Commercial Property Index Products in the U.S.:
Why has a More Effective Index not yet been Created?

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What kind of expectations should investors have for a commercial real estate index in the United States? It is safe to assume that the NCREIF Property Index (NPI), or any other domestic commercial property benchmark for that matter, will never perform the same function as the S&P 500. It will never be published each day in newspapers worldwide and it will never become the up-to-the-minute attraction for potential investors. Given the fundamental differences between the two industries it's really not a fair comparison. The manner in which people buy, sell, and maintain real estate will never resemble the way they invest in publicly traded securities. Real estate transactions are much more cumbersome, time consuming and have an average holding period that is several orders of magnitude longer than that of stocks. Not only do the markets differ, but the participants do as well. The nature of commercial real estate is going to attract a different kind of individual with different expectations than the typical stock investor.

Instead of looking to the stock market as a guide, investors should consider an "ideal" index of commercial property returns to be one that addresses their needs as investors. It should provide the scope and depth of information that will allow market participants to make effective investment decisions. It is reasonable to expect that an index would provide a benchmark by which investors could gauge the performance of building and investment managers. An effective index would also enable researchers to draw performance comparisons with other asset classes, recognize changing trends in the market, and draw correlations between outside events and market performance. Above all, an index should accurately reflect the total investment returns for the market and be adaptable for several specific segments within the marketplace.

While investors have a clear vision of what an index should be, they hardly seem impressed by the current alternatives. A recent report from the Pension Real Estate Association (PREA) noted that the NPI was overwhelmingly the most widely used basis for benchmarking total returns, yet the report also made clear that the index was not an ideal gauge of manager performance. Investment managers voiced frustration that the NPI is not adaptable and that its coverage of core assets limits its effectiveness in benchmarking returns in different property classes. The general response from the plan sponsor community was that the NPI wasn't ideal, but it was the best, if not only, available option.

So how does this happen in a country that supposedly contains the world's most dynamic and transparent commercial real estate market? Indices have sprung up in the U.K. and Australia long after the NCREIF index was established and now those foreign examples are often looked upon more favorably than the NPI. As is often the case, the answer lies in a combination of factors. Market conditions, the nature of the industry, and even the manner in which market participants perceive the NPI all play a role.

This paper will examine the broad range of factors that influence the NPI and other commercial real estate indices in this country and determine what is preventing the development of a more effective benchmark.

The analysis that follows will begin with a detailed discussion of what constitutes an ideal measure of commercial real estate returns, including the different requirements that distinguish the research index from the investment benchmark. From that point we will consider the current alternatives available to U.S. investors and evaluate each of their strengths and shortcomings. As the flagship index in this country, the NPI will be assessed to determine what is preventing it from evolving into an ideal benchmark. The focus of the paper will then shift to an analysis of the foreign indices and their perceived value to investors in their respective countries. The foreign indices will be compared with the NPI to examine any differences in construction or general composition that could be used to help enhance the NPI in the future. We will also look at the reasons why, in spite of their success abroad, the foreign index companies have not established themselves in the U.S. The paper will conclude with a set of recommendations for creating a more valuable index in this country.

There are a handful of authors who have dedicated a great deal of their research to the concept of benchmarking commercial real estate returns. Their efforts have produced an extensive analysis of the NCREIF Property Index (NPI), discussions about what role benchmarks should play in the industry, as well as studies that test alternative methods of index and benchmark construction. The research that has been conducted to this point effectively highlights the flaws in U.S. benchmarks and offers some guidance on how to work around these shortcomings using various statistical methods, but there has been little discussion of how the current system has evolved or why we have yet to develop a more efficient way of gauging commercial real estate returns in this country. In general, articles on the subject focus on specific elements of the process and avoid a debate on the broader issue. This paper will consider the entire range of factors that impact U.S. commercial real estate indices and establish a better understanding of the problems that prevent the development of a more effective benchmark.

The body of literature pertaining to indices and benchmarks in commercial real estate is divided primarily into two camps: those that comment on the shortcomings of the current methods and those that suggest new methods for constructing a more effective measure. The authors that deal with the former tend to focus their work on comparing the characteristics of the NPI with those of an "ideal" index. Some, such as McIntosh (1997), adopt a strict interpretation of how a benchmark should function based on models borrowed from the public markets. McIntosh applies the standards established by Bailey (1992) to the world of commercial real estate and finds that the NPI and other real estate indices fall well short of the ideal. Others like Geltner and Ling (2000) argue that the metrics used to judge the relevance of a stock market benchmark do not translate into the private real estate markets. They point out the stark differences between the two asset classes and push for the need to create a new set of criteria, specific to the commercial real estate industry, by which to judge the ideal benchmark.

While Geltner and Ling believe that new standards need to be developed, they do concede that the NPI does not function as an ideal benchmark for commercial real estate returns. In several earlier works, Geltner (1991, 1998, 2000) highlights some of the problems confronting the NCREIF Index, specifically relating to the impacts of appraisal lag and smoothing. He finds that the effects of the stale appraisals and the random-error generated in the process compromise the accuracy of the NPI when it is used as a gauge of investment manager performance. Geltner's findings also conclude that the data from which the NPI is comprised should be adjusted for appraisal seasonality and smoothing before it can be used as a truly effective measure.

The problems associated with the appraisal basis of the NPI also give rise to the second major segment in the literature, the development of new statistical methods to correct well-documented shortcomings in the index. A number of studies take aim at

correcting the flaws in the NPI by proposing adjustments to the existing data or constructing a new index from transaction price information based on a repeated measures regression (RMR). Gatzlaff and Geltner (1998) were among the first to develop an empirical test of a repeat-sale index by using historical data from the State of Florida to construct a measure of income and appreciation returns on commercial real estate and comparing their results with a corresponding subset of properties from the NCREIF index. Other studies have been more theoretical in nature. Fisher and Geltner (2000) explore two possible solutions to the lag and smoothing problems evident in the NPI. Through the analysis of the repeat-sales and reverse-engineering methods, the authors highlight some of the shortcomings of the current benchmarks and offer seemingly viable alternatives. In a later work, Fisher and Geltner (2002) expand the application of "statistical engineering" to take on another fundamental limitation of the NPI, the fact that the index is not a representative subset of all commercial real estate properties. The authors convert data on core properties from the NPI for use in estimating returns on development projects. In the process, their efforts illustrate the level of data manipulation and assumption required to transform the NCREIF index into an appropriate measure of development investments.

One of the common themes that can be taken from all of the literature on commercial real estate benchmarks in this country is the reliance on NCREIF as a source of raw data. The article from Geltner and Goetzmann (1998) is characteristic of the academic community's dependence on NCREIF for information of property-level returns. The authors start with data from NCREIF and apply the RMR methodology to measure total returns during the commercial real estate market crash during the early 1990's. While the association serves as a willing and necessary contributor towards academic research, it is not representative of all properties that comprise the U.S. market. The perception of NCREIF as being the only viable option for data is one of the limitations that will be addressed in this paper.

Any discussion about the relative effectiveness of a commercial real estate benchmark needs to begin with a firm understanding of what constitutes an ideal benchmark. It is not enough to simply point out the flaws in the existing methods without first recognizing what is possible, given the limitations of the asset class and the nature of the industry. Unfair comparisons with indices in the public markets will always leave investors with the perception that any measure of commercial real estate performance is sluggish, inaccurate, and inherently flawed. Setting proper expectations is one of the initial hurdles to constructing a widely accepted industry benchmark.

The "Bailey Criteria" are often used as the standard by which benchmarks are evaluated in the public markets. They specify that in order for an index to be deemed an effective measure of performance it must be unambiguous, investable, measurable, knowable, appropriate, and specified in advance. Taken as a whole, the criteria favor a passive index, such as the S&P 500, where managers are measured against a comparable set of assets that are well publicized and relatively consistent. While these attributes are relevant in the public transfer of securities, they are not appropriate in gauging property and portfolio-level returns in the private real estate market. The private market for real estate consists of unique, wholly owned assets that require active management and are traded at the sole discretion of their current owners. These assets are not investable in the same manner that stocks and bonds are investable and they do not fit the profile of a passive index as outlined by the "Bailey Criteria". Instead, performance in the private real estate market is best monitored through a peer universe benchmark.

Identifying a Format

The peer benchmark allows an investor to make a relevant comparison between competing managers based on their relative performance over a set period of time. In the ideal case, the peer benchmark will represent an entire population of managers across a spectrum of different investment concentrations or styles. Style purity is essential in a benchmark of commercial property returns as it allows the manager to be measured against a set of competitors with similar investment strategies. The process breaks down when managers that specialize in a particular niche within the industry are evaluated against the entire universe of real estate investment professionals. If someone specializes in acquiring strip centers in the Northeast, it is not a fair to judge their relative performance based on the returns of office properties in southern California or high-rise apartments in the Southeast. Likewise, it is not reasonable to gauge manager performance by weighing it against a fixed return percentage. The investor purchasing strip centers in the Northeast may be very astute and may outperform his peers on a consistent basis, but because of market conditions, which are out of his control, he may not always exceed a 10% return. This does not mean that he's

not an effective investment manager. The ideal peer benchmark avoids such comparisons and allows for a true, accurate evaluation of manager performance in the private real estate market.

Although a peer index is the most effective way to track real estate return data, there are drawbacks to benchmarking performance using this method. The peer benchmark doesn't offer the same level of investment options as the passive index and it is vulnerable to "survivor bias", the artificial inflation of benchmark returns over time through the constant attrition of underperforming managers. Because of the nature of the industry, a peer index of private real estate returns will not represent the entire population of U.S. commercial properties and will therefore be susceptible to errors from statistical manipulation. Randomness brought about by measurement error and market volatility further obscures the assessment of a manager's true abilities in outperforming his peers. These factors can be somewhat mitigated by the low investment turnover in real estate indices and by using property-level data to reduce the impact of any survivorship problems. Coupling empirical manager performance data against the benchmark with broader qualitative feedback will also help lessen the dependence on the peer indices and should make investment professionals more receptive to the benchmarking process.

Defining the Purpose of an Index

Once the general format of the index is established, it is important to consider the reasons for creating the benchmark before moving on to the specific criteria needed for construction. The benchmark is created as a tool for both investors and investment professionals. In an ex ante capacity, a benchmark can improve communication and help align the interests of clients and investment managers. A client with specific investment needs can find a manager suitable for those needs by identifying a benchmark with similar requirements and ultimately selecting a manager that measures his performance against the identified benchmark. This also reinforces the need for style purity in an index because if the client is identifying a manager based on the relevant benchmark, then the index needs to mirror the investment style of the manager. In addition to improved alignment between client and manager, the existence of a benchmark should have a positive impact on future investment returns. It is reasonable to assume that if a manager is being judged and at least partially compensated on his performance against an established benchmark he will work harder to improve his performance than if there were no such measure in place. The result will be an overall improvement in industry returns and the gradual attrition of inferior managers who are not able to improve the level of their performance.

The ideal private real estate benchmark should be able to fulfill certain fundamental needs within the industry. Chief among these is the need to accurately evaluate manager performance at various stages in the investment process. The evaluation goes

> **Characteristics of an Ideal Private Real Estate Benchmark**
> - Based on a peer index that measures manager performance at different stages in the investment process
> - Maintains style purity in comparing similar investment styles
> - Creates separate indices for the functions of research and investing
> - Aligns the interests of clients and managers
> - Facilitates communication between client and manager
> - Used in conjunction with qualitative feedback to make judgments on overall manager performance

beyond simply measuring the total returns of a property or portfolio over a given holding period. Instead, the ideal benchmark should facilitate an inspection of each aspect of an investment manager's responsibility. It should gauge his effectiveness at selecting properties, executing the purchase, operating the asset, and ultimately carrying out the disposition of the property. At each stage a peer index could be employed to measure performance relative to other managers with similar investment profiles. This type of analysis is valuable to investors and managers alike because it highlights the professionals who perform well across all aspects of the investment process and provides relevant feedback to managers on specific areas where they may need improvement.

The evaluation of manager performance is an important function of a benchmark, but it is not the sole purpose for creating an index of private real estate returns. The needs of the academic community should also be considered when designing an index. Academics in the field of real estate often struggle with the lack of standardized information in the industry. Research efforts are limited without a widely accepted and reliable measure that defines the performance of the entire asset class. Currently, the real estate industry does not have a tool that will allow researchers to readily identify changes in market direction, study the impact of external events on the market, or make reliable performance comparisons with other asset classes. They are hampered by the inability to make accurate judgments on the relationship between space markets and the performance of real estate assets. An ideal index should address all of these concerns.

Constructing the Ideal Index

Constructing an index that will address all of the different requirements outlined above presents a bit of a challenge in that the needs of investment managers are not always aligned with those of the research community. In order to build an effective investment benchmark that is widely used and well regarded throughout the industry, it is necessary to incorporate the entire population of peer manager performance data. Investment professionals will be skeptical if their performance is measured against

a benchmark that is subject to statistical sampling and manipulation. When the perception is that compensation is tied to success relative to a group of peers, managers will want to be sure that they are judged against the entire universe of investment managers and not merely a statistically relevant subset. The information that supports such an index will consist of property income, cash flow and investment return, expense and appraisal data, which is largely proprietary. Therefore, the basis for an evaluation benchmark is data contributed by participating firms and a successful benchmark is one that achieves a critical mass in terms of industry participation.

The ideal research-oriented index must address a different set of industry needs and thus will follow a fundamentally different construction methodology than that of the evaluation benchmark. While a benchmark requires an entire population of data to assure managers are being evaluated against a full set of their peers, the index used for performing asset research is best served by a statistically accurate sampling of properties from all the relevant property types. Questions about market volatility and comparisons with other asset classes, which would fall under the purview of the research index, call for a broad base of information in order to get a trusted result. Although the coverage should be broad it is not necessarily deep. The universe of domestic commercial properties is too expansive to expect an accurate census of the entire market and there is relatively little useful gain in collecting ever-larger amounts of data. The statistical theory surrounding the "Square Root of n Rule" suggests that there are declining benefits of scale to expanding sample size increments. According to the rule, a sample that is nine times as large will only yield a result set with triple the accuracy. (Geltner and Ling, 2000) The diminished returns from collecting data and difficulty in capturing the entire population advocate the use of statistically relevant sampling in the creation of an ideal research index.

The needs of the research index allow for more flexibility in its construction. Where an ideal evaluation benchmark requires annual appraisals as well as detailed performance and operating information in order to deliver a complete set of services to investment managers, a research index can take advantage of more readily available public records and commercial real estate information providers to create a performance index based on sales transactions. Recent studies by Geltner and Goetzmann (1998) and Gatzlaff and Geltner (1998) show that indices derived from a repeated-measures regression (RMR) can be effective measures of total market returns. This method of index construction avoids the high cost of yearly valuations that most owners are reluctant to take on and applies regression analysis to property transaction data to derive quarterly market trends. The process lessens the dependence on a small set of institutional quality holdings and creates a deeper, more diverse statistical sample. The methodology

has become commonplace in the residential sector where a higher volume of home sales means that the data necessary to construct a repeat-sale index is easily attainable. Although it does not afford researchers the same level of detail as the evaluation benchmark, measuring only total returns as opposed to isolating gains from income and price appreciation, it does present a reliable format for measuring performance across a wide sample of properties.

As was the case with the evaluation benchmark, style purity will play an important role in the construction of the ideal asset research index. The index should be able to function as a composite measure of the entire domestic commercial real estate market while also being divisible into smaller geographic and property subtypes. This will allow researchers to compare the performance of various aspects of the market to that of the overall market or to other asset classes and external events. For instance, an ideal index would help answer questions like 'what are the impacts of rising interest rates on multifamily properties in the Southwestern U.S. as compared to the impact on the overall commercial real estate market'. The ideal index would be a powerful tool that would allow for a more thorough understanding of the real estate markets and likely increase investor interest in the industry.

One Index or Two

Given the stated differences in data requirements and construction methodologies between the ideal evaluation benchmark and the asset research index, it follows that the two interests should be represented by separate indices. This idea was conveyed by Geltner and Ling in their report commissioned by the Pension Real Estate Association. (Geltner and Ling, 2000) The dual index concept is the most practical approach considering the competing needs of manager evaluation and industry research. An index that fulfills the requirements of one interest will, almost by definition, fall short of the meeting the needs of the other. The statistical

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Data Requirements for Investment and Research Indices

Investment
- Entire population of peer managers
- Proprietary data (Property income and expense information)

Research
- Statistically relevant sampling
- Publicly available / attainable transaction data

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sampling that is required in a research product will cause skepticism and uncertainty among managers who are being measured against such a benchmark. Likewise, the depth of information required for evaluating managers is too costly and difficult to collect on the scale needed for a research index.

This is not to say that both indices cannot be produced by the same entity. On the contrary, in the interest of gaining credibility among investors, it would be valuable for one firm or organization to be recognized as the single source for measuring industry performance. If the investment community can look to one group as the flagship for the industry, it will greatly improve the extent to which the indices are utilized, both inside and outside of the real estate community. This is especially true given the clouded history of tracking performance data in the commercial real estate market. The industry has long had credibility problems with investors who have shied away from the asset class because they felt unsure about the quality and depth of information available in the marketplace. While two separate companies could house the research and benchmark functions and manage both effectively, the industry would be better served if both capacities were centralized under a single source.

The question then becomes, what type of organization is best suited to maintain the two very different index products? Non-profit associations currently play a valuable role in collecting, processing, and disseminating data for widespread public use, but they are often hampered by their limited focus. The more prominent real estate associations in the U.S. tend to represent a specific branch of investment or service within the broader market. These groups are unified around a single mission and while they are dedicated to serving the interests of individuals and companies within their particular field, they are not necessarily focused on the needs of the greater community. This narrow concentration becomes a problem when considering potential hosts for an industry-wide index product. An association that is dedicated to a specific niche will not have the credibility or standing throughout the market that would allow it to provide the kind of coverage needed for a comprehensive index. The group could operate effectively within its given niche where it is familiar with all of the participants, but in the broader market it would struggle to forge new relationships and compete with other trade organizations for members.

In the absence of a strong non-profit association with exposure to all aspects of the market, the evaluation and research functions are best served by a commercial for-profit company. A profit-seeking company will be more responsive to the needs of its customers, willing to change and make adjustments to its products and services in order to keep pace with the trends in the marketplace. The evaluation benchmark, with its potential for customized services and analysis, is a viable commercial product and is best administered by a company with similar ambitions. The asset research index could also flourish under the guidance of a commercial firm, provided members of the academic community were allowed to participate in its construction and maintenance.

Although the research component is generally considered an application for the "greater good" of the industry, it does have commercial value in its ability to publicize and brand the company that produces the index as a market leader in index products.

Impact on the Industry

After considering all facets of the ideal property index (who benefits from it, what it should look like, who should maintain it, etc.), it is worthwhile to spend some time looking at what kind of an impact such a tool would have on commercial real estate as an asset class. This broader perspective lends itself to the examination of a problem that has plagued the industry for years, namely the lack of respect afforded property investments by U.S. investors. Indices play an important role in monitoring the balance of risk and return across different asset classes as well as measuring the effectiveness of investment managers within the market. A successful set of index products can increase the exposure of the industry they represent by increasing the perceived visibility for potential investors and allowing for comparisons with other investment options.

The current lack of an effective, well-regarded market index limits the appeal of commercial real estate within the investment community. Institutions and other investors consistently underweight real estate in their portfolios based largely on the perceived transparency and quantifiable returns of alternative investments in the public markets. According to a report by Prudential Real Estate Investors, commercial real estate accounts for about 13% of the domestic institutional investment universe, but institutional allocations to real estate are rarely greater then 5%-10%. (Lowrey, 2000) The resulting diversion of capital away from the commercial property markets can place a drag on valuations and contributes to the illiquidity of the market. The emergence of a vastly improved set of index products would give the industry a newfound sense of credibility and help suppress the criticisms heard throughout the marketplace.

While the U.S. commercial real estate market is widely regarded as one of the more efficient property markets in the world it has achieved such a standing without the benefit of a truly effective benchmark. This is not to say that the U.S. market is not represented by a well-known flagship index. The association known as the National Council of Real Estate Investment Fiduciaries (NCREIF) began tracking private real estate returns in June 1982 and has long been accepted as the standard measure of the industry. The problem is that the NCREIF Property Index (NPI) has risen to a position of dominance without acquiring many of the traits associated with an ideal benchmark. In reality, the NPI is a good barometer for the segment of the industry it is intended to represent, but it is not representative of the entire market. Other sections of the commercial property market are represented in a similar manner by indices that serve the needs of the particular investment branch but are not necessarily reflective of the industry as a whole. The paragraphs that follow will examine the various commercial property indices that are currently in use throughout the market and gauge their relative effectiveness against the ideal.

NCREIF Index

The non-profit group known as NCREIF grew out of series of meetings among investment managers looking for a better way to foster research within the asset class. The principals at those meetings represented members of the tax-exempt institutional community, such as pension funds and insurance companies, who were some of the primary holders of commercial real estate at the time. Prior to the creation of the council, each firm in the highly-competitive industry maintained its own set of proprietary data, but there was no sharing of information between firms and no way for managers to measure their relative performance or the performance of their properties against an established industry standard. Over the past two decades, as membership in the non-profit has grown, the NCREIF indices have evolved and ultimately have become a valuable source of information in the world of investment fiduciaries. Today, they continue to receive support from the industry they serve, as well as from prominent members of the academic community who are dedicated to the study of real estate indices.

Although it is not an ideal benchmark, the NCREIF index is widely used among institutional investors in this country. In a recent survey sponsored by the Pension Real Estate Association, 92% of investors indicated that they utilized the index to benchmark their performance. Many respondents took the approach that the product is far from perfect, but it is the best available tool for measuring domestic commercial property returns. This kind of perception of the index would seem to open the door for competitors to establish alternative products, yet the NPI has continued to be relatively unchallenged in the field. To its credit, the

NPI has achieved a certain level of success to warrant its following. The index does do an effective job of measuring manager performance within the tax-exempt fiduciary segment of the market. In fact, contrary to what might be expected from a non-profit association, NCREIF's primary role has become that of an evaluation benchmark as opposed to a research tool. The construction of the NPI reflects this notion. Property return data in the NPI is weighted based on the size of the property relative to others in the index. The use of this technique suggests that the index represents a census of the entire population of peer assets, an approach consistent with that of an ideal evaluation benchmark.

Market Coverage

Despite its well-established position within the industry and its reputation as a flagship, the NCREIF Property Index is built on a somewhat tenuous foundation, completely dependent on the proprietary data contributed by its members. The information that the non-profit collects is the type of building-specific income, expense and return data which is not made available without the consent of the property owner. Without the data there is no basis for further research and no justification for NCREIF. This dependence on the contributing members for information keeps NCREIF aligned with the interests of its clientele, but it also limits the motivation for the non-profit group to expand the bounds of its research beyond the tax-exempt investment community. As a result, the NPI may thoroughly cover its particular niche within the industry, but it falls short of an ideal index in its coverage of the entire marketplace.

In order to fully understand the coverage limitations of the NPI it is necessary to analyze the composition of the index. The NPI is a property-level index comprised exclusively of what the group deems "institutional quality" assets. The current guidelines stipulate that the index include only those properties "acquired, at least in part, on behalf of tax-exempt institutions and held in a fiduciary environment." (NCREIF, 2004) This requirement severely curtails admission to the index and restricts contributions from owners outside of those represented by NCREIF. The impact of such a restriction was less severe when NCREIF was first created and the members of the tax-exempt community were some of the primary holders of real estate in this country. As the dynamics of property ownership have changed over the years, new ownership structures including REITs and real estate funds have emerged to take on a more prominent role in the market. NCREIF's continued reliance on properties held by tax-exempt fiduciaries has put its flagship index at a disadvantage in terms of achieving sufficient market coverage. If NCREIF fails to adapt and add a degree of flexibility to its standards, the association risks losing relevance among investors as the growing fragmentation of the marketplace reduces the importance of the tax-exempt segment.

The NPI further limits itself by imposing specific life-cycle and valuation requirements on each property under consideration for the index. Properties qualifying for the NPI must be operating, thus excluding projects under development, and must achieve an occupancy level of at least 60%. This reduces the value of the index to opportunity funds and investors seeking profits from risky, high-yield projects. Like most property performance indices, the NPI depends on appraised values to generate the income and appreciation data used in the construction of the index. All properties included in the NPI must be valued annually and appraised by an outside source a minimum of once every three years. This valuation requirement imposes a significant added cost on firms contributing data to the NPI. Although many institutions regularly value their properties for the benefit of their investors, the need for yearly appraisals is prohibitive for some members who would otherwise be willing data contributors. Additionally, the required annual appraisals further preclude owners from outside the tax-exempt community from participating in the index, since they are often long-term holders of real estate and rarely have the need to revalue their properties. These requirements, while limiting the scope of the index, actually make the NPI more valuable to its intended audience. By controlling the universe of potential peer properties, NCREIF is able to increase the percentage of total properties within its closely defined sector that are represented in the index. The result is an index with a narrow focus but a thorough representation of the properties which fall within that focus.

Appraisal Effects

The final topic addressed in this section is not unique to NCREIF. The effects of appraisal smoothing and lag are evident to some degree in nearly all property-level indices that attempt to quantify performance data. It just so happens that, as the dominant index in the market, the NPI has become synonymous with the negative characteristics of the annual valuation process. The problem centers on the impact that appraisal methods have on the results reported in the index. When properties are appraised, the basis for the valuation is typically either a series of comparable sales transactions or, as is more commonly the case with institutional quality assets, an assessment of the returns produced by the property. The properties that are included in NPI will often employ the latter approach and apply a standard multiple to the cash flow in order to determine the present value of the asset. In effect, this ties the changes in property value to any changes in the underlying leases, which tend to escalate by a fixed amount each year. In instances where the property has not undergone a substantial change from one year to the next, the owner may conduct an appraisal based simply on the valuation from the prior year. This technique allows the owner to avoid the cost of a full appraisal by increasing the previously determined property value by a factor equal to the perceived yearly appreciation of the local real estate market. If the market went up by 10% it follows that the value of a property within that market would have increased by 10%.

The problem with reporting these kinds of appraised values is that they tend to misrepresent shifts that occur in the marketplace. The methods described above all begin with a previously established value and add an incremental adjustment to determine the current assessment of the property. These types of performance measurements result in a gradual yearly increase or decrease in the value of the NPI and mask any dramatic changes that may be taking place. The staggered nature of the property appraisals in the NPI compounds this problem. By combining valuations taken at different points throughout the year and using them to calculate a value for the index, the NPI is presenting more of a 12-month rolling average of returns rather than a current snapshot of performance. The result is a smoothing of the return data that restricts the severity of market peaks and troughs, making it difficult to determine trends and portraying real estate investments as being more stable than they are in reality. This blurring of actual performance has a significant impact on the NPI's ability to function as an effective asset research index. Academics have a hard time confirming major changes in the real estate markets because they often find little support for their assumptions in the data provided by the NPI. The smoothing in the flagship index also has an effect on how real estate is perceived as an asset class. Most investors are aware of the methodology used in calculating the NPI and are therefore skeptical of the apparent steady returns reported by the index.

In addition to the smoothing effects, the NPI suffers from an appraisal lag that causes property return data reported in the index to trail what is actually happening in the marketplace. The cause of this delay can be attributed to the disconnected appraisal and reporting functions at work within the index. The properties that comprise the NPI are appraised annually at various times throughout the year, with most of the valuations taking place in October, November or December. In contrast, the NPI is published quarterly, even though only a fraction of the total properties in the index will have had recent appraisals in any given quarter. Consequently, about 75% of the properties in the NPI will reflect valuations that are more than three months old when the index is releasing its supposed current results. The problem is most pronounced in the summer months when the year-end appraisals that are common in many properties are more than nine months old. Complicating the issue even further is the fact that current appraisals are often based on comparable sales transactions that occur several months before. This adds to the lag between the basis for the appraised value and the reported results in the NPI.

NAREIT Index

The other major index used in this country to report on commercial real estate performance is produced by the National Association of Real Estate Investment Trusts (NAREIT). According to the PREA Research Report, 42% of respondents utilize the NAREIT index as a benchmark for measuring their relative performance, the second most frequently used index behind the NPI. Similar to the NPI, the NAREIT index is published by a non-profit association representing a branch of the overall industry and is intended as a tool to help investors operating with that branch. The fact that the broader market has adopted the NAREIT index and the NPI speaks more to the lack of a better industry-wide alternative than it does to the effectiveness of either product in accurately representing the performance of the entire market.

Although investment managers use both the NAREIT index and the NPI as evaluation benchmarks, the mechanics of each index have very little in common. NAREIT monitors the performance of publicly traded REITs by tracking fluctuations in their daily stock prices, thus the construction of the index more closely resembles that of the S&P 500 than it does the NPI. Investors using the NAREIT index as a benchmark are relying on the ability of REITs to act as a proxy for the real estate market instead of measuring themselves against the property-level return data assembled in the NPI.

While this approach avoids many of the pitfalls encountered by the NPI, it raises new concerns about the accuracy of substituting stock performance for the actual performance of hard assets. Publicly traded securities are subject to changes in valuation based purely on the investor speculation and their daily price fluctuations can overstate the volatility of the underlying business, having nearly the opposite effect of the appraisal smoothing discussed earlier. Because of this effect, the stock price of a REIT will not always represent a consistent multiple of the value of the properties owned by that REIT. Benchmarking based on REIT performance also makes it difficult to get a pure style match for individual investment managers. As a whole, REITs cover virtually every facet of the commercial property market, but the different companies do not lend themselves to an easy segmentation of results by geography, investment style, and property type. When investors are able to dissect the NAREIT index and assemble companies with similar characteristics to their own portfolio the resulting subset of properties falls well shy of the census needed for an accurate manager evaluation. Overall, the NAREIT index is a more accurate benchmark for investors who deal in REIT stocks than it is for those who invest in actual real estate assets.

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Even though the NCREIF Property Index is the preeminent evaluation benchmark and research index in this country, it does not embody all of the characteristics of an ideal index. While it succeeds as a relative measure of performance for investment managers in the tax-exempt fiduciary segment of the market, it does not offer a fair representation of the entire industry. It lacks sufficient coverage in other areas of the commercial property market, where it falls short of the "peer universe" necessary for true agent evaluation. As a research tool the NPI is only marginally effective. It is often second-guessed by academics who spend more time trying come up with ways to improve the index than they do analyzing its results. It is a flagship index without ideal credentials that is still widely used throughout the industry largely because of a lack of viable alternatives.[1]

Although the shortcomings of the NCREIF Index are well documented, the intent of the paper is not to criticize the NPI for what it is not, but rather to explore the reasons why a better index has not been created in this country. As the dominant commercial property index in the U.S., the NPI should have an advantage over the other domestic alternatives when it comes to attracting the resources necessary for improvement. Academics looking for a better research tool and industry insiders seeking a more effective benchmark have put their efforts into enhancing the NPI rather than backing one of the lesser-known indices. The thought being that when working towards the ideal it's best to start with the product that has the widest distribution and is already established as a frontrunner in the marketplace. But is the NPI the best platform on which to construct an ideal index? If so, why has it not already evolved and adopted more ideal characteristics? This section will address these questions and evaluate the likelihood that the NPI will overcome its shortfalls and one day emerge as an ideal commercial property index.

The Role of NCREIF

One of the fundamental influences on the NPI is the governing body that maintains the index. The National Council of Real Estate Investment Fiduciaries is a non-profit association assembled "to serve the institutional real estate investment community as a non-partisan collector, processor, validator and disseminator of real estate performance information." NCREIF was established as an independent committee charged with promoting research and the exchange of information in the midst of an otherwise highly competitive and proprietary environment. The origins of the property index can be traced to a joint venture between NCREIF and the Frank Russell Company, which began in 1982. At the time, NCREIF was still in its infancy and was unable to support the production and distribution required to maintain a consistent index. That changed in 1995 as a growing membership

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[1] PREA Plan Sponsor Research Report indicates that 92% of respondents used NCREIF to benchmark their real estate portfolio, although only 63% felt that the data met their needs.

base and an increased level of experience led NCREIF to assume full production responsibility for the NPI. Today the association maintains complete control over the index, including ownership of the data, means of production and distribution of the final product. If the NPI is to change in the future the changes will have to be endorsed by NCREIF.

As with many industry associations, the interests of the group are closely aligned with those of its members. In the case of NCREIF, the bond between the association and its participating firms is further solidified by the proprietary data required to produce the index. The information that data-contributing members provide to the index is highly sensitive. In order for the NPI to accurately measure rates of return at the property level, companies must turn over detailed information about building income and expenses. This information would almost certainly be damaging were it to fall into the hands of a competitor and is therefore closely guarded by the companies that provide it. Because of the sensitive nature of the data and the importance of making sure that it remains secure, NCREIF members play an active role in the association. All of the decision-making positions within the non-profit, including the board of directors and the president, are filled with principals from the institutional investment community. The level of influence held by industry insiders allows them to maintain some measure of control over the proprietary data and helps ensure that the direction taken by NCREIF and the NPI will always serve the interests of the investment fiduciaries they represent.

The problem that the NPI encounters is that the interests of the NCREIF members do not always align with the information needs of the broader real estate community. When the competing interests diverge, the NPI remains loyal to its members while an ideal index would tend to favor the needs of the greater community. This problem manifests itself in the types of properties included in the NPI. Institutions are only interested in data that is relevant to the properties they hold in their portfolios, which are typically higher-quality operating properties with low vacancies. NCREIF does a good job of facilitating the transmission of this data by establishing an independent intermediary and collecting information from a variety of owners who all share the same relative investment criteria. The result is a database of property information that extensively covers one aspect of the market while ignoring others. Although this runs counter to what would be expected of an ideal comprehensive property index, it does fulfill the requirements of the investors who support NCREIF.

NCREIF's obligation to its members presents an obstacle to the evolution of the NPI both now and in the future. It limits the current coverage and scope of the index by restricting data collection efforts to a small subset of the overall market and it offers little incentive for material change in the coming years. Although NCREIF has overseen improvements in the construction and

statistical methodology of the index, these changes received the support of the members because they were in no way detrimental to the mission of the association. Conversely, expanding the research focus to include additional property types would help move the NPI closer to the ideal, but it could also pose a threat to the existing membership. A broader index would imply a more diverse pool of data-contributing members and thus a new group of firms looking to influence the future direction of the NPI. If NCREIF were to extend the coverage of the index, the original members from the tax-exempt fiduciary branch of the industry would likely lose some measure of control over the organization. They would also lose some control over their valued property data because theirs would no longer be the only voice in determining the direction of the NPI. Given the sacrifices necessary to expand the scope of the index, it is unlikely that the current NCREIF leadership would vote against their own self-interests for the greater good of the industry.

This also points to another issue hindering the development of the NPI, the organizational structure of NCREIF. The stated mission of NCREIF and its status as a non-profit suggests that the association was established to foster research within the industry, a position that appears favorable for ultimately building the NPI into an ideal research index. However, with the majority of the decision-making ability for the association squarely in the hands of principals from the tax-exempt fiduciaries, the interests of the research community are not given equal consideration. Academic members of NCREIF are relegated to an advisory role where they can make improvements to the way the various indices are constructed, but they have a limited say over strategic decisions governing the direction of the organization. On the other hand, the organization's leadership and its coverage of the peer universe of tax-exempt institutional investors imply that the NPI would be more likely to develop into an ideal evaluation benchmark. This notion is contradicted by the cumbersome non-profit structure of the association. The ideal evaluation benchmark is more likely to be produced by an efficient commercial venture that can capitalize on the market value of such a product.

As a final comment on the subject, the basic idea that an association like NCREIF, which represents the interests of a particular branch within the industry, would be charged with maintaining an ideal index that serves the entire industry seems fundamentally flawed. Drawing a parallel to the world of publicly traded securities, it would be similar to having the S&P 500 run by a trade association for consumer discretionary or information technology companies. Both segments make up a large percentage of the overall index and both associations could accurately report on the performance of their respective members, but it would not make sense to put either in charge of maintaining the entire S&P 500. Obviously there are differences between the market for

public equities and that for private real estate, but the analogy still holds true. The group that is entrusted to serve the entire marketplace should not owe its loyalties to a particular segment of the market.

The Problem of Credibility

The NPI suffers from a bit of a credibility problem. As discussed in the opening to this section, the troubles of the index are no secret to investors or researchers who draw information from the NPI. When data from NCREIF is used to approximate returns for the overall private real estate market, the transmission of that information is almost always followed by a disclaimer that explains the conditions under which the data is relevant. This disclaimer will likely include mention of the appraisal smoothing that is often associated with the index. It will also disclose the fact that the NPI primarily tracks unleveraged, institutional, core assets and that those assets are not representative of the entire market. By the time the disclaimer comes around to the potential lag in results due to the nature of the property appraisals, the recipient of the data has already begun to discount the value of the information he or she is receiving. All of the explanations and qualifying of results have compiled and muddy the waters, effectively lessening the credibility of the data.

This presents a significant image problem for NCREIF and the NPI when they try to expand the adoption of their data outside the world of the tax-exempt fiduciary. Researchers and private real estate investors who are accustomed to dealing with NCREIF are often skeptical of any trends or analysis based solely on data from the NPI. As noted by Bernard Winograd, the CEO of Prudential Investment Management, "A meaningful measure of private asset values, one without the lag effects that are such a notable feature of NCREIF, would be a tremendous boost to the credibility of the industry."[2] Despite the incremental improvements to the index over the years, the same fundamental problems of appraisal lag/smoothing and incomplete property coverage persist. These problems have existed for so long that they have become intertwined with the image of NCREIF in the minds of many industry insiders, to the point where they can't mention NCREIF without also mentioning its drawbacks.

The issue is even more pronounced for those investors and academics from outside the industry who know of NCREIF's shortcomings, but are unable to distinguish between the failings of the index and the general difficulties of working in the private real estate industry. For this group of individuals, perception can be worse than reality if they assume that every obstacle they encounter is attributed to the well-documented problems of the NPI. When this occurs NCREIF, and the NPI begin to embody all

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[2] Bernard Winograd, President and CEO, Prudential Investment Management, in an April 1999 speech to the American Real Estate Society

that is wrong with tracking performance and return data in the commercial real estate market. It is not a fair position for the index or the association, but it is created by the fact that they have become the dominant source of information in the industry without addressing some of the fundamental flaws that weaken their credibility with the end users of the data.

So how does this credibility problem, both inside and outside the industry, affect the ability of the NPI to emerge as an ideal evaluation benchmark and research index? The short answer is that it certainly doesn't help. As long as people perceive the NPI as a flawed index it will obviously be considered less than ideal. One of the difficulties confronting NCREIF and the NPI is the number and types of problems that contribute to the lack of credibility. If the problems hinged on a single straightforward issue, that issue could be isolated and resolved and NCREIF could move forward, however the shortcomings at the root of the NPI's negative image are actually threefold: appraisal lag, smoothing, and incomplete coverage. Even if NCREIF were able to improve the damaging appraisal effects associated with the index, something they have been actively working towards, they would still be left with the persistent problem of insufficient market coverage. A single issue affecting the index could be viewed as a contained and somewhat manageable problem, assuming it is something that can be overcome, but when there are multiple issues to consider or one impassable obstacle standing in the way the index begins to appear fundamentally flawed.

The lasting impact of the NPI losing credibility will depend on the ability of NCREIF to deal with the source of the problems and begin to improve public opinion towards the index. Public perception is slow to change and in the short term the NPI is likely to be hampered by its past mistakes. Assuming NCREIF is able to work through the challenges surrounding the appraisal-based smoothing and lag by employing a repeat-sale, transaction-based methodology, the focus could soon shift to NCREIF's willingness to deal with the market coverage issue discussed earlier in this section. It then comes back to the question of whether or not NCREIF is willing to change for the good of the industry at the expense of its members. As discussed earlier, such a change seems highly unlikely. Thus NCREIF and the NPI seem destined to endure credibility problems that will impair their ability to work towards building an ideal commercial property index.

The market for commercial real estate does not stop at the U.S. border. This country is adept at attracting capital for investment, but it is one of many viable worldwide alternatives for potential investors. According to the Association of Foreign Investors in Real Estate (AFIRE), three out of the top five global cities for real estate investment were outside the U.S. Foreign investors bring a significant portion of their funds to the U.S., but they also spend heavily abroad. AFIRE members hold roughly 40% of their real estate assets in Western Europe and the United Kingdom. Australia makes up another 5% of the overall portfolio. (AFIRE, 2005) Given the significant level of institutional ownership in foreign markets and the importance these companies place on data to make informed decisions, it is worthwhile to examine the types of investment and research tools that help lure investors and capital abroad.

In particular, this section will take a closer look at two successful international benchmark products, one from the Investment Property Databank (IPD) and the second from the Property Council of Australia (PCA). The two firms grew out of very different backgrounds and developed independent of one another, yet both have emerged as the dominant source of real estate performance information in their respective countries. To the degree that these two groups have achieved success beyond what NCREIF has accomplished in the U.S., they can be valuable resources in the construction of a better domestic property index product. An examination of their role in the marketplace, how they collect data and the types of services they provide will give clues as to what direction a U.S. index might take to overcome the current pitfalls encountered by NCREIF and others. This section will analyze the products and organizational structure of IPD and the PCA with the intent of highlighting the merits of each and seeing how they compare with those of NCREIF and the theoretical ideal index product outlined earlier in this paper.

IPD

From its inception in the U.K. in 1985, IPD has followed a different path than most of the other commercial property index firms around the world. IPD was founded as a for-profit company that, unlike NCREIF or NAREIT, is not closely linked with an industry association or trade group promoting a particular segment of the market. The independent nature of the firm forces it to attract clients based solely on its merits and not because the members of a particular association feel obligated to participate. As a result, IPD must adapt to the marketplace and provide the types of products and services that appeal to a wide spectrum of potential clients. The independence from specific trade groups also affords it the flexibility to freely track data from all sectors of the broader market. One of the major drawbacks of the NCREIF and NAREIT indices is that they are restricted by the bounds established by their respective associations. IPD, on the other hand, needs to collect information from across all segments of the

market or risk limiting its pool of potential clients. It cannot afford to concentrate on a particular property type or a specific ownership structure because it would not be able to compete with the various non-profit groups that specialize in these niches and have the support of industry insiders.

Among the for-profit companies that produce indices for measuring commercial property performance, IPD distinguishes itself from consulting and advisory firms by choosing to focus exclusively on "the objective measurement and analysis of property". (IPD, 2005) This means that the company does not offer investment advice, nor does it invest directly in the property markets it tracks. Instead, IPD provides portfolio analysis and index services, the equivalent of an evaluation benchmark, which allow firms to compare the performance of their investment managers, as well as their individual properties, to a relevant industry standard. The company also makes available through its web site general market information for the 17 countries where it currently monitors property performance. By comparison, most consulting firms that offer real estate services provide value to their clients through the advice and experience of their agents, not through the limited extent of the data that they produce.

As a commercial profit-seeking company, IPD is subject to competitive pressures to develop new products and services which meet the needs of its customers. The demands of the market help shape IPD and, over time, direct the firm towards what the investment community in the U.K. would consider an ideal evaluation benchmark. This is perhaps most evident in the comprehensive performance data collected by the company. IPD accumulates detailed building-by-building information on a broad cross-section of the market by soliciting a range of different investment real estate owners. The firm collects data from U.K. property companies or estate holdings, pension funds, insurance companies and wealthy individuals who may own property through commingled investment funds or joint venture partnerships. IPD is aided in its data collection efforts by the fact that much of the investment in U.K. commercial properties is concentrated in institutional investors, which are more likely participants and data contributors. Institutions in the U.K. tend to be larger and more diverse holders of real estate than their U.S. counterparts. This is supported by the fact that the average property value in IPD's flagship Annual Index is worth about $10 million, while the average NCREIF property is valued at about $30 million. (Geltner and Ling, 2000) In the U.K., the typical neighborhood retail center is likely to be owned by an institutional investor, where that same property in U.S. is probably held by an individual investor or is owner occupied.

As a result of its extensive collection efforts, IPD has assembled a comprehensive database of properties that represents the majority of the professionally owned investment real estate in the U.K. The company estimates that it tracks approximately

18,000 properties in the region, which comprise roughly 77% of the total value of large commercial properties owned by professional investors. Because IPD limits its flagship index to properties valued as of December, only about 11,000 buildings with a total valuation of about $207 billion are included in the IPD Annual Index. To lend perspective to this number, the NCREIF Index includes 4,561 properties with a total market value of just over $175 billion. The fact that the IPD Annual Index tracks properties worth 120% of those in the NPI, in a country with approximately $1/8^{th}$ the GDP of the U.S., suggests that IPD's market coverage is about 9.5 times that of NCREIF's. (IPD, 2005)

IPD's advantage over NCREIF is not limited to market coverage, but also extends to the depth of the data being collected and the extent of the services provided to customer. Both IPD and NCREIF publish appraisal-based indices that measure commercial property performance in their respective markets, however for IPD this is only a starting point. The company offers its clients a series of portfolio analysis tools which can be tailored to meet the needs of each investor. The evaluation benchmarks constructed by IPD allow managers to maintain style purity by segmenting the property-level data and comparing portfolios of similar asset types and classes. This leads to a more accurate assessment of investment performance and ultimately a higher level of achievement from managers who can be reassured that they are competing directly with their peers instead of an industry-wide index. In addition to its portfolio analysis services, IPD also distributes products that benefit different segments of the real estate community. One such example is the Occupiers Property Databank, which allows tenants to evaluate the relative effectiveness of their facility management teams by defining and measuring various aspects of occupier performance. The product utilizes the detailed expense information that IPD collects as part of its standard research for its property performance indices.

IPD's organizational structure and the extent of its operations allow the company to benefit from a variety of different viewpoints within the industry. The company's governing board includes institutional clients as well as several U.K. surveyor firms who also happen to be minority shareholders in the company. IPD regularly consults with members from the academic community and representatives from influential customers on matters relating to index and benchmarking services. The company also receives input from each of its operations in 17 countries around the world. Although IPD is most often associated with the U.K., the firm conducts active research in France and Germany and maintains relationships with local industry associations in other countries where it provides services. Through the network of worldwide offices, IPD gains valuable experience and insight into what ideas and concepts have been tried in the past and which of those have succeeded and failed. The successes can be standardized and implemented across the company while the failures help it avoid making the same mistakes twice. The feedback that IPD receives from these sources helps to shape the future direction of the company.

Advantages of the IPD Indices

What are the features attributed to IPD that allow its index products to embody ideal characteristics?

- **For-Profit Company**: Forces IPD to adapt to the marketplace and be reflective of the needs of investors.
- **Operational Independence**: Freedom from trade groups and associations that can limit the scope of research
- **Organizational Structure**: Input from investment and academic circles help guide IPD towards the ideal
- **Diversified Feedback**: Strategic input from operations in 17 countries around the world

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After examining IPD and its products and services, the question becomes: what can be learned from this analysis and how much of it can be applied in the U.S. to improve the existing benchmark and research applications? One of the lessons that can be taken from IPD's success in the U.K. is the validity of the evaluation benchmark as a commercial product. IPD has been in business for over 20 years and built a staff of over 100 economists, surveyors, and statisticians on the revenues generated by its indices and benchmark services. The business model appears to be working. IPD has also eased concerns over the ability of a private firm to maintain the highly sensitive proprietary information required to assemble a property performance index. The company has demonstrated it can secure the information and has been careful not to enter any aspects of the business where it could find itself in direct competition with its data-contributing members (specifically the consulting and advisory fields). A firm looking to enter the U.S. market could follow a similar path to success in terms of assembling a business that is sensitive to the concerns of institutional users and operates in a narrow capacity so as not to overstep its bounds and jeopardize its core operations.

As a for-profit company generating the bulk of its revenue from products and services built on data supplied by its customers, IPD is aware that its business, even more so than most, is closely tied to its clients. For that reason the firm is very open in discussing its index construction standards with the investment and academic communities while soliciting a broad range of input and scrutiny of its methods. The open dialogue allows customers to feel they have a voice in the decisions that are made concerning their data and it gives IPD a glimpse at what its clients would like to see in the product. It is important to involve academics in these discussions as well, for if they are excluded the index will lose its credibility as a research tool. The market will drive the evolution of an evaluation benchmark through customer input and purchasing trends, but in order to maintain a legitimate, widely used research index it is necessary to get feedback from the researchers who will be using the data.

In addition to the counsel afforded potential commercial firms who might consider introducing a property index product in the U.S., IPD can be a source of guidance for NCREIF as well. Both groups have established index products that are the dominant evaluation tools in their respective markets and both share similar appraisal-based construction methodologies, but IPD has distinguished itself by offering a depth of services that NCREIF has yet to match. The portfolio analysis services and occupiers

property databank enhance the utility of IPD and provide its customers with valuable services. Given that NCREIF already has access to much of the data needed to produce these products, adding them to its existing range of services would be a relatively easy way for the association to increase the value it provides to its end users.

PCA

In terms of operating structure, the Property Council of Australia (PCA) more closely resembles NCREIF than it does IPD. The PCA is a well-regarded non-profit association that represents the interests of institutional investors, private owners and developers throughout Australia. The organization, formerly the Building Owners & Managers Association, is widely recognized within the country with nearly 2,000 member companies and over 40,000 individuals participating in its activities each year. Despite having similar organizational structures, the PCA's penetration into all sectors of the commercial property market in Australia far outweighs what NCREIF has been able to accomplish in the U.S. An examination of the respective indices reveals the magnitude of the difference in coverage. PCA's flagship *Investment Performance Index* (IPI) is comprised of 500 properties totaling approximately $33.2 billion in market value. By comparison, the NPI has a total valuation of $175 billion, in a country with roughly 20 times the GDP of Australia. This equates to relative market coverage for the PCA that is approximately four times that of NCREIF. (PCA, 2005) Much of the advantage can be attributed to the fact that the PCA is not tied to a specific trade group that limits the scope of its data collection.

While the organization of the PCA may be similar to NCREIF, the services it provides are far more extensive than its American counterpart. The PCA shares many of the same functions that IPD has introduced in England. In addition to its index products, the association offers its members custom fund-level benchmarking and a performance attribution service. The PCA also takes advantage of its dominant position in the marketplace to collect and disseminate information from the space and asset markets. It maintains an extensive database of key statistics on every shopping center in Australia, as well as surveys data from agents and property owners concerning the status of future developments. The information on building quality, vacancies, rental rates, and absorption is a natural complement to the building specific performance data conveyed through the IPI and is a welcome addition for researchers and academics.

The U.S. market can benefit from a study of the PCA by gaining a better understanding of what can be accomplished by a successful non-profit research organization. NCREIF and the PCA are similar in many regards. Both are industry-supported non-

profit associations and both produce a quarterly performance index constructed around properties that are reappraised annually at various times throughout the year. Where the two groups differ, and where the PCA has an advantage over NCREIF, is in the extent of the research and in the scope of the services they provide. As was the case in the earlier comparisons to IPD, NCREIF is put at a distinct disadvantage by the fact that its governing members represent only a segment of the overall marketplace. The association and its flagship index would become more valuable to the broader market if it were willing to expand its membership and open influential positions within the organization to professionals from outside the investment fiduciary community. The PCA is able to accomplish this with relative ease because as a multi-purpose real estate association it is not limited in its appeal.

Given the success of IPD and the PCA overseas it seems a fair question to ask why a similar operation has yet to be established in the U.S. The demand for such a service seems to exist. Respondents to the recent Plan Sponsor Research Report conducted by PREA indicated that while the base data provided by NCREIF was valuable, they felt compelled to tweak the index in an attempt to customize the results to match their investment portfolios. Investment managers who concentrate on non-core assets, including those who focus on value-added or opportunistic portfolios, expressed more basic concerns over whether or not NCREIF is a relevant benchmark for their investment style. Their hesitation is reflected in some of the responses to the PREA study. "The use of NCREIF for non-core private equity is not a good match, even when including a risk premium." Judging from the tone of investor sentiment, the market coverage that IPD and the PCA have been able to achieve and the services they provide in their respective countries would be welcomed by U.S. investors.

The fact that the demand for an improved performance index and enhanced benchmarking services has gone unfulfilled suggests that there are other factors preventing new data providers from entering the U.S. market. Under normal circumstances a new firm would have come along to fill the needs of investors, especially considering the proven commercial viability of the evaluation benchmarking services. The issues that restrict NCREIF from filling this role have been detailed in previous sections, but the factors keeping the foreign index products out of this country have yet to be addressed. This section will explore the reasons why the success of foreign indices does not translate into the U.S.[1]

Market Conditions

One of the first considerations as a possible barrier to entry for foreign index companies is the vastly different composition of the commercial real estate market in this country. The nature of the real estate market in the U.S. is not conducive to large-scale data collection at the property-level. The majority of real estate assets are not concentrated in a single market, but rather spread out over dozens of metropolitan areas throughout the country. The ten largest office markets in the U.S., for example, house less than 50% of the total office inventory. (CoStar, 2005) In the U.K., where IPD has enjoyed commercial success, data collection is made easier by the high concentration of properties in and around London. The country is essentially a single real estate market with all of the major participants in one location. If IPD were to launch an index product in the U.S., the sheer size of the market would be would be a

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[1] This section of the paper focuses on IPD rather than the PCA because the PCA's status as a non-profit organization limits it exclusively to the Australian market. It is therefore not a viable candidate for expansion into the U.S.

major obstacle to obtaining the estimated 77% market coverage of all large commercial properties owned by professional investors that the company maintains in the U.K.

The difficulties in collecting property information because of the significant size and distribution of the U.S. inventory are compounded by the fragmented ownership and limited institutional role in this country. The pool of potential real estate owners in the U.S. is quite diverse. Through direct ownership and participation in real estate funds, individual investors are well represented in the domestic real estate markets. Institutions are focused on high-end, core assets typically valued at $30 million or more, leaving the balance of the market for private firms and individuals. This broad range of property owners creates a number of different sources from which to collect property-specific information, thereby reducing the efficiency of the process. By comparison, institutions in the U.K., in particular insurance companies, are heavily invested in real estate. Insurance and pension funds comprise roughly two-thirds of property ownership represented in the IPD Annual Index, where the average property value is $10 million. (IPD, 2005) Large institutional owners penetrate all aspects of the real estate market in England, targeting everything from local neighborhood centers to prominent office buildings. The structure of these firms is such that most of the assets are centralized under a single manager, which facilitates data collection by reducing the number of potential sources and simplifying the process.

Annual property appraisals are an essential component in the construction of most performance indices and therefore the structure and standards employed as part of the appraisal process in the U.K. represent another benefit realized by IPD that does not convey to the U.S. market. The Royal Institution of Chartered Surveyors (RICS) wields considerable influence over the appraisal methods used in all facets of the industry in the U.K. This results in yearly appraisals from different owners that all follow the same widely accepted standards. This consensus helps IPD maintain consistent valuations and performance measurements across all the properties in its index products. The lack of a similar association in the U.S. implies that each data-contributor sets their own appraisal methods and the responsibility for making adjustments and standardizing the results falls to the company publishing the index.

Impact of NCREIF

While previous sections have described the shortcomings associated with NCREIF and the group's apparent inability to overcome its flaws, the paragraphs that follow will highlight another aspect of NCREIF's position in the marketplace, namely its impact on

companies attempting to provide index products in the U.S. For nearly 25 years, NCREIF has been in the business of collecting, verifying and publishing return data from institutionally held real estate investments. The non-profit has established a dominant position in its field and, whether it likes it or not, has become a barometer for the performance of commercial real estate as an asset class. NCREIF's position as an industry standard draws criticism from those who are skeptical of its qualifications, but it also empowers the association in the eyes of potential data contributors. An institutional investor that is deciding where to direct its property information for use in an index will likely want to go with the market leader.

The tendency of data contributors to channel property information to a single source creates a natural monopoly in the business of constructing commercial real estate benchmarks. The phenomenon has more to do with the nature of the data itself than the participants in the process. The information needed to construct an index is highly sensitive, proprietary data that is central to the performance of billions of dollars of commercial property investments. The top concern among the companies supplying this information is that it remains secure and out of the hands of potential competitors. For this reason, data contributing firms will typically limit the number of companies with which they share information. The more people that have access to the data the more difficult it is to control its use, so investors that elect to participate in an index will often select a single organization to administer to their proprietary building information. In most cases that single organization has been NCREIF, which boasts a long track record of working closely with companies in the industry and a non-threatening status as a non-profit trade group governed by fellow institutional investors. As the dominant firm in an industry prone to natural monopolies, NCREIF creates significant barriers to entry for index companies trying to enter the U.S. market.

NCREIF's close association with primary data providers, especially among tax-exempt fiduciaries, hinders the data collection efforts of other companies interested in establishing new index products in the U.S. Firms like IPD that have been successful overseas would encounter difficulties as they attempt to build an index from the ground up in this country. In addition to the normal challenges of assembling consistent appraisal and return data from a fragmented marketplace, a new index firm would have to overcome NCREIF's influence in the market and the impact it has in shrinking the pool of potential contributors. There are a limited number of large owners in this country that are willing to supply information to a performance index, and when one of them commits to NCREIF it reduces the number of potential donors to other index firms. NCREIF doesn't have enough data commitments to thoroughly represent the entire U.S. market, but they have enough to prevent other firms from creating a competing index.

Foreign index companies considering a foray into the U.S. market may find that their best option is to partner with NCREIF rather than to challenge it. This seems to be the strategy adopted recently by IPD. The company has announced plans to offer personalized benchmarking and manager evaluation services that are intended to complement the raw data provided by NCREIF. As part of the agreement, IPD will not offer a competing index product in the U.S. and NCREIF will still be charged with data collection for the collaborative effort. At first glance, the venture appears to bring together the strengths of each firm, with NCREIF responsible for gathering information and IPD providing customized services and detailed analysis. The problem with this arrangement is that it perpetuates the fundamental problems that hinder the effectiveness of NCREIF. The association would remain in control of the data collection efforts for the partnership and therefore the claims of incomplete market coverage would persist. A joint venture between NCREIF and a private index company is an improvement over the current alternatives in the market, but it is not an ultimate solution.

The analysis to this point has concentrated on the leading domestic and foreign property index products, defining the current standing of each and outlining the factors that prevent them from evolving into a more effective tool for the U.S. market. Given the inability of NCREIF to expand its limited market coverage after nearly 25 years in existence and the unwillingness of IPD to challenge the dominance of the NPI in the U.S., it seems unlikely that either of the leading indices will radically improve the quality of data provided to the market over the next several years. If conditions are going to improve, the change will have to be driven by a new source. In this final section the focus will shift towards developing a set of recommendations that should serve as a starting point for companies looking to develop a more effective set of commercial real estate index products in this country.

Review of the Problem

In the U.S. property market, the current method for gauging performance is not only flawed, but it is also hampering the evolution of a superior index product. NCREIF has enjoyed a largely uncontested rise to prominence over the last decade and today its index products are used as a proxy for the broader market. Although the organization is the leading source of commercial property return data in the U.S., its stated loyalties are not to the market as a whole, but rather to the tax-exempt fiduciaries that comprise a subset of the overall industry. The data NCREIF collects is limited in scope and size by the requirements placed upon the association by its governing members within the tax-exempt institutions. Even though NCREIF appeals to the research community by making an effort to provide information which serves the "greater good", it fulfills its mission by serving its constituents. In short, the NCREIF index has become the dominant research and benchmarking tool for commercial real estate professionals while falling well short of the market coverage necessary to be an ideal index.

In most industries this situation would not present a problem because competing products would emerge to challenge the dominance of NCREIF, forcing the association to either improve its product or lose relevance in the marketplace. The market for commercial property return data, however, behaves a little differently than most. The proprietary nature of the information needed to create the indices limits the number of potential participants. Data contributing firms are not likely to share their internal performance figures with multiple providers, who then repackage the information and sell it for a profit. Instead, firms supplying information to an index will require assurances that their data is secure and that the integrality of the information remains protected and does not find its way into the hands of any competitors. Institutions and other owners of property can therefore be expected to restrict the use of their data to one or two established companies who have earned a certain level of respect and trust

in the industry. It is not a business that lends itself to start-up companies with limited experience at providing similar services to the marketplace.

Index firms considering a foray into the U.S. understand the nature of the industry and are rightly aware of NCREIF's dominant position atop the market for commercial real estate index products. While tax-exempt institutions alone do not hold a statistically significant portion of the overall commercial real estate market in the U.S., they do represent a strategic segment that is vital for any firm attempting to create a database of property-level operating information. This is where NCREIF becomes an impediment to the evolution of a more effective index in this country. The association is unwilling to expand outside of its current parameters, ensuring that it will not evolve into an ideal index, yet at the same time, its leading role in an industry known for supporting natural monopolies discourages other firms from entering the market and challenging its dominance.

Although it is certainly a part of the problem, NCREIF is not the only factor impeding the development of a superior index product in the U.S. The composition of the property markets in this country also plays a major role. In Australia and the U.K., where successful indices have taken root, the domestic real estate markets represent a fraction of the total inventory in the U.S. The smaller markets facilitate data collection by reducing the sheer magnitude of the task. It is easier to get a sample set of properties from the U.K., with the majority of the activity occurring in or around London, than it is in the U.S. where the inventory is about eight times as large and is highly fragmented in multiple urban centers across the country. The job of gathering information is further complicated in the U.S. by the relatively limited role of large institutions in the ownership and management of commercial properties. As detailed in the previous section, the ownership base in this country is splintered, creating multiple outlets that must be addressed and recorded in order to get a complete picture of the performance of the entire market. In contrast, IPD estimates that it captures 77% of the overall market in the U.K., with large institutions as its primary source of data.

Proposed Solutions

The task of creating an index product that effectively tracks the performance of the complete U.S. market, while providing tools for asset research and manager evaluation, is certainly not easy. NCREIF does an admirable job of trying to fill the role of data provider to the industry even though the responsibility goes well beyond the association's stated mission of promoting the interests of tax-exempt investment fiduciaries. It is clear, however, that the industry needs an organization that is dedicated to collecting data from all branches of the property market, without paying favor to or having direct ties with any particular segment

of the industry. Such a firm would have to navigate the apparent pitfalls within the current landscape and take a careful approach to existing associations like NCREIF, being sure to embrace their valuable relationships to major data contributors while remaining mindful of their narrow focus. To be considered an improvement over the current alternatives, a new index product would have to provide the services like personalized benchmarking, portfolio analysis and a property management evaluation tool. The discussion that follows will outline the structure of a hypothetical index company, including its composition, affiliations and stated approach to taking on the difficult job at hand.

Organizational Structure

The lack of an influential, all-encompassing trade association in the U.S. market for investment real estate suggests that the index product for the domestic market should be a commercial for-profit venture. In the absence of a dominant group like the PCA in Australia, the U.S. market is divided into segments with each branch represented by an organization that is charged with promoting the interests of its members. These self-interests often run counter to the data needs of the "greater good", thus most associations do not have the will or the ability to achieve the full market coverage required for a more effective index. The non-profits in this country that do have a broader scope (BOMA, CCIM, etc.) tend to be loose associations that don't have the extensive membership or the strong organizational structure to take the lead and unify the industry in the development of a national property index. The responsibility for creating an industry-wide index should therefore shift to the private for-profit sector. There is substantial economic incentive for a firm

> **Characteristics of the Proposed U.S. Index Products**
> - Generated by a commercial firm as opposed to an industry non-profit association
> - Contain both an evaluation benchmark and an asset research index
> - Designed and maintained with input from the academic community
> - Produced by a company with experience in the industry and credibility among institutional investors
> - Full market coverage of all ownership structures, property types and life cycles
> - Accommodate property and fund-level benchmarking as well as appraisal-based and repeat-sale construction methods
> - Supported, but not driven by NCREIF

to develop a commercial index product in this country. As noted in the examination of IPD in previous sections, the evaluation and portfolio analysis tools provided by a property-level index hold considerable value for owners and investors who are searching for more precise measures of their relative performance. Although the potential profits are constrained to the extent that data-contributing members will pay a premium for an index built on information that they supply, IPD is still able to target profit margins of 20% - 25% of revenue. (Geltner and Ling, 2000) A company entering this business could see additional upside if they are able to play up the natural competition among investment firms to attract new investors. If one investment firm advertises the fact that they have out-performed the standard benchmark for the past five years, then they are likely to attract new investors

based on that statement. They are also likely to touch off a chain reaction where other investors will see the advertisement and begin to ask their investment managers how they have performed against the benchmark. This kind of momentum elevates the status of the benchmark and makes it necessary for investment managers to measure themselves against the same standard or risk presenting themselves as a market laggard. A similar strategy aided the growth of Morningstar and its method of ranking mutual fund performance.

Independent commercial firms will initially be attracted by the revenue prospects of the evaluation benchmark, but they should also learn to embrace the complementary qualities of the research index. While the commercial applications are evident from the success of IPD, the importance of the research facet becomes apparent when considering the credibility and future development of the index product. Universities and research organizations are excellent sources of input in the design and maintenance of an index and they can lend credibility to a product through positive commentary and published reviews. Universities also present the opportunity to expose future commercial real estate professionals to branded index products before they enter the workforce. The assumption here is that the students will become accustomed to using the product in college and develop into advocates for its continued use when they enter the professional world. In addition to the features that translate directly into the economic gains, a company contemplating the benefits of the research index should also consider also the "greater good" argument. One of the benefits of having an effective research tool in an academic setting is the ability to build upon positive recognition to attract a larger number of researchers to the field of study. With a stronger research following, the real estate community can expect an increased allocation of academic resources and ultimately a greater regularity of advancements in the field. The company producing the research index will benefit by strengthening its brand recognition and elevating the profile of its commercial services by associating them with the research standard for the industry.

In order to garner academic and industry support for its products, the commercial firm that produces the index should open its development process to people from outside the company. The group of researchers, data-contributors, major clients and company employees would function as the governing board for the indices and would preside over not only their construction but also their ongoing maintenance. In addition to getting a broad range of input, the board would give data-contributors a vehicle through which they could participate in the decision making process and feel more comfortable about how their property information is being used. Enlisting the advice and counsel of researchers who are widely recognized in the field of index construction will help foster adoption of the product in the academic community.

What does the Index Company Look Like?

With the question of organizational structure resolved, it is time to evaluate exactly what kind of commercial firm could successfully produce an index that meets the needs of investment managers and researchers alike. The first thing to consider is whether on not the company has enough credibility with institutional investors and owners to collect the sensitive data that is required to build a property-level index. Without the data there is no chance of the company ever getting off the ground. With that in mind, the firm that develops the index should be well established in the industry and have experience working with some of the major property owners across the country. A start-up or an organization with little experience will have a hard time attracting property information because institutions will be hesitant to give data to a company that is struggling or is at risk of going out of business. The successful firm will be independent from the other participants in the marketplace, so as not to suggest impropriety or favoritism towards a particular owner or investor. In order to reassure potential data-contributing members, the index company should have already demonstrated the ability to collect and secure proprietary information. The more comfortable the firm can make property owners the more effective they will be at collecting information.

A company trying to launch a commercial property index in the U.S. will need to establish a working relationship with NCREIF that allows the association to support the new index without controlling its direction. NCREIF represents one of the major segments of commercial property investment in this country, thus any attempt to construct an index without its participation and support will probably fail. At the same time, if an index company were to partner with NCREIF and provide additional services to complement the data gathered by the association, then NCREIF would remain in control of the data collection and the venture would encounter the same coverage problems than NCREIF struggles with today. The solution to this apparent dilemma comes back to the issue of credibility. If a company were to come in with enough credibility to gain the trust of NCREIF and its members, there is a possibility that NCREIF would relinquish the responsibility of producing its quarterly index and reaffirm its role as a true trade association. Under this scenario NCREIF would still be charged with collecting performance data from its members, but it would then pass this data along to the new firm to be part of a broader industry-wide product. The arrangement would give NCREIF the ability to forfeit its assumed position as data provider to the greater market, freeing it from the critics that attacked its shortcomings and the distractions associated with the index, and allow the non-profit to concentrate on its stated mission of serving the tax-exempt fiduciary community.

One of the fundamental requirements for a company creating an index product is credibility in the marketplace. It's necessary for lining up data-contributing members from all branches of the industry and it's required in forging a strong relationship with NCREIF. The question then becomes, how does a company that is entering a new business prove itself to be credible? The answer lies in a combination of factors. The company that launches a new index product in the U.S. will have to be an established data provider with experience in commercial real estate. It will not have the respect it needs without a record of performance. A prospective firm should also be able to contribute an additional aspect to the product offering. Whether that means providing market information to enhance the research capability of the index or a database of sales comparables from which to construct a repeat-sale index, the company will need to find a way to add value to the process. Another option available to the index company looking for credibility is a partnership with a ratings agency or prominent research firm from the public securities sector. A joint venture between a company with first-hand knowledge of the market for real estate information and either Morningstar or Standard & Poor's would not only command respect among institutions and property owners, but would likely attract new investors to commercial real estate as well.

In conclusion, the analysis presented above argues that the responsibility for maintaining both the evaluation benchmark and the asset research index should fall to a commercial, for-profit company with a diverse governing board and open construction methodology. The ideal firm should be independent from all other market participants and have experience in the field of information management. It should be a friend to NCREIF, but take the lead on data collection, so as to expand market coverage and enhance the scope of services offered to potential clients. Finally, the company should consider partnering with a notable firm from the publicly traded securities sector in order to lend credibility to the effort. While this process may not result in the ideal index it will help overcome the problems faced in today's marketplace and lead to a more effective domestic index of commercial property returns.

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