

Private Equity

Asset Allocation Discussion

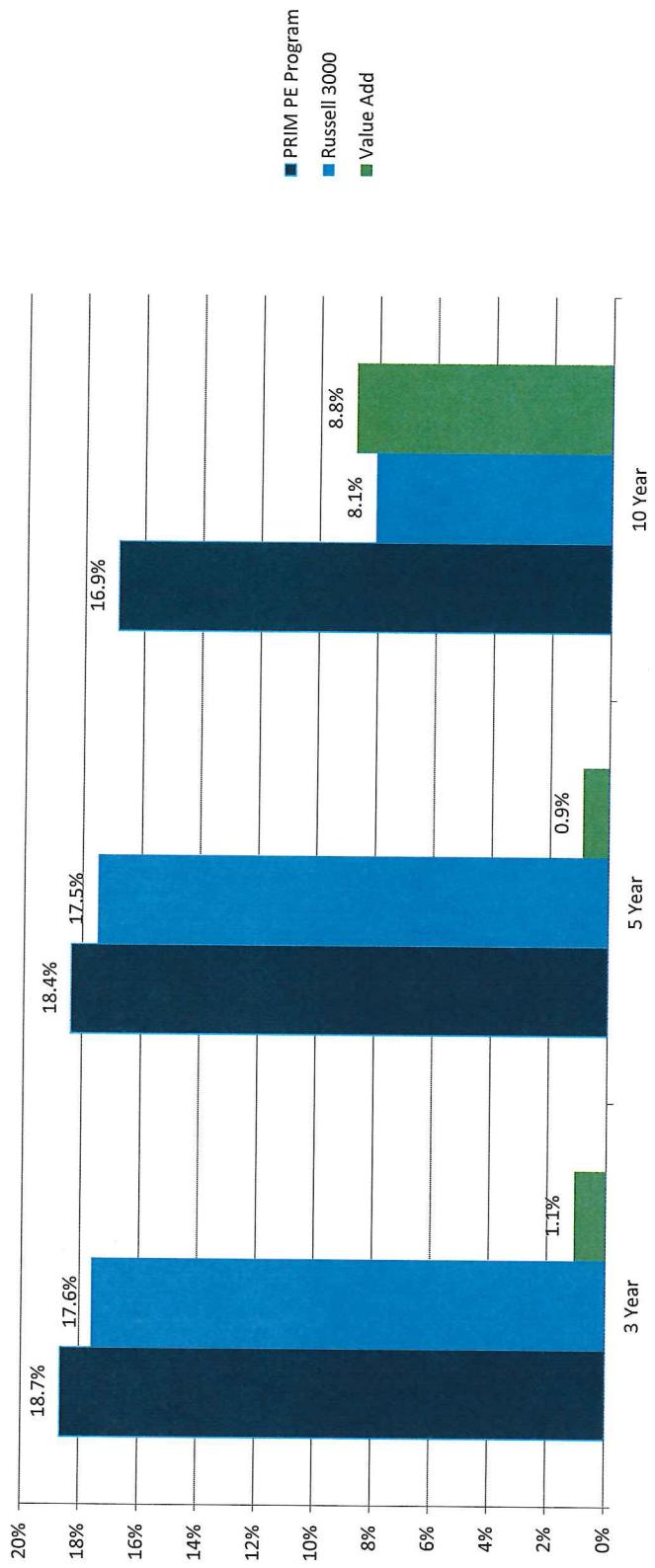
10/15/15

Takeaways

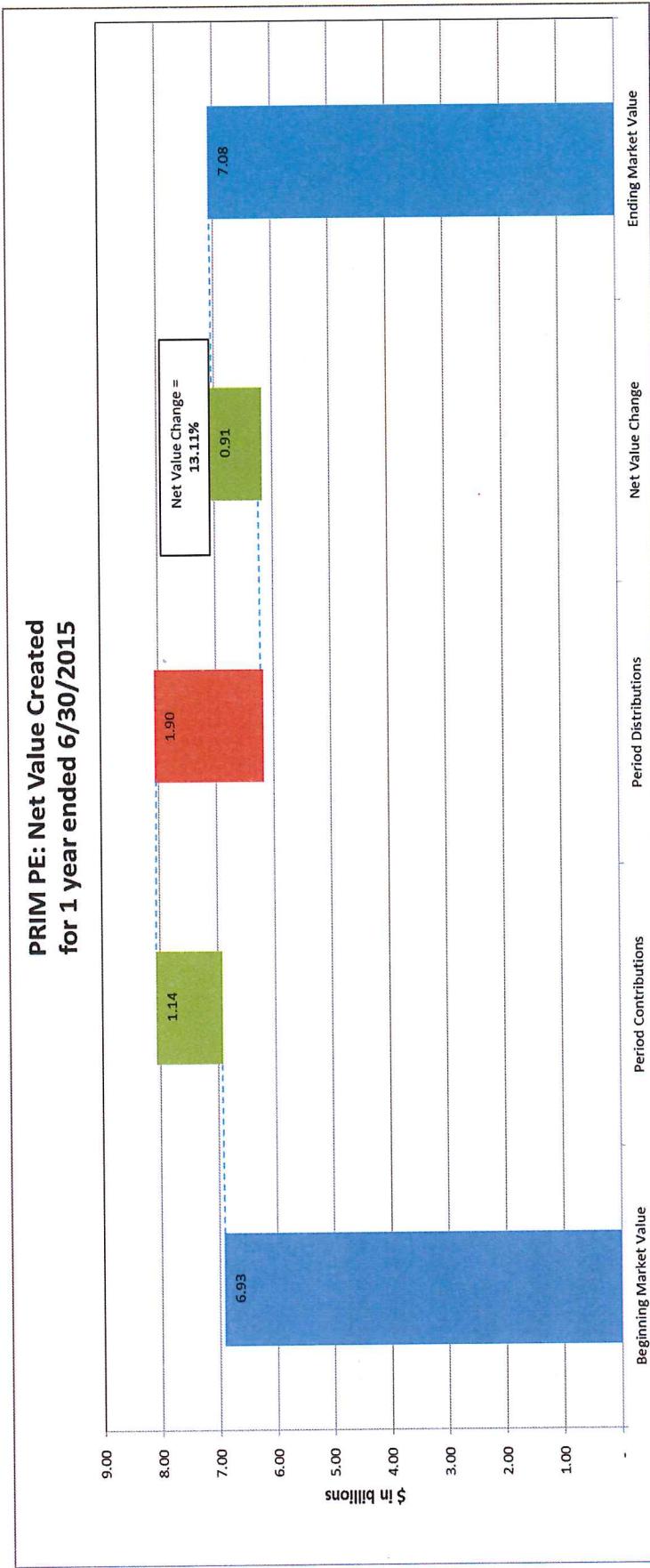
- Recommend holding private equity target at 10%
- Rationale
 - Buyouts demonstrate good risk adjusted returns (long term)
 - Private equity markets likely to weaken
 - 06-08 funds running off finally (?)
 - Underweight SMID funds where we see greater r-adjusted returns
- Risks
 - Public equity markets continue to rise driving private equity higher
 - PE market may have re rated risk, driving up prices in short term

PRIM Portfolio

PRIM Private Equity Long-Term Performance

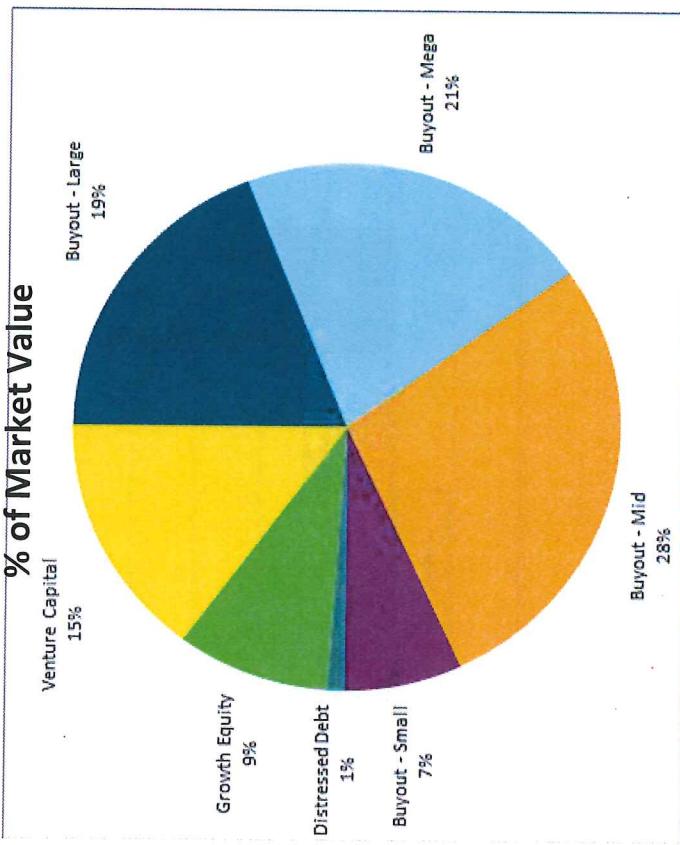


Private Equity Value Increased Despite Sales



Buyouts Research: PRIM's Buyout Portfolio Snapshot

- Private Equity Market Value as of 8/31/2015 = \$6.8B
- 76% buyouts (\$5.2B); 24% growth equity & venture capital (\$1.6B)
 - 64 total buyout GPs. 153 total buyout funds.
- Within buyouts
 - 53% of market value is mega/large
 - 46% of market value is SMID
 - 46 SMID GPs; 85 SMID funds.



PRIM PE industry weightings

Sector	PRIM	Russell 2000 ¹	Difference
Information Technology			
Venture / growth	10%		
Buyout	15%	17%	-3%
Consumer Discretionary	21%	15%	6% → defensive?
Health Care	15%	15%	0%
Industrials	14%	13%	1%
Financials	11%	26%	-15%
Energy	4%	2%	2%
Materials	4%	4%	0%
Consumer Staples	3%	3%	0%
Telecommunication Services	2%	1%	1%
Utilities	1%	4%	-3%

¹ Russell 2000 Holdings Data as of 9/30/2015

PRIM PE company size, leverage

Smaller cap than public equity

- Mega/large
 - 11 managers \$1 bn to \$2.5 bn
 - 6 managers > \$2.5 bn.
 - Public equity median \$3 bn
- SMID

Similar leverage to public equity

- Mega/large buyouts levered 1.5x public companies
- SMID buyouts support less debt than mega/large buyouts

Value driver: PRIM 06-08 funds

How long can highly-performing segment of the portfolio continue to deliver?

2006-2008 v.y. funds (Private equity only, x AFI, PNR)		(\$ millions)	
Performance as of 3/31/15		Exposure	
	1-year	3-year	
2006-2008 IRR	10.3%	15.5%	\$ NAV
Private Equity IRR	12.8%	16.0%	% of private equity
			57.6% 43.5%
\$ distributed	1,020	2,645	Distributions
% of p.e. distributions	57.2%	53.4%	% of paid in
			43% 85%

Note: according to industry data (CA), PRIM may be underweight 06 – 08 funds!

Value Driver: SMID vs. Mega/Large Buyout Managers

- Long term mega/large net performance is ~13%-14.5%.
- Long term SMID net performance is ~15%-17.5%.

	10-Year IRR
CA Mega/Large Buyout ¹	13.2%
PRIM Mega/Large Buyout	14.3%
CA SMID Buyout ²	17.2%
PRIM SMID Buyout	19.5%

Notes: Long term performance data as of 12/31/13.

1. Cambridge Associates - Asset Class: Buyout Small Cap and Mid Cap; Geographies: All
2. Cambridge Associates - Asset Class: Buyout Large Cap and Mega Cap; Geographies: All

Private Equity Market

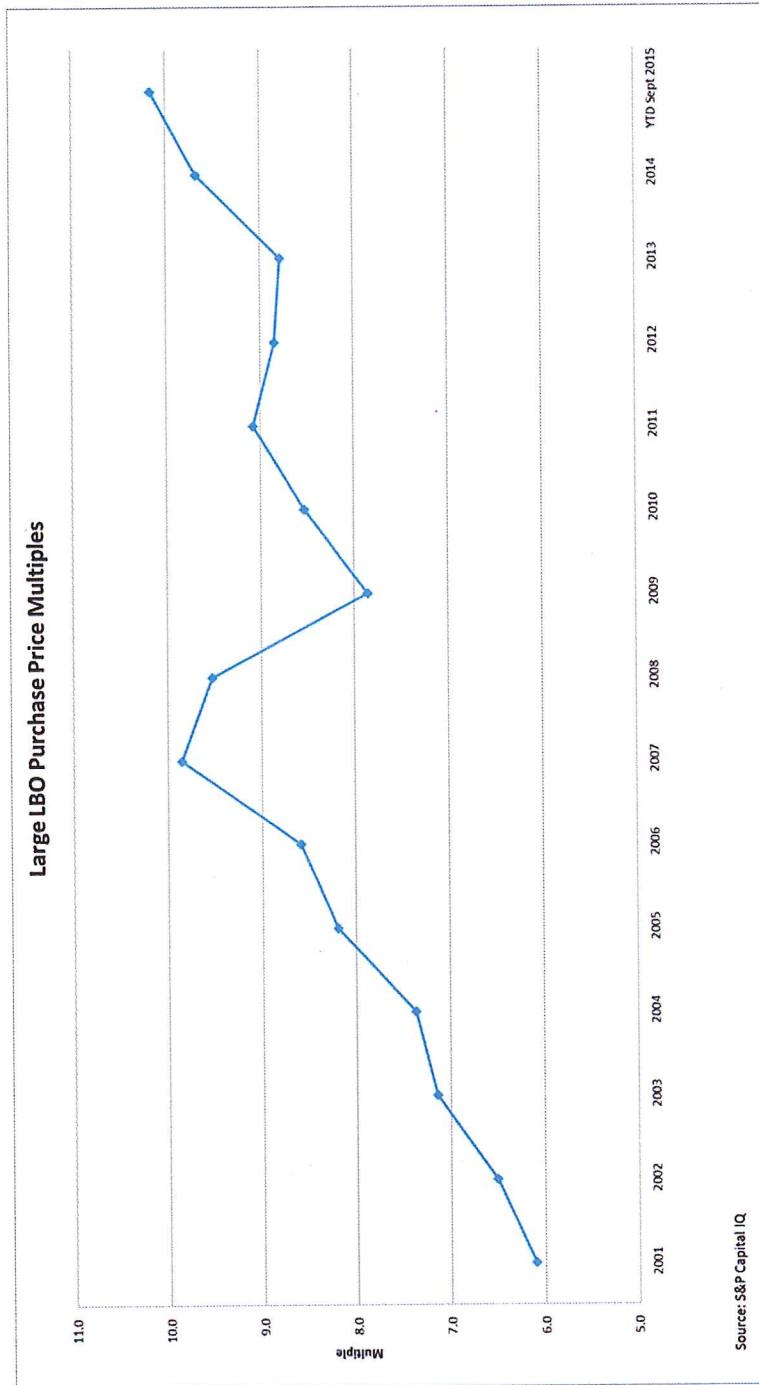
Buyouts Performance Added Value Over a 10 Year Period

Asset Class	Return (10-year)
US Buyouts	13.2%
Russell 2000 PME	<u>9.3%</u>
Excess Return	3.9%
Non-US Buyouts	11.7%
MSCI EAFE PME	<u>4.5%</u>
Excess Return	7.2%

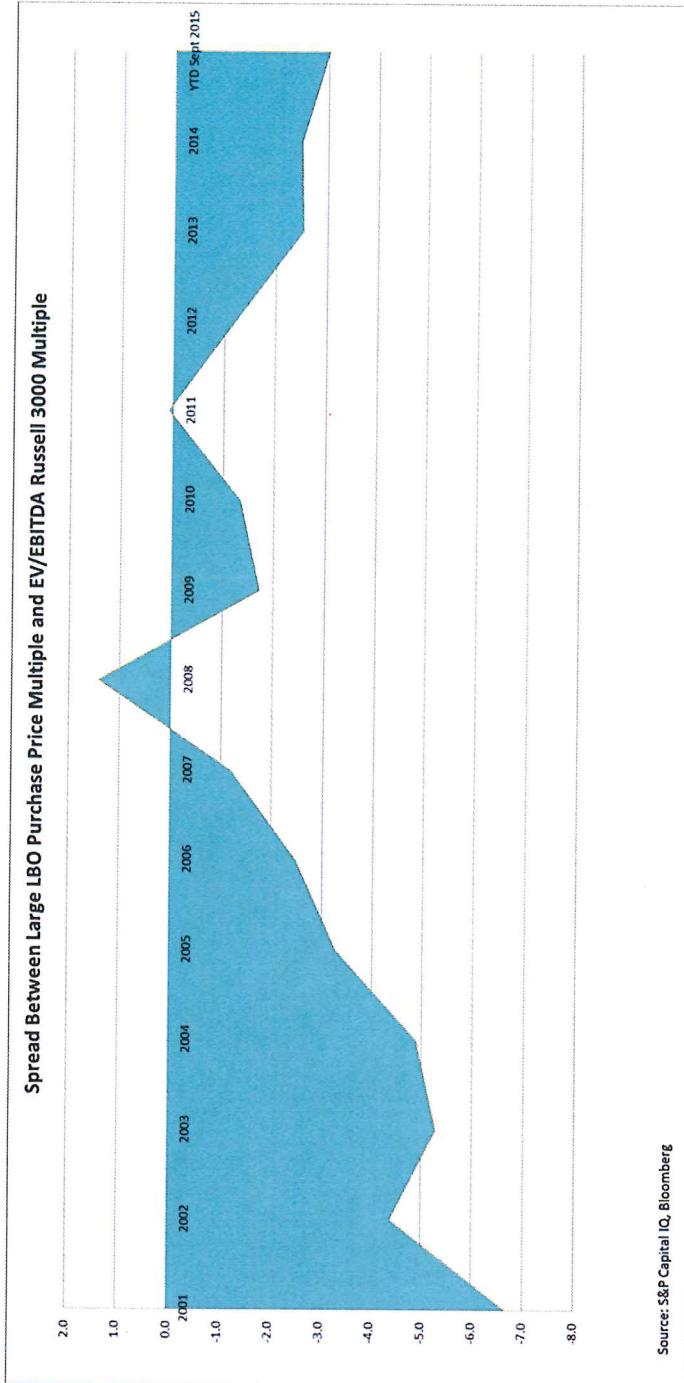
U.S. and non-U.S. buyouts is CA U.S. Index as of 3/31/2015.

Source: Cambridge Associates, Global Buyout & Growth Equity Index, 3/31/15

Private valuations rose



But discount to publics widened



Arbitrage make sense

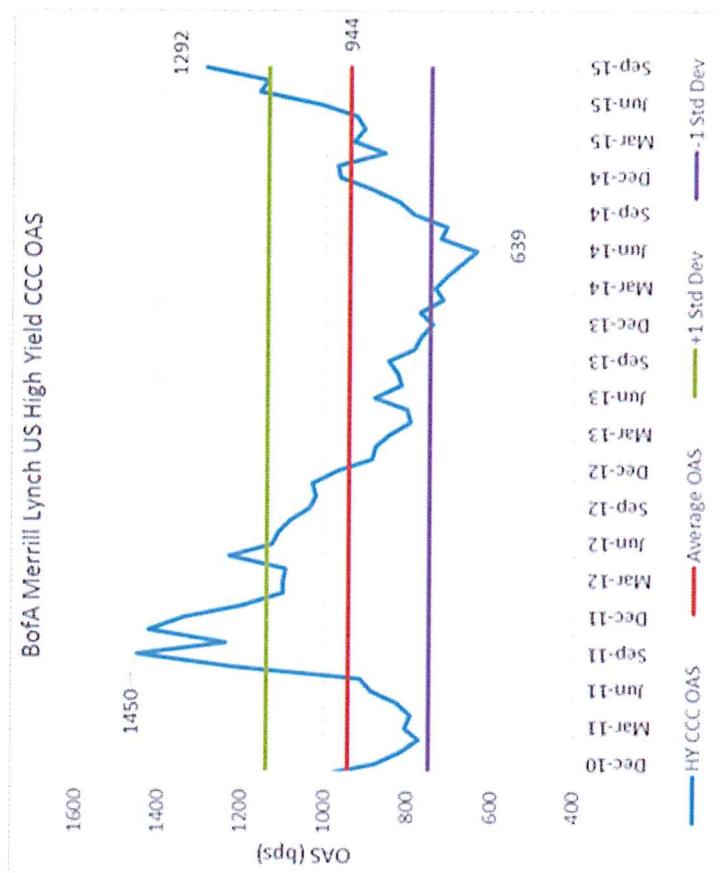
private market cheaper than public markets 14

Market liquidity fell from highs



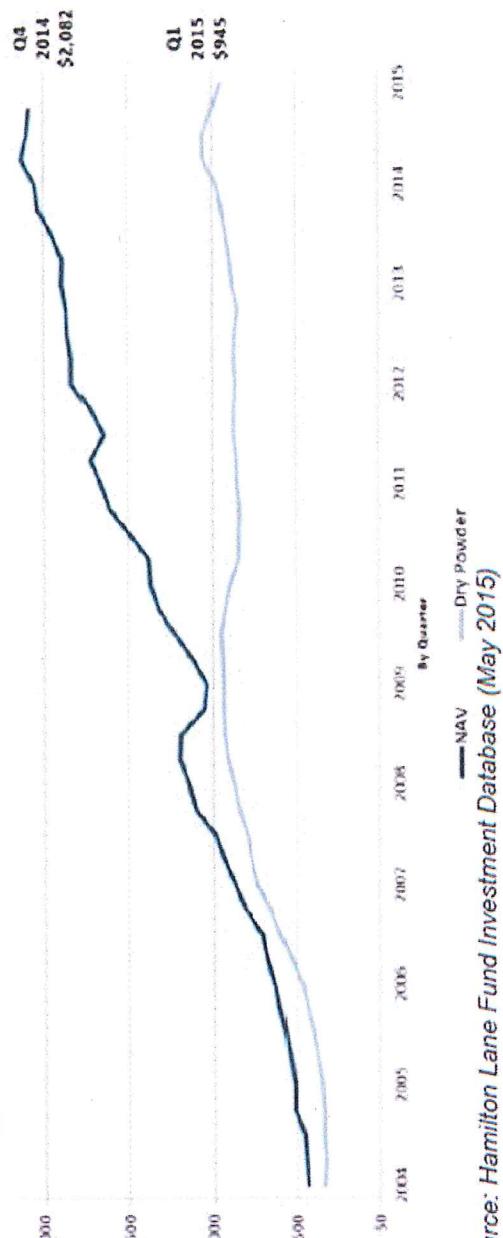
Debt Markets Weakened for Buyouts

- Regulators issued guidance on leveraged lending (3/2013)
- Retail inflows shifted to outflows (2014)
- FullBeauty, other deals reported as struggling (10/2015)



Risk to outlook: buyouts dry powder

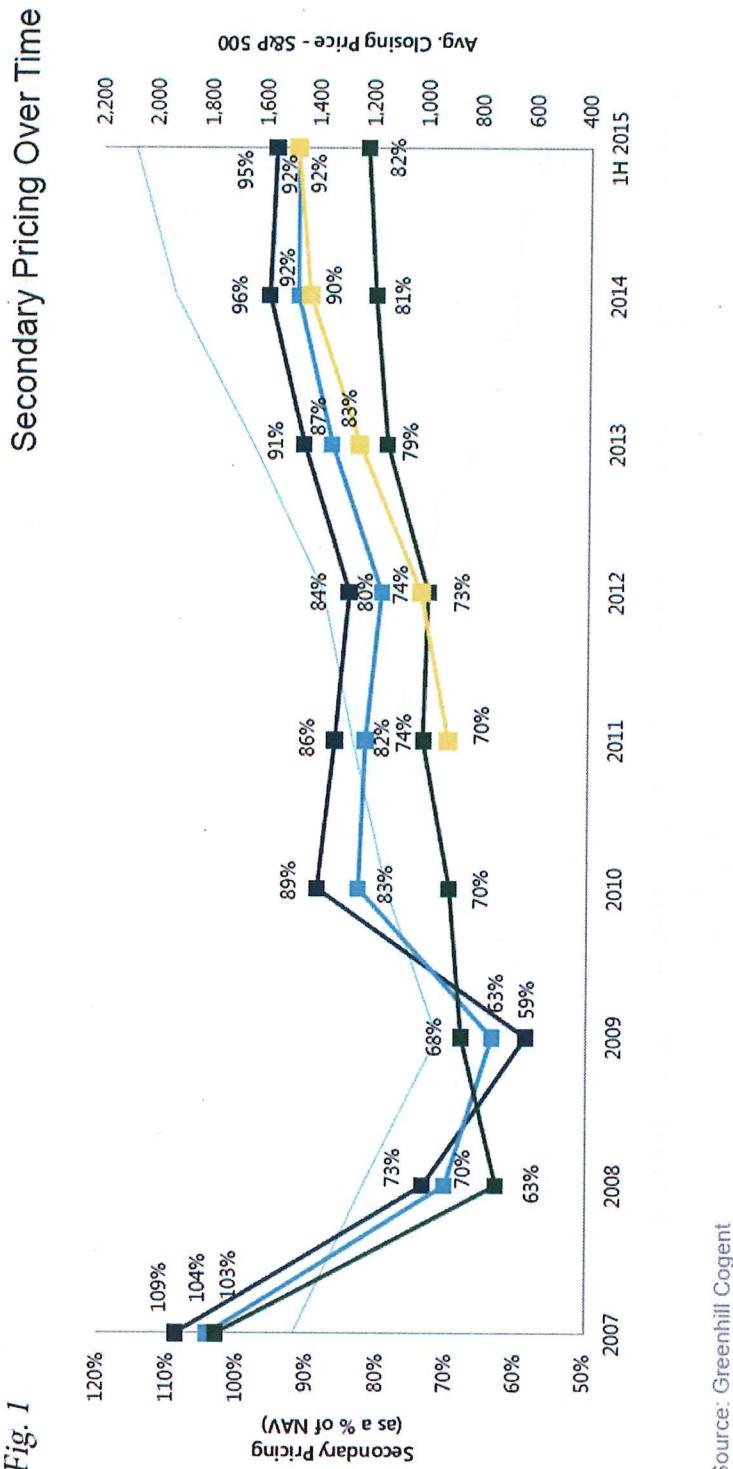
Chart 17: Industry Level NAV & Dry Powder (USD in Billions)



Source: Hamilton Lane Fund Investment Database (May 2015)

Risk to outlook: PE liquidity Strong

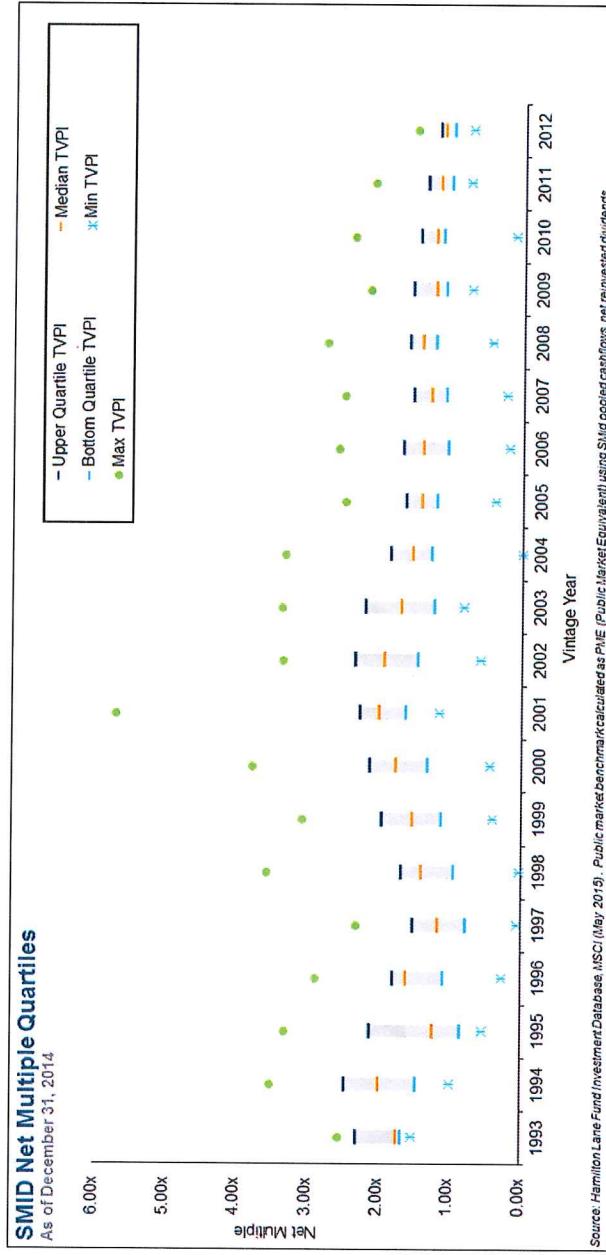
Fig. 1



PRIM Research and Next Steps

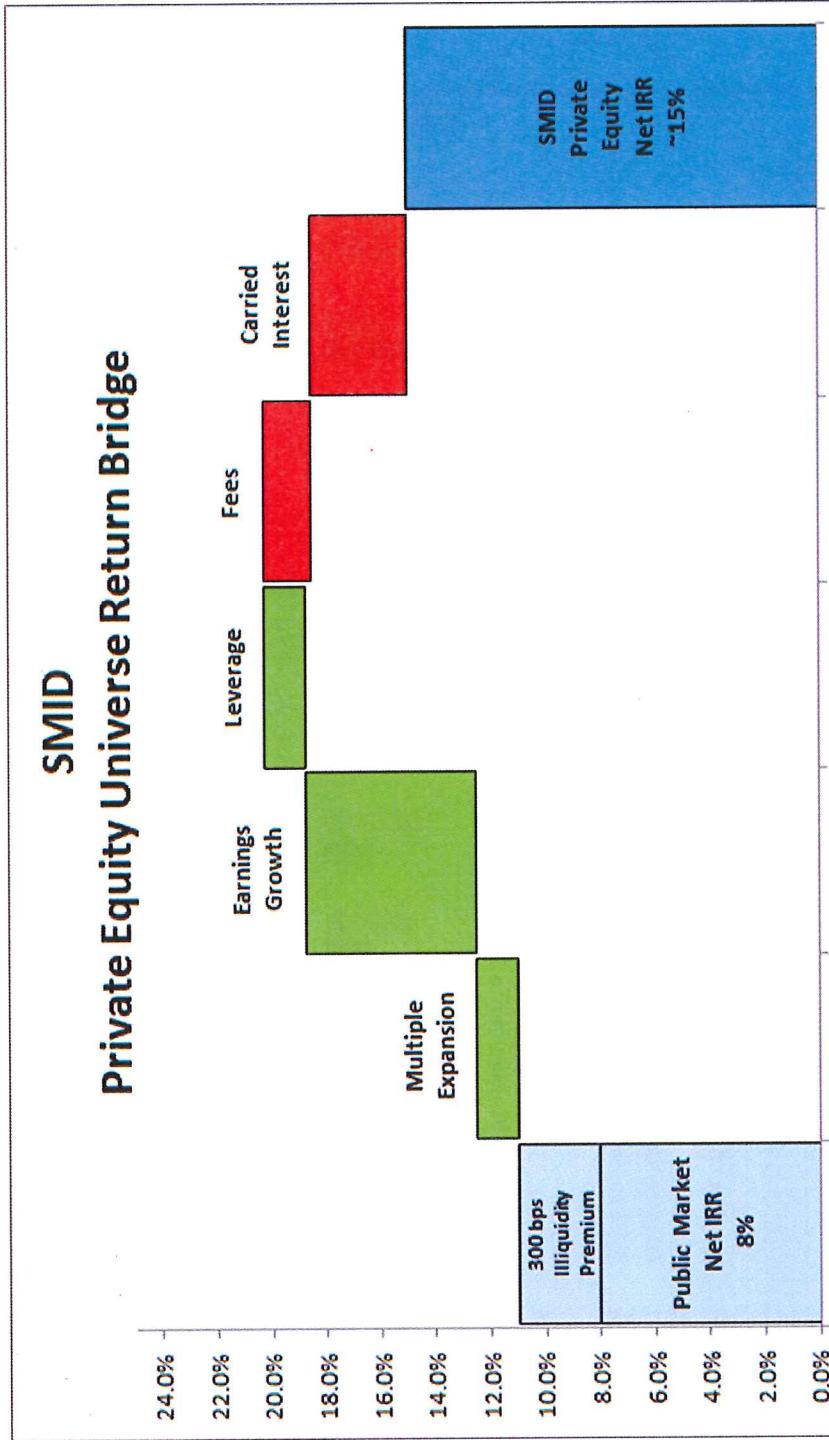
Private equity: high level of activeness

More Alpha Sources from SMID vs. Large/Mega Buyouts

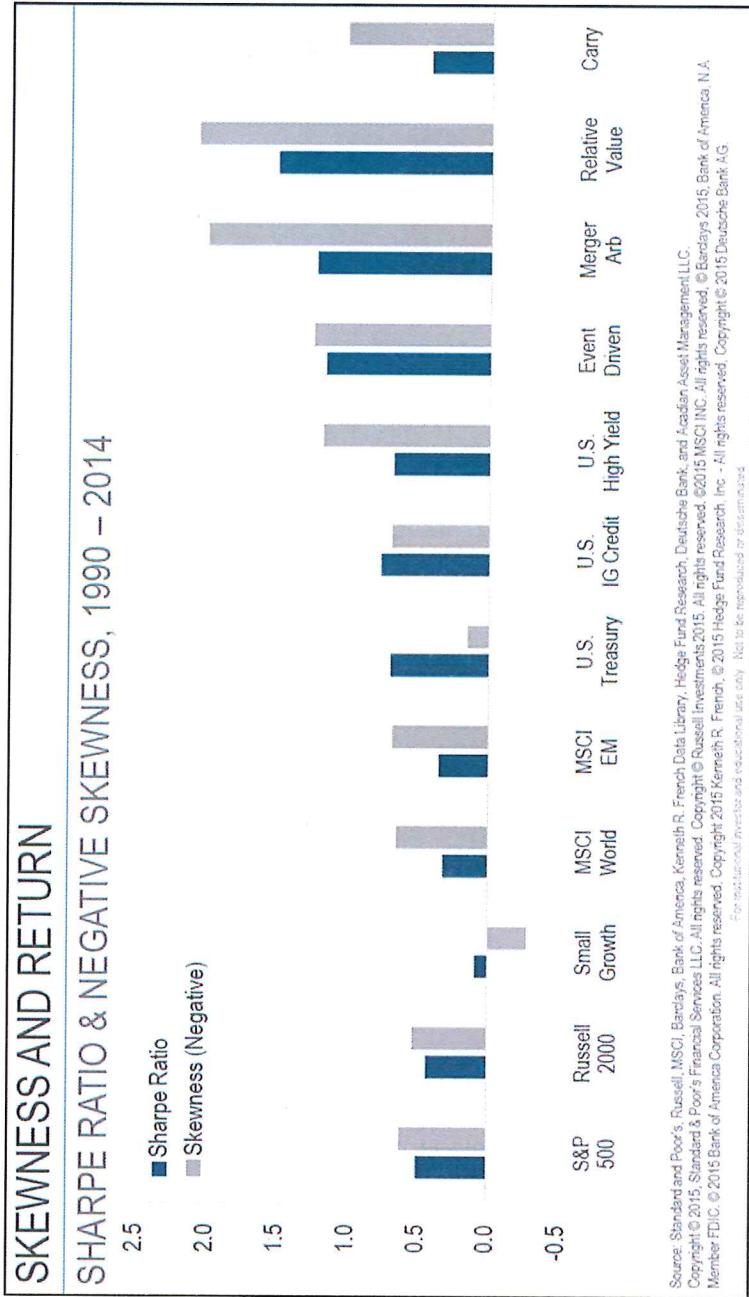


Source: Hamilton Lane Fund Investment Database, IJSC (May 2018). Public market benchmark calculated as P/E (Public Market Equivalent) using S&P 500, net/reinvested dividends.

With Three Value Drivers

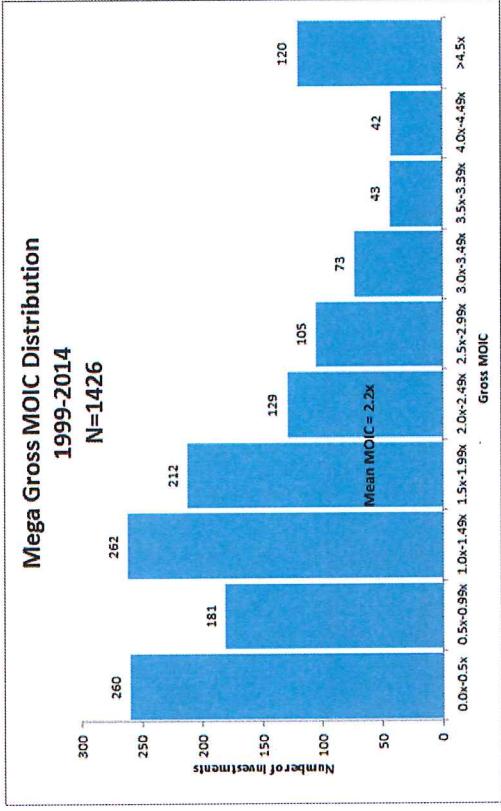
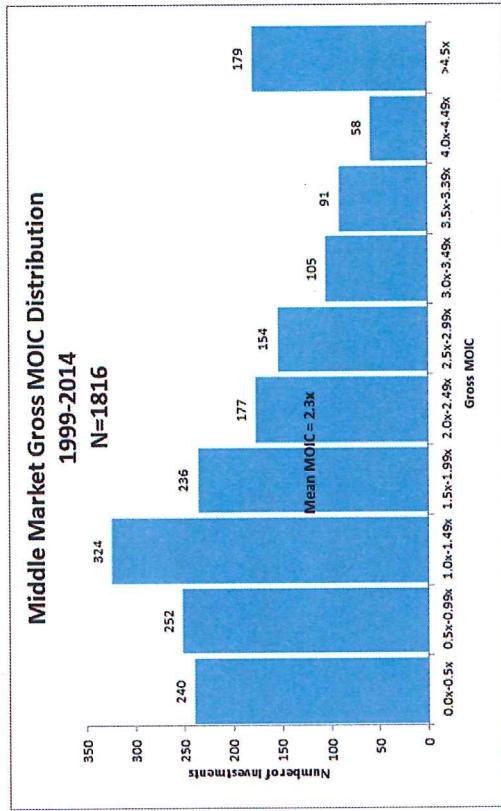


Distribution of Returns



- Most positive Sharpe ratio asset classes have a negative skew
- Only small growth has a positive skew

Distribution of Returns



- Both SMID and Large/Mega buyouts demonstrate both a positive skew and a fat right tail. The Private equity team found both Large/Mega & SMID buyouts to be both small and growth-y.
- Moreover, in PRIM's 2015 middle market buyout study, only 2 of 151 funds (1.3%) actual lost money overall (including fees).
- The asset class characteristics of buyouts are different than other asset class and as a result valuable.

Number of “Core” Managers 2013 vs. 2015

	2013	2015	Change
SMID	23	17	-6
Mega / Large	17	13	-4
Total	40	30	-10

- Grow with best managers (when possible)
- “Pass” decision are as important as “commit” decisions
 - Re-up rate for FY 2015: 15 out of 29
- Expect number of “core” managers to continue to decline
- Smaller funds present a challenge for PRIM’s size

We're making very long run decisions

- Staff recommends committing \$1.7 billion in private equity, and \$700 million in private debt.
- Higher commitment amounts needed to replace older funds.

