

해외출장복명서

기 간: 2016. 8. 17~2016. 8. 25

출장지: 미국 워싱턴, 시카고

출장자: 이태리, 김민철, 방보람

I. 출장개요

1. 출 장 지: 미국 워싱턴, 시카고
2. 출장기간: 2016. 8. 17~8. 25
3. 출 장 자

소속	직급	성명	비고
국토연구원	책임연구원	이태리	
국토연구원	책임연구원	김민철	
국토연구원	연구원	방보람	

4. 출장목적

- 미국 내 공공기관 및 민간 협회, 조합, 부동산회사 등의 다양한 주체가 수집, 관리하는 상업용부동산 시장 정보체계 조사 및 파악, 라이브러리 공유 과정, 이를 활용한 정보활용 및 지수생산 등에 대하여 이해하고 국내 상업용부동산시장 정보시스템 구축 방안에 대한 시사점을 도출
- 현장조사를 통해 실제 미국 주요도시의 상업용부동산시장의 현황과 실제 시장정보 투명성에 대해 살펴보고, 시장활성화 및 활발한 정보공유 및 활용에 대한 대안을 모색하고자 함

II. 출장일정

날짜	출발지	도착지	방문기관/장소	주요 수행업무	관계자
8.17 (수)	인천	워싱턴	인천국제공항 워싱턴텔러스공항	이 동(미국으로 출국)	-
8.18 (목)	워싱턴	워싱턴	NAR Pennsylvania Avenue	(15:00) 기관방문/전문가 자문회의 *기관사정으로 인하여 취소 → 현장조사로 대체 (현장조사) 펜실베이니아 애비뉴	George Ratiu
8.19 (금)	워싱턴	워싱턴	The George Washington University	(14:00) 기관방문/전문가 자문회의	Professor. Min Hwang
8/20 (토)	워싱턴	워싱턴	George Town Pentagon City	(현장조사) 조지타운, 펜타곤시티	-
8/21 (일)	워싱턴	시카고	워싱턴텔러스공항 시카고오헤어공항	이 동(시카고로 이동)	
8/22 (월)	시카고	시카고	Depaul University	(14:00) 기관방문/전문가 자문회의	Professor. Jin Man Lee
8/23 (화)	시카고	시카고	NCREIF	(10:00) 기관방문/전문가 자문회의	Dan Dierking Sara Rutledge
			Loop	(현지조사) 루프지역	
8/24 (수) ~ 8/25 (목)	시카고	인천	시카고오헤어공항 인천국제공항	이 동(대한민국으로 입국)	-

III. 수행사항

■ 워싱턴 D.C

1. NAR(National Associate Relator) 기관 방문

○ 기관소개

- 1908년 설립한 부동산 업계 동업자 협회
- 주거 및 상업 부동산 산업의 모든 영역을 측면에서 관여하는 기관, 단체 및 위원회 등을 포함한 110만명 이상의 회원을 보유하고 있는 미국 최대 동업자 협회
- <http://www.realtor.org/>
- 문의처: infoservices@realtors.org



□ 일시 및 장소: 2016. 8. 18(목) 15:00, NAR 워싱턴지사

□ 참석자: George Ratiu (예정)

□ 주요 논의내용

○ NAR 기관 측 업무 사정으로 인하여 회의 취소

→ 현장조사(펜실베이니아 에비뉴)로 대체



▲ NAR 방문 단체사진

2. 펜실베니아 에비뉴 현장조사

- 높은 렌트비와 함께 워싱턴DC에서 중요한 거리임
 - JLL에 따르면 2015년 기준 평방 피트당 \$72.65(약 3.3m²당 \$2,585)로 미국 내에서 6번째로 렌트비가 비싼 곳이라고 함
 - 구 우체국, 월드 트레이드 센터 등 각종 미국 연방 소속 건물들과 백악관 사이의 커넥션이 지리적으로 영향을 미쳐 권력과 영향력을 가진 업체들이 대거 몰려있게 되고, 그로 인해 렌트비가 꾸준히 높은 수준을 유지함
 - 최근 들어, 미래에셋 등의 국내자산운용사 등이 해외 프라임급 오피스빌딩을 매입하고 투자하는 사례가 빈번해지고 있음



3. 조지워싱턴대학교(The George Washington University) 방문

□ 일시 및 장소: 2016. 8. 19(금) 14:00, George Washington University Funger Hall.

□ 참석자: Min Hwang

□ 주요 논의내용

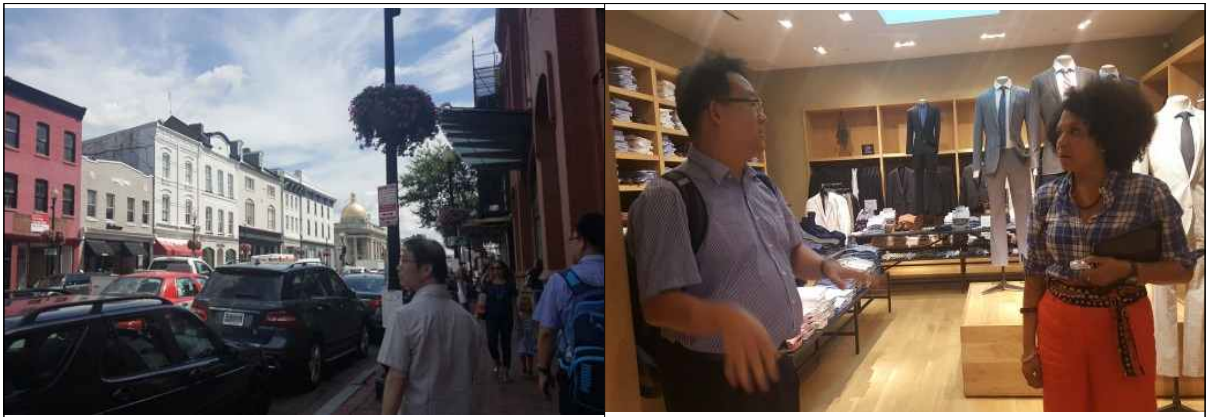
- 한국 상업용부동산시장 현황 등을 소개하고, 미국 상업용부동산 시장 현황 및 문제점 등에 대한 세부적인 정보 공유
- 미국은 NCREIF와 같은 협회에서 관련 정보를 축적하고 있으며, 이를 본인 자산 운용에 적극 활용하고 있는 메커니즘이 작동함
 - 개인 Property에 대한 정보를 제공하고 신뢰성 있고 유효한 벤치마크 지수를 통해 시장상황을 파악하려는 수요와 인센티브가 존재(세부정보 까지는 공유가 되지 않음)
- 미국은 브로커가 발전되어 있었고, 상업용부동산시장에 대한 정보가 잘 모일수 있는 환경이 조성되어 있었음
- 미국도 LoopNet, BuildingSearch와 같은 온라인 부동산리스팅 전문업체가 등장하여 관련 상업용부동산시장 임대가격 등의 정보를 제공하고 있음
 - 약 800만 가입회원과 월 500만 이상의 방문자를 기록하고 있으며, 유료 또는 프리미엄 회원은 다른 세부정보를 제공함



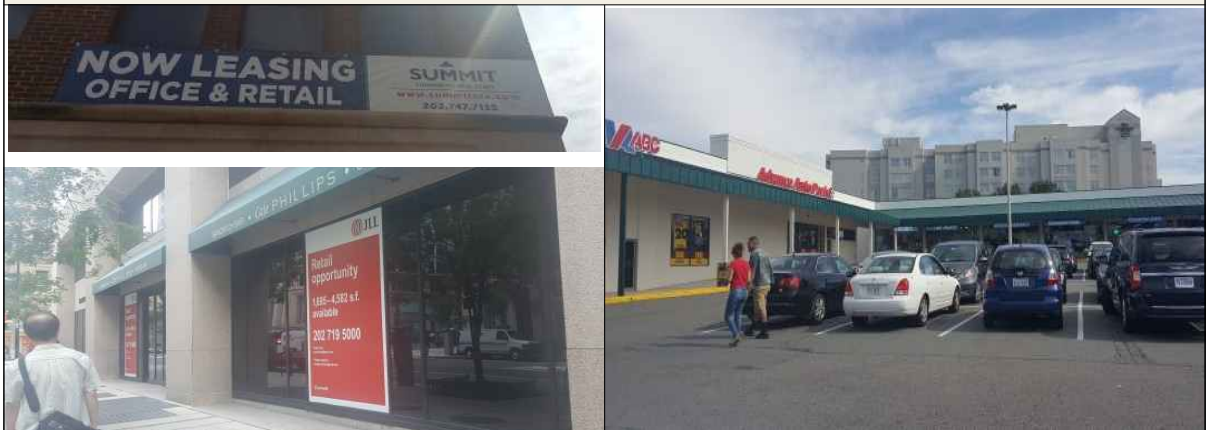
▲ Min Hwang 교수님 자문회의

4. 조지타운(George Town) 현장조사

- 도심과 외곽 내 상업용부동산 임대시장이 상이한 형태로 나타남
 - 조지타운 등의 도심내 소규모 리테일 밀집단지의 경우, 대규모 투자자들이 소유하고 이를 임대하여 수익을 창출하는 형태로 운영.
 - 공실이 생기면 JLL, Summit 등의 자산관리 회사들이 이를 중개, 거래하고 있음
 - 한마트 등의 외곽의 물은 상대적으로 도심보다 자가가 낮고, 저층이며, 개인이 건물을 소유하거나 전체를 임대받아 운영



▲ 조지타운 인터뷰 및 답사 사진



▲ 도심의 경우, 부동산회사에서 공실 및 임대업무를 담당하는 반면, 외곽은 직접 거래로 진행

5. 펜타곤 시티(Pentagon city) 현장조사

- 한편, 도시외곽에 위치한 대형 쇼핑몰의 경우 대형 부동산 회사가 투자 개발하여 수익을 창출함
 - Pentagon City Mall의 경우, 1989년 부동산 투자 신탁인 Simon Property group과 캘리포니아 공적 연금 기금 관리 기관인 CaPers의 합동개발을 통해 조성되었으며, 170개의 리테일 등이 우리나라 타임스퀘어와 같은 복합상업시설 형태로 영업
 - 임대수익은 부동산 투자 기관과 공적연금 기관이 함께 지분을 나누어 수익분배



▲ 펜타곤시티 내 리테일 인터뷰 사진

■ 시카고

1. 드폴대학교(Depaul University) 방문

□ 일시 및 장소: 2016. 8. 22 (월) 14:00, Depaul University Conference Room at the Real Estate Center

□ 참석자: Jin Man Lee, James D. Shilling

□ 주요 논의내용

- 미국은 법제정과 함께 꾸준히 상업용부동산 데이터가 누적되어 지수생산이 되었음
- 미국은 1980년대 데이터부터 약 20년 이상의 데이터를 보유하고 있으며, 1990년 Tax index 관련 법이 개정되면서 보다 체계적인 데이터 수집과 상업용부동산지수 생산이 가능해짐
- 꾸준한 데이터 축적은 시장 상황파악과 투자가능 영역 탐색등이 용이해 졌으며, 그로인해 규모가

급속도로 성장함(2000년대 들어 10배 이상 성장)

- 미국 역시 공공데이터와 민간 데이터의 연결이 어려우며, 이에 대한 호환과 활용에 대해서는 지속적으로 연구가 진행되고 있음
 - 특히 상업용 부동산은 데이터 레이어가 많고, 다양한 형태로 변형이 되어 연결이 어려움
 - 또한 지수 생산이 가격을 알려주는 중요한 척도였으나, 이에 대한 제한이 너무 많으며, 특히 상업용부동산의 경우 거래빈도수가 적음
- 또한, 다소 안정적인 상업용부동산시장의 행태를 보임
 - 2008년 급격한 하락 이후에서 급속도로 다시 회복하는 시장으로 형성
 - 90~95% 정도의 부동산가치가 일치하고 있음
- 한국 상업용부동산시장의 활성화 및 정보공유를 위해서는 우선적으로 데이터를 통일된 형태로 꾸준히 축적해 나가는 것부터 선행이 되어야함
 - 투자자들이 데이터의 명확성이 보장되어야 데이터가 수집이 가능함
 - 물론 시장규모 측면에서의 한계는 계속 고민이 필요함



▲ Depaul대학교 연구워크숍 사진

2. NCREIF 기관 방문

○ 기관소개

- 1982년 공식 출범한 기관 부동산 전문가 협회
- 시장가치 \$50 million 이상의 부동산을 소유하거나 관리하고 있는 투자관리자, 회계사, 감평가, 교수진 등으로 회원 구성
- 분기별로 NPI, NTBI, NFI, GREFI 등의 지수 및 보고서를 발간하고 있음
- <https://www.ncreif.org/>
- 문의처: info@ncreif.org



□ 일시 및 장소: 2016. 8. 23(화) 10:00, NCREIF 본사

□ 참석자: Dan Dierking, Sara Rutledge(NCREIF), JinMan Lee 교수(Depaul대)

□ 주요 논의내용

○ (데이터수집) 매분기 약 25일간의 기간동안 데이터 수집 및 지수 생산을 진행함

- 회원을 중심으로 20일간 데이터를 제공받고 5일간 데이터를 확정하고 지수생산을 함
- 조사대상은 아파트, 산업용, 사무용, 소매용, 호텔, 산림지, 농경지 등이며, 크게 미국 4구역, 다시 8개 부분하위시장, 50개주 단위로 구분하여 조사 발표함
- 회원만이 데이터 추가, 수정을 하며, 매매, 소유주 변경 등에 대해서는 새로운 ID발급을 통해 데이터를 관리

○ (지수생산) 데이터 추가 및 수정은 회원만이 가능하며, 이상값은 제외하고 지수생산

- NPI, NTBI, NFI, GREFI 등의 지수를 분기별로 생산하여 발표
- 이상값에 대해서는 이전 평균값으로 대체하여 지수를 생산하고, 원 데이터는 별도로 축적

○ (데이터 활용) 회원 중심으로 데이터를 제공하되 정부 등 비회원에게도 유료로 데이터 제공

- 회원의 경우 투자관리자 3명 이상의 데이터를 입력해야 통합된 데이터 결과를 받을 수 있음
- 비회원의 일정 금액을 지불하고 통합 생산지수, 보고서를 제공받을 수 있음

○ (향후 운영방향) 세계 시장 진출에 대해서 계획을 하고 있으나 아직 준비가 필요



▲ NCREIF와의 워크숍 사진

3. 루프(Loop) 지역 현장조사

- 시카고의 Loop 지역은 CTA의 4개 노선이 시내 중심부에서 loop를 그리면서 한바퀴 도는 안쪽으로 고밀도 상업건물들과 시청이 위치해 있음
- 상업거래소를 비롯하여 상업, 유통기능이 집중해 있는 만큼 높은 임대료를 보임
 - 갈수록 임대료가 상승하면서 저소득층, 흑인 등 유색인종이 외곽으로 밀려나감 (젠트리피케이션)
- 공실 등이 발생하면 JLL 등과 같은 자산관리회사들이 임대인의 요청을 받아 임차 계약 및 중개를 담당함



▲ 시카고 다운타운 루프지역 답사 사진

IV. 부록

1. 국토연구원 워크숍 발표자료

Current status and implications of information system of commercial property market of Korea



Ta Ly I

Ph.D. in Economics
Associate Research Fellow,
Korea Research Institute for Human Settlements



August, 2016

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Current status of commercial property market and information system in Korea

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Problems and implications of information system of commercial property market of Korea

1. Current status of commercial property market and information system in Korea



Concept and types of commercial property

■ Concept of commercial property

- Commercial property refers to the real estates used in commercial activities for the purpose of generation of profits
- It is also referred to as income property that can generate rental income (income gain) or capital gain

■ Types of commercial properties

- Office and retail properties are important areas from the perspective of policies since they impart direct effects on national economy including private or small businesses
- In particular, office properties are the subjects of investment that can generate cash flow through rental income (income gain) and capital gain, and is characterized by high level of linkage with financial sectors such as REITS or funding, etc.

<Categorization of commercial properties in accordance with the use>

Categories	Contents
Office	Office bldg. etc.
Retail	Commercial complex, discount mart and department store, etc.
Industrial	Factory, warehouse and parking lot, etc.
Accommodations	Motel and hotel, etc.
Recreational	Country club, resort and sports center, etc.
Special Purpose	Hospital, university and government related institutions bldg., etc.

Current status of commercial property market

■ In order to assess the current status of commercial properties in Korea, there is a need to assess the overall size of the market first and, for this purpose, there is a need to confirm the total quantity and regional distribution of the commercial properties

- However, there is no establishment of statistics that enables estimation of the overall level of offices and retail outlet buildings in Korea at the moment.
- Although it is possible to make distinctions through the method of assessing the buildings corresponding to commercial properties by means of the categorization of the buildings for each of the uses by utilizing building register, annual survey is not being carried out.

■ In the 'Research on the means of enhancement of the efficiencies of the project for surveying rental cases (Lee, Yeong-rae, 2010)' carried out to deduce the method of improving the project for surveying of the rental cases in 2010, the aggregate data on offices were confirmed by analyzing the data in bldg. management registers.

- As of 2009, it was assessed that there are 28,709 office bldg. with total floor areas of approximately 74.27 million m^2 with concentration of large office bldg. in Seoul.
- In the case of retail outlet bldg., there are 695,598 bldg. with total floor areas of 239.83 million m^2 . In terms of the No. of bldg., there are largest numbers of retail outlet bldg. in Gyeonggi-dowhile large scale retail outlet bldg. are concentrated in Seoul and capital regions.

5

Current status of commercial property market

■ Current status of office bldg.

Categories	Office				Office (higher than 6 floors)			
	No. of bldg's	Ratio	Floor area	Ratio	No. of bldg's	Ratio	Floor area	Ratio
Seoul	639	196	3029498	415	3021	57	2574226	55
Busan	1384	69	812037	109	39	73	630881	140
Daegu	86	30	307639	41	12	36	165377	37
Incheon	80	28	221933	30	10	36	103671	23
Gwangju	68	22	225459	30	16	31	142946	32
Daejeon	664	23	307464	41	179	34	157041	44
Ulsan	57	18	129296	17	10	19	55239	13
Gyeonggi	433	140	911633	123	45	80	472264	90
Gangwon	162	56	193033	25	69	13	44946	10
Chungcheong-gyeong	156	56	172674	23	5	11	41328	09
Chungcheong-gyeong	246	87	204127	27	12	32	32618	07
Jeollabuk	1304	63	191039	25	39	07	46100	10
Jeollanam	298	100	230889	31	22	23	56281	11
Gyeongsangbuk	193	57	187462	25	64	12	38237	07
Gyeongsangnam	1512	52	257100	35	98	17	59287	13
Total	28709	100	7427629	100	5342	100	4519207	100

■ Current status of retail outlet bldg.

Categories	Retail outlets				Retail outlets (higher than 3 floors)			
	No. of bldg's	Ratio	Floor area	Ratio	No. of bldg's	Ratio	Floor area	Ratio
Seoul	6502	96	3729396	155	3039	225	3079381	229
Busan	3722	54	1593121	67	1483	96	1132795	88
Daegu	3382	53	1404933	69	976	63	916490	68
Incheon	2462	29	889177	37	572	37	573466	41
Gwangju	2054	30	786224	32	478	31	623760	38
Daejeon	2577	39	1307701	55	1176	75	960750	69
Ulsan	1618	25	686132	29	478	31	448930	32
Gyeonggi	12128	173	483885	188	2143	142	2226916	160
Gangwon	3200	46	878186	37	482	29	379320	27
Chungcheongbuk	2760	39	784479	33	357	23	336778	24
Chungcheongnam	4204	62	1171637	49	504	32	467036	34
Jeollabuk	6621	96	2114635	94	1273	82	1030794	74
Jeollanam	5292	76	1128464	47	523	33	411133	30
Gyeongsangbuk	6142	96	1648339	69	887	55	625944	46
Gyeongsangnam	5832	85	1539460	63	718	46	612939	44
Total	695598	100	239821226	100	105284	100	13657841	100

6



Current status of information system of commercial property

- **Information related to domestic commercial property market are generated separately by individual private companies and public institutions in accordance with their respective needs.**

- **In the case of private companies, institutions that execute office rental and management works are providing information such as rental rates and vacancy rates for each of the regions through office market report, etc.**
 - There are a wide range of such companies including Kyobo Realco, Shinyoung Asset Co., Ltd., Mateplus Co., Ltd., Hanhwa 63 City Co., Ltd., Genstar, R2 Korea Co., Ltd., REITS & Trust and R2 Korea, etc.
 - In the case of private companies, the information generated by each of the companies differ due to the different samples that they have since they do not handle information on retail outlet bldg., although information on office bldg. are being provided.
 - Private companies that provide information related to offices in Korea can be divided into companies that focus mainly on the management of real estate assets of the corresponding company with large conglomerate as the mother company (ex. Kyobo Realco, Hanhwa 63 City) and others (ex. Mateplus Co., Ltd.). They are individually generating information on the office markets throughout the country and Seoul on monthly and quarterly basis.

7



Current status of information system of commercial property

- **In the case of public institutions, Survey of Rental Cases presented by the Ministry of Land, Infrastructure and Transport is the only statistics available in relations to commercial properties such as offices and retail outlets, etc.**
 - Survey on Rental Cases commenced since 2002 for the purposes of fulfilling the demands for information on profitable real estate market that expanded in accordance with the changes in the environment of domestic real estate market and providing information on offices and retail outlet bldg. including commercial leasing information and investment profit rates for the advancement of the property market since the foreign currency crisis of Korea in 1997.
 - Survey is conducted in quarterly basis for the provision of information including national and regional rental rates, vacancy rates and profit rates
 - Information obtained through the evaluation of the asset values of and survey on the rental information on commercial properties (offices and retail outlets) throughout the country can be used to provide market information through the measurement of investment performances and assessment of market trends in the commercial property, utilized in the method of evaluation of profit format at the time of the survey and evaluation of the standard appraisal value of the land, and used as reference data in the establishment of real estate policies in order to make contributions towards the establishment of sound orderliness in property trading.
 - Since the Ministry of Land, Infrastructure and Transport is the institution with overall management and supervisory responsibilities, Survey on Rental Cases can be deemed to provide information with the highest authority at the moment. However, it is determined that there are room for the generation of diverse range of valuable information by assessing the collected data that have not been publicly announced since there are possibilities of the existence of information on commercial properties that can be provided in addition to the information produced and publicly announced.

8



Current status of information system of commercial property

■ **The International Monetary Fund (IMF) and the Bank for International Settlement (BIS) are strongly recommending all the member countries to develop real estate price indices in order to recognize the metastasis of the fluctuations in properties onto stress in financial system in advance.**

- In the case of residential real estate, a wide range of indices such as real estate price indices of Korea Appraisal Board, KB real estate price indices and the actual transaction price indices of the Ministry of Land, Infrastructure and Transport, etc. have been developed and used.
- Income and profit rates, capital profit rates and investment profit rates announced by the public Survey on Rental Cases are the only performance indices related to non-residential real estate announced officially in Korea, and the corresponding indices are not being utilized as usefully as the indices of the residential real estates.
- Although the private companies are continuing to put efforts to produce actual trading price indices and sales price indices, etc. by utilizing the data they accumulated, development of indices to represent the market in overall are yet to be carried out.

9

2. Problems and implications of information system of commercial property market of Korea



Problems in information system

■ Problems of information collection

- Issue of the reliability of the survey method: Focused on telephone and site visit surveys with inadequate management system
- Surveys on the rental rates and sales prices are done mainly through telephone and site visits with the survey and analysis executed with focus mainly on the assets that the company manages.
- There is a need to establish strict procedures and standards for collection of information, and establishment and management of information by expert manpower at specialist level.

■ Problems of the collected information

- Discordance in the survey results: Differences in rental rates and vacancy rates, etc.
- There are discordances in the survey results because of the differences in the range and contents of the survey including the vacancy rates, total floor areas, No. of floors and survey regions, etc. which are the criteria for the collection of information.
- Due to aforementioned reasons, there is manifestation of differences in the results of survey conducted by each of the information providers, thereby inducing difficulties in accurately assessing the current status of the actual market.
- Existence of difference between face rental rates and actual rental rates
- In general, the market rental rates mentioned in the domestic office market are the face rental rates that have been appropriated under the premises that the standard floor of the office is used.
- However, there actually are generation of gaps between the face rental rates and the actual rental rates due to the frequent occurrence of the cases in which rental rates are discounted through contact that includes benefits such as rent-free period and fit out, etc.
- Since the face rental rates has the trend of continual increase with the passage of time irrespective of the vacancies in offices, there exist aspects that prevents the appropriate reflection of the market situation.

11



Problems of the information system

■ Problems of the management and utilization of information

- Insufficient provision of information library and operation of experts group on commercial property market:
Need to utilize information network and consultation by experts
- In the case of advanced commercial property market, reliable current status information on and forecast for the commercial property are presented by sharing the data through the network between the members and by establishing extensive commercial property market information library through the shared data.
- Works for enhancement of reliability of information must be executed by collecting information or verifying the collected information by seeking consultation with experts group.
- Entity to function as the center of the information system for the commercial property market is required:
Need the establishment of central institution to gather the scattered information in unified manner.
- Entity to perform the role of principal in research to systematically analyze and resolve the reasons for the reluctance of the institutional investors or asset management companies to provide information due to the issues of the confidentiality in information collection and utilization, etc.
- There is a limit in the computation of indices for commercial property due to the lack of information and absence of official indices due to the lack of representativeness of the collected information.
- While foreign countries are announcing consistent commercial property indices, there is a limit in the computation of indices in Korea due to the problems in securing information on commercial property market.

12



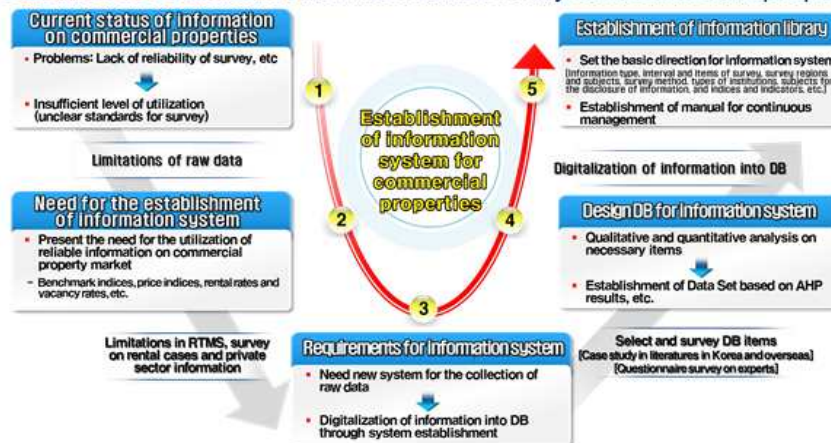
Direction for the establishment of information system of commercial property (Library)

■ Institution with due authority needs to play the leading role in the establishment of information system in order to enhance the unity, reliability and accuracy of information related to commercial properties.

- In the case of Korea, it is aimed to establish information library in the following direction since the establishment of private sector-centered information system with high reliability like those in key countries such as the USA is difficult to be achieved in short period of time:

- Establishment of system for surveying and collecting accurate commercial property information
- Establishment of mutually supplementary information system between the public and private sectors
- Establishment of reliable information system DB for commercial property
- Establish information library that can function as the foundation for government policies and the indices for the decision making by workers in relevant industry

<Direction of establishment of information library for commercial property>



Thank you



A New Method to Estimate Risk and Return of Commercial Real Estate Assets from Cash Flows: The Case of Private Equity Real Estate Funds

Jin Man Lee, James D. Shilling, Charles Wurtzbach
DePaul University

Economics, DePaul University

August 2016

What is a REIT?

- First and foremost, a REIT is a tax election. A real estate company elects REIT status for tax purposes. In order for a stock to qualify for REIT status and benefit from the elimination of corporate taxes, it must comply with several distribution and income stream requirements, as well as major ownership restrictions, as follows:
- it must distribute at least 90% of taxable income (any retained income will be taxed normally);
- at least 75% of gross income must come from qualified investments (real property or debt secured by real property);
- at least 95% of gross income must be derived from:
 1. real property
 2. dividends
 3. interest
 4. gains from security sales
- at least 75% of assets must be invested in:
 1. equity ownership of real property
 2. mortgages
 3. other REIT shares
 4. government securities and cash
- no more than 50% of shares outstanding can be owned by five or fewer individuals (the “five or fewer” rule);
- the shares must be owned by at least 100 shareholders; and the taxable REIT subsidiary can be no larger than 25% of the REIT’s assets.
- REITs are not taxed at the corporate level as long as they pay out 100% of taxable income in the form of dividends. Instead, REITs are taxed at the shareholder level, thus avoiding double taxation. In the regular c-corporation structure, the investor is double-taxed: first at the corporate income tax level and then at the individual income tax level. As a consequence, investors in a public REIT may receive a higher return on their investment, on an after-tax basis, than they would receive in a C-corp.

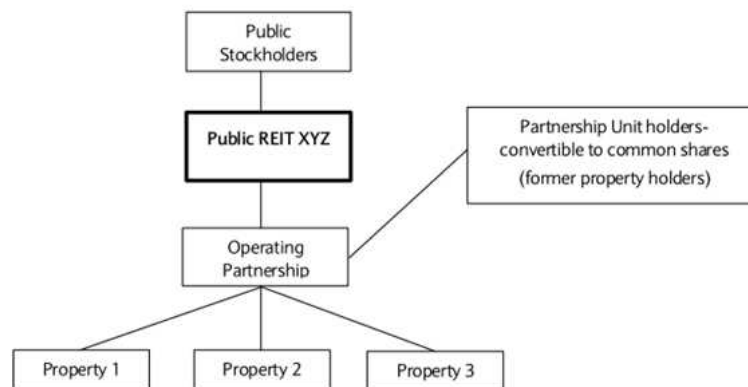
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University, August 2016

History of REIT in U.S.

- The Real Estate Investment Trust Act of 1960 : the trustee manages properties for the benefit of shareholders in the trust. The REIT only able to own property not manage or operate it
- Tax Reform Act of 1986: Removed the restriction of operating and managing the owned properties. This allows REITs to both own and operate properties
- Modern Era in 1991: The lack of capital to fund new investment by tightened bank lending standard after foreclosures, real estate developers sought alternative venues to go public. Kimco, the largest owner of shopping centers nationwide went public in November 1991. UPREITs and DownREITs provided liquidity to previously illiquid partnerships by solving the capital gain tax issues.
- REIT Modernization Act of 1999: The act provided more flexibility as it allowed REITs to create Taxable REIT Subsidiaries (TRS). The dividend payout requirement changed from 95% to 90% of taxable income.

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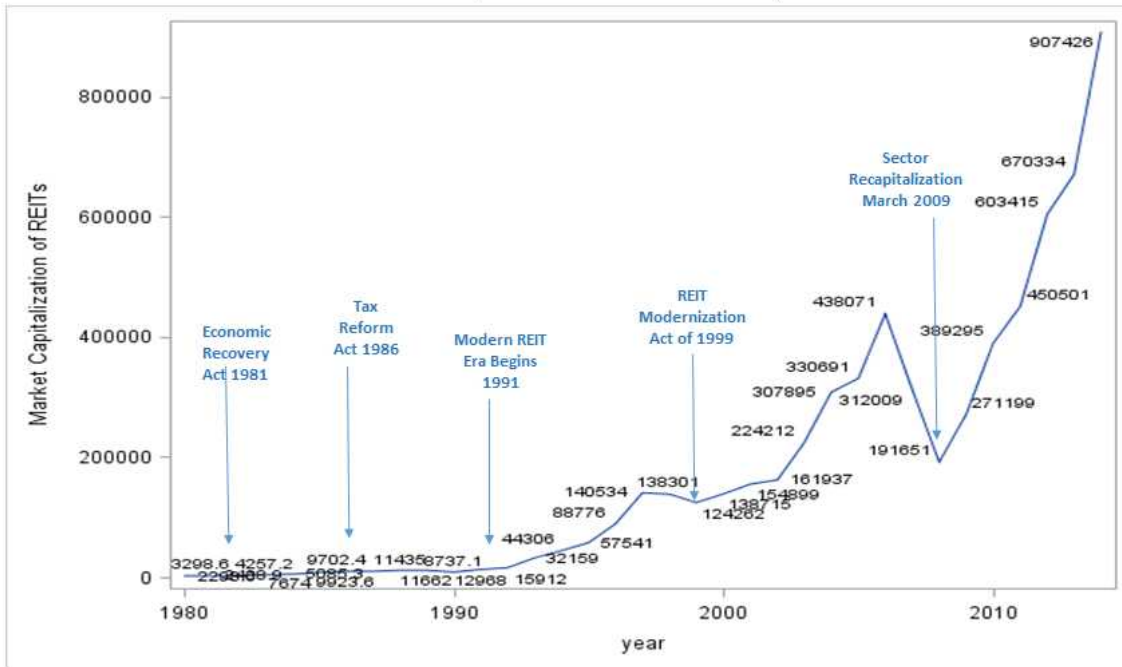
Figure 1: UPREIT Structure



Source: Barclays Research

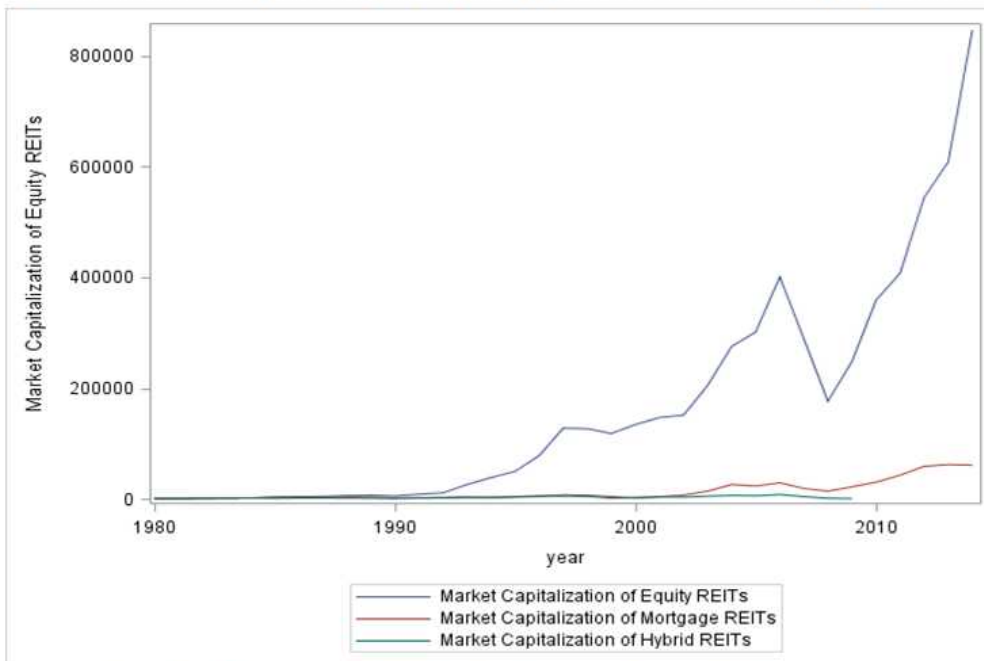
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History and Size of REITs (Real Estate Investment Trusts) in U.S. (in million dollars)



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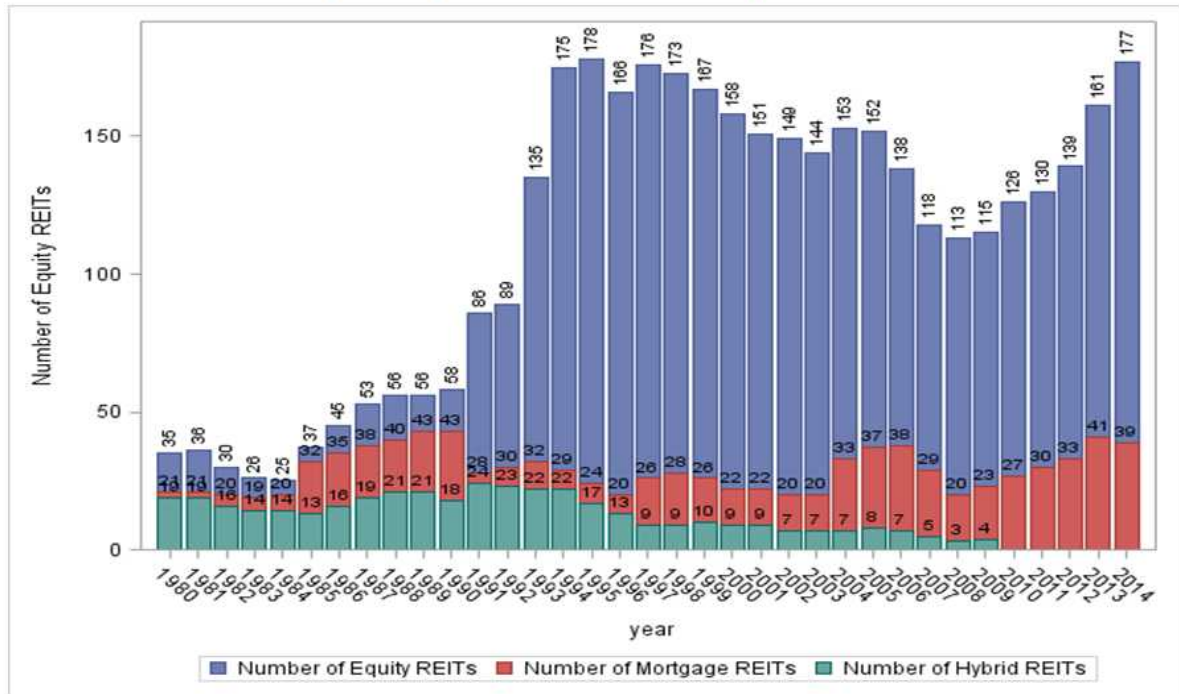
Market Capitalization of REITs by REIT Type in U.S. (in millions of dollars)



Source: [Board of Governors of the Federal Reserve System \(US\)](http://www.federalreserve.gov)

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Number of REITs in U.S. by REIT Type



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Historical Compound Annual Total Returns of REITs and Leading U.S. Benchmarks (%)

	Listed U.S. REITs	Large-Cap U.S. Stocks (S&P 500)	Small-Cap U.S. Stocks (Russell 2000)	U.S. Bonds (BC US Aggregate)	U.S. Inflation (CPI)
1-Year	27.15	13.69	4.89	5.97	0.76
3-Year	16.39	20.41	19.21	2.66	1.33
5-Year	16.63	15.45	15.55	4.45	1.69
10-Year	7.50	7.67	7.77	4.71	2.12
15-Year	12.29	4.24	7.38	5.70	2.25
20-Year	11.13	9.85	9.63	6.20	2.28
25-Year	10.60	9.62	9.75	6.49	2.52
30-Year	9.52	11.35	10.27	7.44	2.71
35-Year	11.14	11.83	11.09	8.16	3.25
40-Year	12.83	12.19	NA	NA	3.85

Note: Annual data as of the end of 2014
Source: NAREIT® analysis.

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REIT
ANALYSIS

Property Level Data from NCREIF

The National Council of Real Estate Investment Fiduciaries (NCREIF)

- An association of institutional real estate professionals who share a common interest in their industry.
- A very large pool of individual commercial real estate properties acquired in the private market for investment purposes only.
- All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors - the great majority being pension funds. As such, all properties are held in a fiduciary environment.

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NCREIF Variable List

MetaDataName	Format	Definition / Calculation
PropertyType	Character	Property type such as O for Office, R for Retail, etc.
PropertySubType	Character	The property subtype, e.g., CB for CBD, R for Regional Mall
FundType	Character	Fund type, e.g., "O" for Open End funds
Region	Character	The NCREIF Region, e.g., E for east
Division	Character	The NCREIF Division, e.g., NE for NorthEast
City	Character	The City, e.g., "Chicago" for Chicago
County	Digit Number	The county code, e.g., 17031 for Chicago
Zip	Digit Number	The zip code
State	Char	The state, e.g., TX for Texas
JV	True or False	"True" if a joint venture (True = 1 ; False = 0)
NPI	True or False	"True" if property is included in the NPI (True = 1 ; False = 0)
MV	Number	Market Value as of the end of the quarter
YYYYQ	Number	Year and quarter, e.g., 20082 for 2 nd quarter of 2008
Year	Number	Year, e.g. 2008
Quarter	Number	Quarter, e.g., 4 for fourth quarter
Period	Number	Periods start with 1 in 1977Q4 and increase each quarter
AccountBasis	Character	The type of accounting used, e.g., "M" for Market and REIS compliant
AcqDate	Number	Year and Month of Acquisition, e.g., 200904 for 04/2009
AppCapRate	Number	The cap rate using current quarter NOI for appraisals only
AppCapRate4QNOI	Number	The cap rate for appraisals only using trailing 4 quarter NOI
Appraisal	1 Char	The type of appraisal, e.g., I for internal, E for external
AppraisalLag_1	1 Char	Appraisal lagged 1 quarter
AppraisalLag_2	1 Char	Appraisal lagged 2 quarters
AppraisalLag_3	1 Char	Appraisal lagged 3 quarters
AppraisalLag_4	1 Char	Appraisal lagged 4 quarters
AppRet	Number	Capital appreciation return
AppRet_Lag1	Number	Capital Appreciation return lagged 1 quarter
AppRet_Lag2	Number	Capital Appreciation return lagged 2 quarters
AppRet_Lag3	Number	Capital Appreciation return lagged 3 quarters
AppRet_Lag4	Number	Capital Appreciation return lagged 4 quarters
Balance	Number	Loan balance at end of quarter
BalanceLag1	Number	Loan balance at end of last quarter (beginning of current quarter)
BFMV	Number	Market value at the beginning of the current quarter
CapEx	Number	Total capital expenditures
CapEx_AddAcqCost	Number	Cap Ex Detail - additional acquisition costs
CapEx_BldExpan	Number	Cap Ex Detail - Building expansion
CapEx_BldImp	Number	Cap Ex Detail - Building improvements
CapEx_LeaseComm	Number	Cap Ex Detail - Leasing commissions
CapEx_Other	Number	Cap Ex Detail - Other
CapEx_TI	Number	Cap Ex Detail - Tenant improvements
CapEx_Tot_Calc	Number	Cap Ex Detail - Calculated sum of the above detail cap ex

CapExLag1	Number	Cap Ex lagged 1 quarter
CapExLag2	Number	Cap Ex lagged 2 quarters
CapExLag3	Number	Cap Ex lagged 3 quarters
CapExLag4	Number	Cap Ex lagged 4 quarters
CapRate	Number	The cap rate for the property (transaction or appraisal)
CapRate4QNOI	Number	The cap rate using 4 quarter trailing NOI (appraisal or sale)
CBSA	Number	The CBSA code (5-digit), e.g., 31100 for Los Angeles, CA
CBSADiv	Number	The Division code (5-digit) for CBSAs that have divisions
CBSAName	Character	The name of the CBSA or division, e.g., 'GA - Atlanta'
CBSAName_OMB	Character	The government-issued CBSA or Division name, e.g., 'IL-Chicago-Joliet-Naperville'
CBSAorDIV	Number	The CBSA code (5-digit) for CBSAs without divisions but the division code for CBSAs with divisions, e.g., 26420 for Houston, TX
CensusDivFips	Number	The Fips code (5-digit) used for Census divisions (see CBSA)
CFRet	Number	Cash Flow income returns using NOI - CapEx
CVA	True or False	"True" if a reappraisal that quarter (sales excluded)
CVI	True or False	"True" if either a reappraisal or a sale
DebtServiceLag1	Number	Mortgage payment lagged one quarter
DebtServiceLag2	Number	Mortgage payment lagged two quarters
DebtServiceLag3	Number	Mortgage payment lagged three quarters
Denom	Number	The denominator used in the NPI formula
EndDate	Character	The end date (YYYYQ) for a property in the database. For unsold properties still in the database this will be the most recent quarter
Exp_Admin	Number	Detail Operating Data - administrative expense
Exp_Insur	Number	Detail Operating Data - insurance
Exp_MgtFee	Number	Detail Operating Data - management fee
Exp_Mktng	Number	Detail Operating Data - marketing expense
Exp_Mnt	Number	Detail Operating Data - maintenance
Exp_Other	Number	Detail Operating Data - other
Exp_Payrol	Number	Detail Operating Data - payroll
Exp_ProFee	Number	Detail Operating Data - property management fee
Exp_Tax	Number	Detail Operating Data - property taxes
Exp_Total	Number	Detail Operating Data - calculated total of the expense detail
Exp_Util	Number	Detail Operating Data - utilities
FirstReturnQtr	True or False	First quarter of returns whether NPI qualifying or not
GrossSalePrice	Number	The gross sale price for sold properties
Inc_BRent	Number	Detail Operating Data - Base rent
Inc_Cntgnt	Number	Detail Operating Data - Contingent income
Inc_Other	Number	Detail Operating Data - other
Inc_Reimb	Number	Detail Operating Data - Reimbursement income
Inc_Total	Number	Detail Operating Data - calculated total of the income detail
INCL_LV	Number	Property has leverage during the quarter
IncRet	Number	Income return
IncRet_Lag1	Number	Income return lagged 1 quarter
IncRet_Lag2	Number	Income return lagged 2 quarters
IncRet_Lag3	Number	Income return lagged 3 quarters
IncRet_Lag4	Number	Income return lagged 4 quarters
InitAcqCost	Number	The initial acquisition cost of the property

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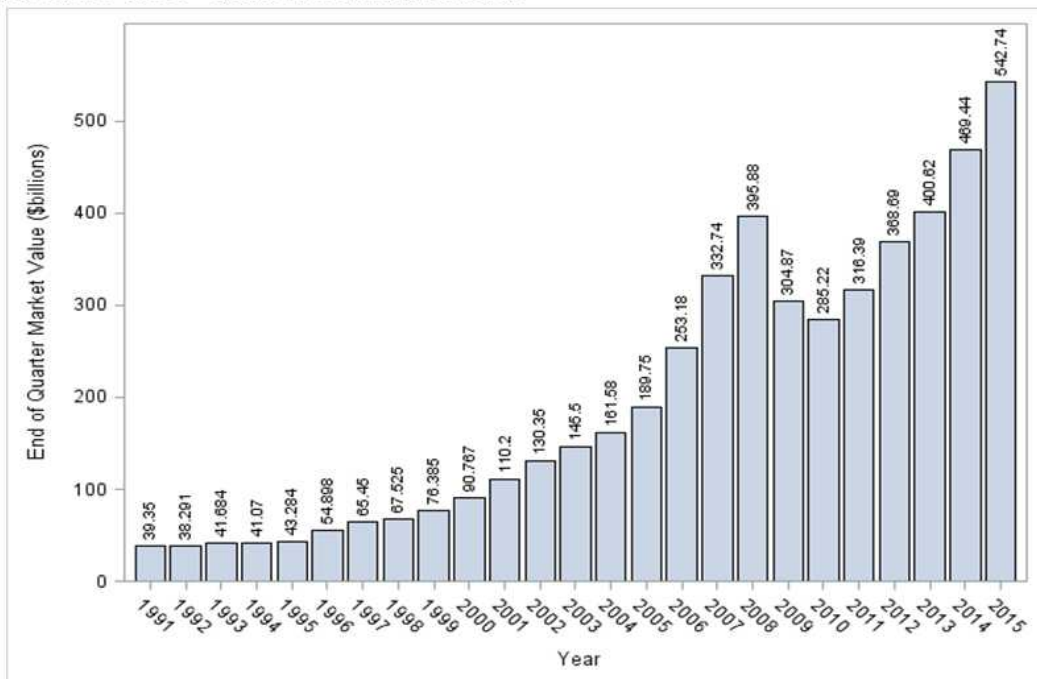
NCREIF Variable List (Continued)

Interest	Number	Interest payment on loans for leveraged properties
InvestorType	Character	The type of investor in property, e.g., "N" = Non-taxable
LastRenovatedYear	Number	The last year (YYYY) the property was renovated
LevAppRet	Number	Leveraged appreciation (capital) return
LevDenom	Number	Denominator used for leveraged return calculations
LevIncRet	Number	Leveraged income return
LevTotRet	Number	Leveraged total return
LifeCycle	Character	The property lifecycle, e.g., S for stabilized
LoanProceeds	Number	Proceeds from new financing
MSA	Number	The MSA code, e.g., 8280 for Tampa, FL
MVLag1	Number	Market value lagged one quarter
MVLag2	Number	Market value lagged two quarters
NetSalePrice	Number	The net sale price for sold properties
NoofBuildings	Number	The number of buildings
NoofFloors	Number	The number of floors
NoofUnits	Number	The number of units
NOI	Number	Net operating income reported for NPI
NOI_Calc	Number	Net operating income calculated from detail income and expenses reported
NOILag1	Number	NOI lagged one quarter
NOILag2	Number	NOI lagged two quarters
NOILag3	Number	NOI lagged three quarters
NOILag4	Number	NOI lagged four quarters
NRA	Number	Net rentable area
PartialSaleQtr	Number	Indicates a quarter (YYYYQ) the property sold if the sale was after the freeze of the NPI in the 4 th quarter of 2002. Starting the 1 st quarter of 2003 sales was handled as partial sales.
PercentLeased	Number	The percent leased (occupancy) (Between .00 - 1.00)
Principal	Number	Principal payment on loans for leveraged properties
PSales	Number	Partial sales (entire sale price after the freeze)
SaleCode	Character	The sale code for sold properties
SalePrice	Number	The sale price for sold properties - lower of net sale price or gross sale price
SaleQtr	Number	"True" if the quarter the property sold
SqFt	Number	The greater of net rentable area or gross square feet.
StartDate	Number	The start date (YYYYQ) for a property in the database which is one quarter before returns start
TotRet	Number	Total return (sum of income return and capital return)
TotRet_Lag1	Number	Total return lagged 1 quarter
TotRet_Lag2	Number	Total return lagged 2 quarters
TotRet_Lag3	Number	Total return lagged 3 quarters
TotRet_Lag4	Number	Total return lagged 4 quarters
TransCapRate	Number	The cap rate using NOI the quarter prior to the sale quarter for sold properties
TransCapRate4QNOI	Number	Transaction cap rate based on four quarter trailing NOI
Units	Number	Number of units, e.g. for an apartment property
ValuePerSF	Number	Market Value per Square Foot (calculated when SF available)
ValuePerUnit	Number	Market Value per Unit (calculated when units available, e.g., for apartments)
Yrbuilt	Number	The year (YYYY) the property was built
YrBuiltorLastRen	Number	The year (YYYY) built or the last renovated year

EStar_Rating	Number	Numeric rating/score (1-100 scale)
EStar_LabelYear	Number	Year in which the building received a rating of 75 or greater
LEED_Rating	Character	Rating system used to certify the property, e.g., Existing Buildings: Operations & Maintenance = "OM"
LEED_Certification	Character	The level of LEED Certification the project receives, e.g., Gold = "G"
LEED_Points	Number	The number of points achieved (1-110 scale)

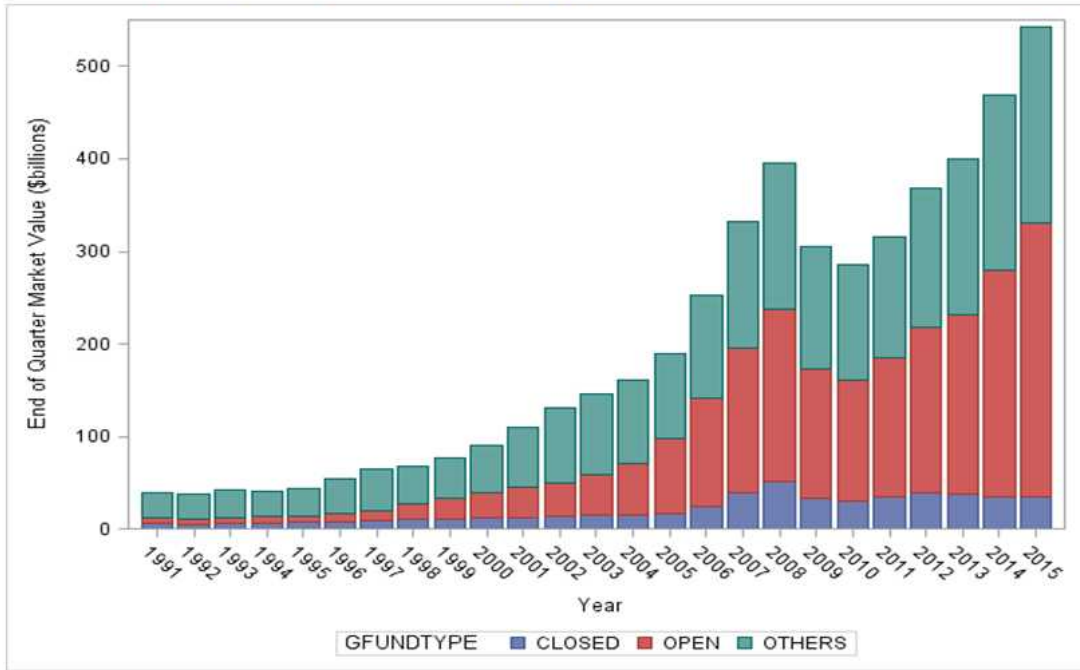
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NCREIF End of the 2nd Quarter Total Market Value



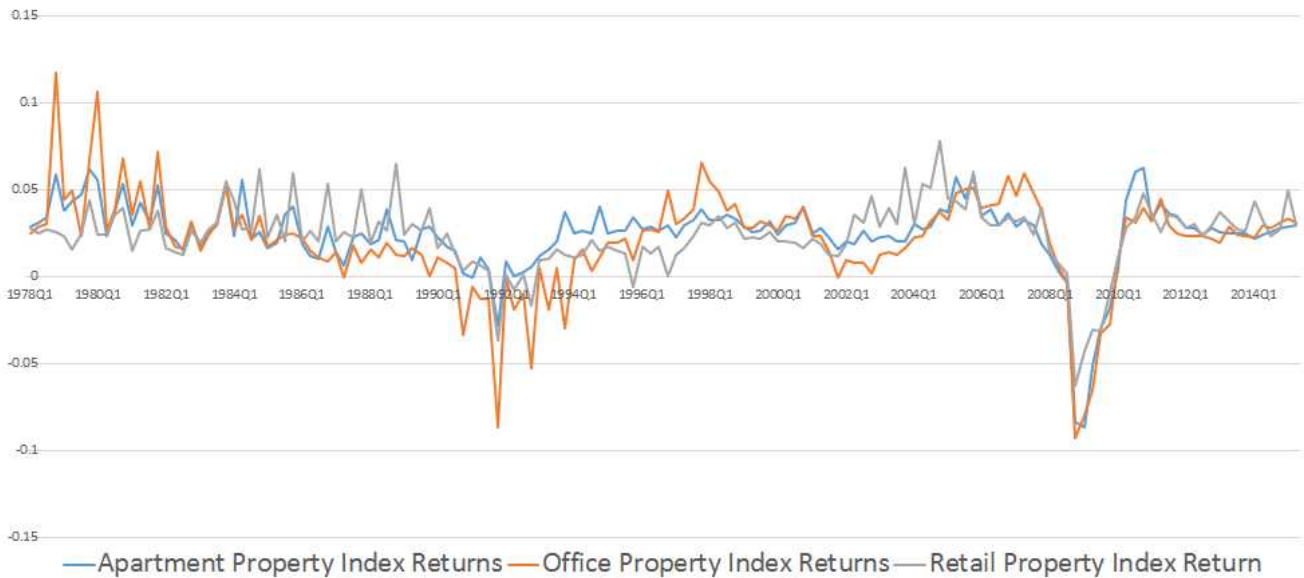
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NCREIF End of Quarter Market Value by Fund Type



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NCREIF Property Index Return by Property Type from 1978Q1 to 2015Q2 (to be used as market return for each property type)



Source: NCREIF Property Index

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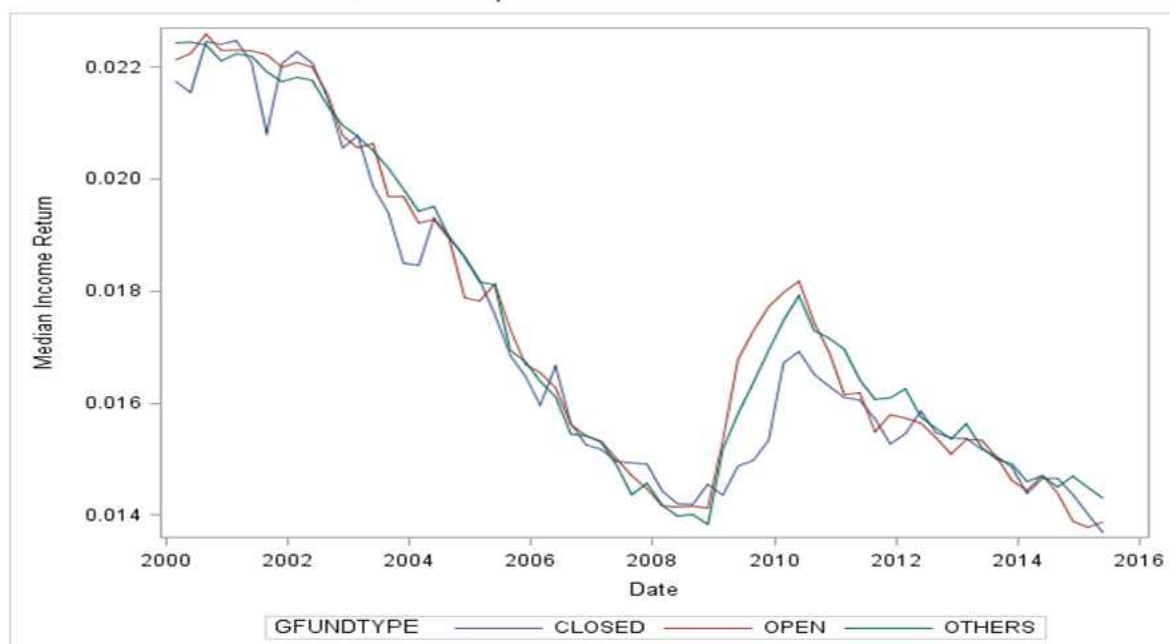
NCREIF: Number of Properties by Fund Type at the end of the 2nd quarter of 1999, 2008, and 2015

	Year		
	1999	2008	2015
Close End	282 (11.05)	1040 (12.95)	787 (8.41)
Open End	820 (32.12)	3813 (47.49)	4705 (50.25)
Others	1451 (56.84)	3176 (39.56)	3871 (41.34)
TOTAL	2553 (100)	8029 (100)	9363 (100)

() : %

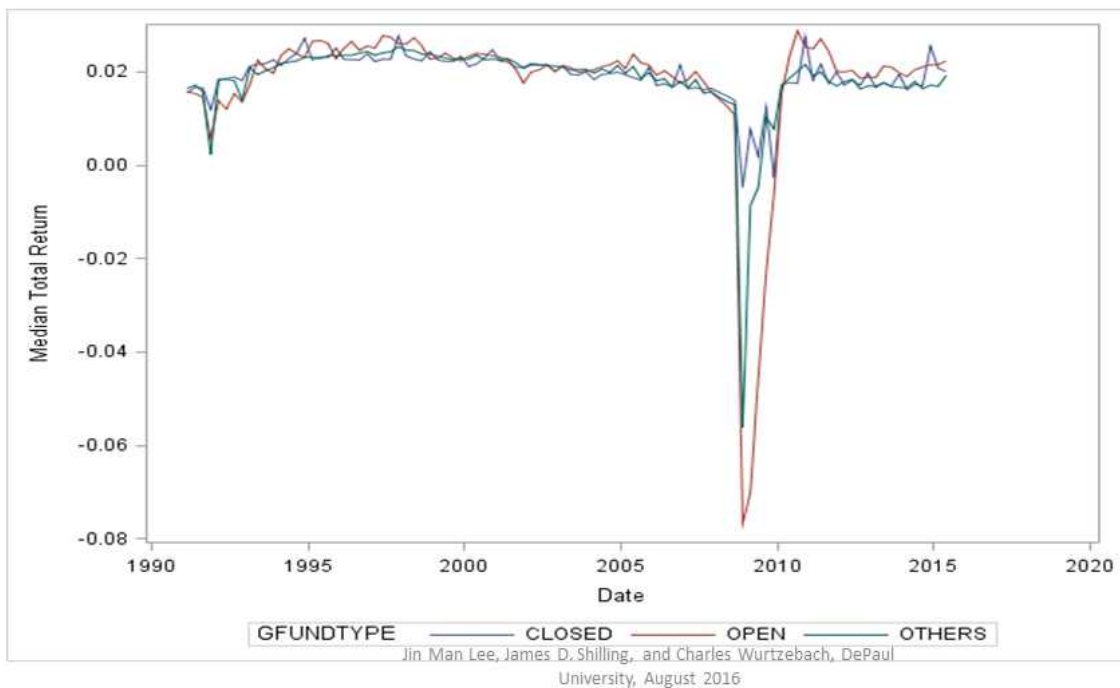
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NCREIF: Median Quarterly Return from Income



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NCREIF: Median Quarterly Total Return



NCREIF: Selected Samples for Risk and Return Analysis

- We select only properties that were sold in the sample periods (1970-2015 Q2)
- The sale prices of properties used to final values of properties.
- We include three property types: Apartment, Office, and Retail properties. There were 4,406 in total (1386 Apartment, 1849 Office, 1106 Retail Properties)

Background of Jensen's Alpha for Private Equity Funds

- Jensen's original time-series regression approach published in 1968 uses the Sharpe-Lintner CAPM approach (expected returns on assets are a linear function of their beta with the market portfolio) to estimate the abnormal performance and risk. Abnormal performance (or alpha) is the intercept in a regression of excess return against excess returns on the market and risk (or beta) is the slope coefficient.
- Empirically, this model (which generalizes to multifactor models such as the arbitrage pricing theory) has been used to estimate the over- and under-performance of a wide variety of assets, including stocks, bonds, direct and indirect real estate, private equity and hedge funds, and mutual stock funds.

Jin Man Lee, James D. Shilling, and Charles Wurtzbach, DePaul University, August 2016

이하 내용은 작성자의 요청으로 비공개

3. NCREIF 제공 자료(일부 첨부)

Global Real Estate Fund Index Q1 2016



ANREV

INREV

 **NCREIF**

Global Real Estate Fund Index (GREFI) Q1 2016

June 2016

Disclaimer

The Global Real Estate Fund Index is a distillation of information provided to ANREV, INREV and NCREIF by non-listed property vehicles in order to give a view on the performance of the non-listed property funds market over a particular period of time. It provides (and is only intended to provide) general information on any particular market featured. The Global Real Estate Fund Index does not represent or contain investment information on, or constitute advice in respect of specific funds or investments, nor should it be used as a basis for investment decisions. These are matters on which specific professional advice should be taken. To any person provided with information from the Global Real Estate Fund Index by a fund manager, please be aware that the information presented in the Fund Performance section reflects the benchmark criteria selected by the named fund manager and may not be representative of the fund's performance on any other basis.

We receive the information used to create the Index in good faith from a number of fund managers. As each fund manager may have compiled the information under a different accounting standard, the Index does not provide information in accordance with a particular accounting standard. We are not in a position to confirm its accuracy or completeness or whether it is representative of any particular market. ANREV, INREV and NCREIF have not verified the information received. We do not accept responsibility for any loss which may arise from any use of or reliance on the Global Real Estate Fund Index or its contents by any third parties

ANREV

INREV

 **NCREIF**

2

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Introduction

Welcome to the June 2016 update of the Global Real Estate Fund Index (GREFI). It is an index showing the performance of non-listed real estate funds on a global scale and is created by ANREV, INREV and NCREIF. This publication includes performance figures up to end Q1 2016.

The GREFI was updated for the first time on a quarterly basis following the first quarterly release of the ANREV Index for Q1 2014. From Q1 2014 onwards, the GREFI has been updated 12 weeks after the quarter end. This index release follows the same structure of previous releases. The technical specification has also been updated and all numbers are also available in an Excel file.

Overview

The GREFI Q1 2016 update release includes the performance of 472 funds compared to 430 funds as of Q4 2015. This difference is due to the higher number of funds delivering data in Asia Pacific and Europe. The GREFI includes funds in Asia Pacific, Europe, US as well as funds with a global strategy.

The GREFI returned 1.95% in Q1 2016 compared with 3.24% in the previous quarter. Asia Pacific outperformed the US and Europe over the quarter with a total return of 3.32% compared with 2.09% for the US and 1.25% for Europe. By style, non-core funds returned 2.44% over the quarter compared to 1.84% for core funds. With a quarterly total return of 3.35%, Asia Pacific core funds outperformed the overall GREFI followed closely by Asia Pacific non-core funds which returned 3.26%.

Global open end funds returned 1.97%. Asia Pacific open end funds returned 3.23%, outperforming US and European open end funds, which returned 3.23% and 2.56% respectively.

The aims of the GREFI are to improve transparency of real estate as an asset class and to help our members make better informed investment decisions. It is of paramount importance to the real estate industry that NCREIF, INREV and ANREV collaborate to produce robust global and intra region comparisons. This initiative represents the logical integration of our three member-driven non-profit organisations to meet the data collection and information needs of our members' expanding global activities; and to serve as the basis for further collaboration in the future.

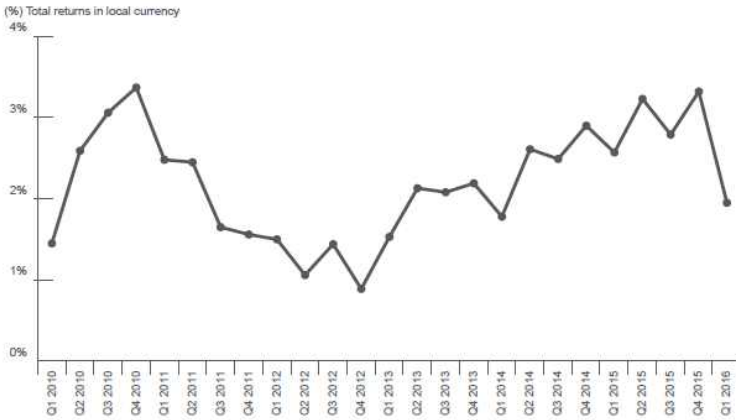
We hope this document will serve as a useful guide to the Global Real Estate Fund Index. As this publication is still in development we would appreciate your feedback on this initiative.

Please send your feedback on this release to henry.lam@anrev.org, alex.milojevic@inrev.org or ddierking@ncreif.org.

As the ANREV and INREV quarterly indices are still unfrozen historical figures may change in future updates.



All Funds Index



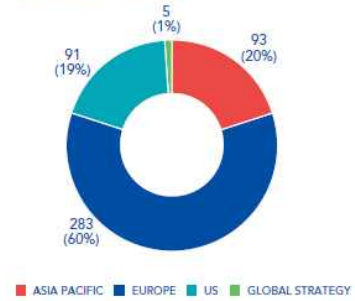
Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
All Funds	1.95	3.32	2.79	3.23	10.39	8.68
Asia Pacific	3.32	4.19	2.22	2.62	10.67	9.61
Europe	1.25	2.87	2.24	2.60	7.49	4.87
US	2.09	3.46	3.54	3.97	13.37	12.91
Global strategy	-0.21	2.78	-0.39	1.05	5.36	n.a.

*Rolling annualised

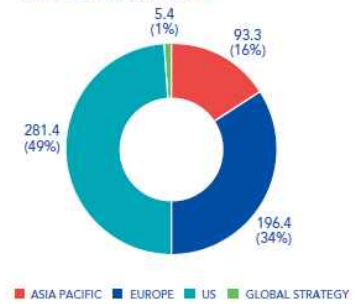


Other statistics as of December 2015

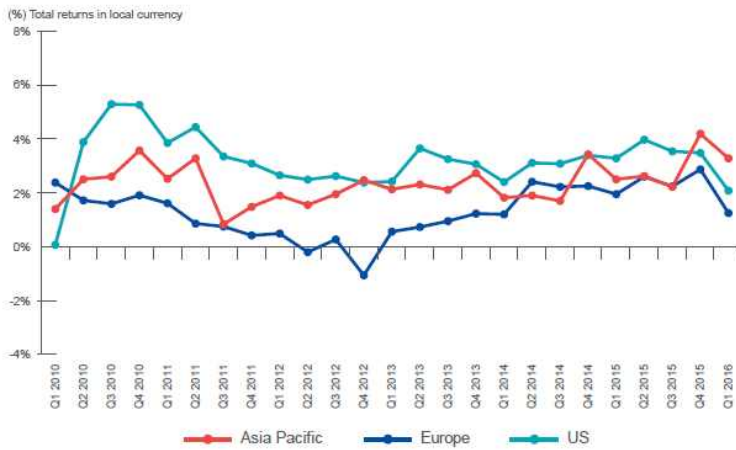
NUMBER OF FUNDS



TOTAL GAV (US\$ BILLION)



Regional Indices



Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
All Funds	1.95	3.33	2.79	3.23	10.39	8.68
Asia Pacific	3.32	4.19	2.22	2.62	10.67	9.61
Europe	2.60	2.24	2.87	1.25	7.49	4.87
US	3.97	3.54	3.48	2.08	13.37	12.91
Global strategy	-0.21	2.78	-0.39	1.05	5.36	n.a.

*Rolling annualised



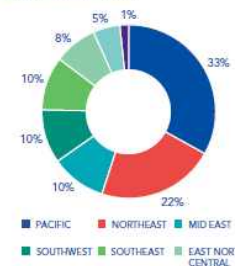
ALLOCATION ANREV INDEX (% OF CURRENT GAV)



ALLOCATION INREV INDEX (% OF CURRENT GAV)



ALLOCATION NCREIF INDEX (% OF CURRENT GRE*)

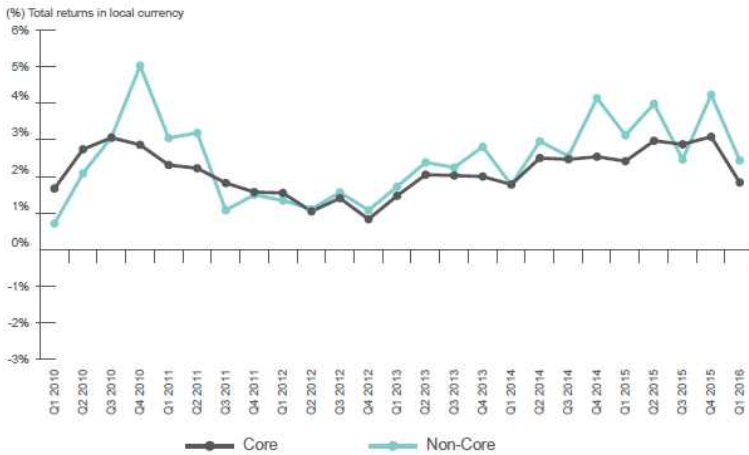


* Gross real estate



Core VS. Non-core Funds Indices

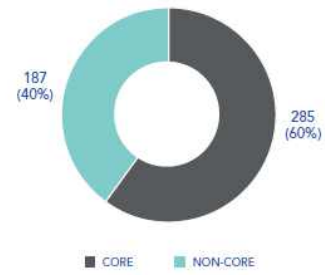
Other statistics as of December 2015



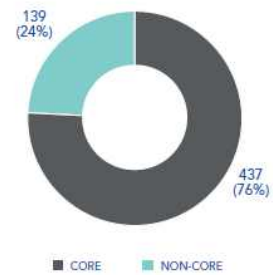
Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
All Funds	1.95	3.33	2.79	3.23	10.39	8.68
Core	1.84	3.08	2.88	2.97	9.85	8.33
Non-core	2.44	4.23	2.46	3.98	12.21	9.86

*Rolling annualised

NUMBER OF FUNDS



TOTAL GAV (US\$ BILLION)



Total returns	Global	Core	Non-core
Q1 2010	1.45	1.67	0.72
Q2 2010	2.59	2.74	2.08
Q3 2010	3.06	3.06	3.07
Q4 2010	3.37	2.86	5.02
Q1 2011	2.48	2.31	3.05
Q2 2011	2.45	2.22	3.19
Q3 2011	1.65	1.82	1.08
Q4 2011	1.56	1.57	1.50
Q1 2012	1.50	1.55	1.34
Q2 2012	1.06	1.05	1.11
Q3 2012	1.44	1.41	1.56
Q4 2012	0.89	0.83	1.08
Q1 2013	1.53	1.47	1.72
Q2 2013	2.13	2.05	2.38
Q3 2013	2.08	2.02	2.24
Q4 2013	2.19	2.00	2.81
Q1 2014	1.78	1.78	1.77
Q2 2014	2.61	2.50	2.96
Q3 2014	2.49	2.47	2.55
Q4 2014	2.90	2.54	4.14
Q1 2015	2.57	2.42	3.13
Q2 2015	3.23	2.97	3.98
Q3 2015	2.79	2.88	2.46
Q4 2015	3.32	3.08	4.23
Q1 2016	1.95	1.84	2.44

Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
ASIA PACIFIC	3.31	4.19	2.22	2.62	10.67	9.60
Core	3.35	4.92	3.40	3.31	12.15	10.80
Non-core**	3.24	2.67	-0.19	1.24	7.97	7.42

*Rolling annualised **Includes value added and opportunity funds

Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
EUROPE	1.25	2.87	2.24	2.60	7.49	4.87
Core	1.23	2.54	2.18	2.33	7.02	4.85
Non-core**	1.40	4.90	2.61	4.23	10.31	5.20

*Rolling annualised **Only includes value added funds

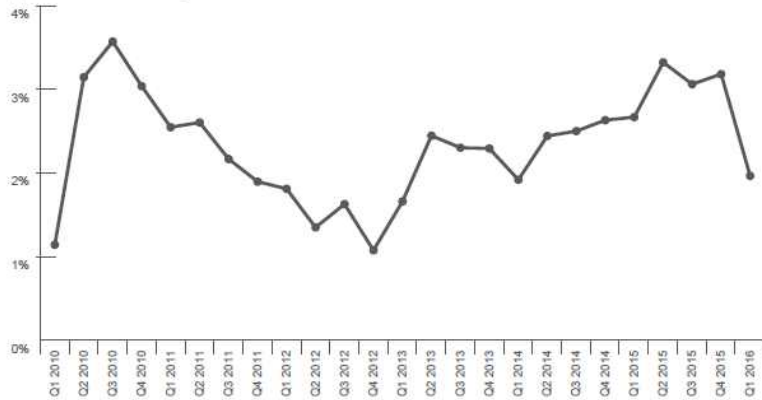
Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
US	2.09	3.46	3.54	3.97	13.37	12.91
Core	1.95	3.11	3.43	3.58	12.59	12.20
Non-core**	2.60	4.64	3.90	4.83	15.86	15.17

*Rolling annualised **Only includes core+/value added funds



Open End Funds Index

(%) Total returns in local currency

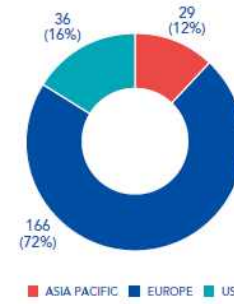


Total returns (%) as of March 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	3 years total return*	5 years total return*
All Funds	1.97	3.19	3.06	3.33	10.65	9.30
Asia Pacific	3.23	4.66	3.50	3.03	12.03	10.88
Europe	1.34	2.61	2.20	2.52	7.25	5.07
US	2.06	3.23	3.56	3.88	13.07	12.66

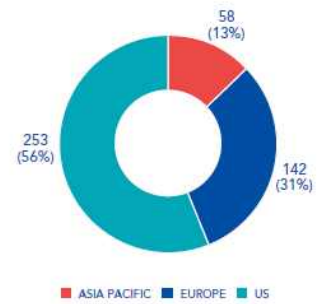
*Rolling annualised

Other statistics as of December 2015

NUMBER OF FUNDS

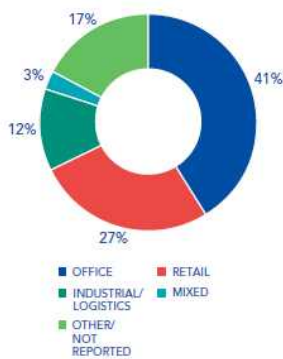


TOTAL GAV (US\$ BILLION)

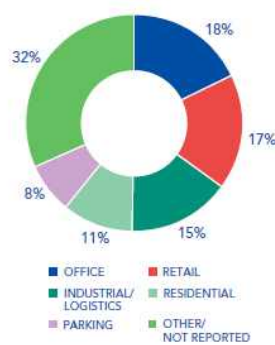


Sector allocations of regional indices

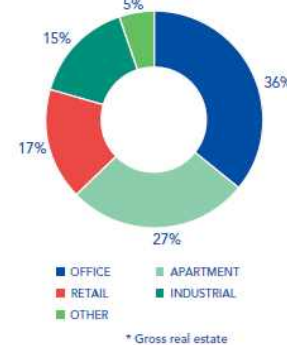
ALLOCATION ANREV INDEX (% OF CURRENT GAV)



ALLOCATION INREV INDEX (% OF CURRENT GAV)

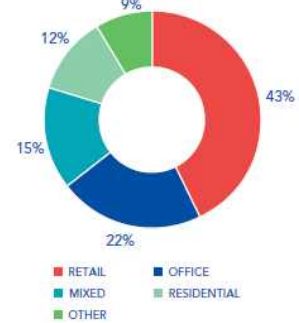


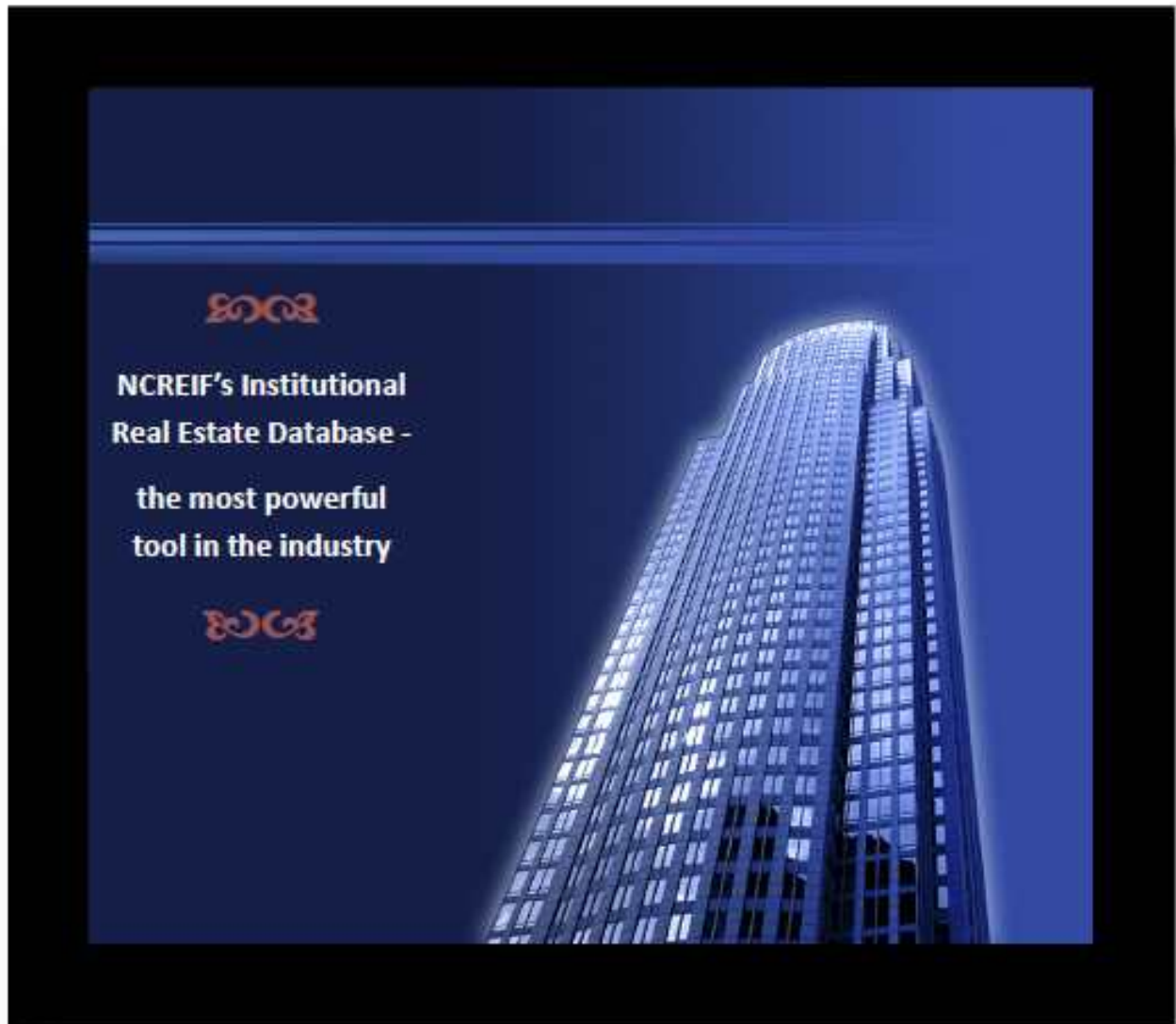
ALLOCATION NCREIF INDEX (% OF CURRENT GRE*)



* Gross real estate

ALLOCATION GLOBAL STRATEGY FUNDS (% OF CURRENT GAV)





NCREIF DATA, INDEX AND PRODUCTS GUIDE

2015

National Council of Real Estate Investment Fiduciaries



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HISTORICAL DATA TIMELINE

1977

NCREIF developed the NCREIF Property Index (NPI) that began in 4th Quarter 1977 and consisted of all-equity properties. The NPI included the following property types – Industrial, Office, and Retail

1984

The NPI expanded to include Apartments in 3rd Quarter 1984.

1986

Introduced the NCREIF Timberland Index in 4th Quarter 1986. As of 3q2012 the index consisted of 399 properties with a market value of over \$2.3B.

1990

Introduced the NCREIF Farmland Index in 4th Quarter 1990. As of 3q2012 the index consisted of 541 properties with a market value of over \$3.3B.

1995

Leveraged properties were added to the NPI on a de-leveraged basis with historical data being added back to 1982.

1997

Began breaking out the hotel returns in the NPI and publishing in all reports in 1st Quarter 1997.

2000

The database was expanded to include operating data fields as well as non-NPI qualifying properties which include taxable, land, development, and alternative property types such as self-storage, seniors housing, among others.

2005

Released the NCREIF Fund Index-Open End Diversified Core Equity (NFI-ODCE) with data going back to 1st Quarter 1978.

2008

Released the NCREIF-Townsend Fund Indices Report that includes data on Closed End, Value Added and Opportunity Funds.

2012

Released the NCREIF Fund Index – Open End Equity

Released the NCREIF Timberland Fund and Separate Account Index

PROPERTY LEVEL INFORMATION**PROPERTY DATABASE**

The historical NCREIF database goes back to the 4th Quarter 1977 and as of 1st Quarter 2015 consists of approximately 30,000 properties historically, and approximately 10,000 current properties. NCREIF collects 67 data fields each quarter that consist of financial information such as Market Value, NOI, Debt, and Cap Ex, as well as descriptor data such as Property Type and Subtype, Number of Floors, Square Footage, Number of Units, and Location.

NCREIF PROPERTY INDEX (NPI)

The flagship index of NCREIF is the NPI, which is a quarterly index tracking the performance of core institutional property markets in the U.S.

The objective of the NPI is to provide a historical measurement of property-level returns to increase the understanding of, and lend credibility to, real estate as an institutional investment asset class.

- Comprised exclusively of operating properties acquired, at least in part, on behalf of tax-exempt institutions and held in a fiduciary environment.
- Start date is the 4th Quarter of 1977; as of 2nd Quarter 2013 consisted of 7,099 properties with a gross fair market value of over \$336 billion. Each property's return is weighted by its market value.
- Includes properties with leverage, but all returns are reported on an unleveraged basis.
- Includes Apartment, Hotel, Industrial, Office and Retail properties, and sub-types within each type.
- A "composite" index defined by the membership of NCREIF analogous to the NYSE Composite Index based on the stocks listed on that exchange.
- Available geographically by Region, Division, State, CBSA, and Zip Code.
- Quarterly NPI data reports include:
 - Detail Report in a .pdf format that breaks the data down into three sections – Past 5 Quarters, Calendar Year, and Annualized Returns for all property types and sub-types by region, division and metropolitan area.
 - Detail Spreadsheets in a .csv format that provides quarterly returns back to inception on all property types and sub-types by region, division, state, and metropolitan area. Also includes returns for properties held only in NFI-ODCE funds or all Open End funds.
 - Performance "Glossy" Report that features articles on each of the property types, a quarterly overview Highlight article, and a variety of return series.
 - Manager-Specific Report
 - The ability to use the NCREIF query tool to create custom benchmarks of the NPI, including the ability for data contributors to exclude their own data.

PROPERTY LEVEL INFORMATION (CONT'D)

NPI TRENDS REPORT

The NCREIF Property Index Trends is a quarterly report that tracks the changes in both capitalization rates and net operating income (NOI). Within the quarterly NPI Trends spreadsheet file, the trends in capitalization rates or “cap rates” computed from the NPI properties sold each quarter are detailed across each major property type and major U.S. region. Data is shown both Equal Weighted and Value Weighted.

Currently, on average, around 500 properties within the NCREIF property database are sold each year. NCREIF collects information about these sold properties, including the gross and net sale price. In fact, when a property is sold, the actual sale price rather than the appraised value is used to incorporate that property’s performance in the calculation of the NCREIF Property Index (NPI).

While NCREIF does not suggest that these capitalization rates be used to estimate the value of a particular property, they are a valuable source of trends in property values. There is no other database in existence that includes the depth of history on capitalization rates for institutionally owned investment real estate where the capitalization rates are based on actual sales rather than investor surveys.

In addition to these capitalization rates, vacancy rates are presented by property type and by region. Also included is the calculation of the percentage change in the aggregate Net Operating Income (NOI) among each quarter’s set of properties, as well as other measures that would help identify trends in real estate income property.

OPERATIONS BENCHMARKS

NCREIF began collecting operations data in 2000 and the data can be accessed in the NCREIF online query tool. The query tool does not currently allow for same-store operations analysis, but in 2011 NCREIF released Operations Benchmarks for same-store analysis on both properties held in the NPI as well as those held in the NFI-ODCE. The data includes four subcategories within income and eight categories within expense, as well as four capital expenditures subgroups.

Capital Expenditures Fields

Acquisition Costs
 Building Improvements
 Leasing Commissions
 Tenant Improvements

Income Fields

Base Rent
 Contingent Rent
 Reimbursement Income
 Other

Expense Fields

Administrative
 Marketing
 Utilities
 Maintenance
 Insurance
 Management Fee
 Property Taxes
 Other

PROPERTY LEVEL INFORMATION (CONT'D)

NCREIF TIMBERLAND AND FARMLAND PROPERTY INDICES

There are many NCREIF members that have Farmland and Timberland properties under management that are held on behalf of tax-exempt institutions. These managers report their income and market value data to NCREIF each quarter and NCREIF produces an Index on these properties. The Timberland managers also report their data on a fund-level to NCREIF each quarter for the newly released Timberland Fund and Separate Account Index.

The NCREIF Farmland Index inception date is First Quarter 1991 and the inception date for the NCREIF Timberland Index is First Quarter 1987.

Quarterly data reports include:

- Detail Report in .pdf format that consists of return data by region in three sections – Past 5 Quarters, Calendar Year, and Annualized Returns.
- Detail Spreadsheet in .xls format that consists of all quarterly returns back to inception.

FUND LEVEL INFORMATION**FUND DATABASE**

The historical NCREIF fund database goes back to the 1st Quarter 1978 and as of 3rd Quarter 2012 consists of data on 310 funds of which 21 are Core, 90 are Value Added, and 200 are Opportunistic.

NCREIF FUND INDEX – OPEN END DIVERSIFIED CORE EQUITY (NFI-ODCE)

The NFI-ODCE is a capitalization-weighted, gross of fee, time-weighted return index with an inception date of December 31, 1977. Supplemental data is also provided, such as equal-weight and net of fee returns, for informational purposes and additional analysis. As of 2nd Quarter 2013 the index included 19 funds.

Open-end Funds are generally defined as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests, thereby providing a degree of potential investment liquidity. The term Diversified Core Equity style typically reflects lower risk investment strategies utilizing low leverage and generally represented by equity ownership positions in stable U.S. operating properties.

The NFI-ODCE, like the NCREIF Property Index (NPI) and other stock and bond indices, is a capitalization-weighted index based on each fund's Net Invested Capital, which is defined as Beginning Market Value Net Assets (BMV), adjusted for Weighted Cash Flows (WCF) during the period. To the extent WCF are not available, which may be the case for older liquidated funds, BMV is used. Indices are typically capitalization-weighted, as they better represent the universe and the performance of the overall marketplace. Total Return of any capitalization-weighted index is, therefore, more influenced by the larger funds (based on Net Invested Capital) included in the index.

Additional information, such as the equally-weighted NFI-ODCE, is also presented to show what the results would be if all funds were treated equally, regardless of size. This presentation is typically used for statistical purposes and peer-to-peer comparisons.

Quarterly NFI-ODCE reports include:

- Snapshot Report – a two page report published on a preliminary basis 8 business days following quarter-end, and a final basis 30 days following quarter-end, with NFI-ODCE Index returns for current and previous quarters and annualized periods including 1, 3, 5, 10 years and since-inception. Returns are presented on a gross and net of fee basis, as well as on a value-weighted and equal-weighted basis. Stock, Bond and other market indices are also shown.
- Detail Report in a .pdf file which is a 16 page detail report published at month-end following quarter-end that shows returns, risk measures, percentiles, balance sheet, cash flows, occupancy and diversification by property type and region. An Index fund list, Index Policy and Glossary of Terms are also included.
- Detail Spreadsheet in a .xls file which shows a quarterly return series, as well as other relevant data and statistics for the index, and percentiles since inception.

See Page 9 for NFI-ODCE Index Policies.

FUND LEVEL INFORMATION (CONT'D)**NCREIF FUND INDEX – OPEN END EQUITY (NFI-OE)**

The NCREIF Fund Index – Open-End Equity (NFI-OE) was released in 2012 with data going back to 1st Quarter 1978. As of 3rd Quarter 2012 it contains 47 open end funds (27 active and 20 historical).

NFI-OE is an aggregate of open-end, commingled equity real estate funds with diverse investment strategies. Funds comprising NFI-OE have varied concentrations of sector and region, core and non-core, leverage and life cycle. Accordingly, NFI-OE is not a performance benchmark. It is a market index of real estate vehicles with provisions for liquidity. The NFI-ODCE is a subset of the NFI-OE.

The NFI-OE is reported on a capitalization-weighted, leveraged, gross of fee, time-weighted returns basis. Also provided are aggregate net of fees returns and equally-weighted returns.

See Page 10 for NFI-OE Index Policies.

NCREIF FUND INDEX – CLOSED END VALUE ADD INDEX (NFI-CEVA)

In 2013 this report was created to replace the NCREIF-Townsend Fund Indices. The CEVA is currently in preliminary status and is comprised of 38 Closed-End Value-Add funds totaling \$22B in real estate.

NCREIF TIMBERLAND FUND AND SEPARATE ACCOUNT INDEX (NTFSAI)

The NCREIF Timberland Fund and Separate Account Index represents time weighted returns. Index inclusion criteria consist of the following policies:

- Commingled funds and individually managed separate accounts, held in a fiduciary setting for any combination of tax-exempt and taxable investors.
- At least 90% of a fund's net asset value must be comprised of timber, timberland, timber deeds, leases, cutting rights (non-fee ownership) and cash equivalents, without regard to geographic ownership.
- Funds must be invested at least 95% in the United States.
- Fund properties must be externally valued at least annually in accordance with USPAP standards.

See Page 11 for NTFSAI Index Policies.

GLOBAL FUND INDEX

Currently under development between NCREIF, INREV and ANREV is an annual Global Fund Index. There will be a presentation made during the NCREIF Fall Conference in Miami November 16, 2013 with the inaugural release information.

OTHER PERFORMANCE TOOLS AND INFORMATION**NCREIF TRANSACTION BASED INDEX (NTBI)**

The NTBI is an equal-weighted transaction and appraisal index while the NPI is a value weighted index calculated using appraised values. Neither one is right or wrong. They are two different methods of creating indices to track the real estate market. A value weighted index treats the NPI as a complete population or portfolio of all properties in the "universe" held by members whereas an equal weighted index views the properties in the NPI as a sample from a broader population of commercial real estate since only a small portion of properties in the NPI transact each quarter and are included in the NTBI. Not all properties that transacted in the NPI are included in the NTBI. They must be in the NPI a minimum of four quarters and the square footage must match for the current and two prior quarters (no additional capital expenditures to enhance the building).

NCREIF DATABASE CUSTOM QUERY TOOL

The custom query tool allows users to create their own custom benchmarks or datasets. There are two datasets that can be queried:

Research Database – Includes data received from members for all properties, regardless of whether those properties qualify for inclusion in the NPI including taxable or alternative property types such as self-storage or seniors housing.

NPI Database – Includes data only for properties that qualify for inclusion in the NPI. This is the data that is used to prepare the variety of reports generated quarterly by NCREIF.

The query tool uses property level information that is collected, as well as aggregate data derived from it, to respond to specific queries from users for particular sets of information. Because of its ability to combine submitted data and derived data, the NCREIF Query Tool is a very powerful and productive application in the hands of users who understand the nature of the data and the many ways it can be used.

Specific queries available include but not limited to:

- NPI Returns
- NPI Returns Cash Flow
- NOI Growth
- Percent Leased by Quarter
- Leveraged NPI
- Value Per Square Feet
- Equal Weighted NPI Returns with Standard Deviation
- Capital Expenditures Detail
- Income & Expense Details
- Transaction and Appraisal Cap Rates

The information generated from the queries can be viewed at the national, property type, property subtype, region, division, metro area and many others.

NCREIF PERFORMANCE RETURNS WORKBOOK

A publication that summarizes the collected knowledge relating to performance returns in a comprehensive document; standardizes the calculation of returns in the institutional real estate industry through the collection and presentation of formulas and calculations; and provides suggested guidance for the execution of the calculations presented in the Workbook through the use of examples and spreadsheet templates. FYI – NCREIF hosts several seminars each year to walk students through the workbook utilizing their laptops.

SUMMARY OF DATA REPORTS AND TOOLS

PROPERTY LEVEL

- NCREIF Property Index (NPI)
 - Detail Report consisting of returns in three sections – Past 5 Quarter, Calendar Year, and Annualized.
 - Detail Spreadsheets consisting of quarterly returns back to inception, broken down by all property types and geographic sectors. Also includes properties held only in NFI-ODCE or all Open End funds.
 - Performance Report – “Glossy” publication that consists of Highlight articles on the various property types and quarterly indices.
- NPI Trends Report
 - Quarterly Spreadsheet showing the trends in capitalization rates or “cap rates” computed from the NPI properties sold each quarter, and are detailed across each major property type and major U.S. region.
- NCREIF Timberland Quarterly Index
 - Detail Report consisting of returns in three sections – Past 5 Quarter, Calendar Year, and Annualized.
 - Detail Spreadsheet consisting of quarterly returns back to inception, broken down by geographic sectors.
- NCREIF Farmland Quarterly Index
 - Detail Report consisting of returns in three sections – Past 5 Quarter, Calendar Year, and Annualized.
 - Detail Spreadsheet consisting of quarterly returns back to inception, broken down by all property types and geographic sectors.
- NCREIF Operations Data Benchmarks
 - Quarterly Spreadsheet consisting of data on income, expense and cap ex data.

FUND LEVEL

- NCREIF Fund Index – Open End Diversified Core Equity (NFI-ODCE)
 - Preliminary and Final Snapshot Report – 1 page of high-level overview returns.
 - Detail Report in a .pdf format showing returns, risk measures, percentiles, balance sheet, cash flows, occupancy and diversification by property type and region.
 - Detail Spreadsheet which shows a quarterly return series, as well as other relevant data and statistics for the index, and percentiles since inception.
- NCREIF Fund Index – Open End Equity (NFI-OE). Includes a Snapshot Report, Detail Report and Detail Spreadsheet.
- NCREIF-Townsend Fund Indices. Reported in a .pdf file.
- NCREIF Timberland Fund and Separate Account Index. Includes a Detail Report and Detail Spreadsheet.
- Global Fund Index – NCREIF/INREV/ANREV – coming in 2014!

OTHER

- NCREIF Transaction Based Index – Quarterly Spreadsheets detailing returns on sold properties. Shown both Equal Weighted and Value Weighted.
- NCREIF Custom Database Query Tool – Online query capability to create custom data series!
- NCREIF Performance Returns Workbook - A publication that standardizes the calculation of returns in the institutional real estate industry through the collection and presentation of formulas and calculations.

NFI-ODCE INDEX POLICIES

- 1 The Fund Index Data Contributing Manager (FIDCM) must be an investment management company offering an open-end fund product that is operated for institutional investors and available to U.S. Defined Benefit Plans.
- 2 The fund must be marketed as an open-end fund. If at any time a fund closes to new contributions and redemptions, NCREIF Staff will have the discretion to discontinue the fund in the Index (historical data will remain in the Index). All exclusions and deletions will be reported to the Board of Directors with adherence to the NCREIF data masking criteria to allow for review.
- 3 Subject to meeting Index criteria, the fund will be included for the first full period of operations. Initial and ending partial quarters of the fund will not be included.
- 4 The fund must market itself as a diversified core investment strategy, primarily investing in private equity real estate, as follows:
 - Real Estate – at least 80% of market value of net assets is invested in real estate [no more than 20% of such assets invested in cash and/or cash equivalents]
 - Investments – at least 80% of market value of real estate net assets in private equity real estate properties [no more than 20% of such assets invested in, but not limited to, property debt, public company equity/debt or private company (operating business) equity/debt]
 - Domain – at least 95% of market value of real estate net assets in US markets
 - Property Types – at least 80% of market value of real estate net assets invested in office, industrial, apartment, and retail property types
 - Life Cycle – at least 80% of market value of real estate net assets invested in operating properties [no more than 20% of such assets invested in, but not limited to, (pre)development/redevelopment or initial leasing/lease-up cycles]
 - Leverage – no more than 40% leverage. Leverage is defined as the ratio of total debt, grossed-up for ownership share of off-balance sheet debt, to the fund's total assets, also which are grossed-up for such off-balance sheet debt.
 - Diversification – no more than 65% (± for market forces) of market value of real estate net assets in one property type or one region as defined by the NCREIF Property Index ("NPI")
- 5 The fund must comply with the NCREIF Real Estate Information Standards; including annual audits, quarterly valuations and time-weighted returns. Further, the fund must submit information in accordance with the NCREIF Fund Data Collection and Reporting Manual (timely, accurate and industry compliant data is required).
- 6 The Policy of ODCE is that turnover in the Index should be limited and avoided when possible. If any criteria as specified in ODCE policy number 4 are violated during a quarter, a NCREIF Executive Staff member will discuss the circumstances (temporary vs. permanent change) with the fund's portfolio manager. After four consecutive quarters of criteria violation, the NCREIF Executive Staff will have responsibility to decide whether or not to exclude the fund from the Index. That said, if the violation is a result of a permanent fund management or strategy change, the NCREIF Executive Staff will have the ability to waive the four consecutive quarter requirement and begin exclusion procedures from the index at any time. In all cases a removal decision will be made by the NCREIF Executive Staff after consultation with the NCREIF Executive Management Committee. As soon as a Fund violates ODCE policy number 4, the NCREIF Executive Staff will notify the designated representative of the fund to discuss the non-compliance issue and reiterate that compliance is required to stay in the Index. If the NCREIF executive staff decides to remove a violating fund from ODCE, NCREIF will give the fund at least one full quarter notification of the pending exclusion (called the NCREIF Exclusion Notice). Once a NCREIF Exclusion Notice has been issued, the fund has until the end of that next quarter to achieve compliance and must further remain in compliance for at least the following four consecutive quarters to diffuse the issued exclusion notice. If not, the fund may be removed from the index calculations in the quarter following the NCREIF Exclusion Notice's removal date or in any of the following four quarters if noncompliance returns, as directed by the NCREIF executive staff. Removal decisions with an explanation for removal will be communicated to the NCREIF Board of Directors with adherence to the NCREIF data masking criteria, to allow for review and consideration of appropriate disclosure with reports.
Re-inclusion Criteria: The NCREIF Executive Staff will have the responsibility to decide to allow a fund that has been removed from ODCE to reenter the Index if the fund has complied with the ODCE Index policy number 4 inclusion criteria for a minimum of four consecutive quarters, demonstrating the fund's ability to maintain compliance going forward. If future like-violations occur, and the NCREIF Executive Staff determines that the fund is not compliant with the spirit of the Index criteria, exclusion procedures from the index can be brought forth at any time.
- 7 FIDCM must supply preliminary snapshot data within 5 to 11 business days following quarter-end as well as final quarterly data to NCREIF by the 25th day of the month following quarter-end, thereby allowing NCREIF appropriate time to review, calculate and analyze the results prior to releasing the final Index at the end of the month after quarter-end. NCREIF will require approval/sign-off of individual fund data prior to publication. If data is not submitted on time, then NCREIF will recommend to the NCREIF Board whether to delay or release the Index. FIDCM also must provide NCREIF with flash, quarterly and annual reports of each fund, when available. The preferred format is electronic; however, hard copies will be accepted. General Index information in the aggregate will be available through NCREIF's website, www.ncreif.org. Individual fund-level information will not be made available to the public.

NTFSAI (NCREIF TIMBERLAND FUND AND SEPARATE ACCOUNT) INDEX POLICIES

Methodology

- Index Returns represent time-weighted returns as are generally reported to investors by the managers of the funds.
- Each fund's performance is weighted by its average market value equity for the value-weighted Index. Published reports may also contain equal-weighted and net of fee returns.
- Net of Fee returns reflect the impact of all investment advisory fees (including paid and unpaid performance incentive fees).
- Returns are based on market value equity and are therefore leveraged to the extent of debt used by each fund.
- New funds are included in the Index as Index criteria are met. A fund's initial partial quarter, if any, is not included.
- Funds are removed from the Index if they continue to fail to meet the Index criteria on a recurring basis (generally 4 or more quarters depending upon facts or circumstances) or if the fund is liquidated or terminated. A fund's final partial period, if any, is not included in the Index. When funds are removed from the Index their historical data remains.
- All data will be reported at an aggregate level with masking criteria of at least 3 managers and 3 funds. Individual fund performance will never be disclosed.
- NCREIF staff has the responsibility to see that the above policies and criteria are being adhered to.

Rates of Return

- **Gross Return:** Total fund return, before deductions for investment advisory fees, as reported to investors.
- **Net Return:** Total fund return, net of all investment advisory fees (including paid and unpaid performance incentive fees), as reported to investors in quarterly financial statements.
- **Annual and Annualized Returns:** Computed by chain-linking (compounding) quarterly rates of return to calculate time-weighted rates of return for the annual and annualized periods under study. For periods over one year, returns are expressed on a geometric average return per year basis.
- All returns include the impact of leverage.

Data Collection

- All information presented is based on data provided by the managers.
- NCREIF does not calculate any individual fund's returns or other data points.
- At the conclusion of every quarter the manager data contact will receive an email from NCREIF requesting submission of the fund data. The completed data must be submitted no later than the 45th day of the month following the end of each quarter.
- The Index will be released on or about the 50th day following quarter-end.
- The Index will not be released until all active funds have been reported.
- The Index will allow historical changes to the database for the first year of the Index (2012).
- Once the one year period has been reached (q1 2013), the database is considered frozen. No changes are to be made to the history. Any significant changes will be discussed and voted on by the contributing members.
- If a new member joins NCREIF, only current quarter data will be added. Historical fund data will not be added.

DATA PRODUCT SUBSCRIPTIONS**NCREIF MEMBERS**

NCREIF members are able to access the data and products on the NCREIF website in the Member Login area.

NON-NCREIF MEMBERS

Non-NCREIF members may purchase access to the data and/or products provided they do not qualify for data contributing membership of NCREIF.

DATA PRODUCT PRICING 2014

Non-NCREIF members may purchase access to the data and/or products provided they do not qualify for data contributing membership of NCREIF. *Please contact the NCREIF office to subscribe to the data at (312) 819-5890.*

NCREIF Website Database Access - \$10,000 annually

- Provides access to all property and fund data products, including the query tool.

NCREIF High-Level "Glossy" Quarterly Performance Report - \$2,000 annually

- Includes summary data and overall and sector articles authored by staff and members.

NCREIF Property Indices Data Package - \$5,000 annually

- Includes access to the reports and spreadsheet files for all property indices.

NCREIF Fund Indices Data Package - \$5,000 annually

- Includes access to the reports and spreadsheet files for all fund indices.

NCREIF Timberland Indices Only Data Package - \$1,500 annually

- Includes access to the reports and spreadsheet files for the timberland property and fund indices.

NCREIF Farmland Index Only Data Package - \$1,000 annually

- Includes access to the report and spreadsheet files for the farmland property index.

NCREIF Performance Returns Workbook - \$50 each

NCREIF PROPERTY INDEX AND PROPERTY DATABASE

DATA COLLECTION AND REPORTING PROCEDURES MANUAL

REVISED November 2014



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Introduction

Welcome to the National Council of Real Estate Investment Fiduciaries (NCREIF) data submission process. This manual is your comprehensive guide to the data collection and reporting procedures employed by NCREIF in the production and maintenance of the NCREIF Property Index (NPI), other NCREIF Indexes, Reports, Internet tools, and the general NCREIF Property Database (NPD, or, the Database). The manual provides step-by-step instructions on:

- Initial Property Submission
- Quarterly Data Submission
- Property Disposition Submission

You will find within this manual all of the procedures and illustrations of all screens used to submit property data. Contact the NCREIF office if you have any questions regarding any portion of the data submission procedure. There is also valuable information in the appendices, including a 'Commonly Asked Questions' section.

It is our intent to make this manual compatible with the Real Estate Information Standards (REIS). However, the REIS is an ever-changing document, and inconsistencies may occur. These items will be addressed on an ongoing basis as we periodically revise this data collection manual.

Please take the time to read this manual thoroughly, and always feel free to contact our office with any questions you may have.

NCREIF Contacts

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Qualifying as a Data Contributing Member

In order for your company to maintain status as a Data Contributing Member, you must report quarterly on all properties whether eligible for the NCREIF Property Index (NPI), the general NCREIF Property Database (NPD), or both.

NPI Qualifying Data Contributing Members are investment managers that manage or own institutional real estate that qualifies for inclusion in the NPI, with a market value of at least \$50 million held in a fiduciary, tax-exempt setting.

Non-NPI Qualifying Data Contributing Members are investment managers or other corporations who own or manage institutional real estate with a market value of at least \$50 million in a fiduciary setting, but do not currently own or manage properties qualifying for inclusion in the NPI (see next page for qualifying criteria), but with data qualifying for the NPD.

As a condition of membership, all members must contribute, upon request, data relating to their entire publicly and privately held institutional real estate investments to the NCREIF Property Database.

General Definition of a NCREIF Property Index-Qualifying Property

To qualify for inclusion in the NCREIF Property Index, a property is:

- Operating
- Acquired, at least in part, on behalf of tax-exempt institutions and held in a fiduciary environment.
- In the Apartments, Hotel, Industrial, Office, or Retail property types.
- Accounted for in a manner substantially in compliance with the NCREIF Market Value Accounting Policy Manual.*
- Valued at least quarterly (internally or externally) and externally appraised at a minimum of once every three years.

A full list of qualifying property characteristics for inclusion in the NCREIF Property Index and the general NCREIF Property Database can be found in *Appendix 1*.

* The Market Value Accounting Policy Manual was established in the mid-1980s when the NCREIF Accounting Committee undertook the summarization of the accounting and reporting practices used in the institutional real estate investment industry. It can be found in the Real Estate Information Standards (REIS) document. The current version of the REIS can be found on our web site at www.reisus.org under the Standards & Guidance tab.

Reports and Products Received

Once quarterly data has been collected and processed, NCREIF releases a wide variety of data products. As a Data Contributing Member of NCREIF you are entitled to receive all of the products via the Data Access Login area of the NCREIF website. The Data Access site also has query screen features to dissect and customize the NPI data and also the Operating Database.

For more information on other NCREIF products, please contact the NCREIF office or website.

History of the NCREIF Indexes

Although June 17, 1982 marks the official beginning of NCREIF, the difficult task of uniting a highly competitive industry actually began in the late 1970s. Following several meetings, 14 investment managers agreed in principle to form a nonprofit entity to foster research on the asset class. This led to the development of a database consisting of property-level operating information.

Working with the Frank Russell Company, a joint venture was formed in 1982 that provided NCREIF with the means for the collection, verification, and publication of what was then known as the FRC Property Index. The Property Index, then as today, measures rates of return for institutionally held real estate investments. Two of the primary purposes for constructing the Property Index are to measure changes in real property values and in net operating income. History was loaded into the Database as far back as the first quarter of 1978.

In 1987, NCREIF began tracking property-level information on and producing performance results for a set of properties that were financed in excess of five percent of their gross market value. This led to the development of the Leveraged Property Database.

Over the next few years, NCREIF's index distribution and membership continued to increase. In 1991 the name of the index was modified to the Russell-NCREIF Property Index to reflect NCREIF's identity as the owner of the data.

In 1992, NCREIF's Research Committee began researching the possibilities of producing a "Combined Index." This project amounted to combining the performance results of properties in the Russell-NCREIF Property Index with those in the Leveraged Property Database in an effort to evaluate market-value-weighted performance results based on a substantially expanded set of data. Preliminary results were generated in the first quarter of 1992.

During 1994, it was mutually determined between NCREIF and the Frank Russell Company that NCREIF had evolved to the point where it should take over production of the growing NCREIF indexes. Thus, on January 1, 1995, thirteen years after its inception, NCREIF assumed full responsibility for the Property Index, its publication and distribution. The Inaugural Issue of the NCREIF Property Index was distributed in the first quarter of 1995.