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The Graaskamp Legacy

By Mike Miles, Mark Eppli, and Max Kummerow

... Whatever may be the limitations which trammel inquiry elsewhere we believe the great University of Wisconsin should ever encourage the continual and fearless sifting and winnowing by which alone the truth can be found.¹

... Never ascribe to malice what is adequately explained by incompetence.²

Ten years ago on April 22, a man who embodied a unique academic paradigm passed quietly away. It was one of the few things that he did quietly.

To us, the late James A. Graaskamp was a personal hero – opinionated, dictatorial, quietly kind, entertaining, and a demanding taskmaster who would not only encourage but require the continual sifting and winnowing of real estate market data. He had a global ethic that focused on the urban terrarium but could get “real personal.” The 250-pound quadriplegic professor, who had once stood six foot, six inches tall turned lecture notes with his “magic wand” (an eighteen-inch stick with a large eraser head at both ends held in place by his teeth). Asked if he felt sorry for himself, he replied that 99% of us are handicapped in some way – intellectually, emotionally, or physically – so the best thing to do is to be kind to one another and not worry about it. Graaskamp viewed his physical limitations as a “materials handling problem.”

Like Richard T. Ely,³ the institutional economist who was Graaskamp's intellectual predecessor, Graaskamp was an ethically inspired visionary. To us, and many former students and real estate professionals, he was a mentor. Capturing the imagination and enthusiasm of Young real estate analysts as well as the interest of seasoned investors on Wall Street and members of Congress, Professor Graaskamp graciously led the real estate industry with good humor, boundless energy, and a confident bearing.⁴

Not known for accepting the status quo, Graaskamp was frequently found sparring with the establishment. His unrelenting perseverance and his uncanny ability to break down problems into their simplest components had Graaskamp imagining, conceiving, and realizing change in a variety of ways. He recognized that in a world of change and uncertainty, determining a course of action is more important than merely pricing assets. He conceptualized a real estate development process that would maximize the benefits to society, not for just a few individuals. His students (at the University of Wisconsin, the Urban Land Institute, and countless

other venues) enjoyed being tortured with a tremendous amount of reading and voluminous case study assignments.⁵

So What? Who Cares?

As a quadriplegic, James A. Graaskamp was more at home in the oral tradition and produced only one classic paper.⁶ Still, Graaskamp's perspective on classroom education and his alternative research paradigm pioneered or greatly enhanced several real estate principles that are more relevant today than during his life.⁷ These principles are summarized and presented here in five sections: A Different Brand of Research, The Development Feasibility, How Appraisers Value, Who's Watching the Chicken Coop, and Teaching an Ethical Vision. After each summary, the authors speculate on what Jim would say about issues currently challenging the real estate industry today.

A Different Brand of Research

Jim Graaskamp developed methods for solving practical problems. He felt that the purpose of research should not be to publish for publishing's sake, but to improve real-world outcomes. He refused to accept generalizable macroeconomic models as answers to real estate questions, and instead recognized that most real estate problems are unique to a particular site. With that in mind he constructed micromarket decision systems to address specific problems. After all, the primary distinguishing characteristic of real estate is its fixed location, which makes each situation unique and gives rise to the interesting aspects of its situs.⁸

The gist of the dominant academic paradigm is to test a set of hypothesized relationships among variables with a sufficiently large and homogeneous data set to allow the application of statistical techniques. Hypotheses that survive the empirical tests are published as “findings,” which are regarded as “progress” in the field or “extensions” to the body of literature. Since Jim died, *Real Estate Economics* (formerly the Journal of the American Real Estate and Urban Economics Association) and the *Journal of Real Estate Research* have each published over 40 issues with a total of over 500 articles, 99% of which follow this dominant paradigm.⁹

Recently, some authors have developed a skeptical view toward this “science and verification” philosophy. Graaskamp was the original skeptic of the dominant real estate academic paradigm. Instead, he practiced an alternative research paradigm, one that focused on less-orderly site specific problems. To address these micromarket problems, he

developed “space-time”-specific models. The research product was a useful, if not always academically defensible, microanalytical approach to decision making.

Many real estate practitioners found Graaskamp's micromarket approach to real estate problem-solving more useful than the more scholarly models. The reductionist approach of many journal articles fails to adequately capture the complex and open systems in which the results of decisions are played out. Underspecification, or misspecification, in the traditional academic models can lead to wrong decisions in such environments. Graaskamp's holistic and multidisciplinary approach, on the other hand, offers a practical means of reducing risk in a specific transaction.

Graaskamp Today: Securitized real estate has come of age, with primary equity REIT capitalization over \$150 billion for companies controlling nearly \$250 billion of commercial real estate (7% of the universe). REIT superstars such as Sanders, Zell, Sternlick, Rainwater, Roth, and Facetelli (among others) have innovated and invigorated the real estate markets with large liquid investment vehicles, with paired-share and paper-clip investment structures, with UPREIT and downREIT transfer vehicles, and with thinking “outside the box,” i.e., connections to operating entities in health care, cold storage, and prisons.

We think Jim would say “that’s great, but have you considered that continued REIT growth makes “same property” income growth an ever more dominant component of company earnings (relative to income growth from accretive acquisitions)? Wall Street’s real estate elaboration of the simple Gordon Dividend Growth Model¹⁰ is intuitively appealing. However, doesn’t it suggest that the collection of individual property income streams must eventually grow at unsustainably high rates into perpetuity to justify current pricing?” If rents are constrained by space markets that allow new development, the same property income growth won’t always be high enough to sustain some of today’s multiples. (Regardless of how good the superstar’s “story” sounds, eventually same property income will largely determine the growth of today’s rapidly expanding REITs.)

The Development Feasibility

Real estate development feasibility was Graaskamp's most significant contribution to real estate thought. Graaskamp's early published work in the area of real estate feasibility set the stage for his ULI monograph entitled, “Fundamentals of Real Estate Development,” a document many of his students referred to as “the bible.” As a former trustee, fellow, and active member of the Urban Land Institute, Graaskamp would no doubt be delighted to know that the

ULI's first text on the development process was not only dedicated to him, but in many ways was an elaboration of his real estate development feasibility process.¹¹

Kicking off the Real Estate Feasibility class in the spring¹² semester at the University of Wisconsin, Graaskamp could be found discussing how feasibility shapes and reshapes our “urban terrarium” by identifying *that which might be* rather than *that which is*. Graaskamp would then follow with a discussion of the constructive imagination of individuals like Walt Disney and his vision of a place to learn and have fun, stating that if Walt Disney had been constrained by *that which was*, the Mouse would never have become one of the world's dominant cultural icons. The breadth and depth of Graaskamp's work on real estate feasibility is best captured in the opening paragraph of “A Rational Approach to Feasibility Analysis,”

A Neanderthal developer once rolled a rock to the entrance of hive and created real estate, providing the natural void with some additional attribute not found in nature, such as warmth, security, and exclusiveness. He had successfully interlaced land (a finite natural resource) with an artifact (the rock – the first solid-core door) to serve an unmet need of a space consumer (a market). ... Real estate is therefore a manufactured product of artificially differentiated cubage with an institutional time dimension (square foot per year, room per night, cave per moon), designed to interlace society with the natural resource, land.¹³

Graaskamp suggests that nature and man represent the *context* of a real estate solution, while the elements of *form* are the physical, financial, legal, and behavioral constraints of the real estate decision.

The real estate feasibility decision system is an inductive process where the context of a real estate decision is based on a particular site and a specific developer, and where the form of the decision is shaped around the needs and limitations of the market, site zoning, and other aesthetic/ethical constraints. Embedded in Graaskamp's definition of the feasibility process are four critical questions:¹⁴

1. What is it that we are doing?
2. For whom are we doing it?
3. To whom are we doing it?
4. Will it fly?

“What is it that we are doing?” refers to a *course of action*. Graaskamp outlined three possible courses of action that exist in a real estate feasibility: 1) a site in search of a use, 2) a

use in search of a site, and 3) an investor looking for a means of participation. Most development feasibility analyses begin with a parcel of land or underutilized building and address the question of what is the best real estate use (office, hotel, apartment, etc.). On the other hand, fast food franchisors have a particular use in mind but need a decision system to identify the optimal site. Finally, REITs, pension funds, and other investors represent a group looking for a means of participating in the development process.

Defining client objectives is the most overlooked step in the development process. and responds to the question “for whom are we doing it?” Different from the corporate finance goal of “maximizing shareholder wealth,” Graaskamp recognized that developers develop for a variety of reasons and have a range of motivations. One developer may wish to minimize the exposure to loss. Another individual may wish to maximize wealth. A third individual may wish to impose his or his company's logo onto a city's skyline. Yet another individual may simply wish to provide affordable housing to low-moderate-income families. Graaskamp also noted that the client's abilities and constraints must be explicitly addressed to avoid subsequent development conflicts.

“To whom are we doing it?” addresses *market trends and opportunity areas*. A characteristic of aggregate demand and supply is that it generally represents factors that are beyond the control of the individual real estate entrepreneur. At a more focused level of demand analysis, the developer can adapt his real estate product, price, and merchandising appeal to attract a smaller group of users satisfying a particular consumer behavior or investment preference. While studying aggregate data may help the developer in understanding the effective demand characteristics of a broad market or user group, aggregate information seldom provides the decisive identification of a market opportunity.

Price viability addresses the question “will it fly?” Project viability includes an analysis of the site's legal/political constraints, the site's physical limitations, the neighborhood's aesthetic/ethical constraints, and ultimately, the financial synthesis of the proposed enterprise. Many feasibility analysts in the 1980s started with a project's cash flow viability and then attempted to fit, or back into, the assumptions necessary to make the development financially viable. Such a process redefines the goals of the developer and usually leads to a less than satisfactory development.

Those who invest based on the findings of a feasibility study are buying into a set of assumptions about the future productivity of the development. To the extent that a feasibility analysis explicitly tests these assumptions against the context of specific constraints and limited resources as suggested above, the feasibility is more likely to be an accurate reflection of what

will transpire should the project proceed. Graaskamp's pioneering research in feasibility analysis decision systems laid out the structure (infrastructure) for future generations of textbooks, applied research, and ultimately better development outcomes.

Graaskamp Today: Graaskamp's real estate feasibility process is as instructive today as it was when his work was first published. It's a classic. After twenty-five years, the ULI development process text still builds most of the feasibility chapter around his vision. It is essential for rigorous thinking at the project level because it links all the moving parts. To which Graaskamp would respond, all these compliments are nice but what have you done to improve our urban environment?

How Appraisers Value

While he was a contributing author to several editions of *The Appraisal of Real Estate* text published by the Appraisal Institute, Graaskamp was also one of the industry's harshest critics.¹⁵ No discussion about Jim Graaskamp would be complete without including some of his published and unpublished thoughts on the issue. In the first chapter of his 1978 *The Appraisal of 25 N. Pinckney: A Demonstration Case for Contemporary Appraisal Methods*, Graaskamp clearly illuminates the pressures and limitations that are inherent in the appraisal process:

The independent appraiser is currently being exploited by others because of the client-tee structure and ignored by others because of the rigidity of appraisal technique.... The appraiser is being bullied by the client, who can withhold the appraisal fee, and is being castigated by the lender, who regards the appraisal as a regulatory device rather than a source document for loan analysis.

While Graaskamp was unabashedly critical of the highly stylistic nature of the appraisal document and the agency conflict inherent in the client-fee structure, he was also one of the biggest supporters of the need for a well-regulated appraisal industry.

In testimony before a Congressional Subcommittee [Real Estate Appraisal Reform Act of 1987 (H.R. 3675)], Graaskamp clearly illuminated the value of a third-party appraisal as follows:

The lender will require at least 1% of loan proceeds for fire insurance in case the collateral should burn down, but would never spend 1% of project cost to be reasonably certain the project would rent up. But the rental market is the true source of collateral value; many lenders today can only hope that their real estate interest burns down.

Critics of established decision systems are easy to find, but critics with innovative and constructive alternatives for a problem are few. Graaskamp led the appraisal industry to change the foundations of the letter of engagement and redefine the concept of “highest and best use.”

Reforming the Appraisal System. Graaskamp was fond of attributing the real estate finance debacles of the 1980s to the appraisal system, not to the individual appraisers or appraisal theory. It was the system that distorted the motivations of the players, not to the players distorting the system as the press was fond of alleging. In highlighting the flaws of the process, Graaskamp frequently reminded his students that it was the borrower who hired the appraiser and typically specified the value conclusion “needed” to obtain the loan.¹⁶ Not wanting to jeopardize his long-time developer/lender relationship, the appraiser was able to produce the needed value conclusion by appropriately adjusting the appraisal assumptions. The lender, wanting to place the loan, conveniently overlooked the liberal assumptions of the appraisal and made the loan. Thus, the borrower received the loan proceeds, the lender received the points, and the appraiser received a fee. Unfortunately, society was poorly served and is currently making the last payments on the bill in the form of the publicly funded savings and loan (S&L) bailout.

In the early 1980s, Graaskamp's research with the National Council of Real Estate Investment Fiduciaries (NCREIF) identified the missing and biased components of the manager-apraiser relationship and recommended the universal use of a comprehensive letter of engagement. By examining over eighty institutional appraisal assignments, he was able to delineate a series of shortcomings, notably the importance of recognizing the implicit assumptions contained in an engagement letter.

Improving the Appraisal Document. According to Graaskamp, the appraisal function and methodology are pivotal to decisions involving social equity and efficient allocation of capital and limited physical resources. To the extent the appraisal document does not enhance decision outcomes, it ceases to add value. Traditional methods of appraisal valuation use Marshallian economics to explain price. In the short run, the market approach best explains value through price inferences from comparable property sales. In the intermediate term, discounted cash flow analysis integrates the set of assumptions that the next most likely buyer might use in the acquisition of the asset. In the long term, equilibrium value of an asset is the cost to construct an alternative facility with similar amenities. While highly stylized, this three-approach system of real estate valuation is capable of capturing the motivations of market participants if the appraiser uses them within a meaningful decision system. Within these larger decision models

(the three approaches), there exists a series of computational models that assist in the value decision.¹⁷

One of these computational models is the determination of “highest and best” use. Real estate investors perceived a gap between the highest and best use, an appraisal term that presumes an unconstrained maxima, instead of the less-rigid “most probable use,” which presumes a likely outcome. Graaskamp viewed real estate as a process of “satisficing.” That suggests a more reasonable definition of value that is based on probable outcomes, not maxims or minims and this is now part of the Appraisal Institute's definition of highest and best use.

Graaskamp Today: We are sure Jim would see the rating agencies as heirs to all the classic appraisal pressures. As S&P, Moody's, Duff & Phelps, and Fitch rate CMBS issues, they are constantly tempted to change the assumptions to arrive at the desired conclusion. Like their appraisal predecessors, they are paid by the people “who need the right conclusion.” Huge capital flows are justified based on the work of analysts who aren't paid nearly as much as other players in the industry.

The S&L problems of the 1980s could well anticipate the conduit problems of the next decade if the debt securitization industry does not heed some of the agency issues that were only belatedly addressed by the appraisal industry. As 1998 sees the first FASITs (financial asset securitization investment trusts), with permissible substitution of collateral allowing the securitization of construction loans, this is where today's Graaskamp would point out the obvious folly. The originator originates to sell (not hold) and has a clear incentive to “move the best loans through replacing them with weaker collateral.” The watchdog is the underpaid and possibly unmotivated analyst at the rating agencies.

Who's Minding the Chicken Coop?

... Rational balancing of potential losses and potential gain [risk management] is the essence of entrepreneurship. - James A. Graaskamp

The primary objective of risk management is to avoid the loss of asset value due to static or dynamic risk. The secondary objective is to maintain a stable cash flow that is insulated from static risk and negative dynamic risk while maintaining the ability to capture any positive dynamic risk. Static risks, frequently caused by “acts of God,” always cause loss. Dynamic risk can cause either loss or gain but always create cash flow volatility. To effectively manage risk in real estate it is imperative to have a working definition of the concept. In defining a real estate risk, Graaskamp said:

The degree of error between assumptions and realizations is what is termed risk, and in an enterprise economy most parties are attempting to shift a disproportionate share of the risk to others while retaining a larger share of the benefits.

In assessing the degree of error and how to manage it, Graaskamp often cited the principle of “pleasure, pain, and bailout.” Pleasure comes from a well-performing property, and pain refers to the type of recourse that the owner, lender, tenant, or other stakeholder has in explicitly applying the terms and conditions of the lease contract, loan agreement, or operating agreement to prevent non-performance. Bailout refers to the exit strategy when the investment honeymoon is over, your partner wants out, and the contract you signed no longer provides the protection you expected. Simplifying risk management as pleasure, pain, and bailout captures the essence of risk management for those of us who get bored with risk management textbooks.

In assessing the degree of investment risk, Graaskamp discussed both explicit risks and implicit risks. This framework is quite different from traditional finance that equates risk directly with variance (or covariance in a portfolio context). Since most of us focus daily on the finance definition, it's useful to review the alternative approach.

Managing Risk – Explicitly. Real estate risk is most frequently managed through contractual agreements. Acts of God are insured against, property owner cost-of-living risk is at shifted by lease contract, adjustable- rate interest increases may be hedged via third-party forward contracts, and parking lot revenue theft is mitigated through cash management systems. Each of these risk management devices address a particular, identified hazard by explicit means. Where financially feasible, Graaskamp suggested that real estate risk should be explicitly managed.

Graaskamp used four risk management steps to analyze and control the inherent risks in a real estate project:

1. Identification of significant exposures to loss in terms of frequency and severity.
2. Identification of alternative control procedures.
3. Selection of appropriate risk management methods at acceptable costs.
4. Implementation of the appropriate procedures.

By assessing the potential burden of each assumption in a project analysis, many risks can be measured and shifted to others, or a method of addressing the concern can be explicitly defined.¹⁸

Managing Risk – Implicitly. Graaskamp's primary means of managing implicit risk was through market research, stating that “real estate value is little more than a set of assumptions about the future.” Graaskamp was at his best when critically analyzing the assumptions inherent in a discounted cash flow analysis. In works published as early as 1970, Graaskamp critically addressed the need to be clear in stating (and fully understanding) the assumptions behind any discounted cash flow analysis.¹⁹

In addition to addressing cash now risks, Graaskamp frequently questioned the assumptions behind the standard financial ratios. While the cash flow and collateral risks of a mortgage conduit are measured and priced using the debt service coverage ratio and the loan-to-value ratio, there are implicit risks behind these measurements.²⁰ For instance, is NOI the same as cash flow in calculating the debt service coverage ratio? If so, are tenant improvements cash flow or capital items? And finally, what are the implications of these implicit assumptions when applying the debt service coverage ratio? Similarly on the equity side, when REITs divest, will there be equity investors who price real estate using the same cap rate and growth rate the REIT did in acquiring the asset? Specifically, will the purchaser of REIT assets assume the same efficiencies of scale, income growth potential, and cost reductions in acquiring a second-generation property that has been managed to extract every possible dollar of income?

Graaskamp Today: Conduit and REIT investors properly view real estate from a portfolio risk perspective. The risks inherent in any one property can be reduced via diversification through the pooling of assets. We think that Graaskamp would take a different view; emphasizing micromarket analysis, he would tolerate the portfolio theory, while suggesting that at times it's a better strategy to put all your eggs in one basket, and then keep a watchful eye on that basket. Graaskamp would recognize portfolio theory's role in the allocation of investments, but would suggest that the pool of assets is in the end only as good as the cash flows from individual properties. As REITs get bigger, expanding by geographic area and type of activity (paper-clip operating companies), he would question whether the resulting entity was not more, rather than less, risky.

Teaching an Ethical Vision

The moral qualities and habits of a nation have almost as much to do with its success as its intellectual qualities ... [man's] dominion is secured by greater forethought. .. greater ability to subordinate the lesser interest of the present to

the larger interest of the future...[also by man's] ability to subordinate the lesser interest of the individual to the larger interest of the group, the community, or the nation.²¹

Like this quote by Ely, Graaskamp had an ethically inspired vision. Teaching morals is different than teaching typical subjects where imparting knowledge and/or the ability to reason is the goal. The measure of success in teaching ethics is the ability to generate more ethical behavior, not merely a knowledge of ethics. Graaskamp felt that real estate decisions were steeped in moral issues concerning the contemporary community and future users.

Graaskamp's system of real estate ethics is illustrated in his famous diagram of the real estate process.²² He includes site, community, environment, and developer issues across time in a single diagram where “a desirable real estate development permits maximum satisfaction of the consumer with an affordable structure, while respecting environmental limits of the natural resources and permitting both the public infrastructure providers and the private market developer to achieve cash solvency.” The primary implication of Graaskamp's conception of real estate as a process of interdependent actors is one that must, out of self-interest, be concerned about others.

Graaskamp invited guest speakers to the campus whose integrity clearly was central to their success. To encourage and recognize responsible leadership in real estate, the University of Wisconsin's Real Estate Alumni Association grants a lifetime Achievement award to an outstanding member of the real estate industry at its biannual meeting. Three of the four criteria to receive the award concern ethical and community behavior, including 1) competence innovation, 2) community service outside of the job, 3) high ethical standards, and 4) devotion to family.

Graaskamp Today: We think that Jim would say the following about ethics and the regulatory cycle. The Reagan era began an American shift toward less government and more self-reliance. While many of us support this shift, even the most naïve conservative would concede that without a holistic ethical system firmly implanted in our decision-makers, capitalism leads to excesses, and such excesses lead eventually to a new cycle of government rules to protect the disenfranchised. More than any of the preceding lessons, what we most need today is a concern that extends beyond ourselves and our families. The NIMBY (not in my backyard) syndrome is only the tip of the iceberg.

Epilogue

With a filing cabinet for a memory, a steel chair for a podium, and a booming voice, James A. Graaskamp was great fun to have around. We'll miss him even more if we fail to remember what he said.

Notes

1. This quotation is inscribed on a plaque at the entrance to Bascom Hall at the University of Wisconsin.

2. Loose translation of Hanlan's razor.

3. Richard T. Ely is considered the grandfather (godfather) of modern real estate and more broadly of all economics. He was the founder of the American Economics Association and long-time faculty member of the University of Wisconsin.

4. When the governor named Graaskamp Wisconsin's Handicapped Person of the Year in 1970, Graaskamp laughed when a former student wrote, "I understand you've been named handicapped person of the year. When did you become handicapped?"

5. Jim Graaskamp was adored by his masters students, who fondly referred to him as "Chief." The impact that Jim Graaskamp had on the lives of his students and the real estate industry are well-captured in *Graaskamp on Real Estate*, Stephen P. Jarchow, editor, UU: Washington, D.C. [1991]. Several quotes from former students and industry leaders include: "He was a formidable force in this business," Claude Ballard; "I think he was a genius ...," Marshall Bennett; "he was a beacon of integrity, ... " Anthony Downs; "he was a hard-driving idealist, with incredibly high ethical standards" .Dr. Graaskamp had a profound influence on many individuals, as well as the collective academic and professional worlds of real estate and urban land economics," Robert Peltzman.

To be fair, there were people who hated Jim. He was at times overly aggressive and unreasonably demanding. He favored masters students over Ph.D. students when most academics consider their Ph.D. students to be almost the equivalent of natural children. Worse yet, he wasn't devoted to even basic econometrics, which is considered heresy in academic circles. He was very comfortable with unmasking shallow ideas, particularly in public, by undressing their creators. Despite all this, we're still big fans, but felt the need to "cover the negatives" to preserve credibility in the overall presentation.

6. The classic paper, in our opinion, was "A Rational Guide to Feasibility Analysis," October, 1972. This paper set the stage for future research on the real estate development process, including Graaskamp's 1981 ULI monograph entitled "Fundamentals of Real

Estate.” In an April 8, 1973, article for *The Wisconsin State Journal*, Graaskamp listed his two major vices as travel and fishing. Most of his travel had been accomplished conducting real estate seminars. He fished with the use of an electric motorized reel “that has cost me a fortune,” Graaskamp stated, and then observed, “I’d say I’m overdue for a textbook, but textbooks take up an awful lot of fishing time.”

7. On the evening of Friday, April 22, 1988, James A. Graaskamp died in Madison, Wisconsin. At the time of his death he was the chair and full professor in the Real Estate and Urban Land Economics Department at the University of Wisconsin, founder of Landmark Research, ULI Fellow and Trustee, Homer Hoyt Institute Fellow, member of Salomon Brothers' Academic Real Estate Advisory Board, and member of the Board of Directors at First Asset Realty Advisors, among other accomplishments.

Jim was born and raised in Milwaukee, Wisconsin, and at the age of seventeen was left physically paralyzed from polio. He went on to complete his B.A. at Rollins College, his MBA at Marquette University, and he earned Ph.D.s in Urban Land Economics and Risk Management at the University of Wisconsin. His thirty-year university, teaching career was spent at the University of Wisconsin. His teaching excellence and influence in the real estate industry are captured in articles about Jim that were published in: *USA Today*, *The Chicago Tribune*, *The Milwaukee Sentinel*, *The Milwaukee Journal*, *The Wisconsin State Journal*, and *The Capital Times* (Madison, Wisconsin), among others. Publications memorializing Jim Graaskamp are too many to list here. Also, Jim received numerous teaching awards and was frequently named one of the ten best teachers at the University of Wisconsin.

8. Situs is broadly defined as the total urban environment in which an urban land use for a specific parcel functions at a particular point in time. For a more in-depth discussion of situs see Richard B. Andrews, *Urban Land Economics and Public Policy*, New York: Free Press, 1971.

9. We admit we haven't read them all.

10. Price equals dividends divided by the cost of capital less the growth rate in dividends, $P = \frac{D}{K-g}$.

11. Mike E. Miles, Richard L. Haney, Jr., and Gayle L. Berens, *Real Estate Development: Principles and Process*, second edition, ULI: Washington, D.C. (1995).

12. We use the term “spring” generously, as the winds carry drifting snow across a frozen Lake Mendota through April.

13. James A. Graaskamp, “A Rational Approach to Feasibility Analysis,” *The Appraisal Journal*, 40 [October 1972], pp. 513-521.

14. See James A. Graaskamp, *A Guide to Feasibility Analysis*, Society of Real Estate Appraisers: Chicago [1970]; or, if you want the modern “optimizing” version, see the Development Process, Urban Land Institute. [1995].

15. An article that appeared in the November 15, 1987. *Chicago Tribune* began with the following: “A newspaper article once asked, ‘why is Professor Graaskamp so irascible?’ And that was a friendly reporter, quipped James Graaskamp, the often outspoken yet remarkably revered leader of one of the few programs in higher education that is dedicated to teaching real estate development.”

16. Similar to the fee structure of bankers, the pension fund fee structure is also dependent on appraised values.

17. In a 1983 unpublished manuscript by James A. Graaskamp and Michael L. Robbins entitled “Computerized Appraisal Analysis for the Appraisal of Large-Acreage Wilderness Tracts,” the authors use spatial mapping to appraise the physical beauty of natural lands with great topographical relief and ecological diversity. In the abstract of the paper, the authors state “research has shown that the utilization of a fine-grained computer mapping technique to record the physically ascertainable components of the subject and comparables, when available, can greatly advance the defensibility of value estimates.” In this paper, Graaskamp and Robbins use a predecessor of Geographic Information Systems (GIS) to advance appraisal methods and complete a consulting assignment. It is interesting to note that Graaskamp and Robbins are able to apply GIS to an appraisal assignment in 1983, when most GIS systems today have not been integrated into property valuation systems.

18. Other than the complete avoidance of the risk (not purchasing or developing the project), or the naive acceptance of the unknown (through weak or unfounded market research), Graaskamp suggests the application of the following risk management tactics:

- Reduce the frequency of loss.
- Control the severity of loss.
- Shift risk by insurance contract.
- Transfer risk by second- or third-party contract.
- Limit the financial consequences of a surprise.
- Hedge the risk.
- Initiate an entrepreneurial or management incentive.

19. Don't Buy Real Estate – Buy a Set of Financial Assumptions,” is the heading that Jarchow [1991], pages 376-77, uses to introduce some of Graaskamp's class notes. Jarchow's discussion ends paraphrasing Graaskamp: “If you can't 'buy' the assumptions as presented, you cannot afford the real estate product about which those assumptions were made, no matter how 'good' the site and 'attractive' the building.”

Like a skilled trial lawyer, Graaskamp would force students, investment analysts, and the appraisal industry to upgrade and integrate the market demographics and site attributes in determining a reasonable set of assumptions. Specifically, Graaskamp wanted to see a line-by-line defense of the income, expense, and capital items in a discounted cash flow analysis. Furthermore, in determining a project's feasibility, the client's goals and objectives needed to be integrated into the debt/equity capitalization, cash flow volatility, equity returns, etc.

20. “If regulators were to match cash flow assumptions to the ability to repay income loans, loan-to-value ratios would be quickly recognized as irrelevant” (class notes from Graaskamp's Real Estate Equity Investments course.)

21. Richard T. Ely, *The Foundations of National Prosperity*, New York: MacMillan Publishing Company, 1916, pp. 277-278.

22. James A. Graaskamp, *Fundamentals of Real Estate Development*, Washington, D.C.: Urban Land Institute, 1981.