
글로벌 연기금의 대체투자 전망 및 시사점

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한국금융연구원

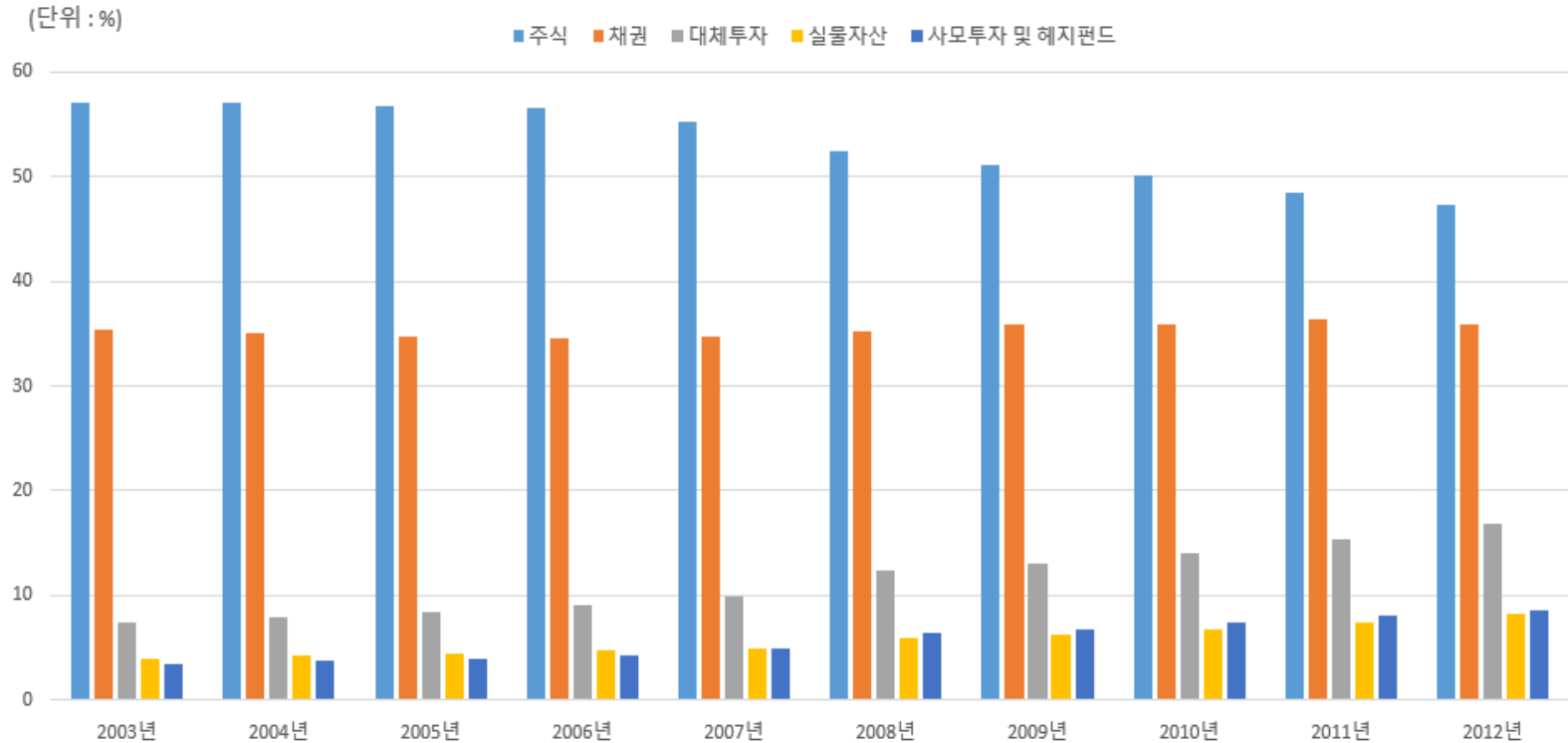
2015. 9

주요 내용

- **글로벌 연기금의 대체투자 현황**
- **대체투자 자산별 트렌드 및 이슈**
- **NPS와의 비교 및 대응전략**

Asset allocation trends of global pensions

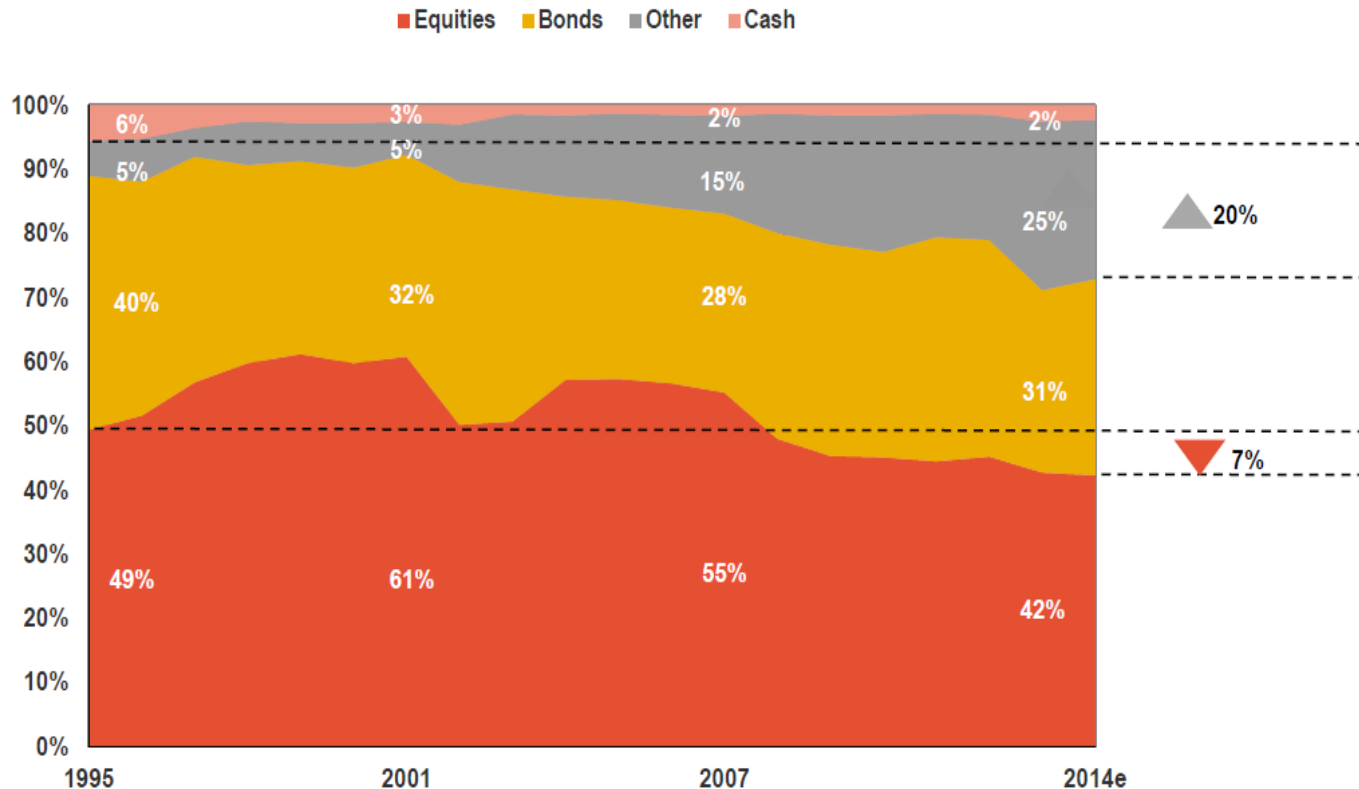
글로벌 연기금의 자산배분 추이



출처 : CEM Benchmarking Inc.

Asset allocation trends of global pensions

Aggregate P7 asset allocation from 1995 to 2014

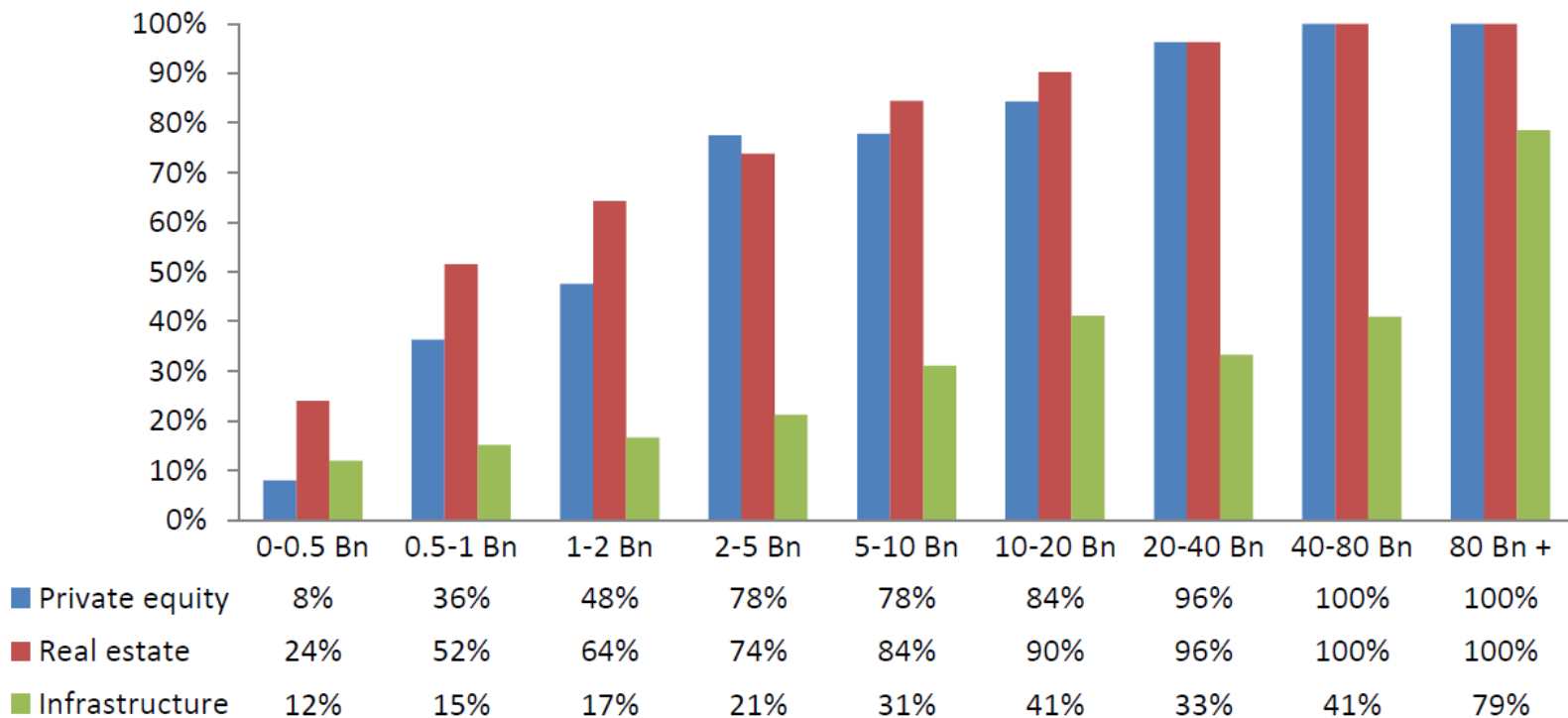


P7: Australia, Canada, Japan, Netherland, Switzerland, UK, US

출처: Towers Watson and secondary sources

The larger pension funds, the more probable of alternative investments

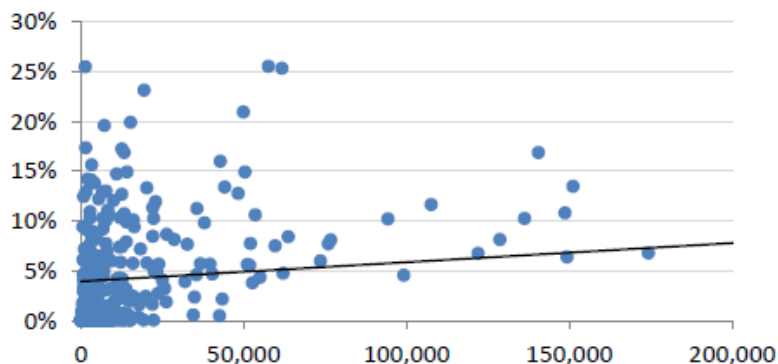
Proportion of Funds Holding Illiquid Assets by Total Fund Assets (\$U.S.)



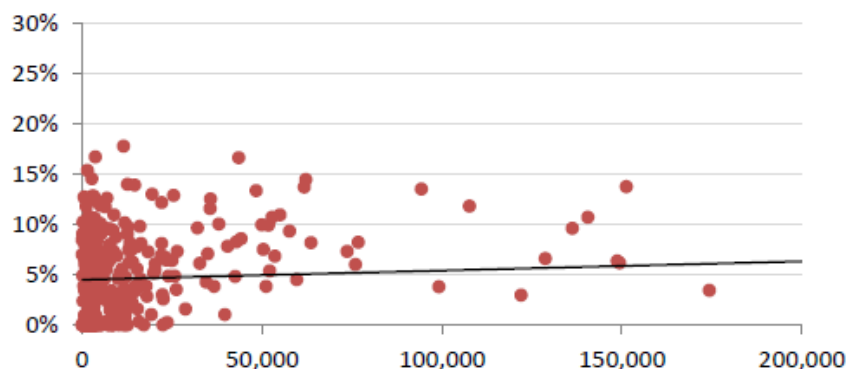
출처 : CEM Benchmarking Inc.

However, the correlation between AI proportion and fund size is negligible.

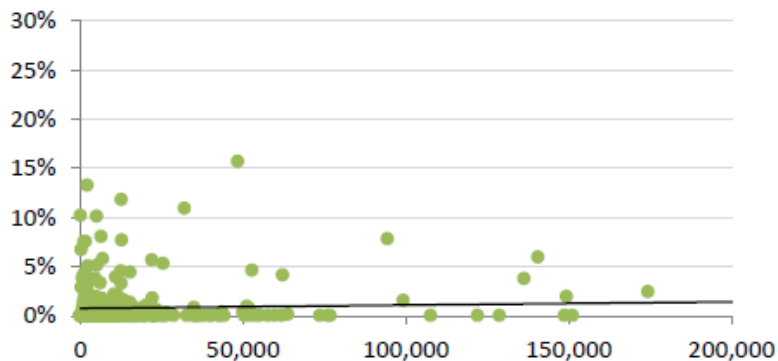
Private equity as a % of total holdings vs. total holdings



Real estate as a % of total holdings vs. total holdings



Infrastructure as a % of total holdings vs. total holdings



출처 : CEM Benchmarking Inc.

Economies of scale in AI performance?

- Dyck and Pomorski(2013) “Investor Scale and Performance in Private Equity Investments”
- Plans with substantial PE holdings outperform investors with smaller PE holdings by up to 7.4% per year.
- Importance of scale in PE investments performance.

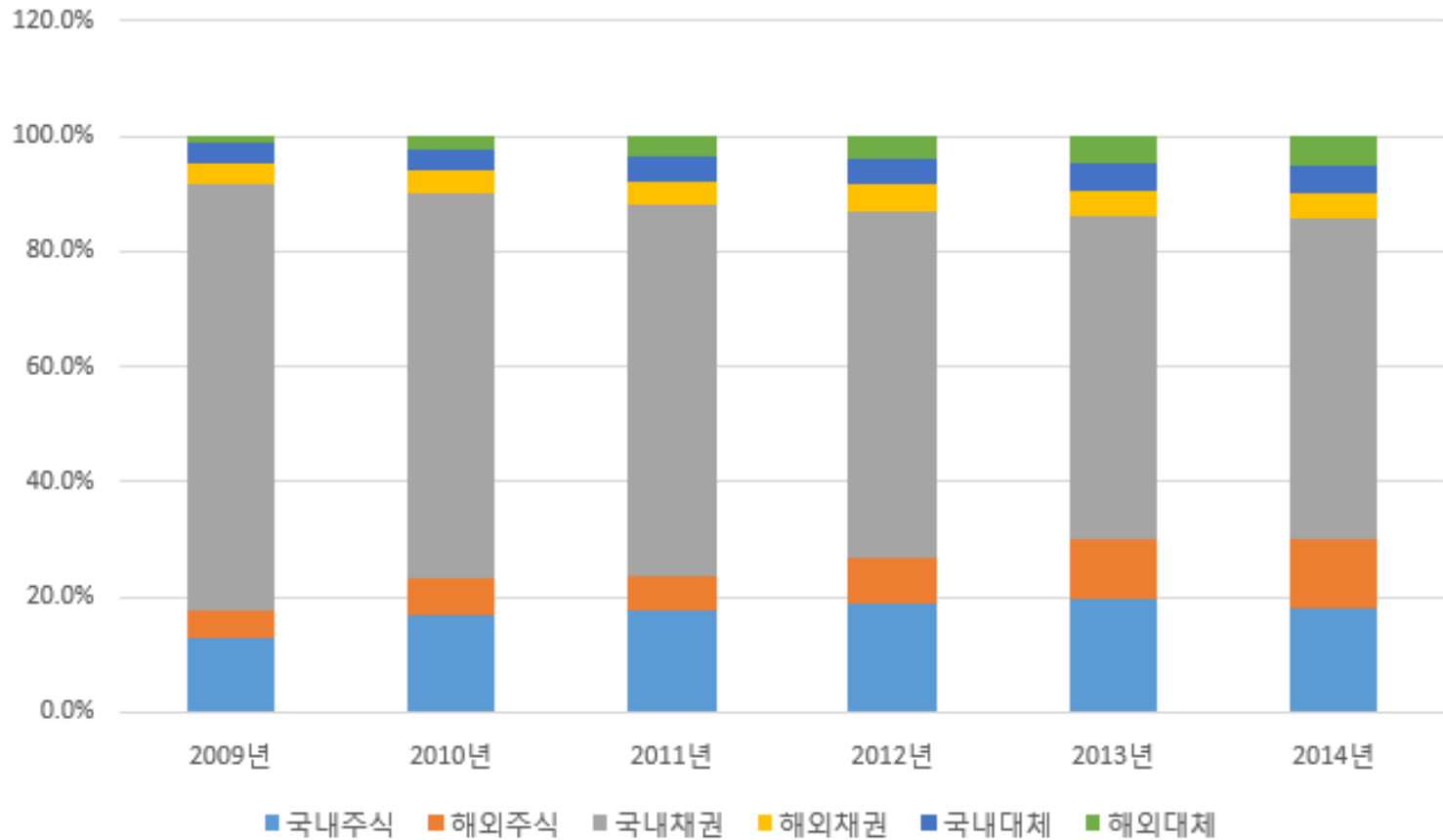
국민연금(NPS)의 자산배분

단위: 조원

	2009년	2010년	2011년	2012년	2013년	2014년
국내주식	36.3	55	62.1	73.3	83.9	83.9
해외주식	13.2	19.9	19.7	31.3	44.4	56.6
국내채권	204.6	215.9	223.5	234.4	238.2	258.1
해외채권	10.5	13.3	14.6	18.1	18.5	20.6
국내대체	9	11.5	15.5	18.3	20.5	22.2
해외대체	3.5	7.4	11.6	14.7	19.8	24.5

국민연금(NPS)의 자산배분

자산별 비중



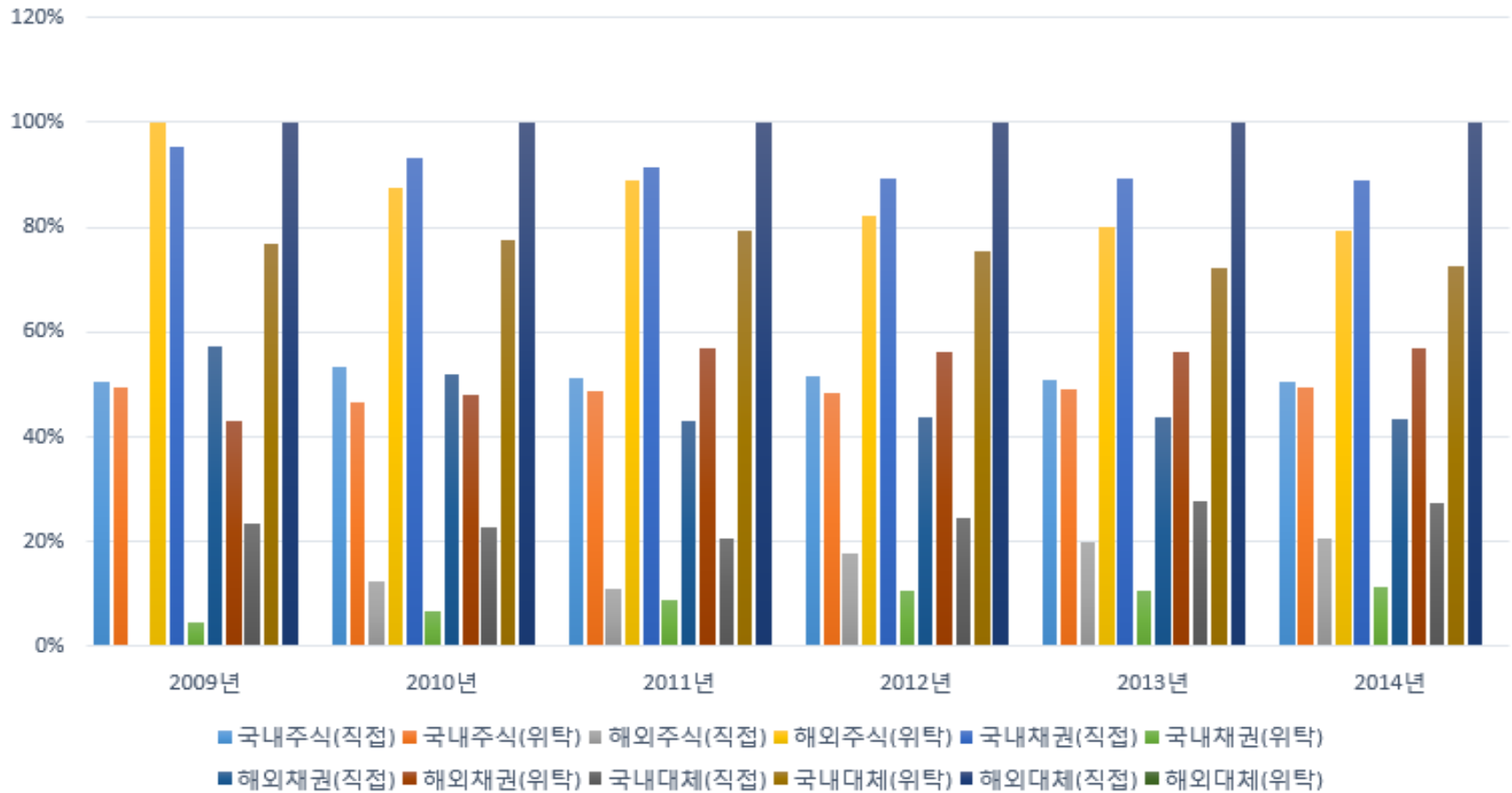
출처 : 국민연금(NPS)

국민연금(NPS)의 자산배분

	2009년	2010년	2011년	2012년	2013년	2014년
국내주식(직접)	18.3 (50%)	29.3 (53%)	31.9 (51%)	37.9 (52%)	42.6 (51%)	42.3 (50%)
국내주식(위탁)	18 (50%)	25.7 (47%)	30.2 (49%)	35.4 (48%)	41.3 (49%)	41.6 (50%)
해외주식(직접)	0 (0%)	2.5 (13%)	2.2 (11%)	5.6 (18%)	8.9 (20%)	11.7 (21%)
해외주식(위탁)	13.2 (100%)	17.4 (87%)	17.5 (89%)	25.7 (82%)	35.5 (80%)	44.9 (79%)
국내채권(직접)	194.8 (95%)	201 (93%)	203.9 (91%)	209.5 (89%)	212.4 (89%)	229.1 (89%)
국내채권(위탁)	9.8 (5%)	14.9 (7%)	19.6 (9%)	24.9 (11%)	25.8 (11%)	29 (11%)
해외채권(직접)	6 (57%)	6.9 (52%)	6.3 (43%)	7.9 (44%)	8.1 (44%)	8.9 (43%)
해외채권(위탁)	4.5 (43%)	6.4 (48%)	8.3 (57%)	10.2 (56%)	10.4 (56%)	11.7 (57%)
국내대체(직접)	2.1 (23%)	2.6 (23%)	3.2 (21%)	4.5 (25%)	5.7 (28%)	6.1 (27%)
국내대체(위탁)	6.9 (77%)	8.9 (77%)	12.3 (79%)	13.8 (75%)	14.8 (72%)	16.1 (73%)
해외대체(직접)	3.5 (100%)	7.4 (100%)	11.6 (100%)	14.7 (100%)	19.8 (100%)	24.5 (100%)
해외대체(위탁)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

국민연금(NPS)의 자산배분

자산 운용별

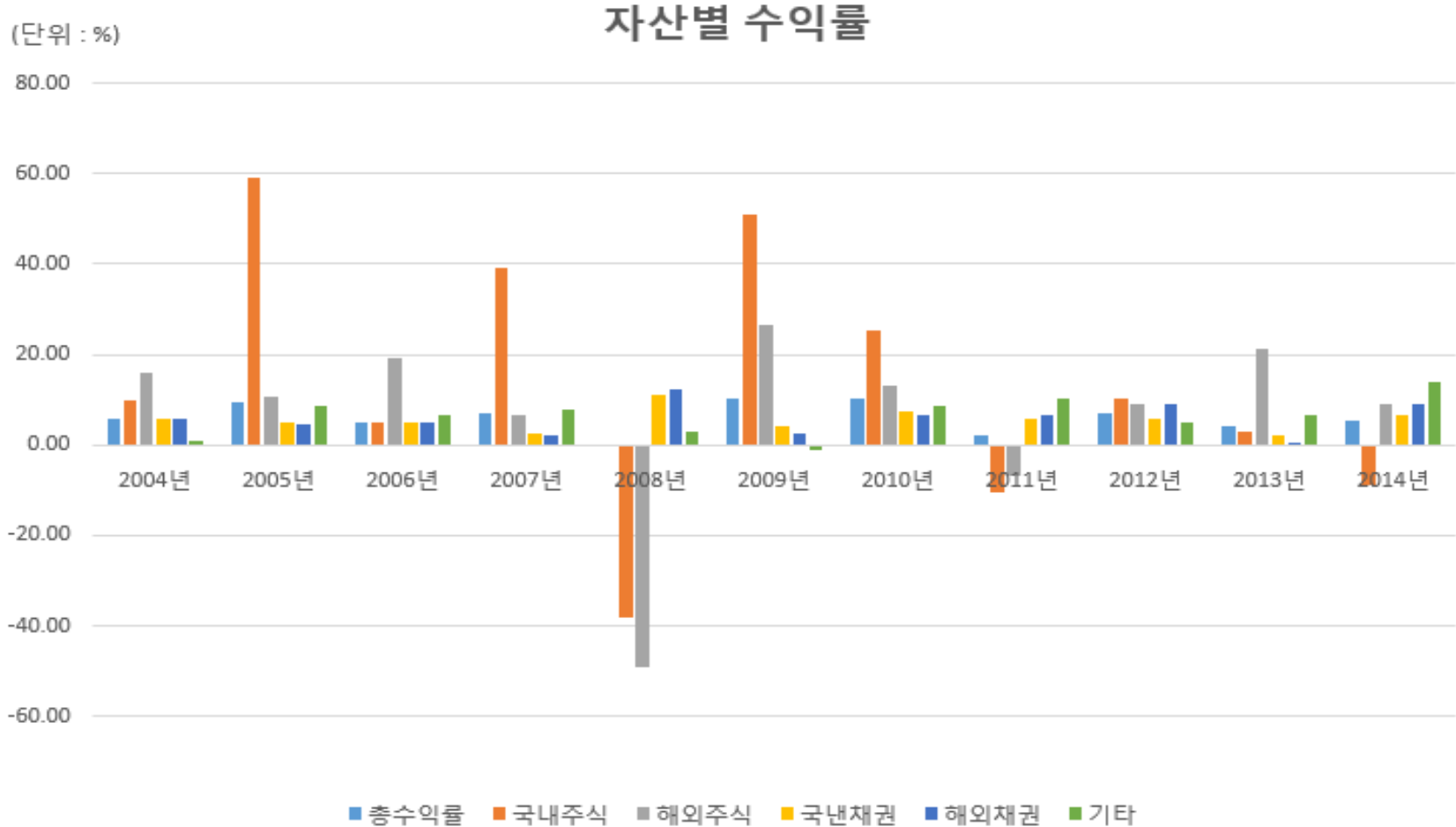


출처 : 국민연금(NPS)

국민연금(NPS)의 자산별 수익률

	2004년	2005년	2006년	2007년	2008년	2009년	2010년	2011년	2012년	2013년	2014년	평균	표준편차
총수익률	5.89	9.55	4.93	6.84	-0.18	10.39	10.37	2.31	6.99	4.19	5.25	6.05	3.15
국내주식	9.81	59.07	4.93	39.25	-38.13	51.00	25.41	-10.34	10.42	2.94	-8.74	13.24	27.34
해외주식	16.16	10.76	19.11	6.41	-49.07	26.50	13.04	-6.90	9.16	21.27	8.91	6.85	19.56
국내채권	5.63	4.78	4.85	2.73	11.00	4.07	7.59	5.67	5.93	2.14	6.78	5.56	2.30
해외채권	5.79	4.71	4.84	2.33	12.46	2.58	6.52	6.59	9.06	0.33	9.23	5.86	3.33
기타	0.82	8.48	6.59	7.73	2.93	-0.92	8.66	10.22	4.92	6.42	13.76	6.33	4.03

국민연금(NPS)의 자산별 수익률

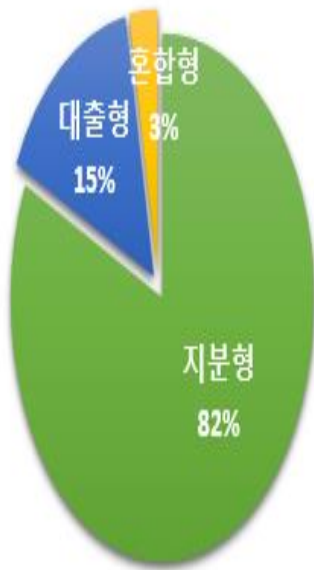


출처 : 국민연금(NPS)

NPS의 대체투자자산 구성

□ 국내 부동산 포트폴리오 배분 현황

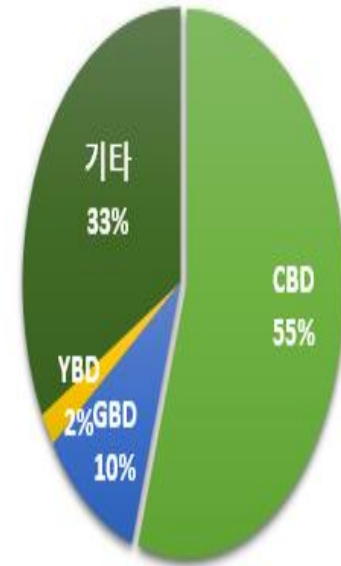
유형별 배분



용도별 배분



투자지역별 배분

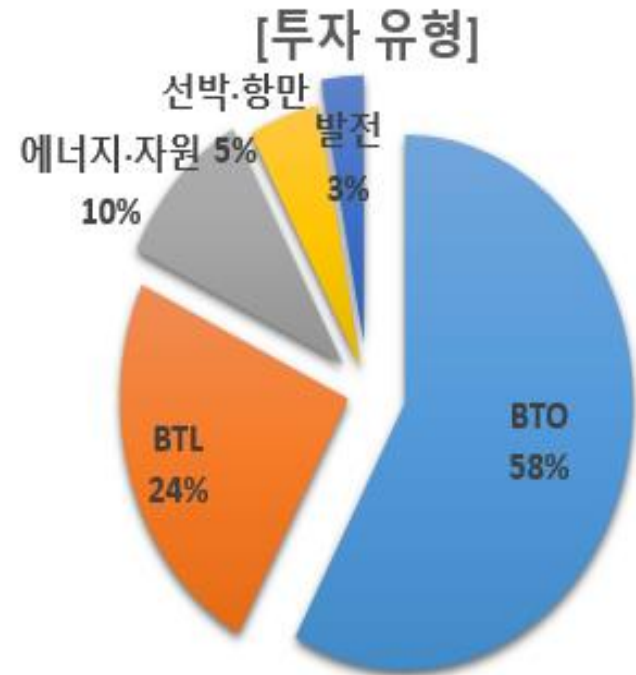
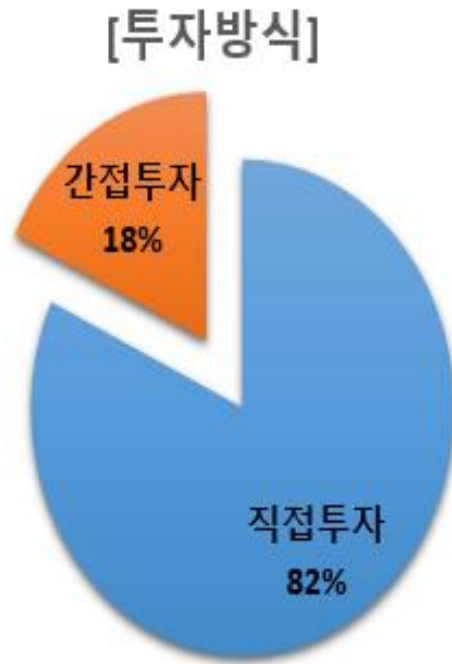


주) CBD=도심권역, GBD=강남권역, YBD=여의도권역

NPS의 대체투자자산 구성

□ 국내 인프라투자 포트폴리오 배분 현황

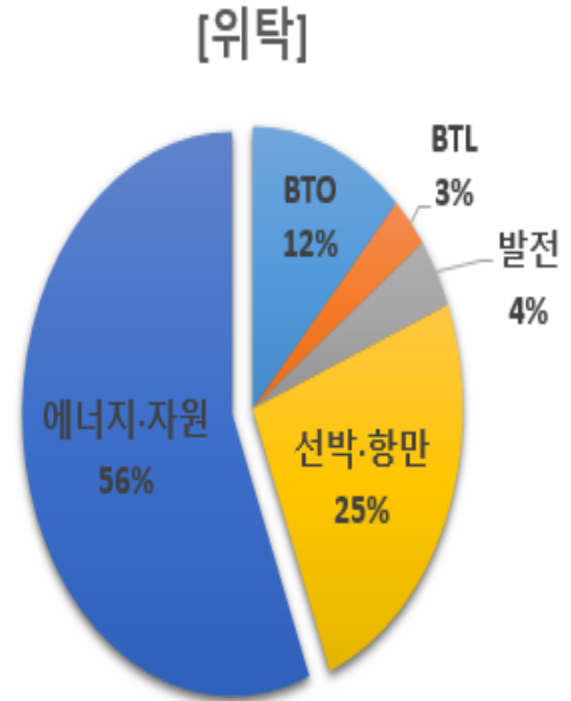
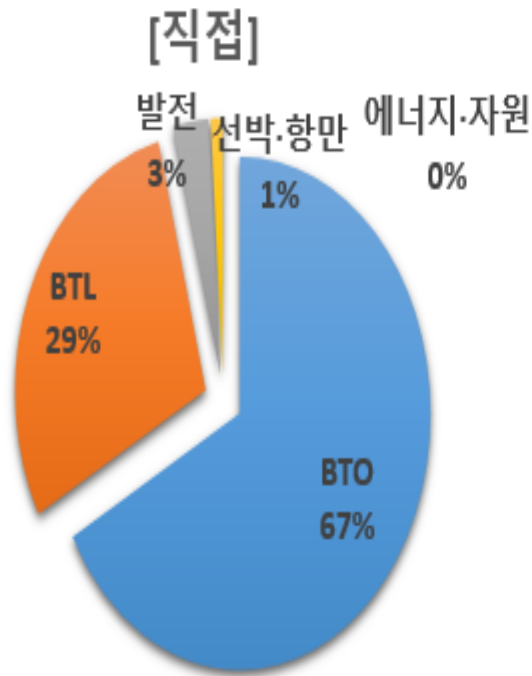
전체 투자 현황



NPS의 대체투자자산 구성

□ 국내 인프라투자 포트폴리오 배분 현황

직접/위탁 포트폴리오 현황

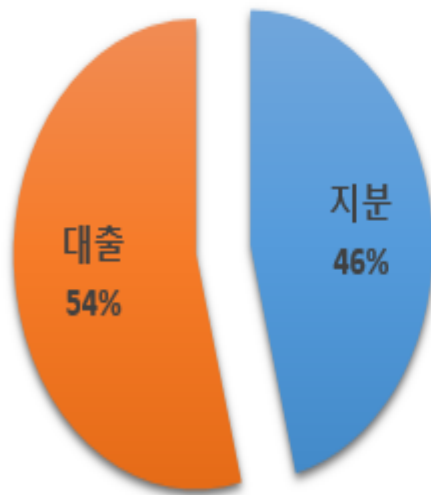


NPS의 대체투자자산 구성

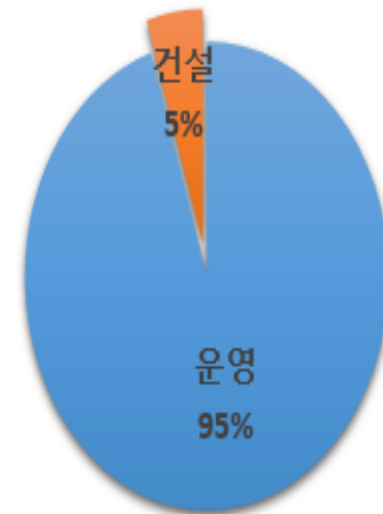
□ 국내 인프라투자 포트폴리오 배분 현황

투자 형태 및 운영 현황

[투자형태별 현황]



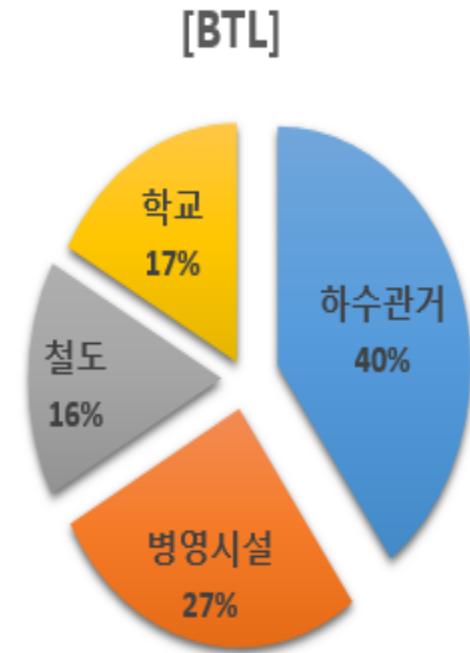
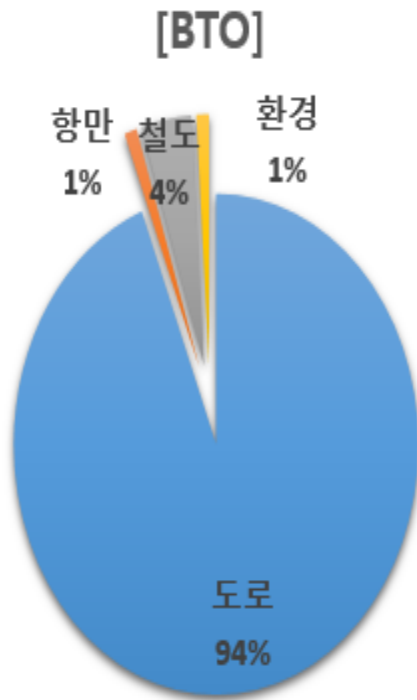
[건설 및 운영중인 자산]



NPS의 대체투자자산 구성

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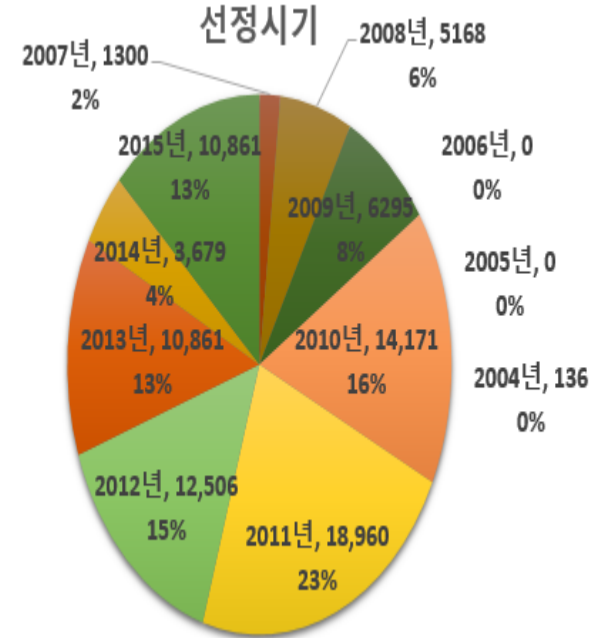
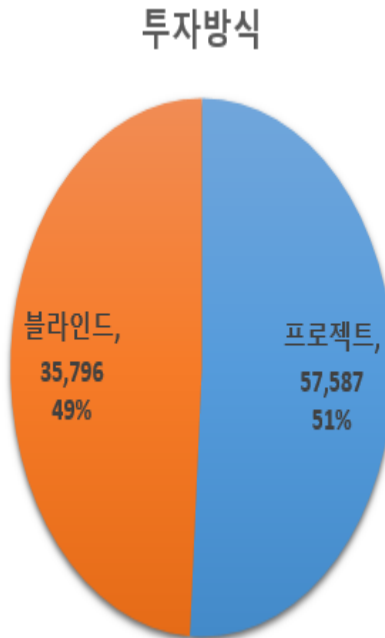
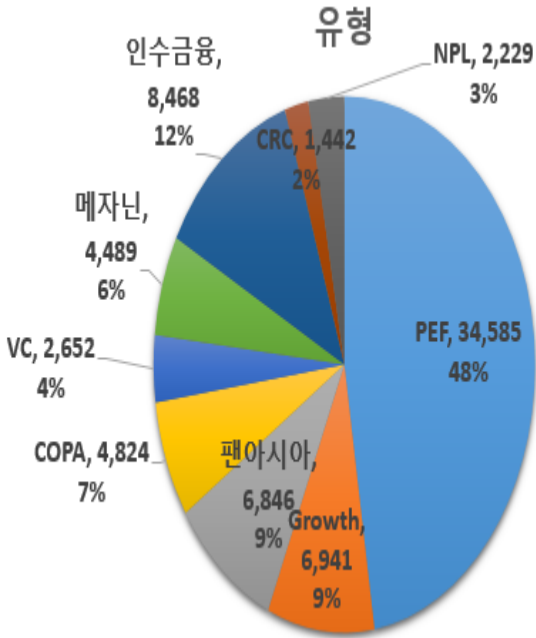
직접(BTO, BTL) 포트폴리오 투자 부문



NPS의 대체투자자산 구성

□ 국내 기타대체투자 포트폴리오 배분 현황

포트폴리오 배분현황(투자잔액 기준)



NPS의 대체투자자산 구성

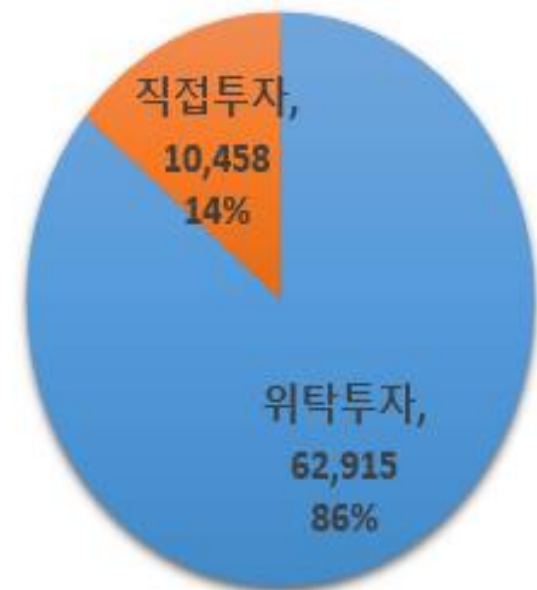
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운용방식별 비중

약정기준



투자잔액기준

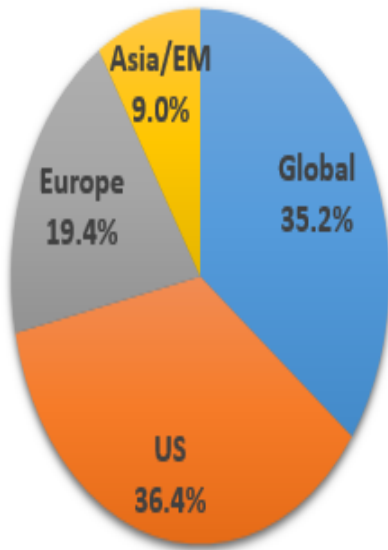


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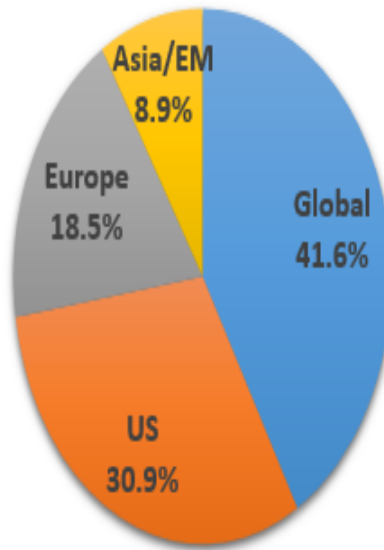
□ 해외사모 포트폴리오 분산현황

○ 지역별

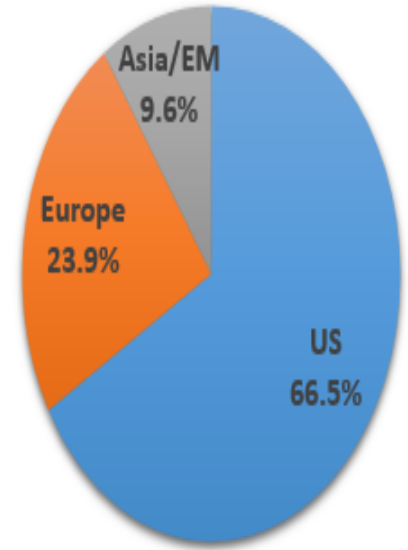
전체



펀드



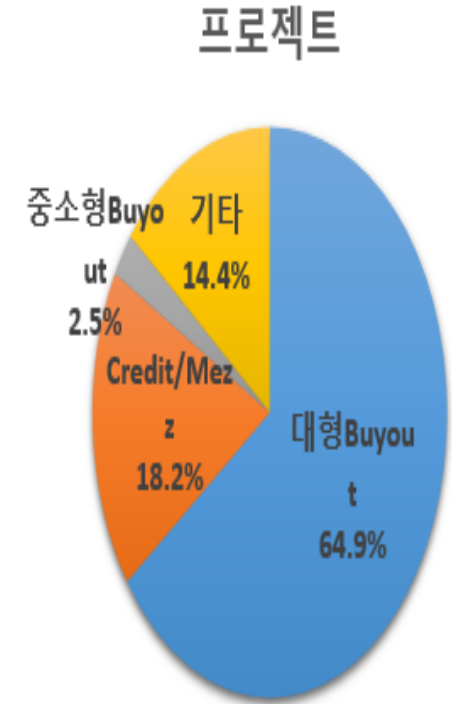
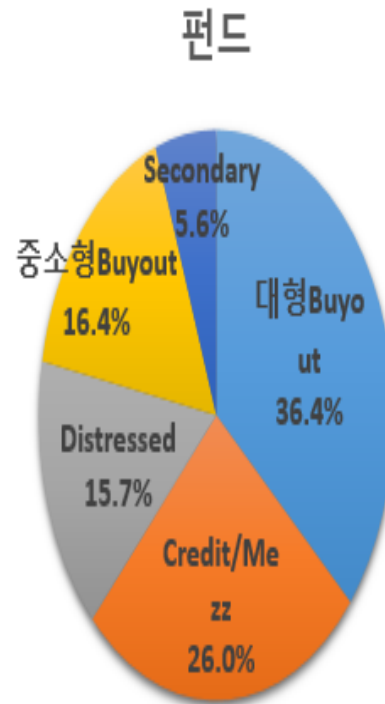
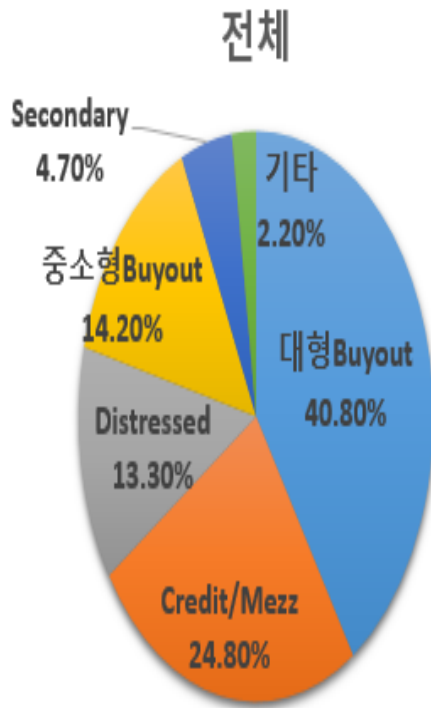
프로젝트



NPS의 대체투자자산 구성

□ 해외사모 포트폴리오 분산현황

○ 전략별

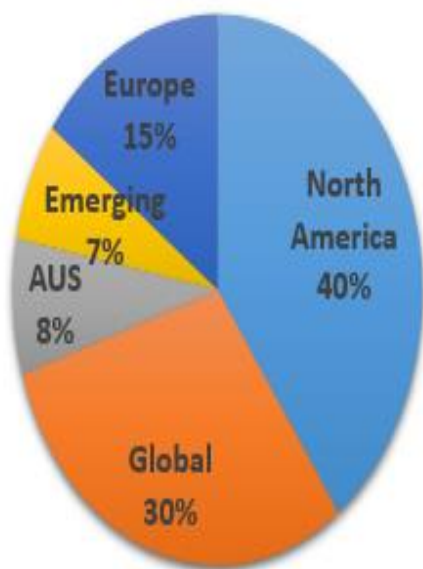


NPS의 대체투자자산 구성

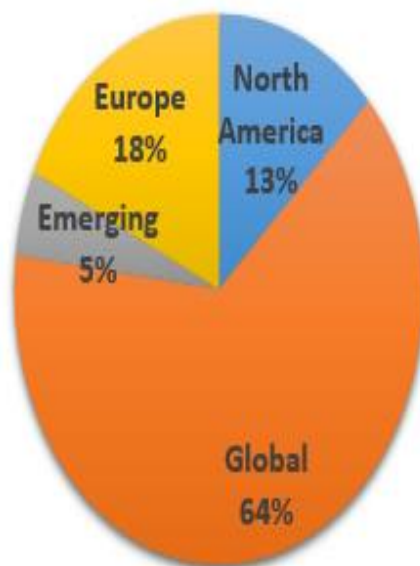
□ 해외인프라 포트폴리오 분산현황

○ 지역별 (NAV기준)

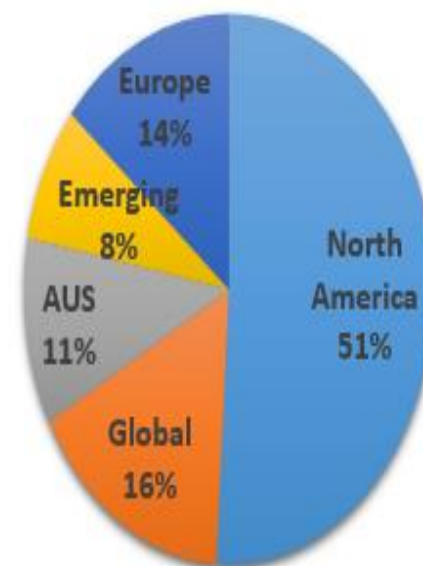
전체



펀드



프로젝트

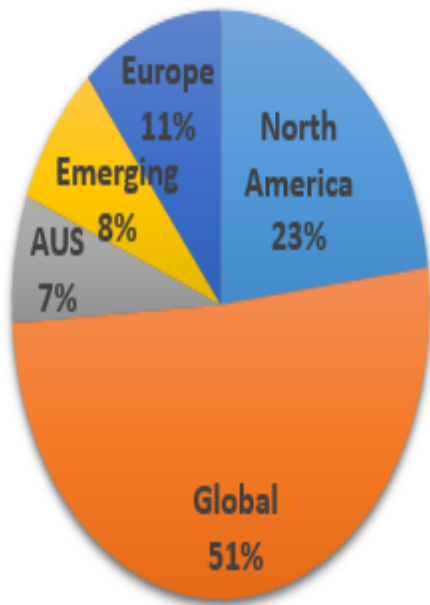


NPS의 대체투자자산 구성

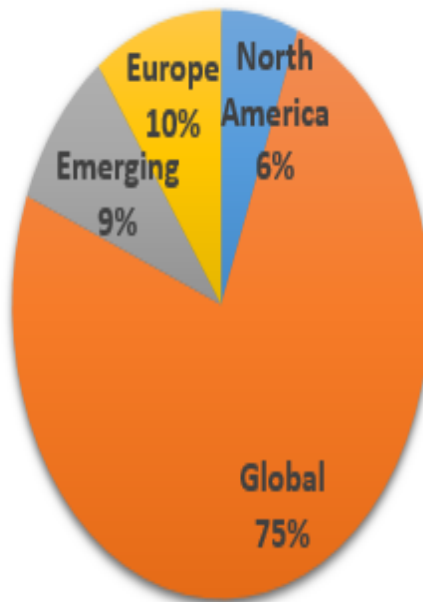
□ 해외인프라 포트폴리오 분산현황

○ 지역별 (NAV기준+잔여약정 금액기준)

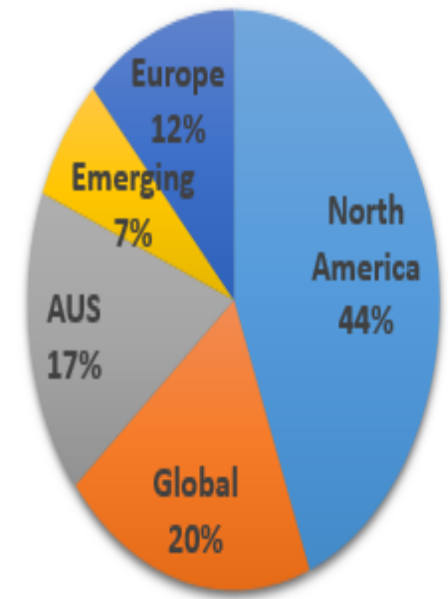
전체



펀드



프로젝트

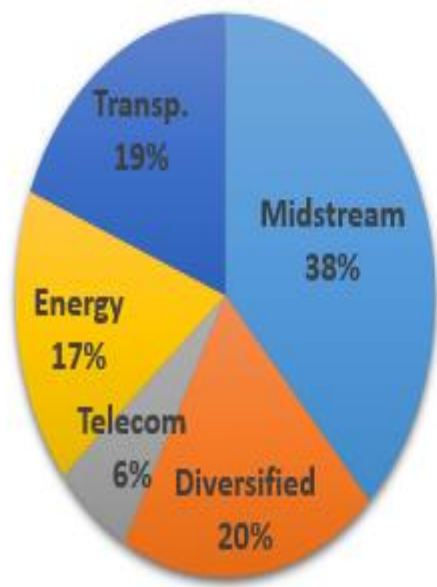


NPS의 대체투자자산 구성

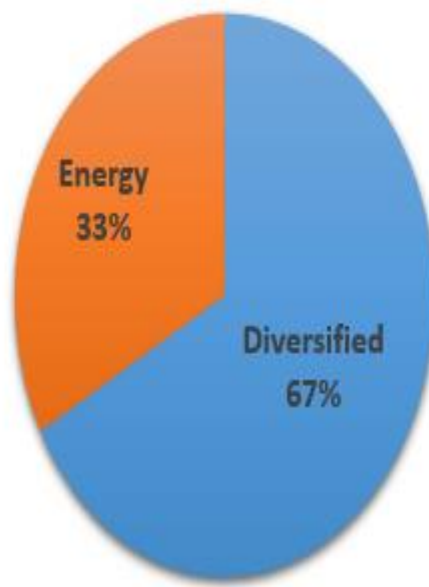
□ 해외인프라 포트폴리오 분산현황

○ 섹터별 (NAV기준)

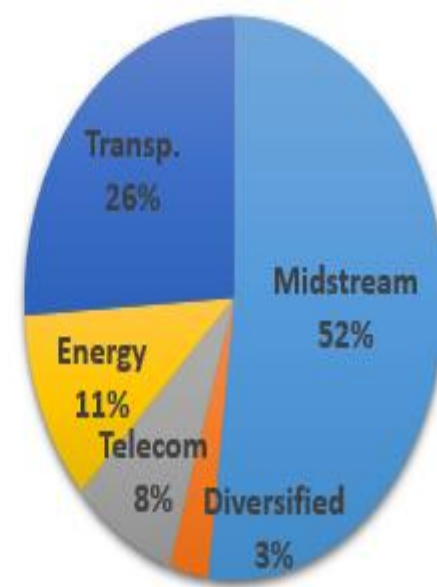
전체



펀드



프로젝트

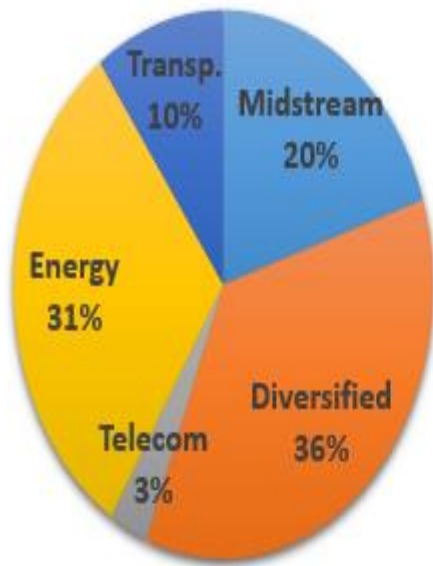


NPS의 대체투자자산 구성

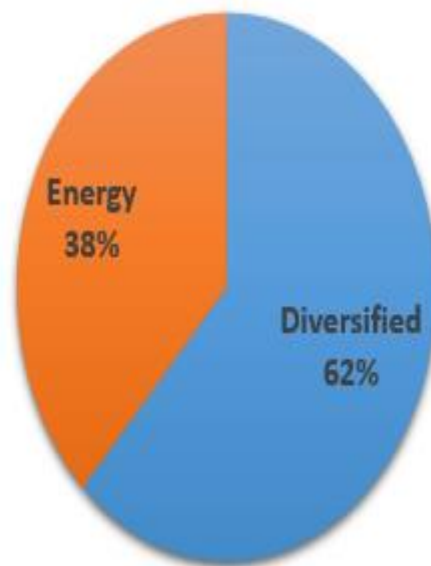
□ 해외인프라 포트폴리오 분산현황

○ 섹터별 (NAV기준+잔여약정금액기준)

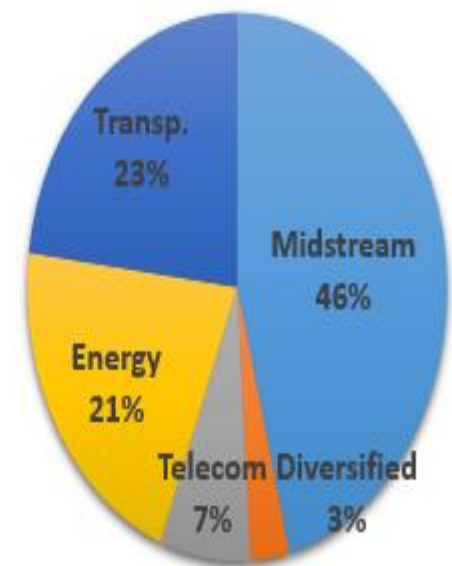
전체



펀드



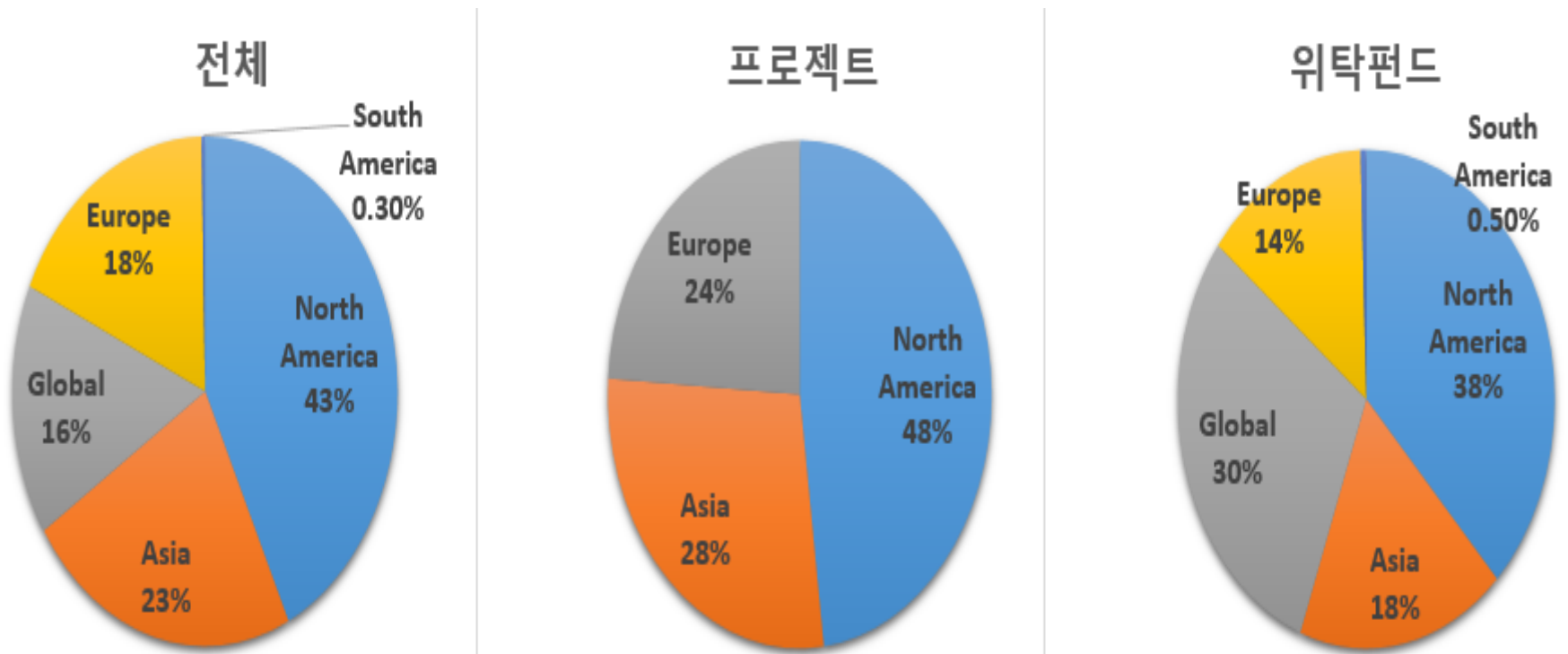
프로젝트



NPS의 대체투자자산 구성

□ 해외부동산 포트폴리오 분산현황

○ 지역별

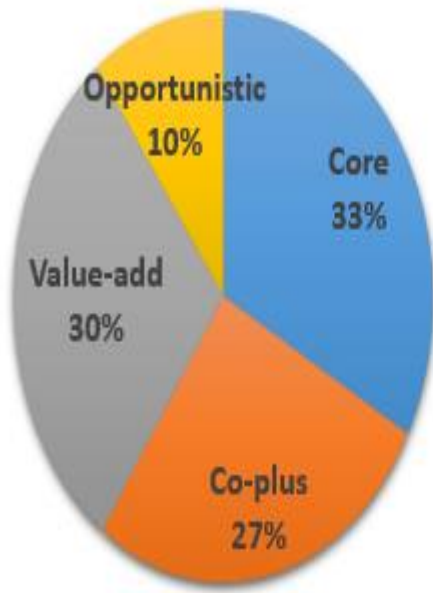


NPS의 대체투자자산 구성

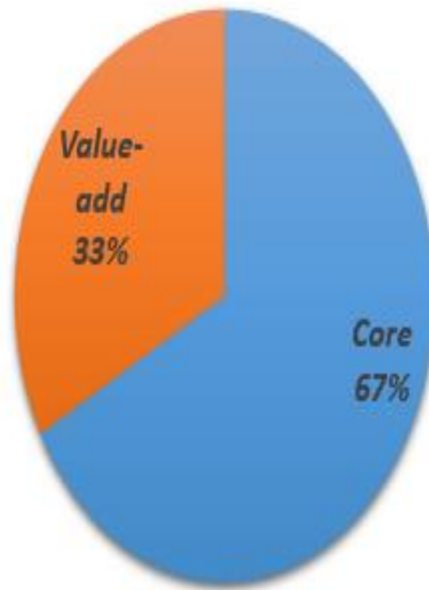
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○ 전략별

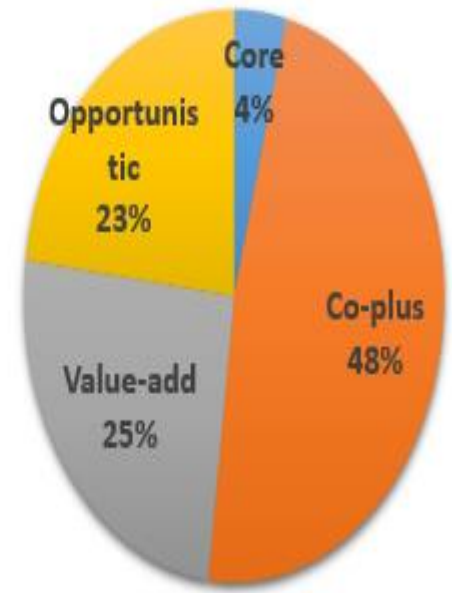
전체



프로젝트



위탁펀드

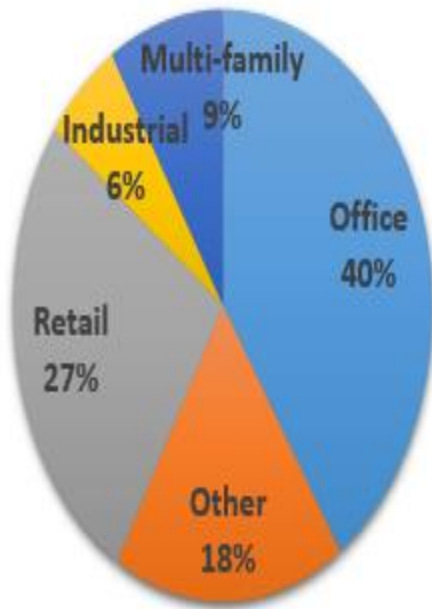


NPS의 대체투자자산 구성

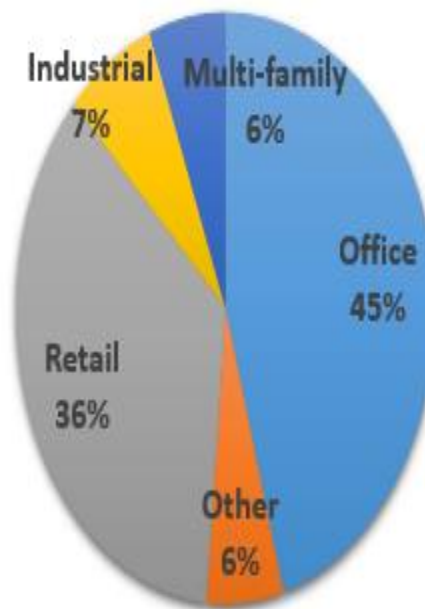
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○ 섹터별

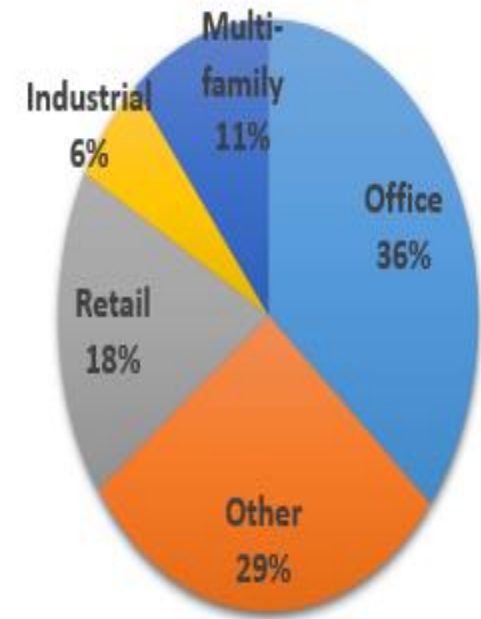
전체



프로젝트



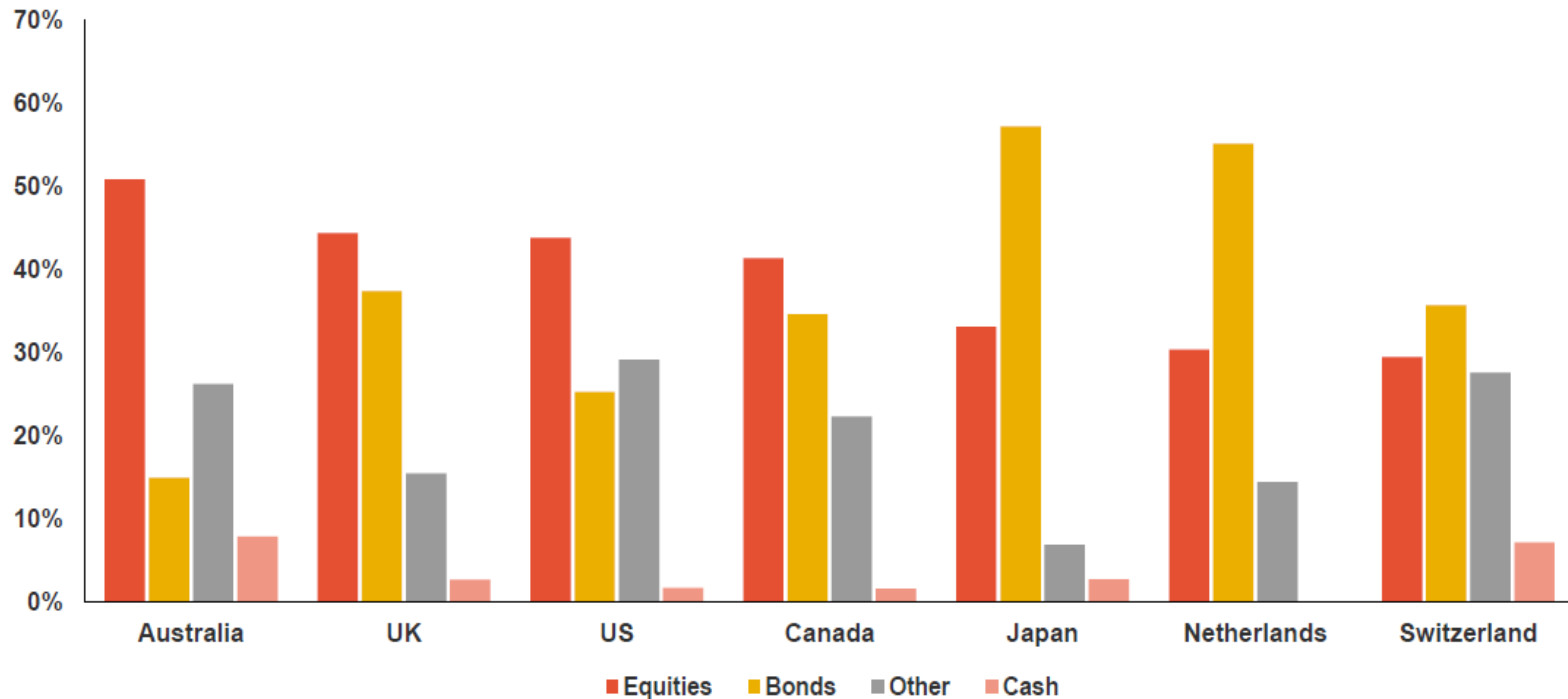
위탁펀드



연금자산 구성의 국가간 비교(2014)

Pension asset allocation

P7 in 2014



출처: Towers Watson and secondary sources

Why do global pensions invest in AI? (survey, 복수응답 가능)

Motivation for Private Equity Investment

	Primary
Expectation of high long-term returns earned for taking high risk.	85%
Private equity returns are expected to include a premium over public equity to compensate for illiquidity.	73%
There are larger opportunities for exceptional managers to outperform than in public markets.	42%
The private equity industry as a whole can outperform public equity via imposition of better management teams.	16%
The private equity industry as a whole can outperform public equity via imposition of better capital structures.	0%
The private equity industry as a whole can outperform public equity via reduced agency costs.	0%
Private Equity returns are not fully correlated with public markets, so there are diversification benefits to including it in a portfolio.	31%

출처 : CEM Benchmarking Inc.

Why do global pensions invest in AI? (survey, 복수응답 가능)

Motivation for Real Estate Investment

Primary

Real Estate returns are not fully correlated with public market or REITs, so there are diversification benefits to including it in a portfolio.	81%
Long term hedge against inflation sensitive liabilities	58%
Private market returns are expected to include a premium over public market returns to compensate for	46%
There are larger opportunities for exceptional managers to outperform than in public markets.	23%

출처 : CEM Benchmarking Inc.

Why do global pensions invest in AI? (survey, 복수응답 가능)

Motivation for Unlisted Infrastructure Investment

Primary

Infrastructure returns are not fully correlated with other asset classes, so there are diversification benefits to including it in a portfolio.

61%

Long term hedge against inflation sensitive liabilities.

57%

Private market returns are expected to include a premium over public market returns to compensate for

45%

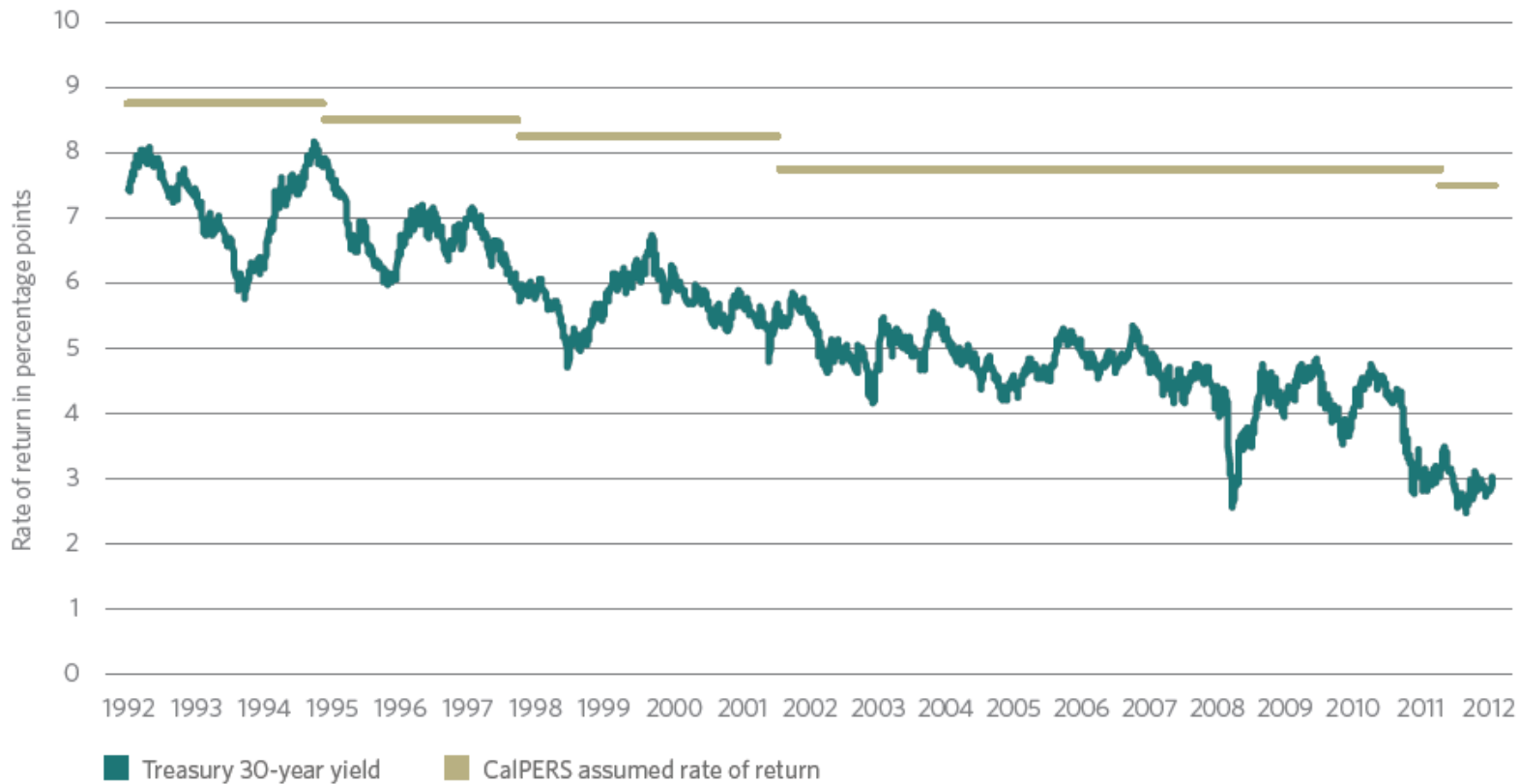
There are larger opportunities for exceptional managers to outperform than in public markets.

14%

출처 : CEM Benchmarking Inc.

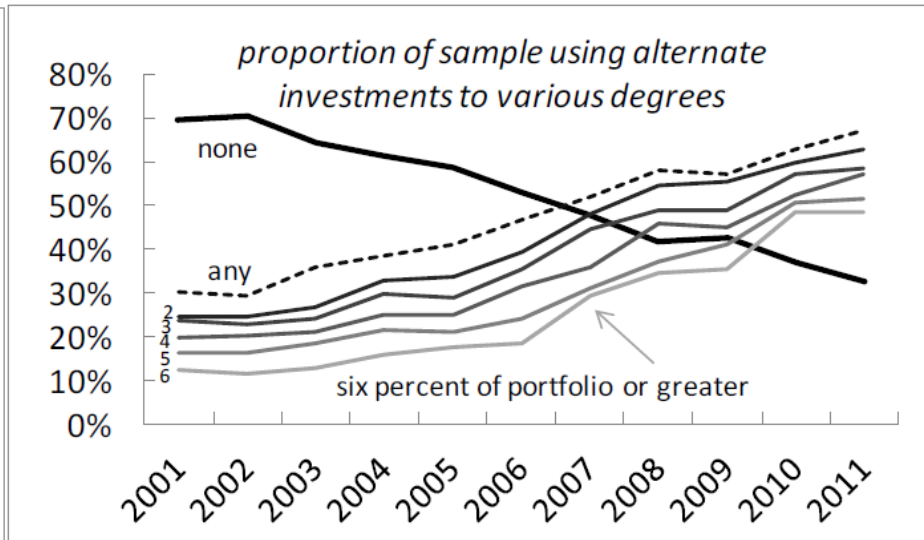
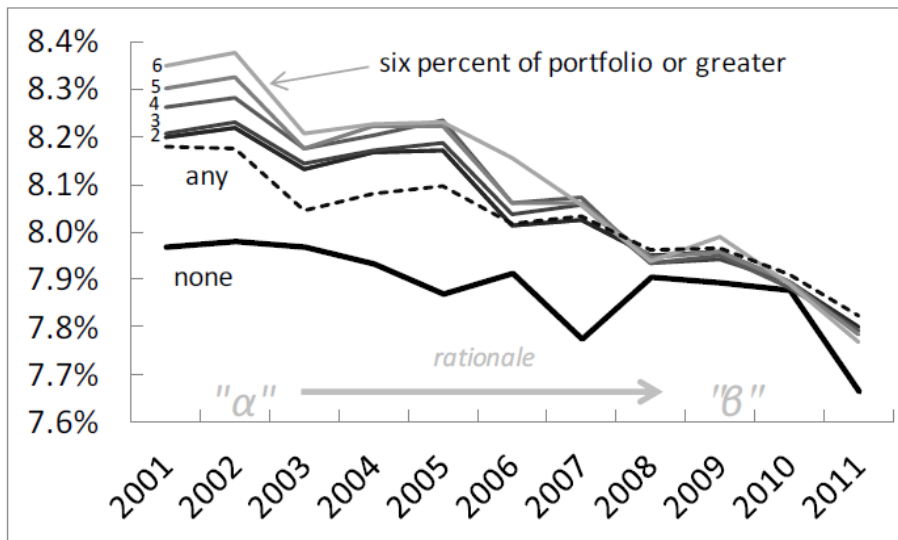
Behind motive; Ever growing global pensions' anticipated risk premium

CalPERS' Increasing Risk Premium





출처: Analysis by The Pew Charitable Trusts of U.S Treasury data and CalPERS' Comprehensive Annual Financial Reports

Change of AI motive; less α (outperformance), more β (diversification)



출처 : Rose and Seligman(2014), Alternative Investments? State & Local Pension Portfolio Use and Performance

Recent Market Trend of AI assets (Towers Watson(2015)): PE

- Stable performance in both good and bad times \Leftrightarrow **positive feedback** \Leftrightarrow Buoyant fund raising and all time high price in US & Europe
- Downward pressure on fee over the long run
: Fund of funds() , Direct business purchase by large asset owners()
- Growing secondary market; increase of liquidity

Recent Market Trends AI assets: PE

- Maturing market with some longer dated funds; longer target holding periods (more than 12 years), charging lower fees
- Increased implementation options; more flexibility for sophisticated investors
 - => NOT ONLY “primary fund investment”, BUT ALSO “co-investing, secondary activity, strategic partnership with investors of large scale and quality governance”

Recent market trends of AI assets : **real estate**

- A strong market like 2007
 - Double digit return, healthy spread relative to gov. bonds
 - Low bond yield, low debt costs and high LTV environments
 - Healthy rental growth in many markets
 - Transaction volume at multi-year highs
 - Record breaking fund raising (both speed and size)
 - Question: Some speculative development to re-emerge?

Recent market trends of AI assets : **real estate**

- Long lease property strategy in Europe appealing, except for weak 'supermarket' sector
- Several core open end Asian property funds launched in spite to difficulties in core funds reaching a critical mass
- Growing interests for co-investments, joint venture, and direct deals
 - More control and visibility on assets and pricing

Recent market trends of AI assets : **real estate**

- Growing interests for alternative property sectors
 - Health care(demographics), residential/storage(urbanization), student assets, etc.
 - Diversification against cyclicity of office sector
- Conclusion: Need to more patient and selective assuming a current peak time

Recent market trends of AI assets : **Infrastructure**

- Trend of co-investment and direct deal from investors continues, but growing interests for “segregated accounts” with traditional asset manager
 - traditional asset manager to assist in asset execution(both origination and asset management)
 - Often focused on areas where the asset owner would struggle to access without assistance of professional expertise.

Recent market trends of AI assets : **Infrastructure**

- Growing 'mid-market' infrastructure
 - already high price of larger market
 - but, mid-market is getting more competitive
- Challenges in Gov. supported infra projects
 - regulatory framework change
 - perspective change about risk transfer between the public and private sectors

Recent market trends of AI assets : Hedge Funds

■ Cons

- Criticism of high fees and dispersed returns (black box)
- CalPERS example
- Diminishing average managers skill level => relatively low benchmark returns

■ Pros

- Top manager's α capacity still applicable?
- Construction of portfolio with differentiated strategy

Recent market trends of AI assets : Hedge Funds

- Evolution of hedge funds industry
- Compartmentalization of return/risk drivers and creation of 'alternative' β
 - α : manager skill
 - bulk β : equity or credit
 - 'alternative' β : insurance premium, carry, volatility, momentum
- Hedge fund as an asset class => more granular return/risk driver approach

Recent market trends of AI assets : Hedge Funds

- Partnership around terms, strategy focus, implementation and idea sharing

Recent market trends of AI assets : **Commodities**

- Substantial volatility increase of commodity price over past 15 years
- Uncertain future outlook
 - Uncertainty around demand and supply dynamics
 - Oil market
 - Supply; number of active US rigs
 - Demand; growth prospect of developed and emerging economy

Recent market trends of AI assets : **Real Assets**

- Wider range of strategies and implementation routes
 - Traditional farmland strategy; Cash-lease to operate farm
 - Private Equity investments in agriculture across the whole value chain
 - Investment in water: water rights, water infrastructure, club deal, direct investment, pooled funds
 - Global timberland, livestock(beef), aqua-culture mixed strategy(water + agriculture)

Recent market trends of AI assets : **Real Assets**

- Sustainability is still important: ESG
- Stable Investment Demand
 - Characteristics of strong down-side protection
 - Demographic trend, food and resource hedge purpose of emerging economy(China, Russia)
 - Direct investment from Sovereign Wealth Fund in farmland and agriculture

Recent market trends of AI assets : **Illiquid Credit**

- All closed-end fund with focus on credit
 - direct lending, commercial real estate debt, mezzanine, distressed debt, etc.
- Distressed Debt
 - Non-performing loan from banks(Europe)
 - US energy sector
- More competitive as investors consider taking on both greater illiquidity and risk in their credit portfolio

Issues and what to do?; **Cost matters.**

글로벌 연기금의 자산 군별 벤치마크 수익률 대비 초과성과(1991~2012년 기준)

(단위 : %)

	내부투자(internal)	LP투자/외부펀드(external fund)	재간접투자(fund of funds)
사모투자	6.3	1.5	-4.7
부동산	0.7	-1.1	-5.7
인프라	0.9	-0.2	-0.5

주 : 사모투자는 1996~2012년, 부동산은 1995~2012년, 인프라는 2005~2012년 기준

출처 : CEM Benchmarking Inc.

Issues and what to do?; **Cost matters.**

Figure 1. Illustrative example of management fees and portfolio company fees

Full management fees	Portfolio company fees	
165 basis points (bps)	50 bps	
Assuming that the general partner is entitled to 20% of the portfolio company fees:	General partner receives 10 bps.	Limited partner receives 40 bps.
Typically reported management fees	= Full management fees - LP share of portfolio company fees = Net management fees = 165 bps - 40 bps = 125 bps	
Actual costs incurred by LP	= Full management fees + GP share of portfolio company fees = 165 bps + 10 bps = 175 bps	

Table 1. Private equity estimated full costs and reported management fees (CEM Universe, 2012-2013)

	Median annual cost based on net asset value	Costs in \$ millions based on a \$3 BN portfolio
Full management fees ^b	1.89%	\$56.7
Internal monitoring costs ^b	0.08%	\$2.4
Carry/performance fees ^b	1.49%	\$44.7
Other fund-level and portfolio company fees ^b	0.36%	\$10.8
Estimated total direct LP costs^c (A)	3.82%	\$114.6
Reported management fees^d (B)	1.80%	\$54.0
Difference (A-B)	2.02%	\$60.6

출처 : CEM Benchmarking Inc.

Issues and what to do?; **Cost matters.**

Why are fees under-reported?

- Accounting teams at funds do not understand private equity fee structures. Most believe they are capturing all fees.
- GPs are good at disguising costs
 - Most funds believe Rebates and Fee Offsets reduce management fees earned by the GP.
 - Some funds believe management fee repayments, as compensation switches to carry, reduce total costs
- Private equity teams fear transparency
 - *If the Board knew how much private equity really cost, then we would not be able to invest in it (quote from a CEM client)*
- Funds argue that net returns are the only thing that matters
- It is not easy to do

출처 : CEM Benchmarking Inc.

Issues and what to do?; **Cost matters.**

■ **Full Cost Disclosure of Dutch Funds**

- **New reporting standard in 2012**
- **Denmark and Switzerland recently**

Illiquid Asset Investment Costs Reported by Dutch Funds^{4,5} Using the Full-Cost Disclosure Guidelines of the Dutch Pension Federation - 2012

	Median Cost as a % of Net Asset Value ³			
	Private Equity LPs	Real Estate LPs	Real Estate (core)	Infrastructure LPs
Internal Monitoring Costs	0.12%	0.05%	0.03%	0.04%
Management Fees	1.66%	1.49%	0.50%	1.66%
Carry/ Performance Fees	1.10%	0.14%	0.00%	0.05%
Transaction Costs ¹	0.15%	0.15%	0.15%	0.15%
Total Direct LP (or external) costs ²	3.03%	1.83%	0.68%	1.91%
Fund of Fund Management Fees	1.14%	0.80%	n/a	1.37%
Fund of Fund Carry	1.40%	0.38%	n/a	unavailable
Implied Total Fund of Fund costs ²	5.56%	3.02%	n/a	3.28%

출처 : CEM Benchmarking Inc.

Issues and what to do?; **Cost matters.**

- **Benefit of Full Cost Disclosure**

- **Improved disclosure and transparency**
- **Understanding true costs can lead to better negotiation with managers**
 - **Change of the proportion of portfolio company fees(or revenue) split;**
0%(LP)/100%(GP)=>85%/15%
- **May lead to more efficient investment vehicle selection**

CalPERS 사례

CalPERS Cost Effectiveness Objective

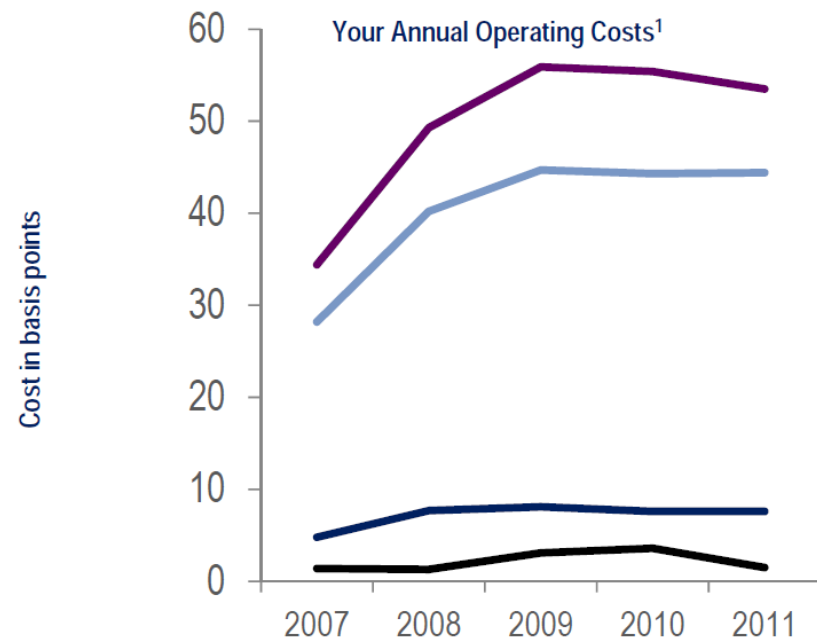
Enhance cost effectiveness of the investment program to improve net returns on assets.

FROM	TO
Management Reporting: Inadequate reporting systems and data for effective cost management	Automated financial reporting system; development of timely and meaningful financial reports
Cost Awareness: Limited understanding of total cost to manage the CalPERS portfolio	Comprehensive knowledge of total costs being incurred to manage portfolio
Fee Reduction: Insufficient focus on management and consulting fees paid	Focus on fee reduction and value for cost: development of monitoring processes that track and communicate cost saving efforts
Cost Management: Budget process that incited use of external managers and consultants	Greater flexibility to manage use of external vs. internal resources in the best interest of the fund
Benchmarking: Difficult to compare cost performance against relevant peers	Development of meaningful benchmarking statistics and outperform relevant peers per unit of value

CalPERS 사례

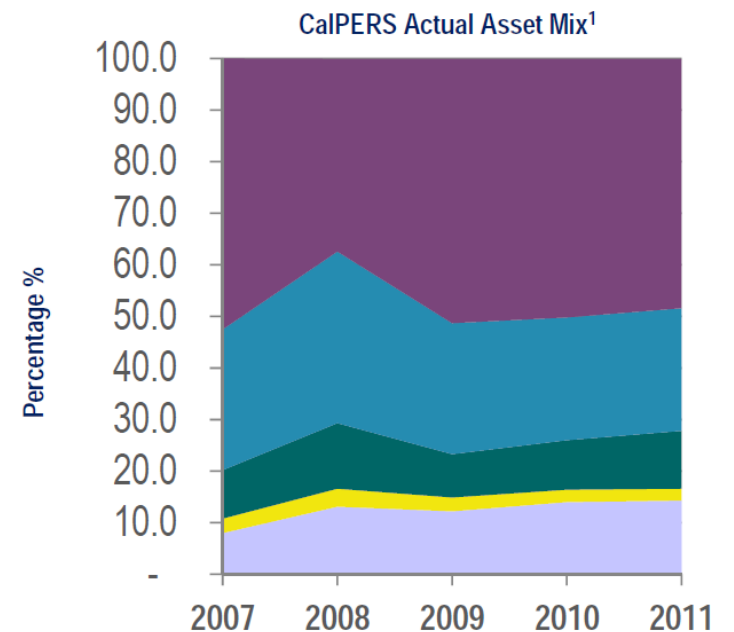
CalPERS 5-Year Cost Trend

Increase in total cost from 34.4 bps to 53.5 bps reflects increasing allocation to private assets and hedge funds. Private assets and hedge funds are 28% of total fund in 2011, versus 20% in 2007.



- Total Cost
- Oversight
- Private Assets & Hedge Funds
- Public Assets (ex Hedge Funds)

Year	2007	2008	2009	2010	2011
Total Cost	34.4	49.3	55.9	55.4	53.5
Oversight	1.4	1.3	3.1	3.6	1.5
Private Assets & Hedge Funds	28.2	40.2	44.7	44.3	44.4
Public Assets (ex Hedge Funds)	4.8	7.7	8.1	7.6	7.6



- Stock
- Fixed Income
- Real Assets
- Hedge Funds
- Private Equity

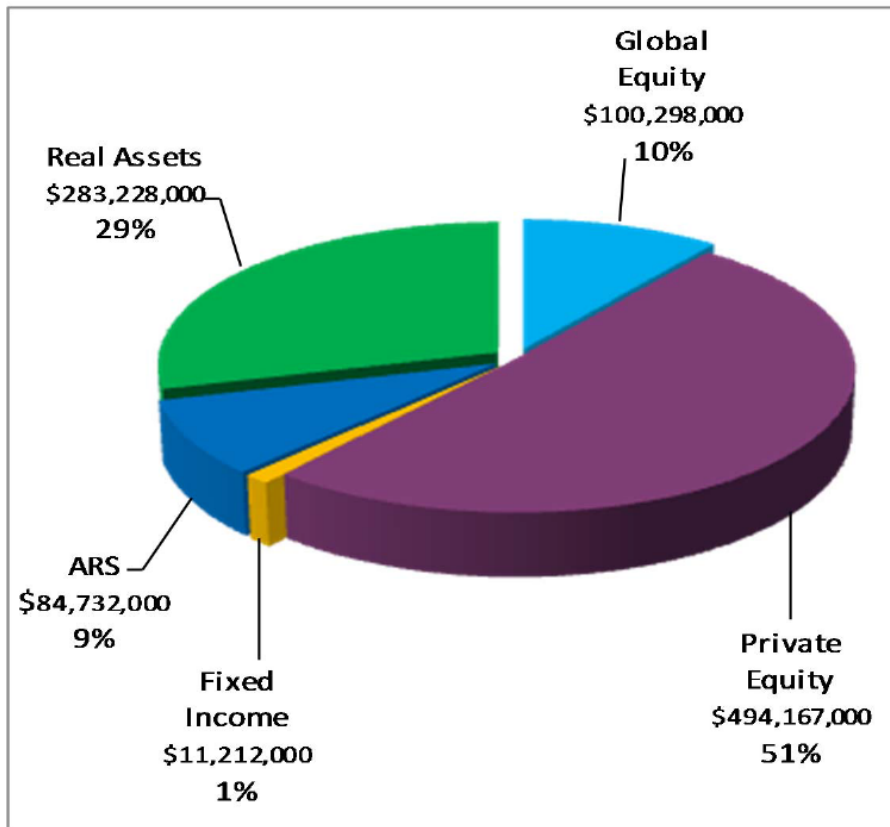
Year	2007	2008	2009	2010	2011
Stock	52.5	37.3	51.2	50.1	48.3
Fixed Income	27.3	33.3	25.4	23.8	23.8
Real Assets	9.4	12.7	8.4	9.6	11.2
Hedge Funds	2.8	3.5	2.7	2.4	2.3
Private Equity	8	13.1	12.2	14	14.3

CalPERS 사례

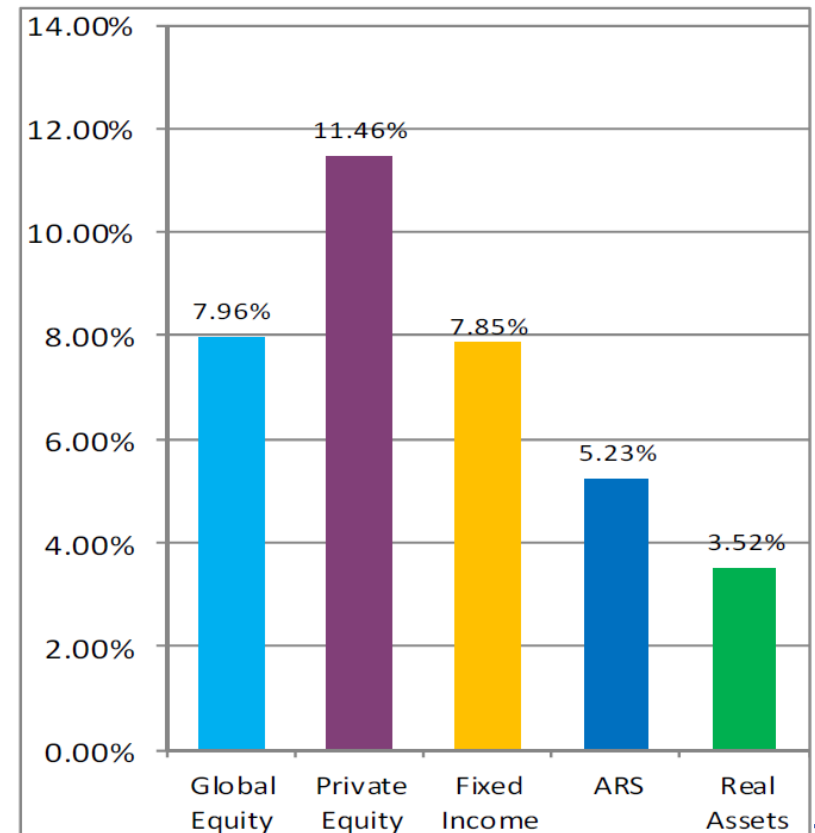
CalPERS Cost Structure: External Management Fees

Private assets and hedge funds are primarily externally managed and therefore represent 89% of external management fees.

External Management Fees FY 2011-12 (by program)¹



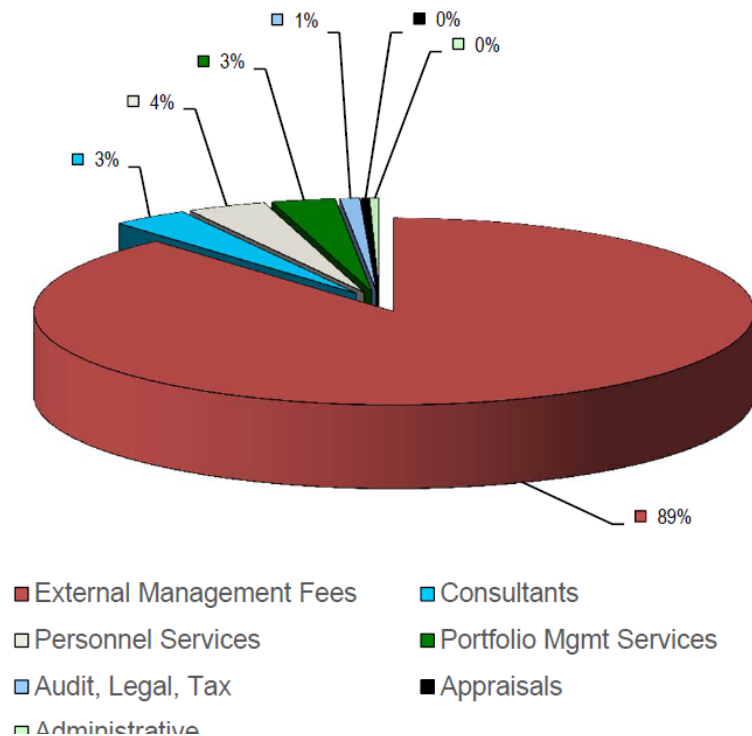
10-Year Net Rate of Return²



CalPERS 사례

Management Reporting and Cost Awareness: focused initiative to identify all investment expenses and develop capabilities to automate the capture in accounting system.

Fiscal Year 2011-12: \$1.1 Billion



Expense Category	\$ (in millions)	% of Total Expenses
External Management Fees	\$973.6	89%
Consultants	\$37.7	3%
Personnel Services	\$39.4	4%
Portfolio Mgmt Services ¹	\$31.5	3%
Audit, Legal, Tax	\$9.8	1%
Appraisals	\$3.5	0%
Administrative	\$4.6	0%
Total	\$1,100²	100%
Total Cost	53.5 bps³	
Underlying FoF Fees-PE/ARS (est.)	\$105.4	

CalPERS 사례

Cost Management Overview

- Reduce reliance on external consultants and advisors, especially for key control or portfolio monitoring functions
 - Use external resources only when external firms bring capabilities CalPERS can't replicate at a reasonable cost (e.g. expertise, scale, technology)
- Transition assets from external managers to internal management where it is possible for CalPERS to build capabilities (e.g. internalizing international and short duration Fixed Income)
- Reduce external management fees
 - Utilize separate account structure
 - Scale asset management fees; increment of fees decreases as manager grows
 - Fewer relationships to gain pricing leverage
 - Renegotiate economics on existing relationships
 - Negotiate favorable terms on fees/carry with new commitments (i.e. fees on % of invested capital vs. committed capital)
 - Increase focus on Co-Investments which have no carry/fees
 - Move away from Fund- of-Funds vehicles to Direct relationships

CaIPERS 사례

Cost Management: Accomplishments FY 2010-2013

INVO's Roadmap calls for a significant increase in staffing and increased spending in Portfolio Management Services; INVO's goal is to self-fund these by reducing consulting and external management fees.

Cost Effectiveness

Recurring Annual Savings Identified (Thru Sept'13)	\$109.8 million
2010-2014 Increased Headcount ¹ (141 PYs)	(\$18.4 million)
Est. Increased Investment Office Expenses	(\$13.1 million)
Net Annual INVO Cost Savings	\$78.3 million
Additional aggregate one time savings efforts negotiated	\$410 million

- ✓ **Cost Savings Efforts:** recurring annual savings comprised of consultant reductions (\$12.9 million,) external manager fee reductions (\$96.6 million) and demonstrated reduction in trading commissions and portfolio management services (\$.3 million)
- ✓ **Headcount Additions:** incremental headcount has allowed INVO to:
 1. Internalize core, high-value functions that were previously outsourced
 2. Establish critical control functions that previously did not exist (e.g. Investment Risk Management and Investment Compliance)
 3. Transition assets to internal management and reduce fees
 - Achieving benchmark staffing of 450 would potentially require an incremental 53 employees to be requested (est. cost of \$9.0 million)
- ✓ **Increased Investment Office Expenses:** estimated incremental annual costs of new Global Equity and Private Equity technology and data platforms and estimated increase in administrative expenses associated with the increased headcount (e.g. travel, training and other general expenses)

CalPERS 사례

Conclusion

For CalPERS – our attention to cost management is visible in policy, investment strategy and our operations.

- We incorporate the importance of cost into our investment beliefs
- We identify cost management as a central component of investment Performance in our strategic plan (Roadmap)
- We have generated meaningful structural savings from our efforts
- We use these savings to “self-fund” both the Plumbing and People that are necessary to meet our strategic goals

Issues and what to do?; Proper benchmark and performance evaluations

■ Underperformance of AI relative benchmark

글로벌 연기금의 자산 군별 벤치마크 수익률 대비 초과성과(1991~2012년 기준)

(단위 : %)

	미국 주식	미국이외 주식	신흥시장주식	채권	부동산	헤지펀드	사모투자
초과수익률	-0.10	0.68	0.21	0.26	-0.40	-0.69	-0.40

주 : 헤지펀드는 2000~2012년의 성과

출처 : CEM Benchmarking Inc.

■ Why underperformance?; Imprecise Benchmark

Issues and what to do?; Proper benchmark and performance evaluations

■ Current Benchmark of Global Pension

글로벌 연기금의 대체투자에 대한 벤치마크 수익률을 선정하는 기준					
사모투자	전통자산시장(public market) (56%)		피어그룹인덱스 (peer based) (29%)		
부동산	피어그룹인덱스 (peer based) (64%)		물가상승률 (CPI based) (8%)		확정된 명목수익률 (fixed nominal return) (8%)
인프라	물가상승률 (CPI based)기준 (55%)	주식/채권 수익률 혼합 (mixed stock and bond) (14%)	상장된 인프라투자 (listed infra) (9%)	확정된 수익률 (fixed return) (5%)	채권수익률 (5%)

출처 : CEM Benchmarking Inc.

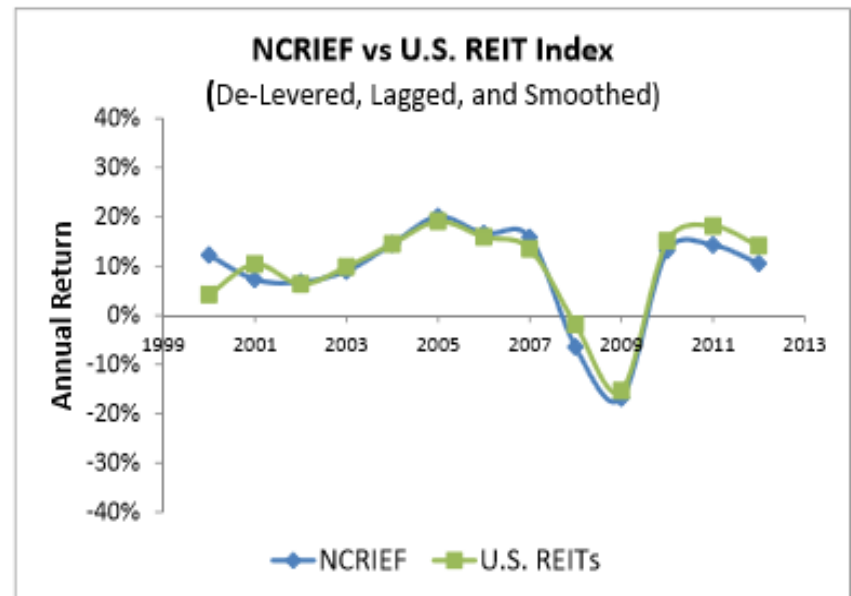
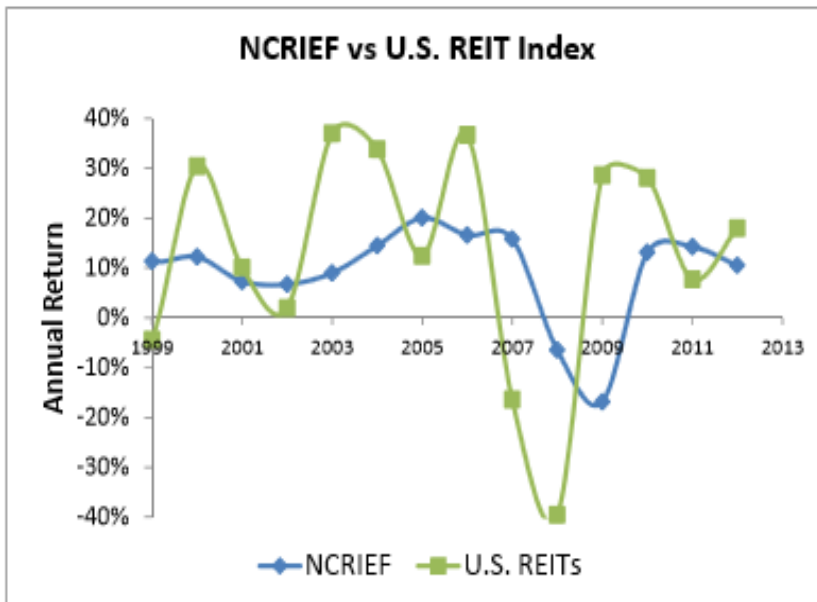
Issues and what to do?; **Proper benchmark and performance evaluations**

■ **Flaws of the current benchmark**

- **Timing mismatches (e.g. lag synchronization)**
- **Smoothed Returns**
- **Un-investable benchmarks**
- **Leverage Mismatches**
- **Aspirational premiums**
- **Mismatch between regions, mix of sectors and etc.**

Issues and what to do?; Proper benchmark and performance evaluations

■ Overhaul of current benchmark



■ NPS: BM 자체개발

Issues and what to do?; Risk Management of AI Investments

- **Risk Management of AI investments**
- **Ex-ante RM vs Ex-post RM**
 - **Ex-ante RM = Due Diligence= Investment Decision**
 - Who is responsible for what?
 - Investment Staff vs. RM Staff
 - **Ex-post RM**
 - Limited tool
 - Effectiveness

Issues and what to do?; Risk Management of AI Investments

■ Ex-post RM

- Exposure limit from total portfolio perspective; Concentration risk
- 사후관리 업무(부동산 등)

■ Key Risk Indicators(KRI) monitoring

- Risk Coverage: 시장위험, 운영위험, 신용위험, 회수위험 등
- 적정 임계치(Threshold levels) 설정
 - Green: Yellow: Red
- 신속, 정확한 공정가치 적용

Issues and what to do?; Risk Management of AI Investments

■ KRI 사례

➤ 시장위험

- IRR, 수익배수, NAV/순투자금액
- 시간가치 고려여부, 투자총액/순액

➤ 레버리지위험

- 부채비율

➤ 운영위험

- 부동산: 임대율, 준공지연, 비용증가
- PE, 인프라: EBITDA, 주가

Issues and what to do?; Risk Management of AI Investments

■ KRI 사례

➤ 신용위험

- 투자대상/임차인의 신용위험,
- 보장조건 이행가능성

➤ 회수위험

- 회수지연가능성

➤ 환위험

- 환율변동

Issues and what to do?; **Good governance**

- **Positive correlation of performance and governance index**
- **Listokin and etc.(2014), US public pension funds and alternative investments; Uneven Investment Policies, Uneven Results**
 - **The size(AUM) of pension fund is not predictor of good governance structure.**
 - **Fund size does not predict stronger negotiating power in fees or success in returns**

Issues and what to do?; **Good governance**

- **Hidden Pitfall of AI**
- **Herding for AI investment**
 - **“criticism insurance”**
 - **prudent investor rule**
 - **just follow what others do**
 - **AI provides means for funds to limit information about performance**
 - **Not as capable of being marked-to-market as publicly-traded investments**
 - **Not easy to evaluate performance**

Issues and what to do?; **Organization and Staff manpower (CPPIB 사례)**

■ **이사회 전문성**

- vs. 미국 연기금 (대표성, 노동자대표 등)
- Correlation of performance with governance
- 온타리오 교원 연금 모델 추종
- 10명의 stewards(9: 주정부재무장관, 1:연방정부재무장관)의 이사회 멤버 임명
- 외부기관의 outsourcing 의 통한 전문성 강화
- 뉴질랜드 슈퍼애뉴에이션펀드가 CPPIB 모델 추종; 하이리스크/하이리턴 추종, 80% 주식투자, 전문성에 기반한 높은 위험자산 비중
- 싱가포르 국부펀드 사례

CPPIB

■ 스태프

- 1,000여명
- 운용전담: 400~500명
- 나머지: 언론홍보, 법률, IT, 오퍼레이션, 미디어 등
- 해외 오피스; 런던, 뉴욕, 홍콩, 상파울로(2014)
- 위험관리: Investment Risk(30명), total portfolio management(60명, 일부 리서치 겸임), enterprise risk(5명)

CPPIB

■ 직접투자자 vs. 위탁투자자

- 초기 100% 위탁투자자 → 직접투자자 비중 확대
- Public market: 직접 70%, 위탁 30%
- 비용 문제

■ Compensation

- 민간기관(CPPIB acts); 보상문제의 걸림돌 없음.
보수관련 autonomy
- 핵심인력: 200~300만\$ 가능
- 이사회 산하 compensation committee
- 보수비용: 전체 운용자산의 2bp

CPPIB

■ ALM

- 운용자산으로 총 liability의 10% 만 커버
- 전체 ALM은 정부의 chief actuary office가 담당

■ 대체투자

- 300여명 staff
- 대부분 in-house 투자
- 매트릭스 조직구조: 지역별/자산별 교차 커버
- Head of Int'l Investment: 홍콩 거주 인사
- Benchmark; 자체적 지표 개발(퍼블릭 인덱스 참조, lagging)

CPPIB

- **Active한 주주권 행사**
- **환 헤지 및 회계**
 - 채권만 100% 헤지
 - 포트폴리오의 국가별 Currency risk exposure 비중;
미국 달러 59%, Euro 16%, 영국 파운드 6%, 일본 엔 5%,
호주 달러 4%, 홍콩 달러 2% 등
 - 분기별 시가평가
 - 일부 자산에 대한 시가평가 예외 고민 중

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■ 기타

- 10~15년 정도 장기 전략적 자산배분: 레퍼런스 포트폴리오
- Investment planning committee에서 대부분 전략적 자산배분 및 risk budget 등 주요의사 결정
- 동 산하 Investment dept decision committee에서 개별투자건 결정
- CEO 임기제한 없음.

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■ 기타

➤ 타 연기금에 대한 평가;

- 싱가포르 국부펀드, 뉴질랜드슈퍼에뉴에이션, 호주 퓨처펀드 등 호 평가
- 유럽펀드: 전반적 위험회피 경향, 노르웨이국부펀드(투명성 높지만 규모 너무 커서 어려움)
- 아부다비 국부펀드; 스텝 1,500명, 왕에 대한 ALM^^

감사합니다