What You Should Know About the Performance of Private Equity Real Estate

David Ling

Where Does Private Equity Real Estate (PERE) Fit in?

- Cash
- Bonds
- Stocks
- Alternatives

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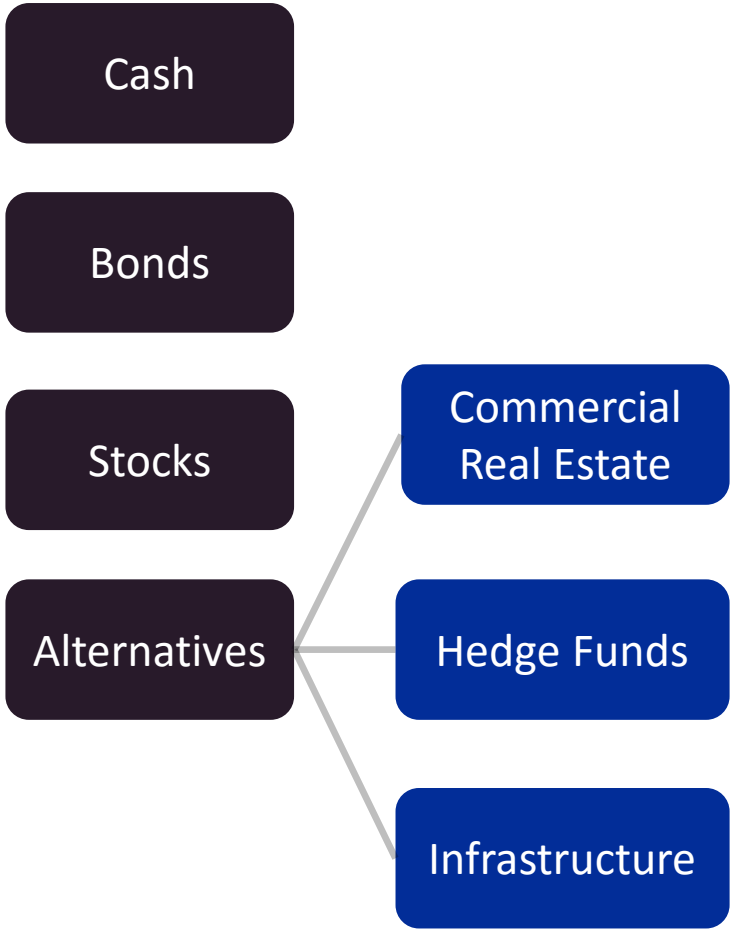

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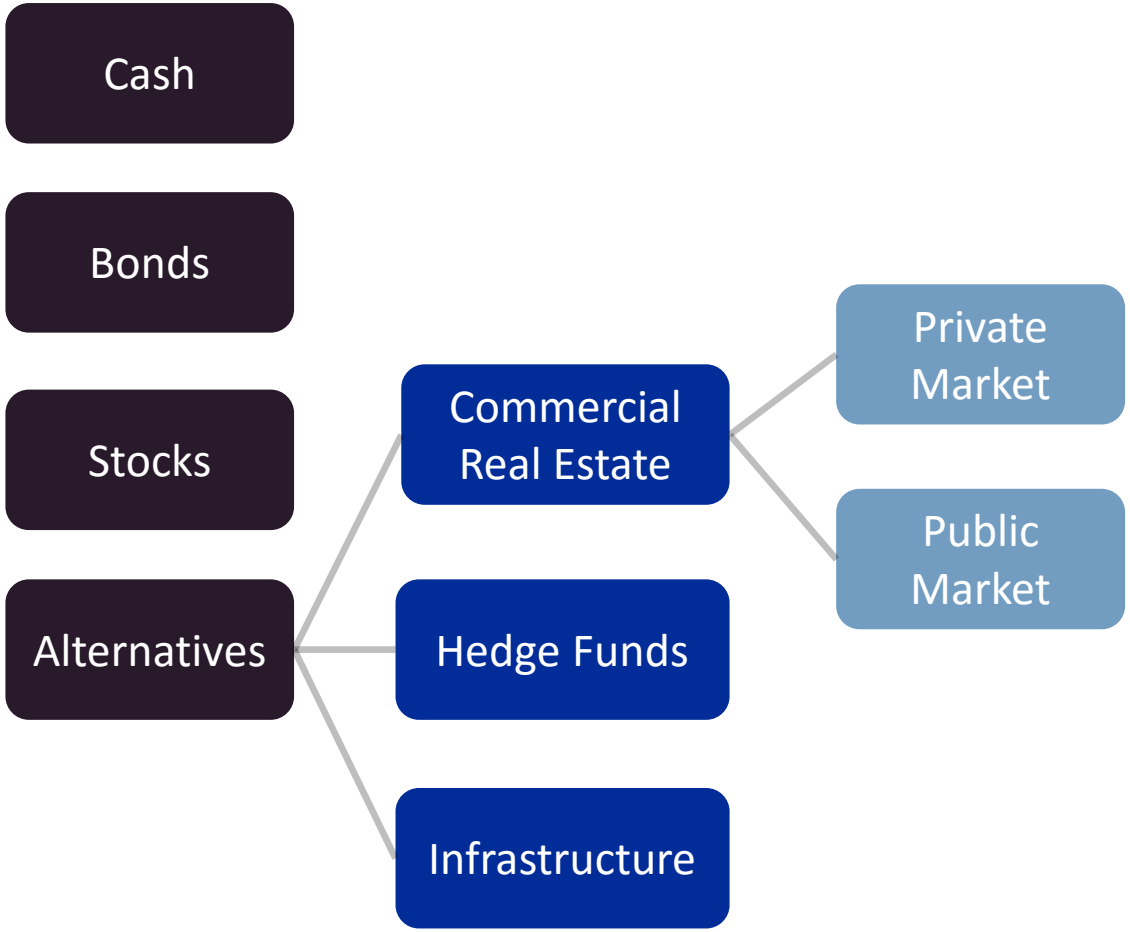

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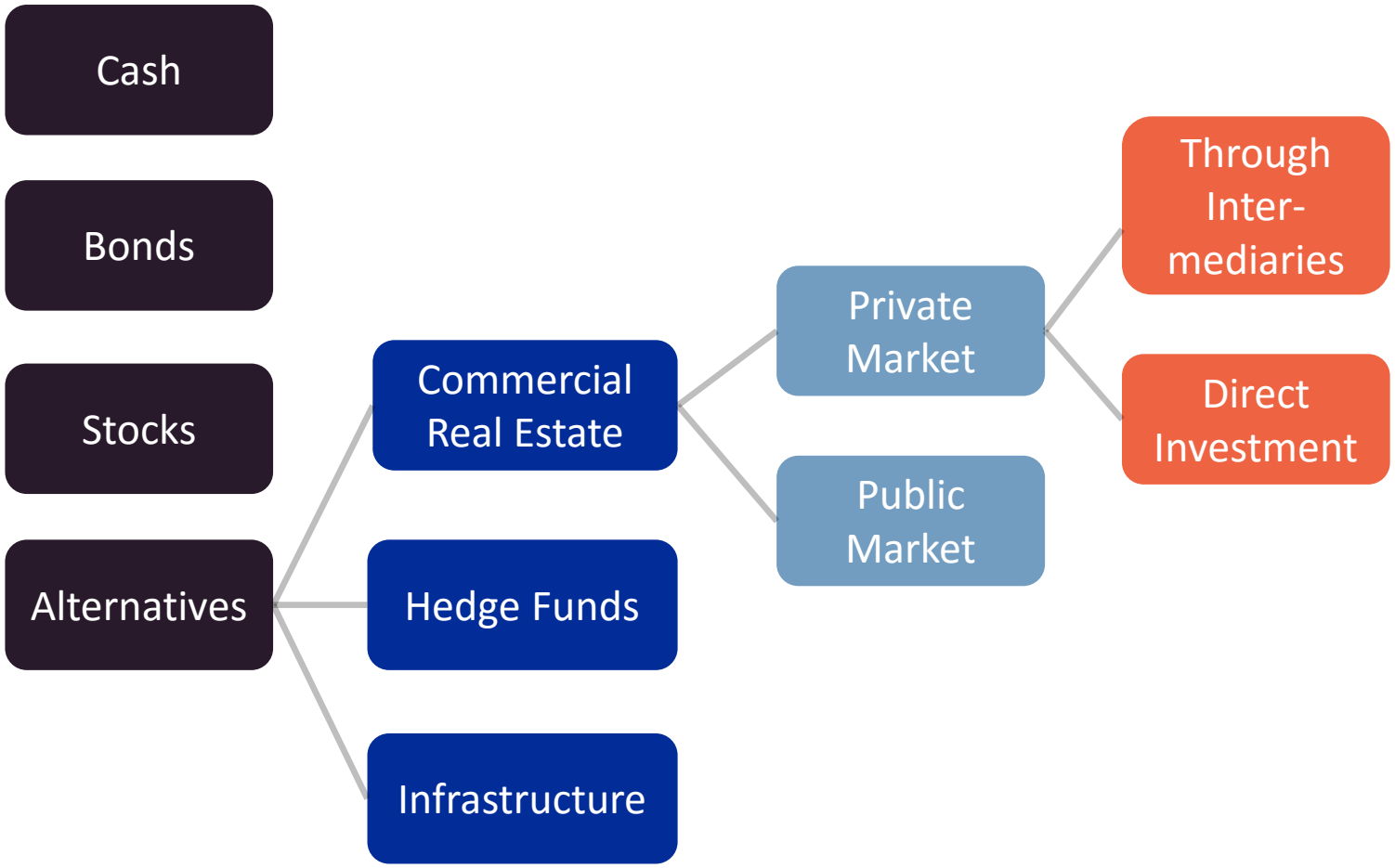

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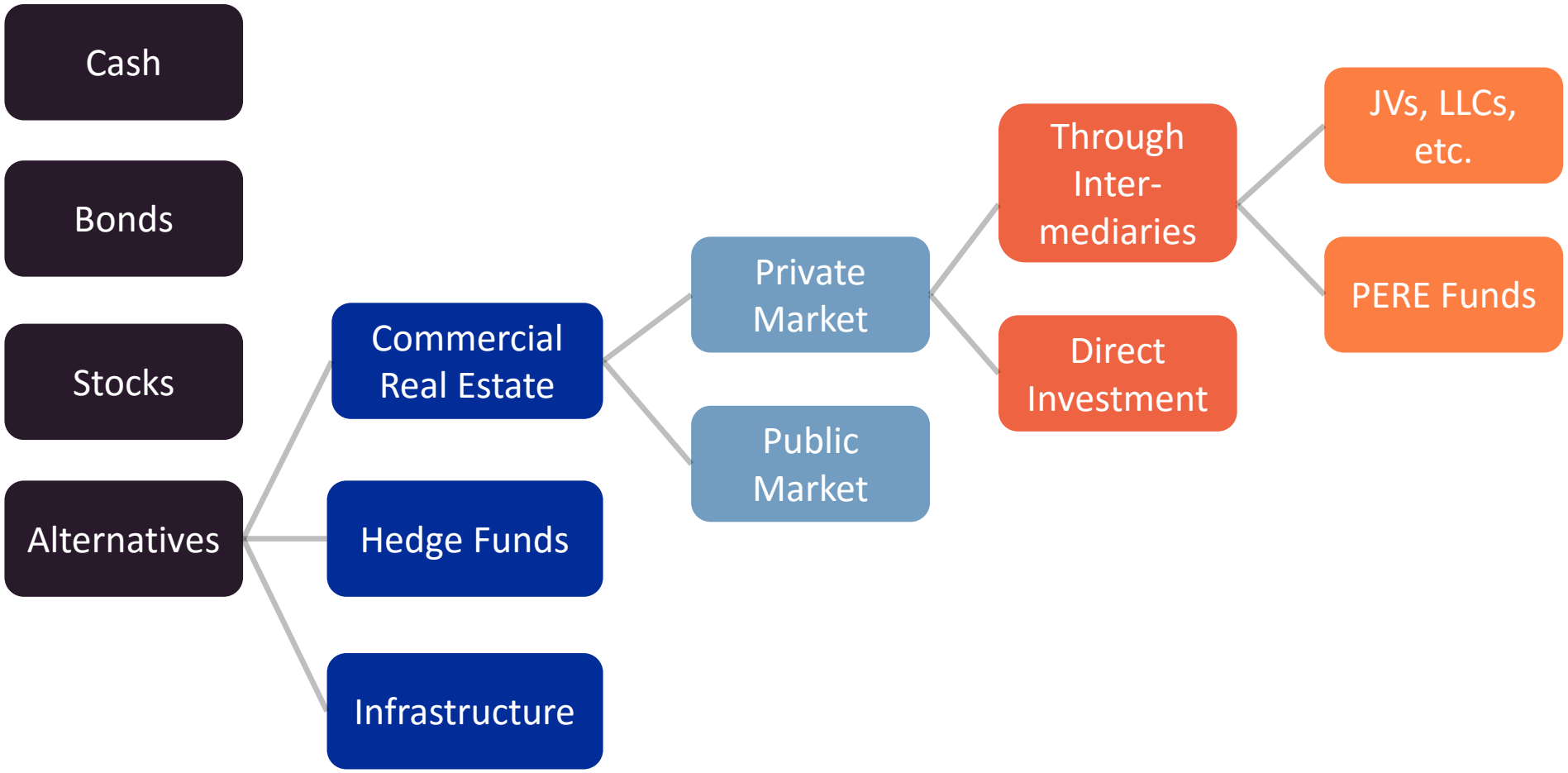

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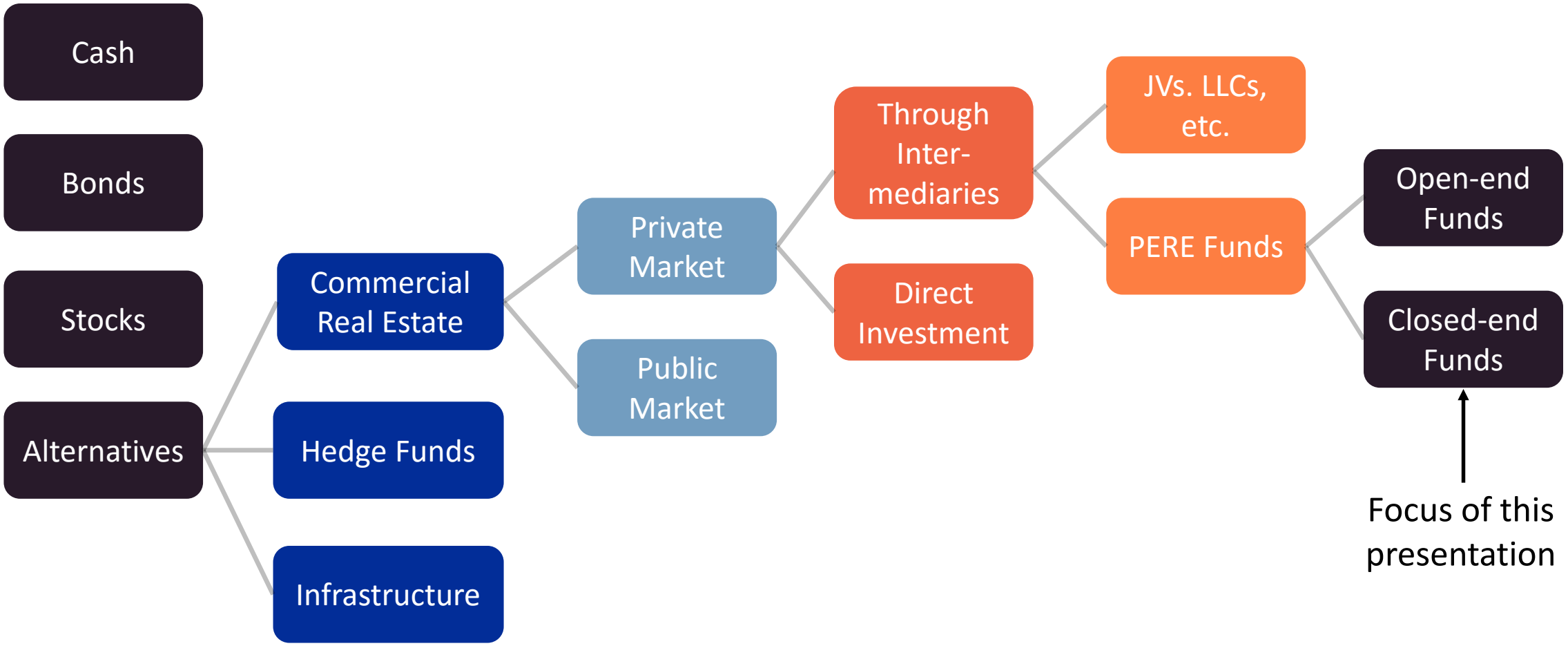

Background & Motivation

- Private equity real estate (PERE) funds have become an increasingly important part of CRE capital markets
- According to *Cambridge Associates*, equity investments in PERE funds approached $1 trillion in 4Q 2019
- Much research exists on public (listed) CRE (i.e., REIT) returns
- However…the return performance & risk profile of PERE funds are not well understood

Background & Motivation

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- Much research exists on public (listed) CRE (i.e., REIT) returns
- However…the return performance & risk profile of PERE funds are not well understood
  - A "*cloak of secrecy*" pervades this market sector

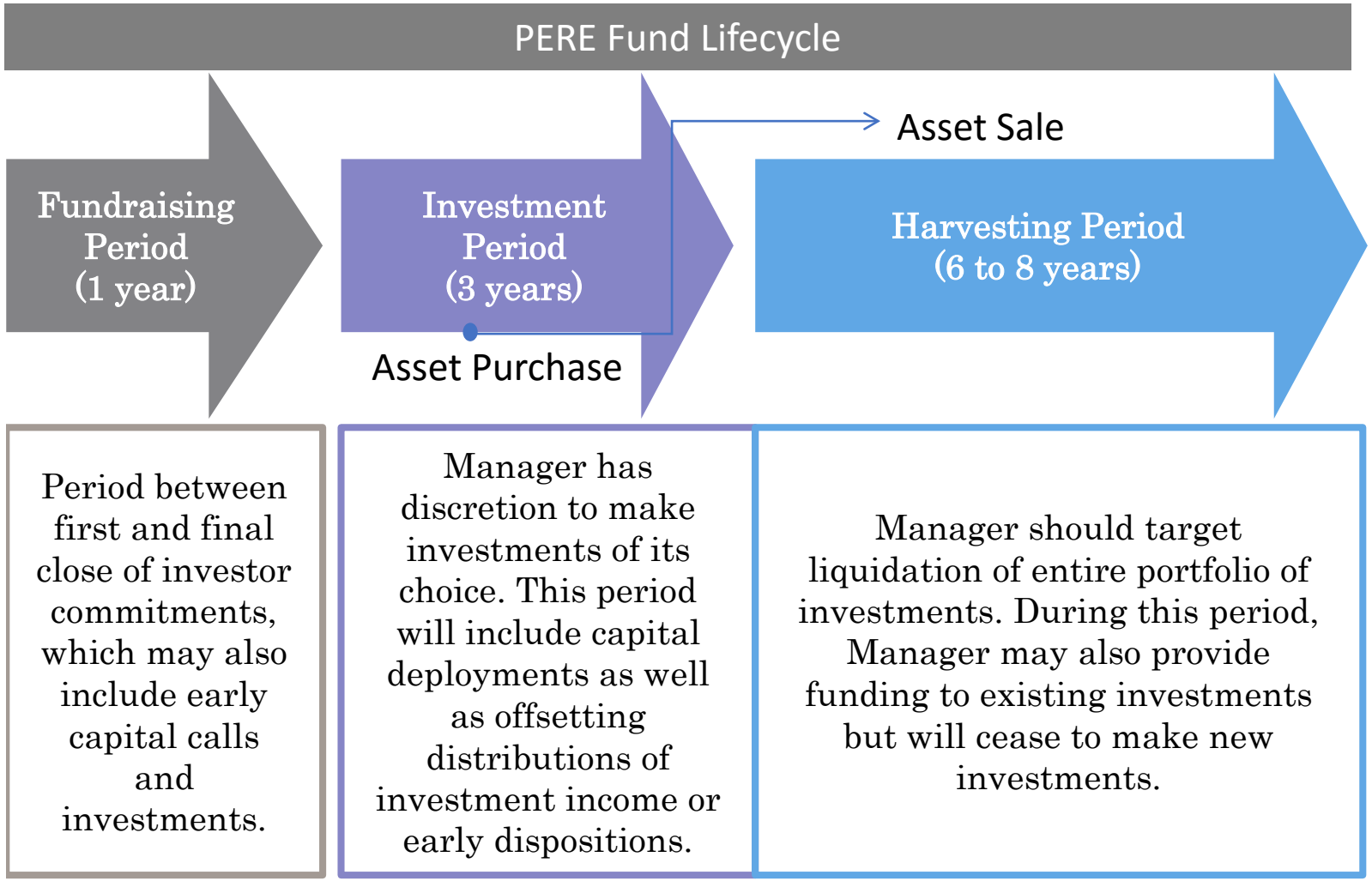
Roadmap for Presentation

- Briefly review difference between open-end & closed-end PERE funds
- Explain the source of our data on closed-end PERE funds & performance
- Explain how we measure the relative performance of PERE funds
- Show you the results
- Provide some suggestions to PERE investors

Brief Overview of Closed-End PERE Funds

- Closed-end PERE funds are typically limited partnerships
  - Fixed term of 8-12 years (often with annual extensions)
  - Limited # of investors & properties
  - Sponsor/GP also invests—often 1-5% of equity capital
    - Expects to make majority of return from carried interest/promotes
  - Investors make a capital commitment, which (generally) is “called” by fund manager (GP) over 2-3 years as properties/assets are acquired
    - Commitment is a contractual obligation
  - Very illiquid investments

Closed-End PERE Fund Raising & Investment Horizon



Brief Overview of Open-End PERE Funds

- Sometimes called “commingled” funds
- Infinite-life investment vehicles
  - e.g., Prudential's open-end PRISA I fund came to market in 1970
- Generally invest in high quality (“core”) properties with little or no leverage
- Allow investors to enter or exit the fund on a periodic basis (once a quarter)
  - Subject to some limitations

Research Presented Today is Based on Three Separate Research Projects…..

- "Waiting to be Called: The Impact of Deployment Speeds and Opportunity Costs on PERE Returns" (with Thomas Arnold & Andy Naranjo), *Journal of Portfolio Management* Vol. 43, 2017
- "Private Equity Real Estate Funds: Returns, Risk Exposures, and Persistence" (with Thomas Arnold & Andy Naranjo), *Journal of Portfolio Management* Vol. 45, 2019
- "Commercial Real Estate Return Performance: Listed REITs versus Private Equity Real Estate Funds" (with Thomas Arnold & Andy Naranjo)
  - New research partially funded by the *National Association of Real Estate Investment Trusts* (*NAREIT*)

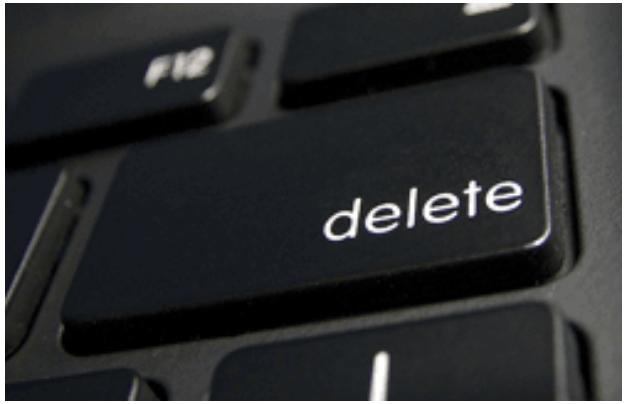
Our Source of PERE Fund Data

- Source of closed-end PERE data is *Cambridge Associates* (*CA*)
- Data cover 2000Q1-2018Q4 time-period

CAMBRIDGE ASSOCIATES

Our Final PERE Data Set

- We delete/exclude:
  - funds that are not fully liquidated
    - So…all performance data is based on 100% actual cash flows
  - debt funds, funds providing financing to home builders, FoFs, infrastructure funds, agricultural funds



Our Final PERE Data Set

- Final database: 379 closed-end “equity” funds
- Three main investment strategies:
  - Core funds: existing stable assets, high quality tenants, major metro areas, low leverage, long-term holding periods (**19 funds**)
    - Target pre-tax returns to LPs: 6-8%

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  - Value-add funds: existing properties that need some re-tenanting &/or renovation, may invest outside largest urban areas, use more leverage, short-to-medium holding periods (**143 funds**)
    - Target pre-tax returns to LPs: 12-16%

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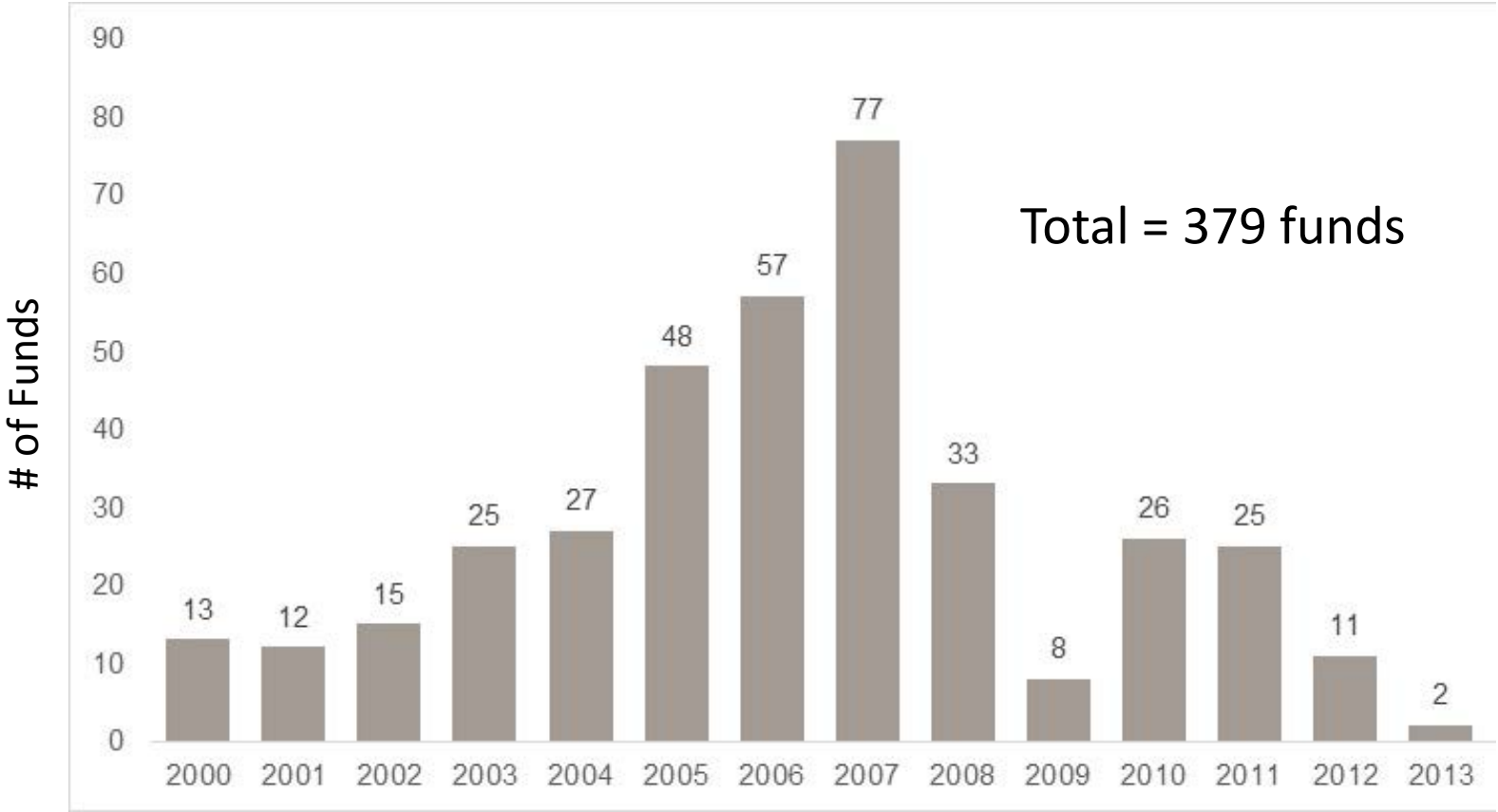
  - Value-add funds: existing properties that need some re-tenanting &/or renovation, may invest outside largest urban areas, use more leverage, short-to-medium holds, (143 funds)
  - Opportunistic funds: development projects, major renovations, may invest in riskier locations, high leverage, shorter-term holding periods (**217 funds**)
    - Target pre-tax returns to LPs: 16%+

of PERE Funds By Vintage Year



- Vintage year dramatically impacts fund performance

Relative Performance of PERE?

- Research question: Have funds outperformed…
  - publicly-traded U.S. equity REITs?
  - open-end PERE funds that invest in core properties with minimum leverage?

Relative Performance of PERE?

- Research question: Has the fund outperformed:
  - publicly-traded U.S. equity REITs?
  - open-end PERE funds that invest in core properties with minimum leverage?

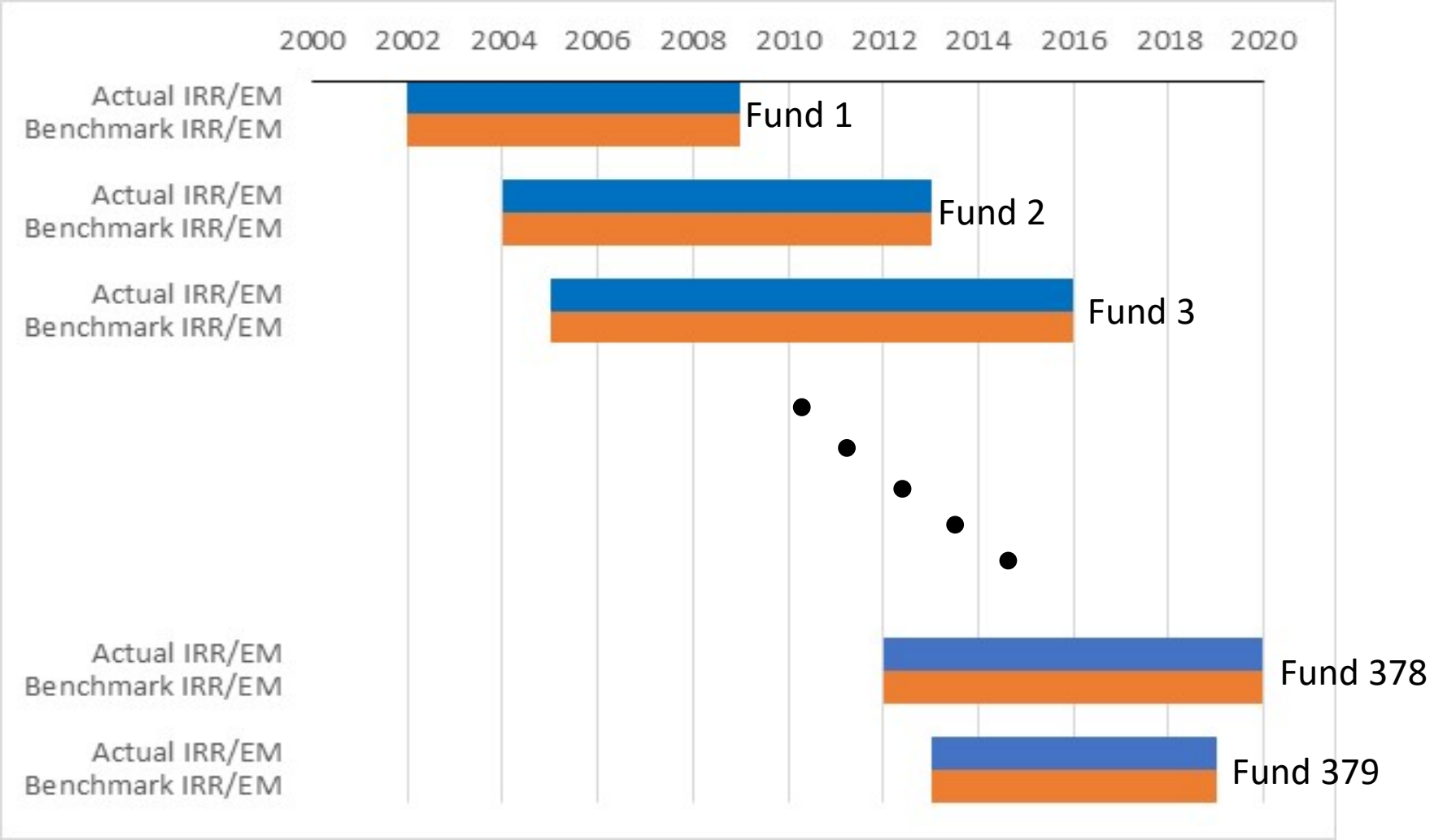
- We run 379 “horse races” against these benchmarks & tabulate the results
  - Without adjusting for liquidity, leverage, or risk profile….

Measuring the Relative Performance of PERE

- Performance metrics?
  - Internal rate of return (IRR)
  - Equity multiple (EM)
    - total cash distributions to LPs ÷ total capital invested by LPs
- How is “outperformance” of a fund determined?
  - If IRR (fund) – IRR (benchmark) > 0, fund has outperformed benchmark
  - If EM (fund) / EM (benchmark) > 1, fund has outperformed benchmark

379 “Horse Races”

- Match performance of each PERE fund with performance of benchmark over same investment horizon



Some Audience Participation Please…

- Without adjusting for liquidity, leverage, ….

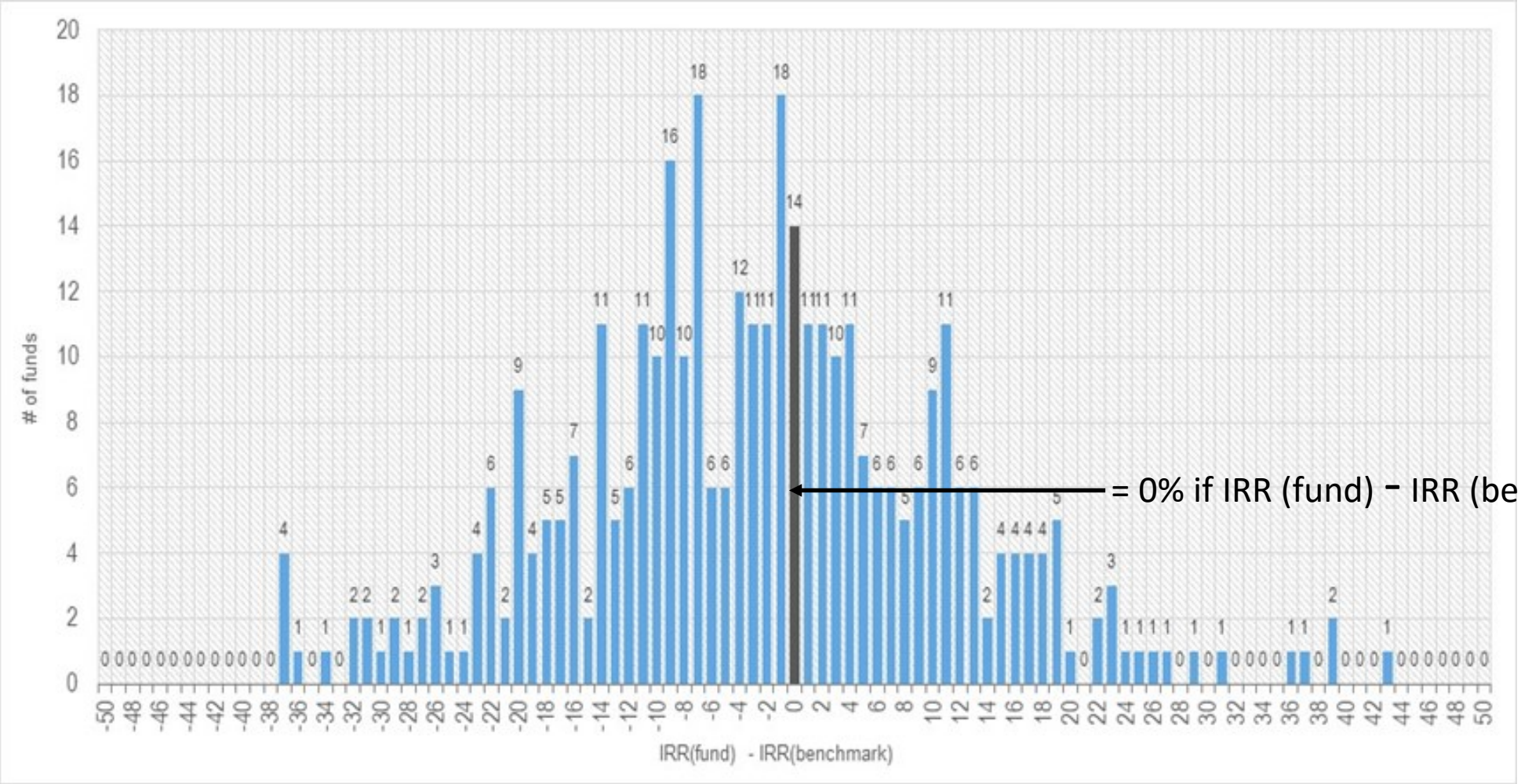
- Have closed-end PERE funds outperformed equity REITs?
  - …won more than 50% of horse races…?

- Have closed-end PERE funds outperformed open-end “core” funds?
  - …won more than 50% of horse races…?

PERE Performance Relative to Equity REITs

- Benchmark: total return on index of publicly-traded equity REITs
  - From CRSP-Ziman

PERE Performance Relative to Equity REITs: IRR (Fund) Minus IRR (Benchmark)



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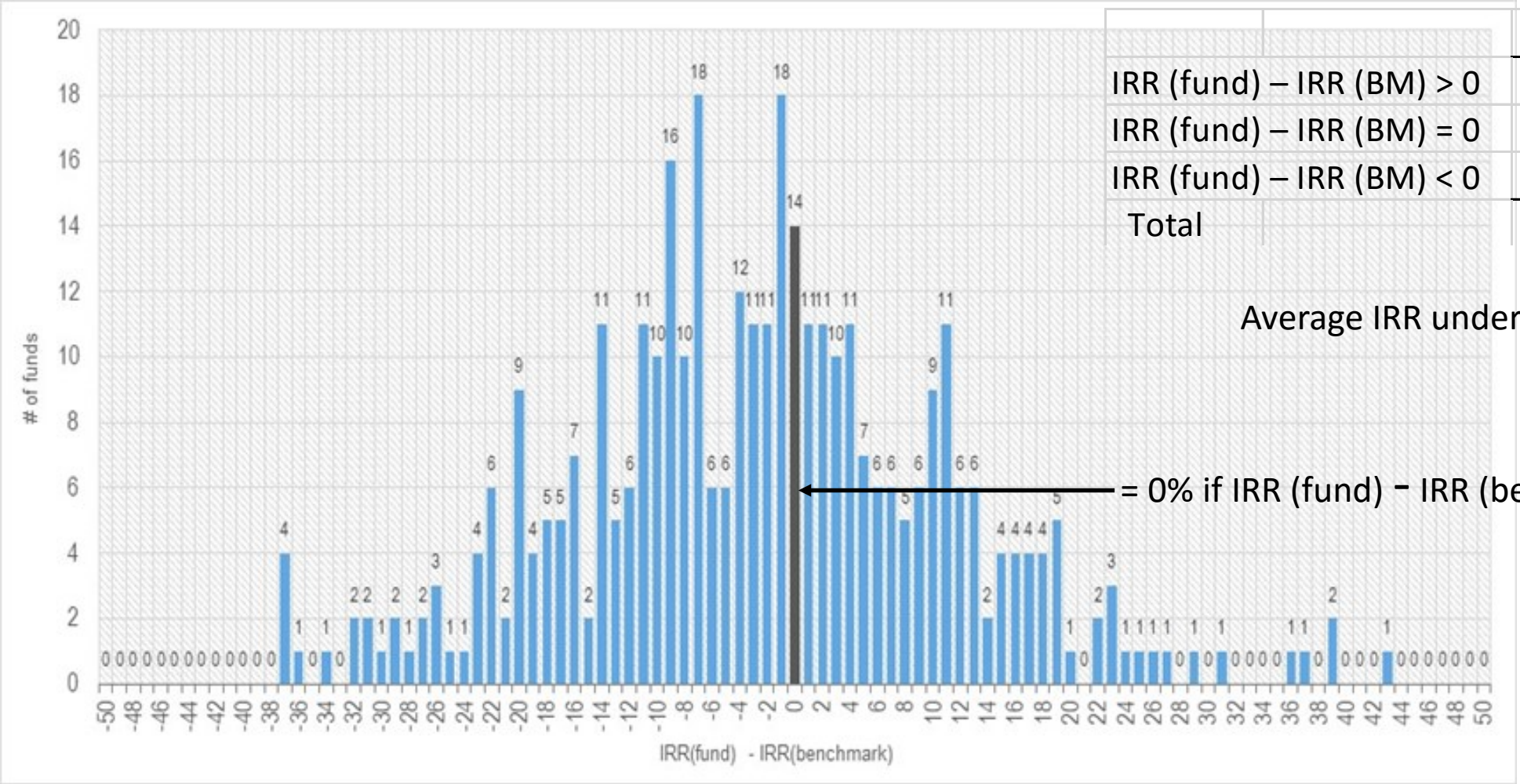


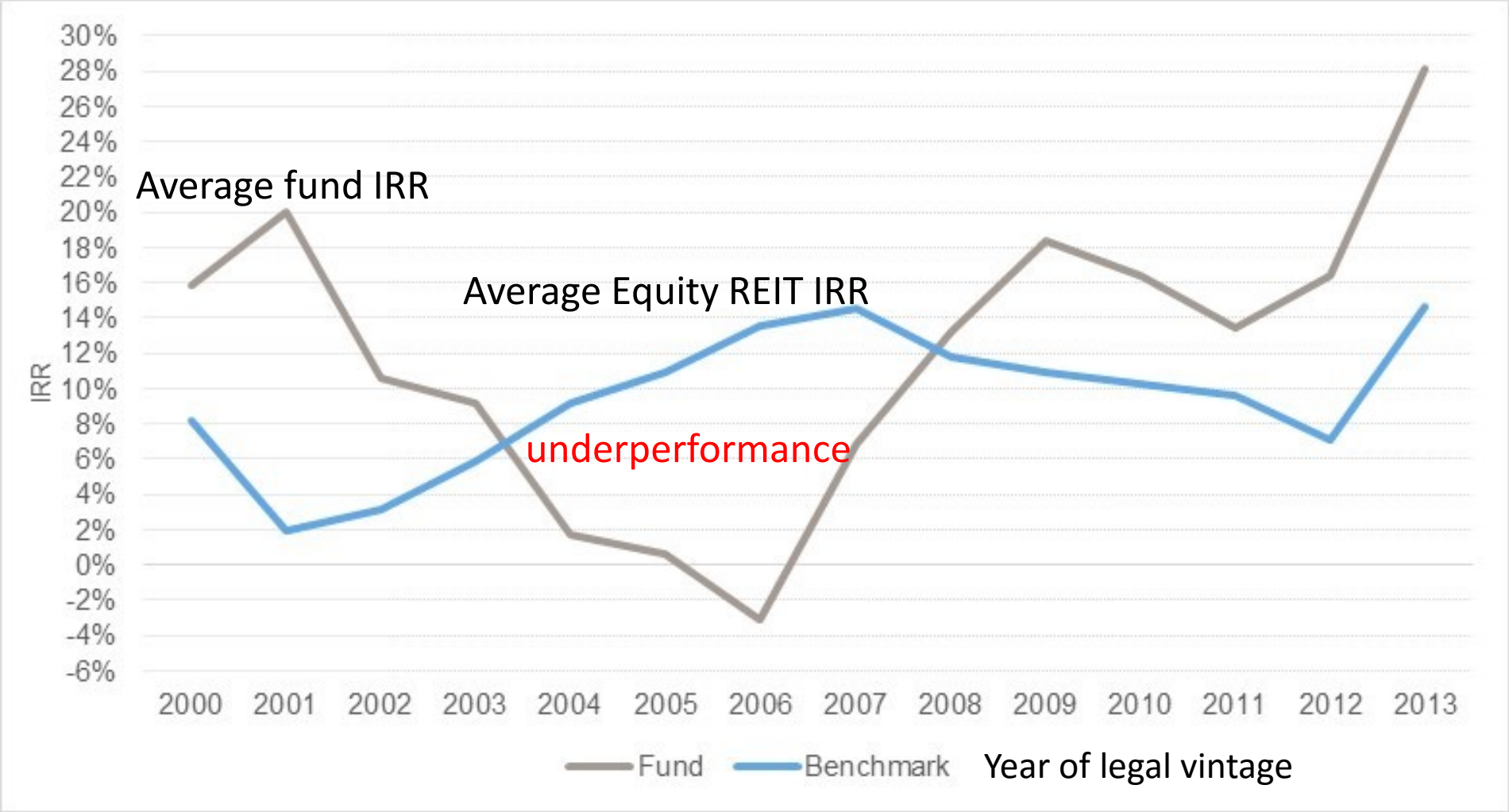
	# of funds	% of funds
IRR (fund) – IRR (BM) > 0	148	39%
IRR (fund) – IRR (BM) = 0	14	4%
IRR (fund) – IRR (BM) < 0	217	57%
Total	379	100%

Average IRR underperformance = -3.24%

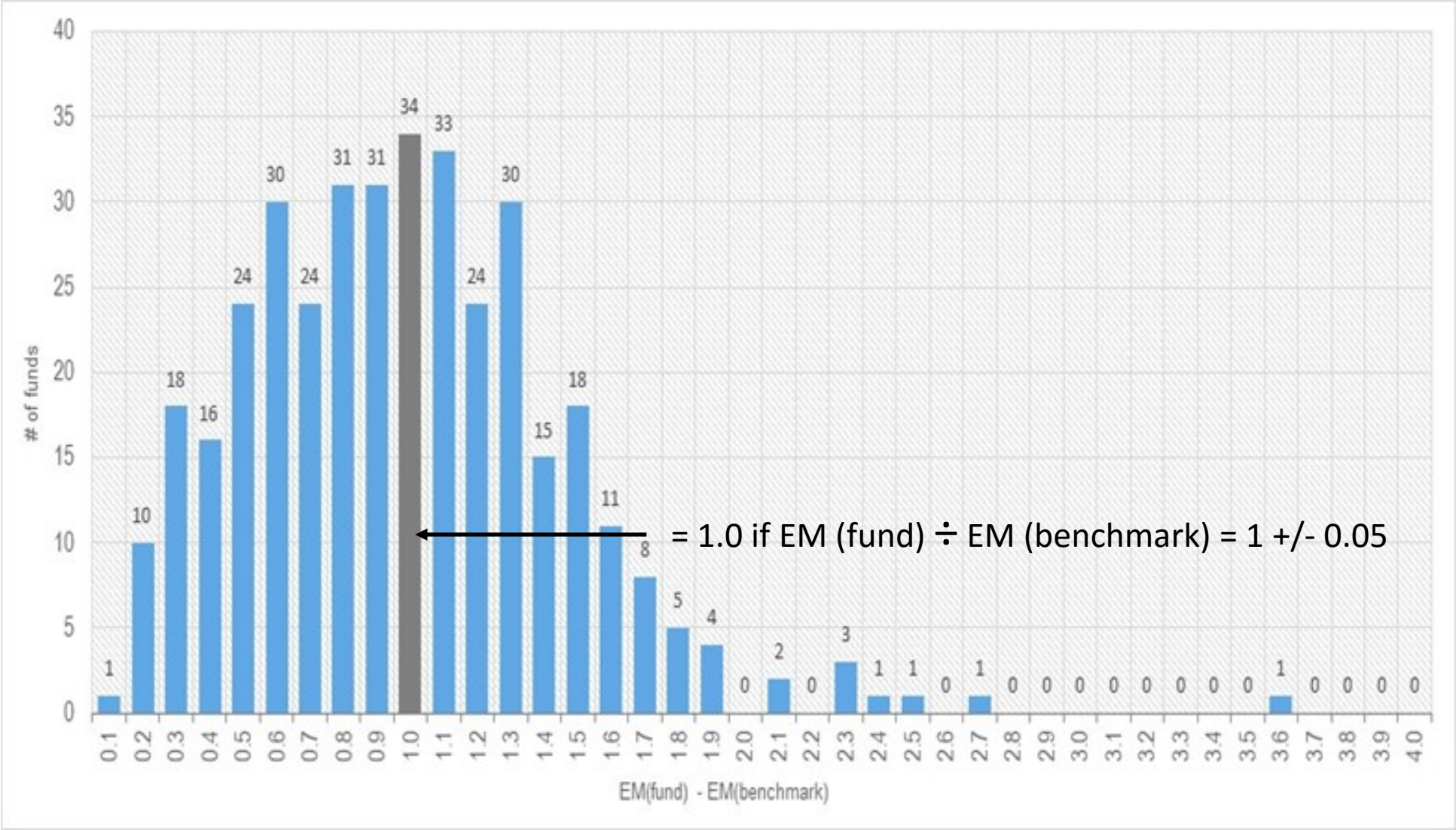
= 0% if IRR (fund) - IRR (benchmark) = 0 +/- 0.5%

Fund IRR Performance Relative to Equity REITs Varies By Vintage Year

Fund under-performance relative to Equity REITs is concentrated in vintage years 2004-2008



PERE Performance Relative to Equity REITs: EM (fund) ÷ EM (Benchmark)



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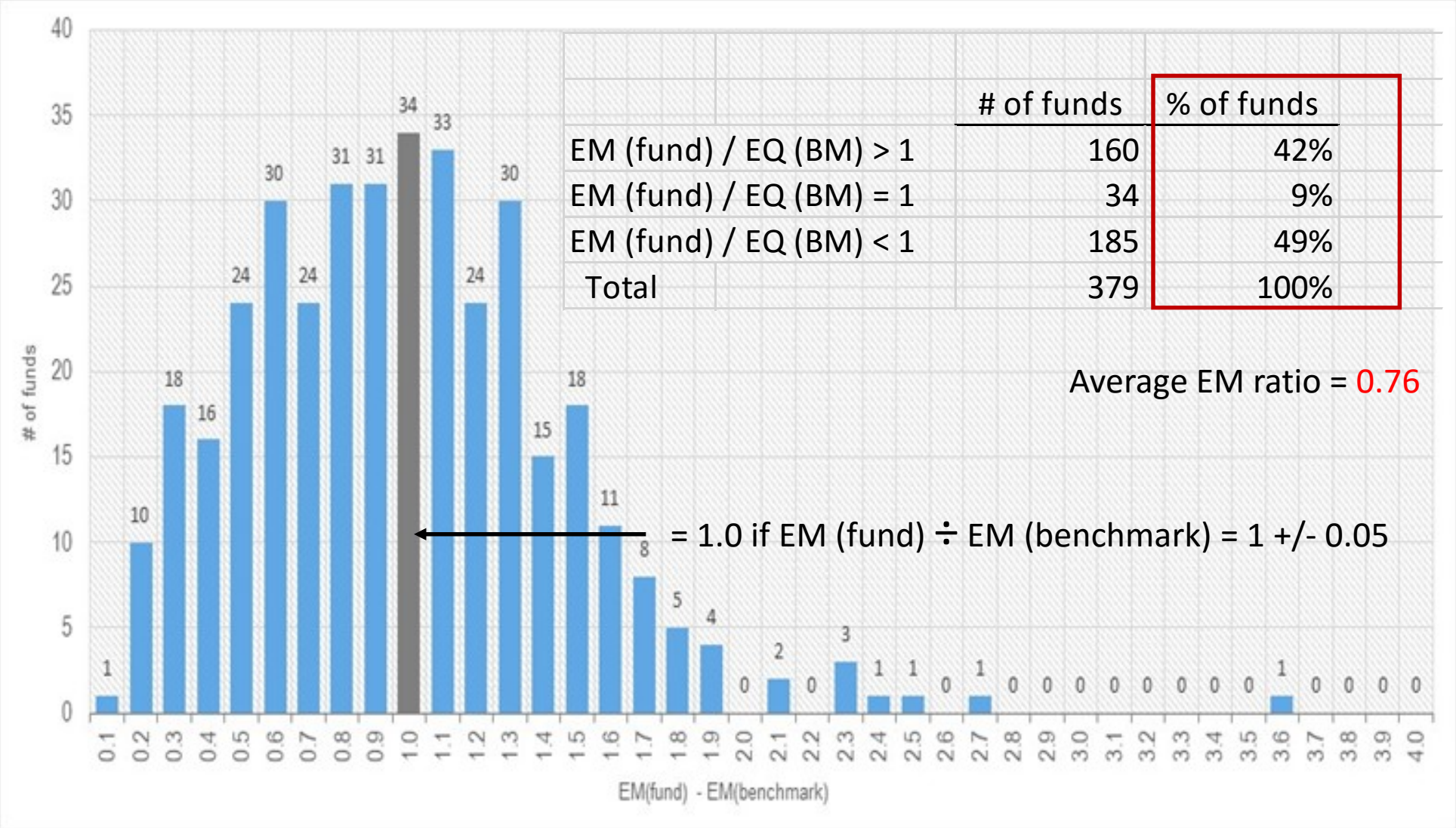


	# of funds	% of funds
EM (fund) / EQ (BM) > 1	160	42%
EM (fund) / EQ (BM) = 1	34	9%
EM (fund) / EQ (BM) < 1	185	49%
Total	379	100%

Average EM ratio = 0.76

PERE Funds With an International Exposure Have Underperformed

		Average IRR (%)			Average Multiple (X)		
	Count	Benchmark IRR	Fund IRR	Mean Difference	Benchmark Multiple	Fund Multiple	Mean difference
All funds	379	10.75	7.51	-3.24	1.73	1.32	-0.40
Domestic	236	10.24	8.88	-1.36	1.68	1.40	-0.29
International	143	11.59	5.24	-6.35	1.80	1.20	-0.59
Low-risk	162	10.64	7.39	-3.24	1.75	1.34	-0.40
High-risk (opp funds)	217	10.83	7.59	-3.24	1.71	1.31	-0.40

Opportunistic Funds Have Not Delivered Risk-Adjusted Returns

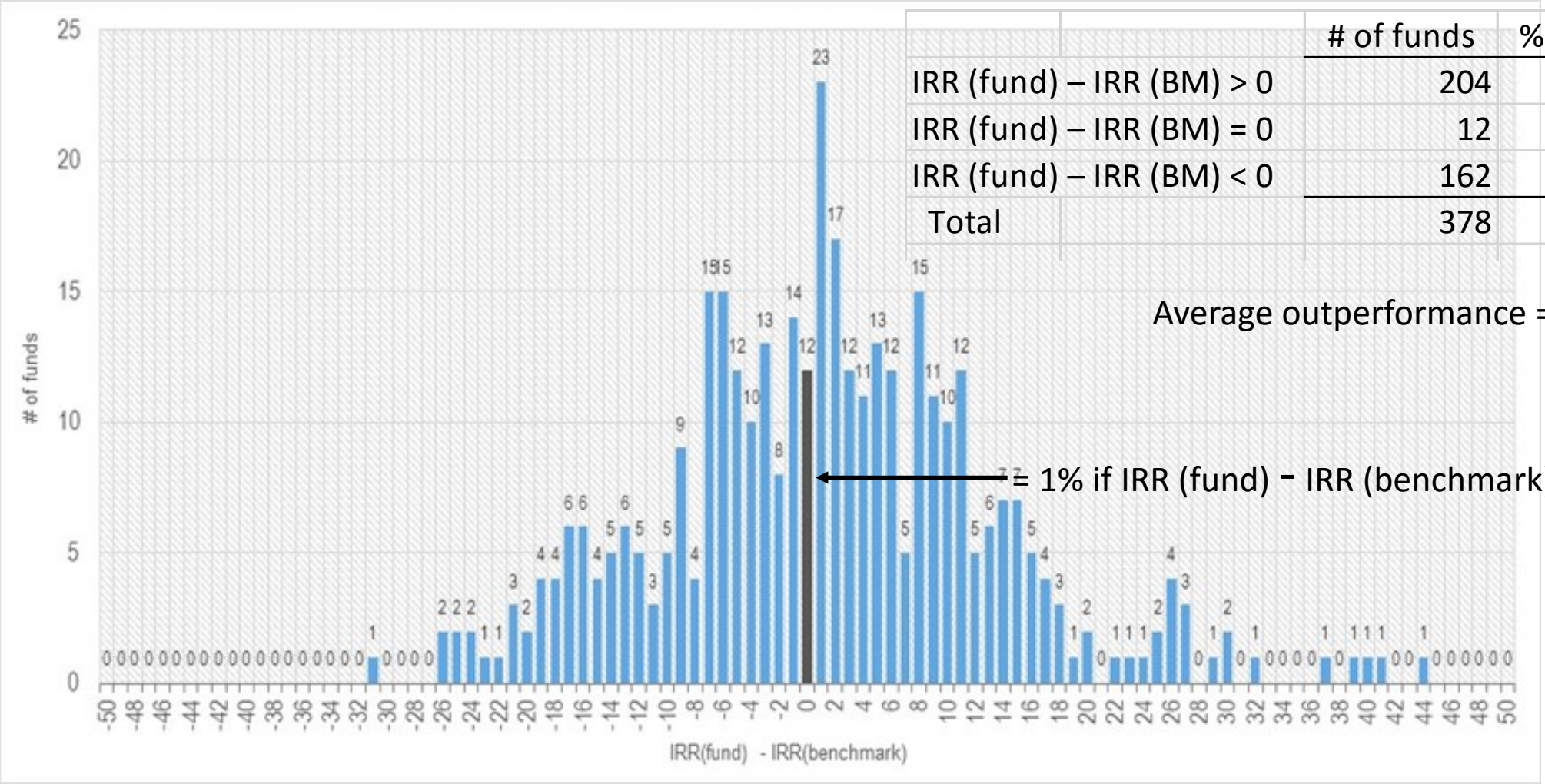
		Average IRRs (%)			Average Multiple (x)		
	Count	Benchmark IRR	Fund IRR	Mean Difference	Benchmark Multiple	Fund Multiple	Mean difference
All funds	379	10.75	7.51	-3.24	1.73	1.32	-0.40
Domestic	236	10.24	8.88	-1.36	1.68	1.40	-0.29
International	143	11.59	5.24	-6.35	1.80	1.20	-0.59
Low-risk	162	10.64	7.39	-3.24	1.75	1.34	-0.40
High-risk (opp funds)	217	10.83	7.59	-3.24	1.71	1.31	-0.40

- Opportunistic funds have not (on average) delivered expected higher returns relative to lower risk funds

PERE Performance Relative to Open-End PERE Funds

- Benchmark: NCREIF ODCE Index
  - Total returns on index of **open-end** PERE funds
  - These funds invest in diversified portfolios of high quality (core) assets with little or no leverage
  - Entry & exit is allowed on a periodic basis
    - i.e., they provide some liquidity

PERE Performance Relative to NCREIF ODC: IRR



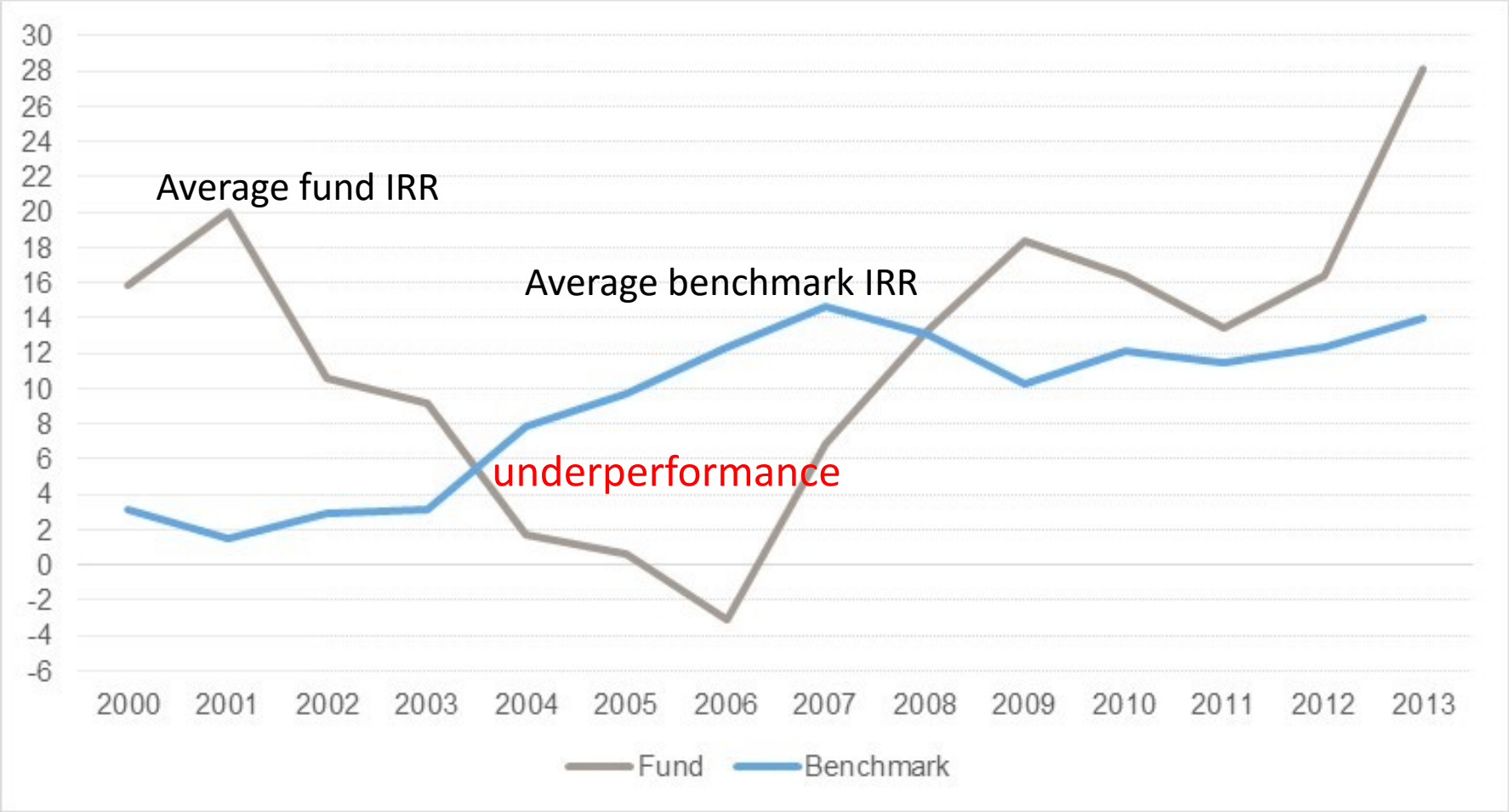
	# of funds	% of funds
IRR (fund) – IRR (BM) > 0	204	56%
IRR (fund) – IRR (BM) = 0	12	8%
IRR (fund) – IRR (BM) < 0	162	36%
Total	378	100%

Average outperformance = 0.30%

= 1% if IRR (fund) - IRR (benchmark) = 1 +/- 0.5%

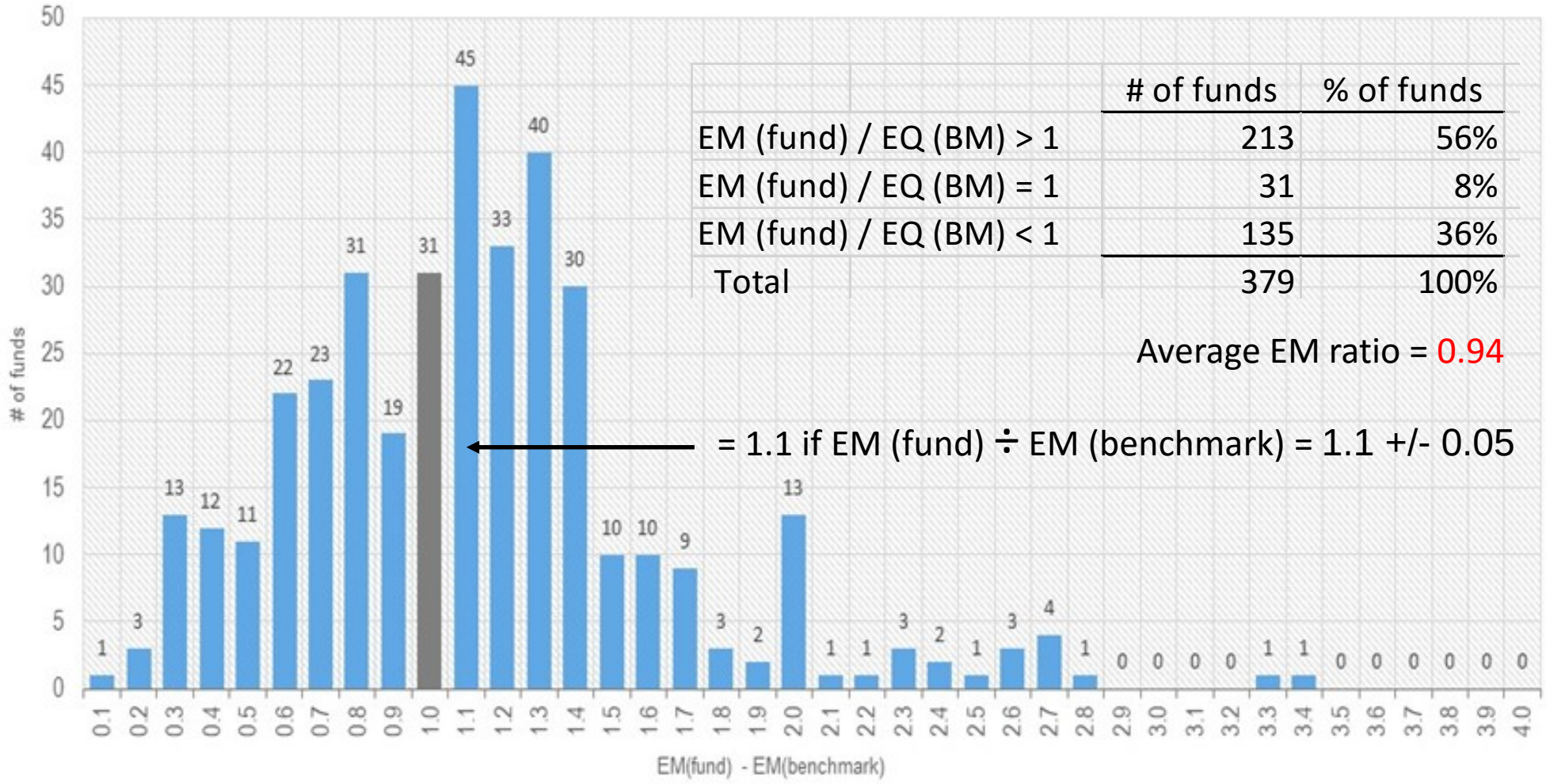
IRR Performance Relative to NCREIF ODCE Varies By Vintage Year

- Fund under-performance relative to NCREIF ODCE is concentrated in vintage years 2004-2008



Year of legal vintage

PERE Performance Relative to NCREIF ODCE: Equity Multiple



	# of funds	% of funds
EM (fund) / EQ (BM) > 1	213	56%
EM (fund) / EQ (BM) = 1	31	8%
EM (fund) / EQ (BM) < 1	135	36%
Total	379	100%

Average EM ratio = 0.94

= 1.1 if EM (fund) ÷ EM (benchmark) = 1.1 +/- 0.05

PERE Funds With an International Exposure Have Underperformed

		Average IRRs (%)			Average Multiple (x)		
	Count	Benchmark IRR	Fund IRR	Mean Difference	Benchmark Multiple	Fund Multiple	Mean difference
All funds	379	7.21	7.51	0.30	1.40	1.32	-0.07
Domestic	236	6.82	8.88	2.07	1.37	1.40	0.03
International	143	7.85	5.24	-2.62	1.45	1.20	-0.25
Low-risk	162	7.06	7.39	0.33	1.39	1.34	-0.05
High-risk (opp funds)	217	7.32	7.59	0.28	1.40	1.31	-0.09

Opportunistic Funds Have Not Delivered Risk-Adjusted Returns

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- Opportunistic (high risk) funds have not (on average) delivered expected higher returns relative to lower risk funds

Needed Adjustments for Liquidity, Leverage, & Cost of Waiting to be Called

- Relative to equity REITs & open-end funds, the typical closed-end PERE fund…
  1. is significantly less liquid
  2. uses more financial leverage
  3. requires investors (LPs) to maintain liquid assets for capital calls

- So…how do we handicap our 379 horse races to account for these differences?

Needed Adjustment for Liquidity?

- PERE investors should expect to receive an illiquidity premium
- Research in stock markets indicates **illiquid listed stocks** earn annualized returns that are **at least** 300 basis points > more liquid stocks
- And…illiquid listed stocks are MORE liquid than PERE funds
- Implied downward adjustment of average fund IRR for illiquidity…relative to equity REITs?
  - You decide…but at least 300 basis points annually

Needed Adjustment for Leverage?

- Over 2000-2018 time period, the use of **leverage** boosted equity REIT returns by over 300 basis points annually
- And…equity REITs typically employ about 35-40% leverage
- All funds in the NCREIF ODCE index use less that 20% leverage
- Typical leverage of PERE funds in our sample:
  - 60-70%...but much variation
- Implied downward adjustment of average fund IRR for leverage
  - At least 200 basis points annually

Needed Adjustment for Opportunity Cost of Waiting to be Called?

- Closed-end fund investors typically have no more than 10 days to wire capital when called by fund manager
- There is an opportunity cost associated with maintaining liquid assets ("**dry powder**")
- We estimate this **opportunity cost of waiting to be called** to be 100-200 bps annually
- Implied downward adjustment of reported fund IRR for this opportunity cost …
  - At least 100 basis points annually

So…What Does PERE Performance Look Like After These Adjustments?

- Relative to Equity REITs…

	Average						
	REIT IRR	Fund IRR	Difference	Liquidity	Leverage	Opportunity cost of waiting	Adjusted difference
All funds	10.75%	7.51%	-3.24%	-3.00%	-2.00%	-1.00%	-9.24%
Domestic	10.24%	8.88%	-1.36%	-3.00%	-2.00%	-1.00%	-7.36%

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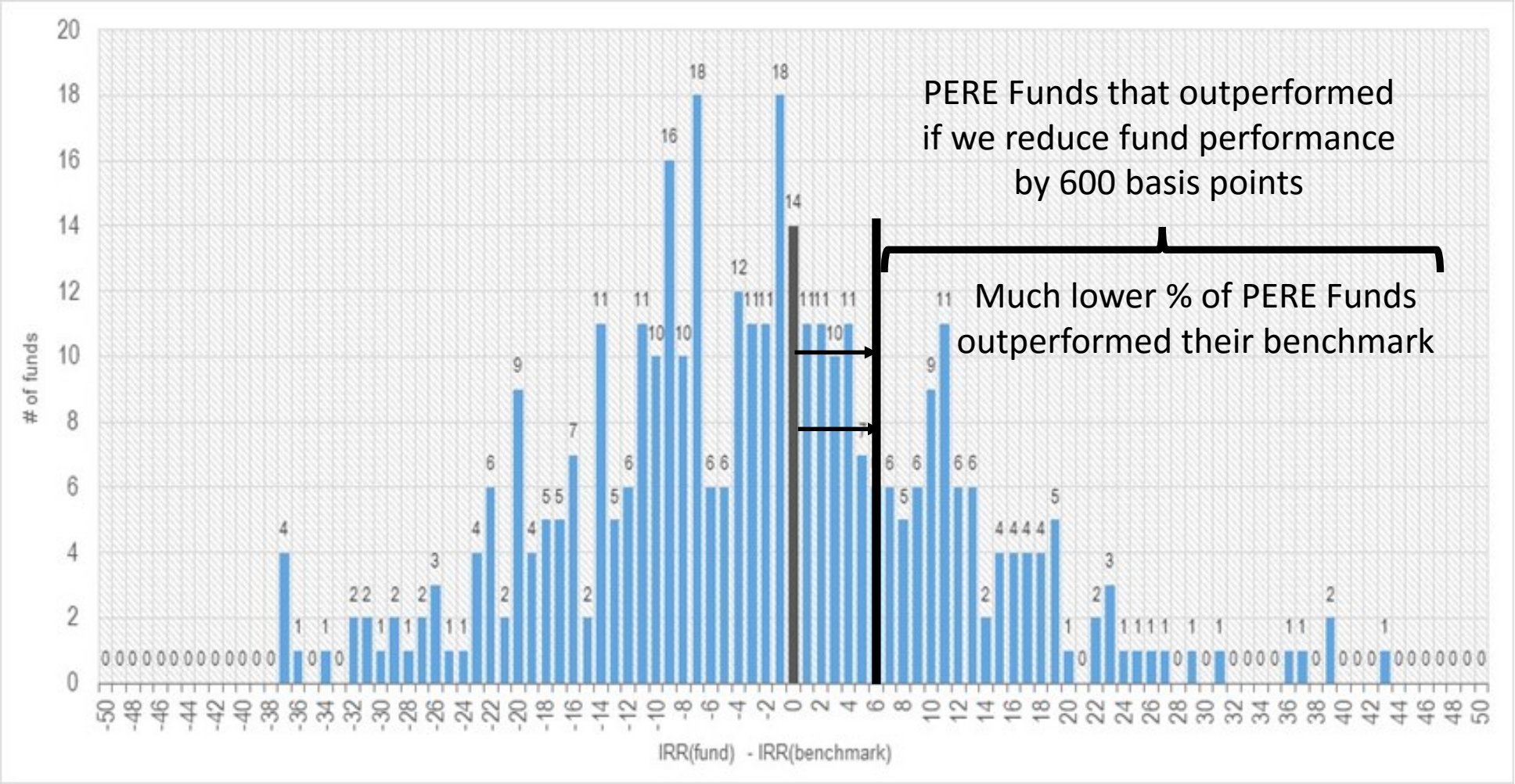
Average closed-end fund investor

Adjusted PERE Performance Relative to Equity REITs: IRR



So…What Does PERE Performance Look Like After These Adjustments?

- Relative to NCREIF ODCE

		Average		Required adjustments for:			
	ODCE IRR	Fund IRR	Difference	Liquidity	Leverage	Opportunity cost of waiting	Adjusted difference
All funds	7.21%	7.51%	0.30%	-1.50%	-2.00%	-1.00%	-4.20%
Domestic	6.82%	8.88%	2.07%	-1.50%	-2.00%	-1.00%	-2.43%

Doesn't include a downward adjustment for risk!!

Important Caveats…

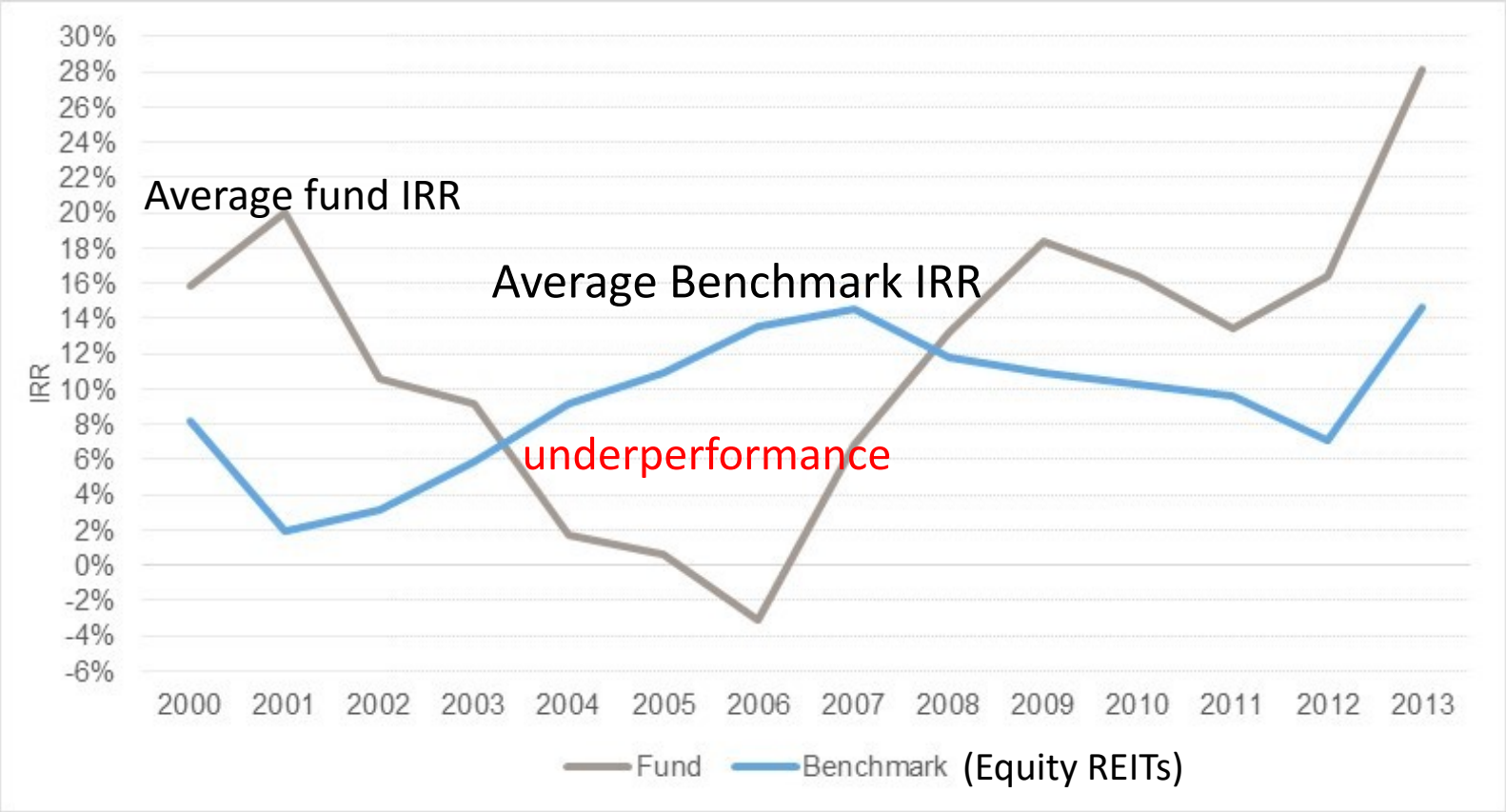
- PERE funds more attractive:
  - to investors who do not require/value liquidity

Important Caveats…

- PERE funds more attractive:
  - to investors who do not require/value liquidity
  - in a portfolio context
    - Closed-end PERE fund returns not highly correlated with returns on publicly-traded REITs & other stocks

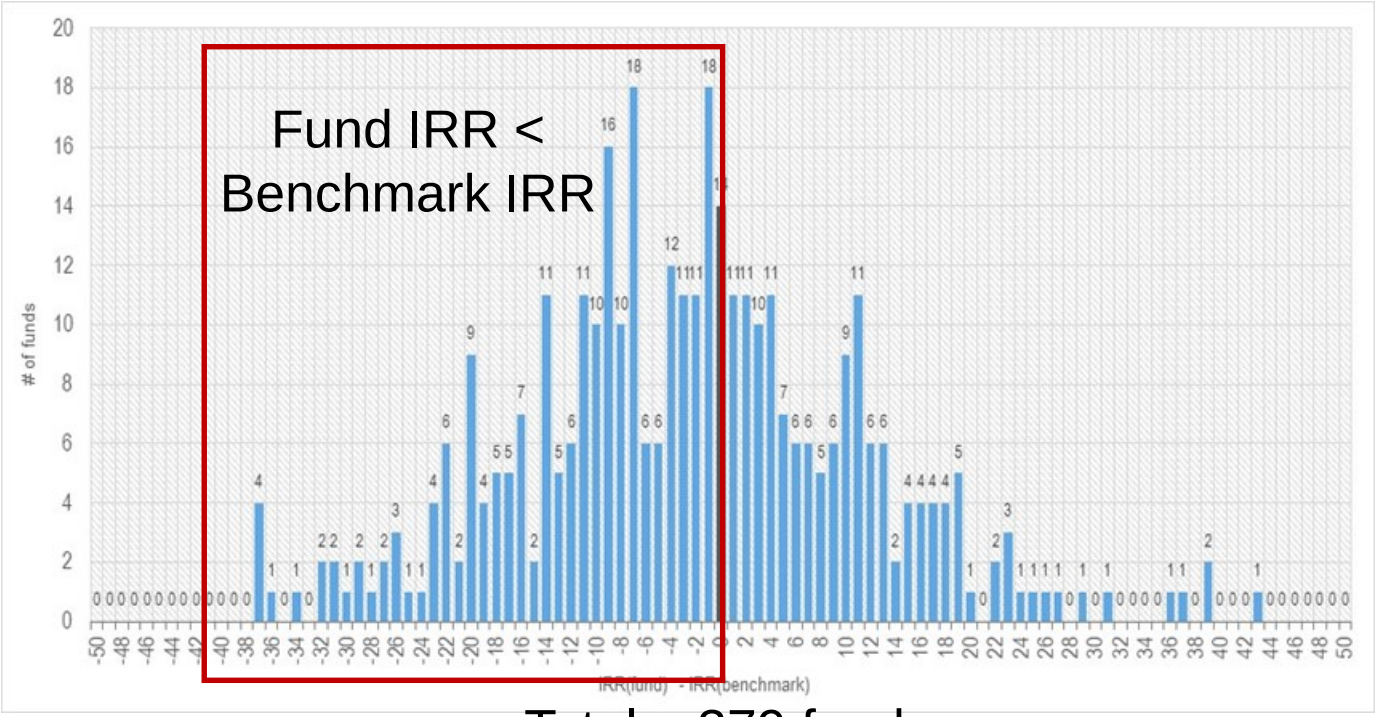
What Can be Done to Avoid This Underperformance?

1. Market time PERE investments….



What Can be Done to Avoid This Underperformance?

2. Avoid the worst performing funds/pick winners



Total = 379 funds

Descriptive	IRR (Fund) % (PERE Funds)	IRR (PME) % (Benchmark (REITs))	IRR (Fund) - IRR (PME)
Maximum	44.3	38.1	6.2
1st Quartile > 75%	21.7	8.7	13.0
Mean	7.5	10.7	-3.2
Median	8.3	11.0	-2.6
4th Quartile < 25%	-7.6	11.5	-19.1
Minimum	-93.0	-44.5	-48.5

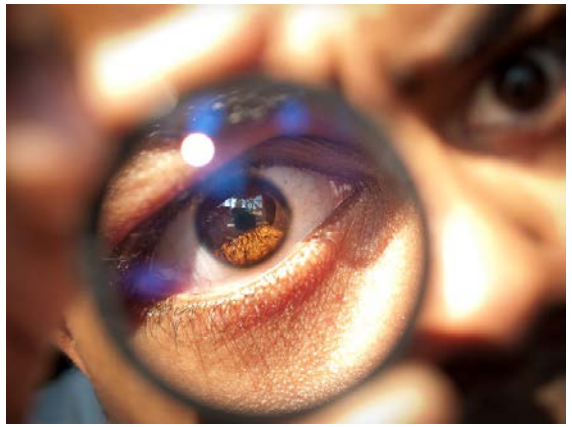
Worst performing funds

Two Obvious Investment Strategies, But….

Can it be done!

Observations/Suggestions for Investors…?

- Our research suggests that…all else equal:
  - Larger funds outperform smaller funds
  - LPs are not typically compensated for the higher risk associated with opportunistic funds
  - Funds with an international exposure should be approached cautiously
  - Fund performance is positively associated with the performance of prior funds raised by the same PERE firm
    - i.e., performance is persistent



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- Allocate more capital to investments in “core” properties/funds
  - With moderate leverage
- Demand more & better data from fund managers
  - A “cloak of secrecy” permeates this industry
- Advocate for a cut in base fees and/or performance fees charged by manager
  - Especially from unproven managers

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