited and begins to be phased out for taxpayers with more than \$100,000 of taxable income from nonproject sources, and is unavailable when nonproject taxable income is above \$150,000.

The other exception, beginning in 1994, is for real estate professionals. To qualify as a real estate professional, one must meet two requirements:

1. More than one-half of the personal services performed in trades or business during the tax year must involve real property trades or business in which one materially participates.
2. One must perform more than 750 hours of service during the tax year in real property trades or businesses in which one materially participates.

These two requirements must be satisfied by one spouse if a joint return is filed.

Taxable Income Vs. Cash Flow

Most real estate counselors in addressing income-producing real estate are concerned with deriving cash flow as an intermediate step in the valuation process. Most accountants, whether tax or financial,

are concerned with deriving net income. The most significant differences between the two can be gleaned from Tables 1 and 2. These are:

1. *Accounting or tax depreciation.* This is needed to derive income or loss, but has no effect on before-tax cash flow.
2. *Amortization of intangible assets.* This has the same characteristics as accounting or tax depreciation already noted.
3. *Tenant improvements and leasing commissions.* This requires a cash payment and is amortizable for accounting and tax purposes.
4. *Amortization of mortgage balance (principal payment).* This requires a cash payment, but is not deductible to derive tax or accounting income.
5. *Replacement reserve.* This requires a cash payment but is not deductible for tax or accounting purposes.

To derive taxable income from the computation of cash flow is not difficult. Starting with cash flow, subtract tax-deductible items that don't affect cash flow: specifically tax depreciation and amortization of deferred charges. Then, add items that require cash payments but are not tax deductible: specifically, tenant improvements and leasing commissions paid with cash, mortgage principal payments and replacement reserves. The application in Table 3 ties together Tables 1 and 2.

Taxable income (or loss) is not the tax paid (or saved). The tax is a fraction of the amount that is taxable, such fraction ranging from 0 to 40%. In this example, a 40% rate was applied.

Reasons For Differences: Accounting Vs. Real Estate Counseling

The art of accounting developed with an orientation to match costs with revenues. This included depreciation as a systematic deduction to account for the original cost of a wasting asset over its estimated useful life in which it is used up in production. That is, the acquisition of an asset gives rise to neither gain nor loss, but its use over time is treated as an expense whose cost is spread over this period. Paying interest on a loan is an expense, but repaying the principal is not. Placing money in a replacement reserve is a form of savings, creating neither income nor expense.

By contrast, real estate counselors seek annual cash flow. The effort is to measure the present value of expected cash flow. This relegates an allocation of historical cost as a meaningless exercise. Repayment of mortgage principal or setting aside money in a replacement reserve to replace worn out assets requires cash payments. Depreciation is measured by a reduction in value between the current date and some expected future time of resale. A capitalization rate can account for expected gain (or loss) in value by subtracting (or adding) a capital recovery provision to the discount rate to derive the capitalization rate.

TABLE 3

Reconciliation Of Cash Flow With Taxable Income

Cash flow from Table 1	\$	55,000
Subtract non-cash tax deductions:		
Depreciation expense:		
\$125,000 + \$100,000	\$225,000	
Amortization expense:		
\$4,000 + \$6,000 + \$2,000	12,000	- 237,000
Add cash payments that are not tax deductible:		
Tenant improvements and leasing commission	70,000	
Mortgage amortization	50,000	
Replacement reserve	35,000	+ 155,000
Taxable income (agrees with Table 2)		(27,000)
Tax savings at 40% bracket applied to \$27,000 tax loss (Can be used by investors with PIGs, small investors to \$25,000 of loss, and real estate professionals beginning in 1994.)		10,800
After-tax cash flow: \$55,000 from property operations plus \$10,800 tax savings equals	\$	65,800

Proceeds From Resale Vs. Gain Or Loss

A real estate counselor, when providing a discounted cash flow (DCF) analysis, typically prepares an 11-year projection of cash flows from operations. The first 10 years are used in the calculation on the value of results from operations; the eleventh year is presented for purposes of determining the expected resale price. This resale amount, expected to be received at the end of the tenth year, is based on the forecast NOI for the eleventh year. This amount need not arise from a resale; it can also be thought of as the present value of all net operating income to the owner after the tenth year.

In the following example, the resale is provided after 5 years rather than 10 years to keep computations within this projection to an easily followable size.

In a projection prepared for tax or accounting purposes, all aspects of a resale are considered, e.g., transaction costs, paying off the remaining mortgage balance and a tax on the gain. Consider Tables 4 and 5.

One should note the significant difference between Tables 4 and 5. Table 4, which would be prepared by a tax accountant, offers the amount of gain and tax on gain. Table 5, which would be prepared by a real estate counselor except for the tax on gain, offers the cash proceeds from resale.

TABLE 4

Taxable Gain On Resale And Tax On Resale (Resale in 5 Years)

Resale price	\$7,000,000
Less: Expenses of resale	<u>- 350,000</u>
Adjusted selling price	6,650,000
Adjusted tax basis:	
Original cost	<u>\$6,000,000</u>
Less:	
Building depreciation:	
5 × \$125,000	\$ 625,000
Appliance, carpet depreciation:	
5 × \$100,000	500,000
Tenant improvements: 5 × \$2,000	10,000
Amortization, leasing commission:	
5 × \$6,000	30,000
Amortization, mortgage fees:	
5 × \$4,000	<u>20,000</u>
Total	<u>\$1,185,000</u>
Adjusted tax basis	<u>4,815,000</u>
Taxable gain on resale:	<u>1,835,000</u>
Tax on gain at 28%	<u>\$ 513,800</u>

TABLE 5

After-Tax Proceeds From Resale

Selling price in 5 years	\$7,000,000
Less: Expenses of resale	<u>350,000</u>
Adjusted resale price	6,650,000
Less: Mortgage balance at resale	<u>2,250,000</u>
Less: Income tax on gain (see Table 4)	<u>513,800</u>
Net proceeds from resale	<u>\$3,886,200</u>

Summary

The real estate counselor and the financial or tax accountant each have their own domain as to what numbers they provide their client, and each has the conviction that his way is correct. They exercise the dogma of their respective professions: cash flow for real estate counseling purposes, net income for financial accounting purposes, taxable income for tax purposes. Though the differences in dollars are large, only a few entries comprise the difference. This is primarily accounting or tax depreciation and amortization, which are deductible for accounting and tax purposes without a cash payment; and mortgage amortization and replacement reserves which require a cash payment but are not deductible for tax or accounting purposes. Although the numbers can be easily reconciled, a philosophy reconciliation of the two professions, accounting and real estate counseling, is not on the horizon.

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REAL ESTATE BEGINS TO GO ONLINE

by Mark Bates, CRE

You have to live under Plymouth Rock not to be subjected to the technohype published about The Internet over the past year. To keep things in perspective, keep in mind only one in ten households has a personal computer and of these only one in four use a modem. For those non users ask yourself, what am I missing and is there anything on the Info Highway, or IWAY, that I can use as a real estate practitioner?

Background On The Internet.

Internet is a widely misunderstood buzzword. It is not a single network, but rather the interconnection of thousands of separate networks using a common "language" to communicate with one another. The system was developed by the U.S. Defense Department years ago to connect government agencies and research sites at colleges and universities around the United States. It has grown to include thousands of companies and millions of individuals around the world.

Access to The Internet is probably the biggest hurdle for users to overcome. Most computer hackers outside the government and academic communities subscribe to a commercial online service such as America Online, Compuserve, GENie, Prodigy, Delphi, Netcom and, coming in mid 1995, the Microsoft Network. Each of these organizations offers a variety of individual services including E-Mail, Newsgroups, Bulletin Boards, News, Live Chat, etc., and each currently is in a race to provide complete access to The Internet. Complete access includes E-Mail, File Transfer Protocol, Newsgroups, Mailing Lists, Telnet and World Wide Web. More about these functions later.

Until recently, most commercial services provided only E-Mail and Newsgroups. The access point on the commercial services is called a gateway to The Internet. Typically, there is a basic monthly charge of about \$10 per month. Some of the services charge extra for Internet access. Most of the online services have local access numbers in urban and suburban areas.

Things to watch for when signing up for service include available local access numbers, additional Internet and E-Mail fees, hours allowed online for the basic charge, Windows interface and Internet gateway capabilities including FTP, WWW and Telnet. To get started, do some comparative shopping. Contact:

America Online	(800) 827-6364	GENie	(800) 638-9636
Compuserve	(800) 848-8990	Prodigy	(800) 776-3449
Delphi	(800) 695-4005	Netcom	(800) 353-6600

Once you sign on and explore a service's local databases, message boards and special interest groups, you'll want to enter the gateway to The Internet. Some useful definitions for databases include:

Newsgroup—Newsgroup, or Usenet, are Internet discussion groups that cover thousands of topics. Most, if not all commercial on-line services, allow Newsgroup access. You can search by topic with key words to subscribe (free) to a Newsgroup. Try the key words "Real Estate."

File Transfer Protocol—FTP is a tool that allows you to use the Internet to download files from remote computers. You can use a search tool called Archie to locate files of interest. Research papers on real estate topics can be very helpful for those out of the ordinary valuation or counseling assignments.

E-Mail and Mailing Lists—E-Mail is a good way to get started, and is the most active area of the Net. If you are away from the office and/or home for several days, messages, proposals, contracts and reminders from your kids not to forget the tee-shirts can be placed in your electronic mailbox and read and responded to at your convenience via a portable computer with a modem. Commercial online services with nationwide local access numbers are the way to go for active E-Mail users. E-Mail is also used for Mailing Lists. You subscribe to a mailing list on a given topic and receive all input from members on the list in your mailbox.

Telnet—Telnet allows you to log on to a remote computer as if it were right in front of you. Some Telnet sites allow anonymous log on, and others require an ID and password.

World Wide Web—The Web is a relatively new way to access The Internet. It is the commercial area of the net, growing rapidly. It links documents and files on similar subjects located at different sites. The Web allows multimedia transfer and is fun to explore. Most real estate related Web sites are local listing bulletin boards which can include maps and photos.

As the sales, valuation and counseling disciplines of real estate move through the current restructuring, technology will be a driving force in the reformation of the business. A Dow Jones/Aegon joint venture called TELERIS will be coming online within the next 24 months to provide online commercial property transaction data on a subscription basis. Product quality and presentation will shift from data collection to data analysis. GIS will be an expected component for market analysis and valuation assignments.

Remember, new technologies can often be overwhelming and ignored until their effectiveness is fully understood. See you online.

Mark F. Bates, CRE, is president of Bates and McDonough Realty Advisors in Providence, Rhode Island. He is chairman of The Counselors' Technology Task Force and represents The Counselors at the National Association of Realtors' Technology and Satellite TV Working Group.

CONTRIBUTOR INFORMATION FOR REAL ESTATE ISSUES

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3. Illustrations are to be considered as figures, numbered consecutively and submitted in a form suitable for reproduction.

4. Number all tables consecutively. All tables are to have titles.

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