



Los Angeles • New York

Review of Illiquid Asset Classes

Rhode Island State Investment Commission

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February 26, 2020

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Notes:

- Due to the lag in reporting for illiquid asset classes, all market values and performance information are as of September 30, 2019
- Unless otherwise noted, all performance information is net of fees and annualized



Section 1: Private Equity

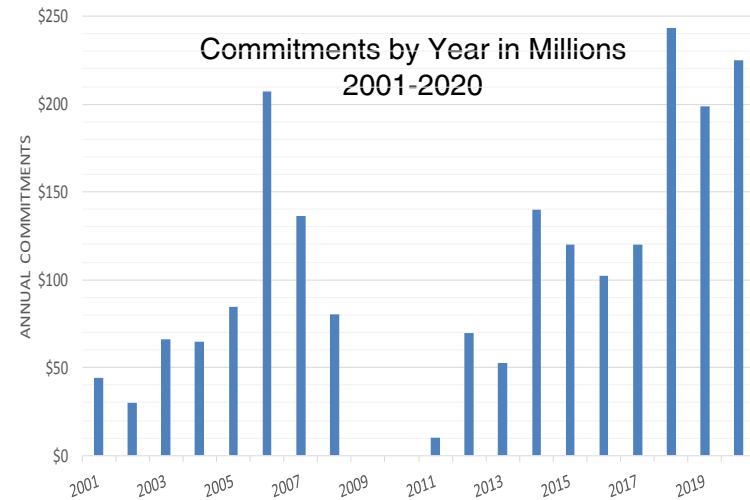
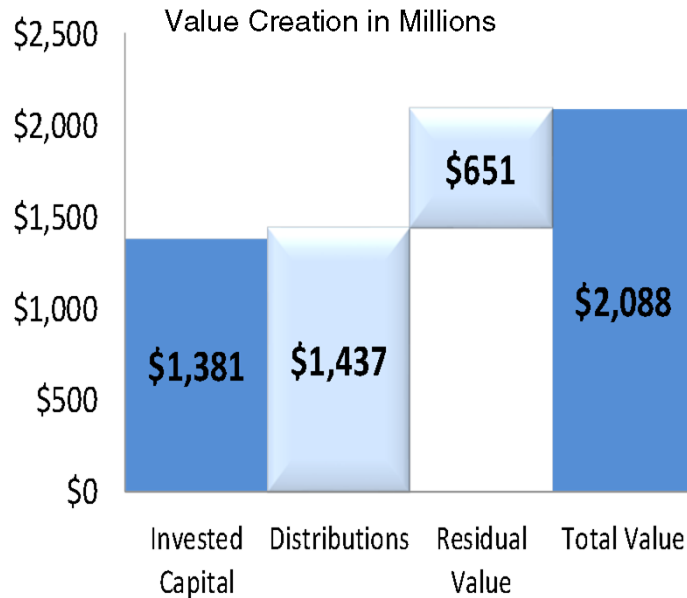
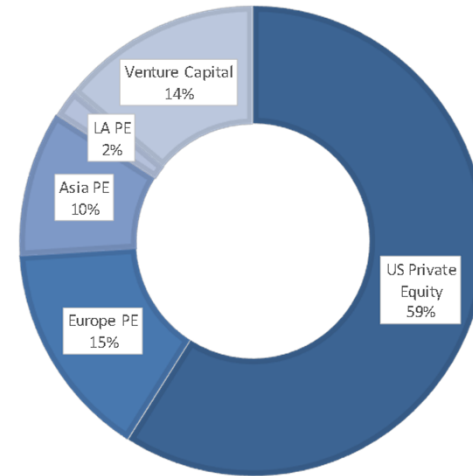
Private Equity – Current Status (active funds only)

\$1,536 million committed to 78 funds

74% of commitments have been invested

Diversified by strategy, geography, and vintage year

Strategy Diversification by Exposure



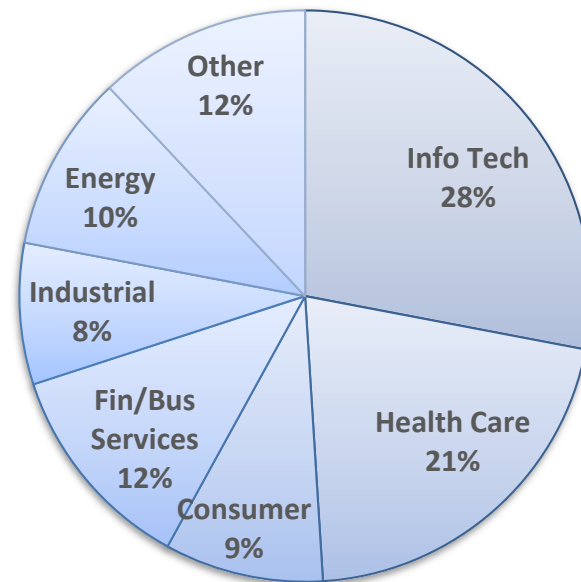
Company Holdings and Exposures

Over 900 company investments

No investment larger than 4% of total

Diversified by business sector

Business Sector Exposure by Market Value



Examples of Larger Company Holdings

Company	Fund	Sector
Censis	Riverside MC Fund III	Health Care
Web.Com	Siris Partners IV	Info Tech
Jansy	Eureka III	Industrial
Lyons Magnus	Paine Schwartz Food	Agriculture
SBI Life Insurance	Carlyle Asia V	Fin/Bus Services
Core Medical	Southvest V	Health Care

Pacing Plan: Private Equity

Policy target of 11.25% within Growth Class

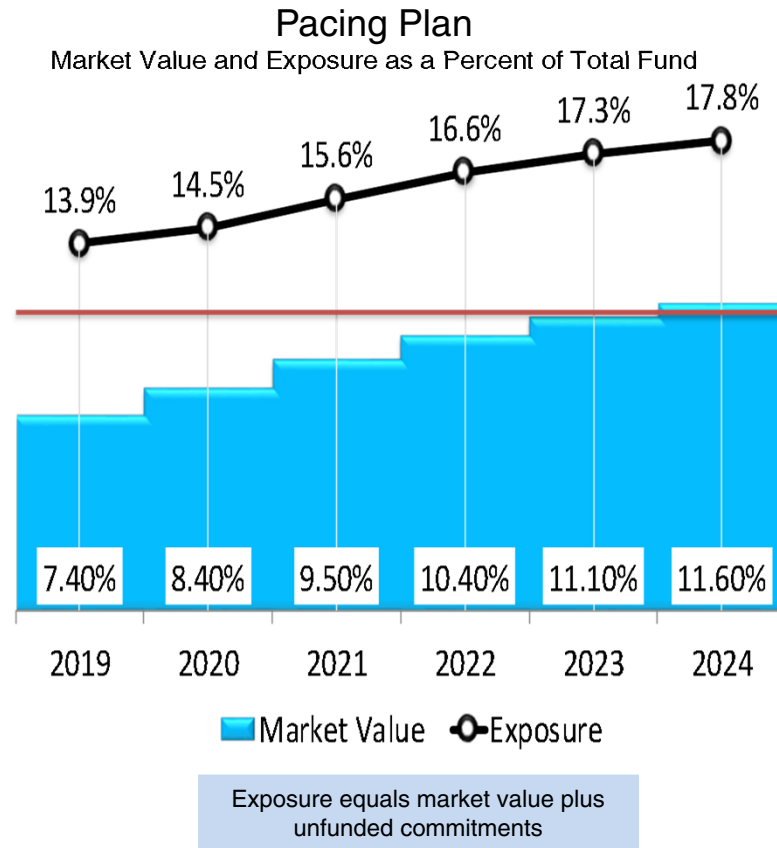
Allocation starts at 7.4% (current allocation*), increasing to 11.60% by 2024

Unfunded commitments = 6% to 7% of total fund

Opportunistic and diversified pacing:

- Vintage year
 - Maintain level vintage year commitments averaging \$270 mm per year
- Funds:
 - ~5-10 funds per year/\$20-60mm per fund
- Potential Strategies:
 - US Buyouts
 - Growth Equity
 - International Private Equity
 - Venture Capital

(*9/30/19 private equity portfolio market value divided by 12/31/19 total fund market value)



Private Equity Pacing Plan

ERSRI - Pacing Plan	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Forecast Plan Total Assets	8,775,450	9,038,714	9,309,875	9,589,171	9,876,846	10,173,152
New Commitments		320,000	270,000	270,000	270,000	270,000

Private Equity Fair Value by Sector:

Private Equity Total	651,283	759,122	888,331	993,720	1,095,240	1,184,160
Private Equity Fair Value as % of Total Plan Assets	7.42%	8.40%	9.54%	10.36%	11.09%	11.64%
Private Equity Target Asset Allocation	11.25%	11.25%	11.25%	11.25%	11.25%	11.25%

Unfunded Commitments and Fair Value	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Private Equity Unfunded Commitments	571,903	555,422	568,413	599,840	617,124	626,631
Unfunded Commitments + FV	1,223,186	1,314,544	1,456,744	1,593,560	1,712,365	1,810,790
Unfunded Commitments + FV as % of Assets	13.9%	14.5%	15.6%	16.6%	17.3%	17.8%
Ratio of Unf Com + FV to Target Allocation	1.24x	1.29x	1.39x	1.48x	1.54x	1.58x

Net Cash Flow Requirements	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Total Net Cash Flow to Private Equity	(42,161)	(52,649)	(15,764)	(1,226)	21,656

Total Plan Assets assumed to grow at 3.0%

Cash flow Forecast

Total	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Drawdowns	(291,481)	(257,009)	(238,573)	(252,715)	(260,493)
Distributions	249,320	204,359	222,809	251,490	282,149
Net Cash Flows	(42,161)	(52,649)	(15,764)	(1,226)	21,656
Fair Market Value	759,122	888,331	993,720	1,095,240	1,184,160

Amounts in \$000

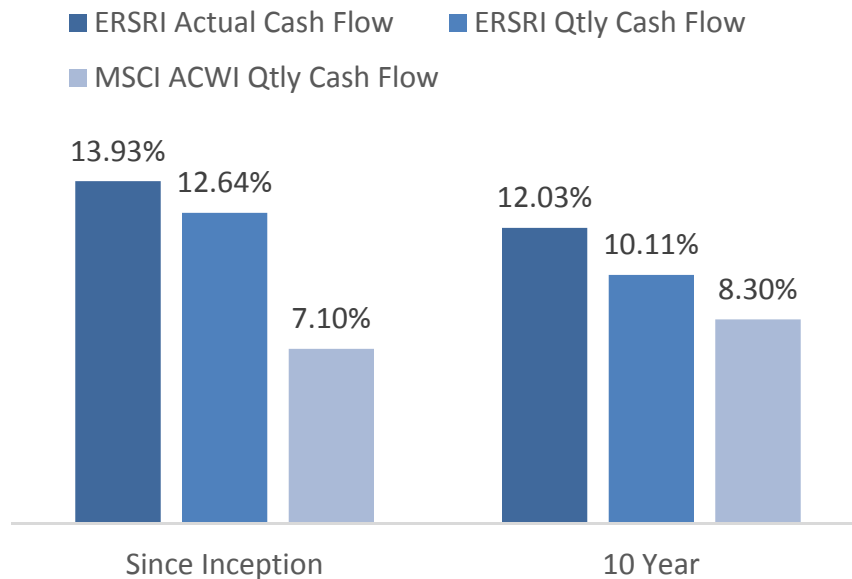
Recommended Model Portfolio*

Strategy	Current Portfolio	Target Portfolio	Range
Total Buyout	<u>74%</u>	<u>80%</u>	<u>60-100%</u>
Global Buyout	5%	10%	0%-20%
US Buyout	<u>46%</u>	<u>50%</u>	<u>30%-70%</u>
Large	3%	10%	5-20%
Middle Market	34%	25%	5-50%
Small	9%	15%	0-30%
Europe Buyouts	10%	12%	10-30%
Asia Buyouts	10%	8%	0-20%
Latin Am Buyouts	2%	0%	0-5%
Growth Equity	12%	10%	0-20%
Venture Capital	14%	10%	0-20%
Other (e.g. secondaries)	0%	0%	0-10%

Performance versus Public Markets and Private Universe*

Performance versus Public Markets

Since inception annualized internal rate of returns net of fees



* Performance as of September 30, 2019

For Since Inception period, R3000 Index used for 1982-2001; ACWI used for 2001-2019. Public market IRR is calculated by calculating a terminal value equal to the compounded return on all cash inflows (i.e. capital calls) by the return of the public market index. The 10 Year return represents cash flows and all funds in the portfolio from 2010 – 2019.

Performance by Year versus Private Equity Universe**

Since inception annualized returns net of fees

	Vintage Year	ERSRI PE Portfolio	Universe Median Return
Superior Performance	1998	10.81%	8.46%
	1999	9.97%	-0.03%
	2000	14.68%	3.31%
	2001	36.45%	9.92%
	2002	18.08%	11.29%
	2003	14.17%	10.15%
Mixed Performance	2004	10.85%	7.85%
	2005	7.93%	7.46%
	2006	5.26%	7.26%
	2007	9.72%	8.91%
Only One investment	2008	9.34%	8.26%
	2009		12.11%
	2010		11.83%
Recent investments	2011	-2.26%	12.98%
	2012	18.21%	13.47%
	2013	12.39%	13.06%
	2014	20.84%	14.92%
	2015	13.51%	14.12%
	2016	12.07%	12.15%

** Cambridge Global Private Equity/Venture Capital Universe



Section 2: Opportunistic Credit

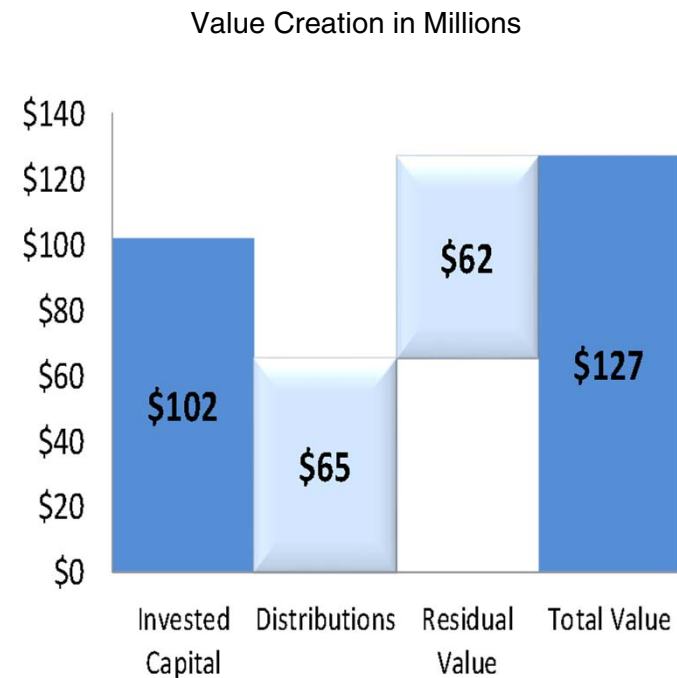
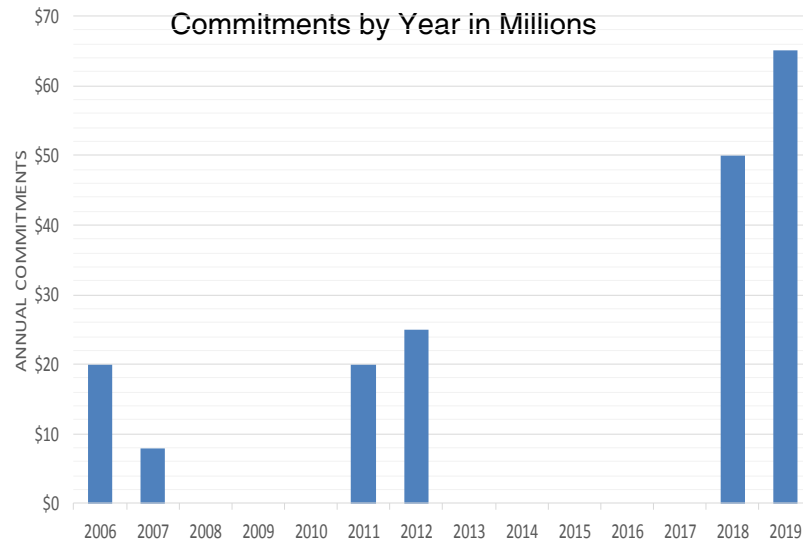
Opportunistic Credit– Current Status (active funds only)

\$188 million committed to 7 funds

54% of commitments have been invested

Mostly distressed investing in US and Europe

Over 100 underlying investments



Pacing Plan: Private Opportunistic Credit

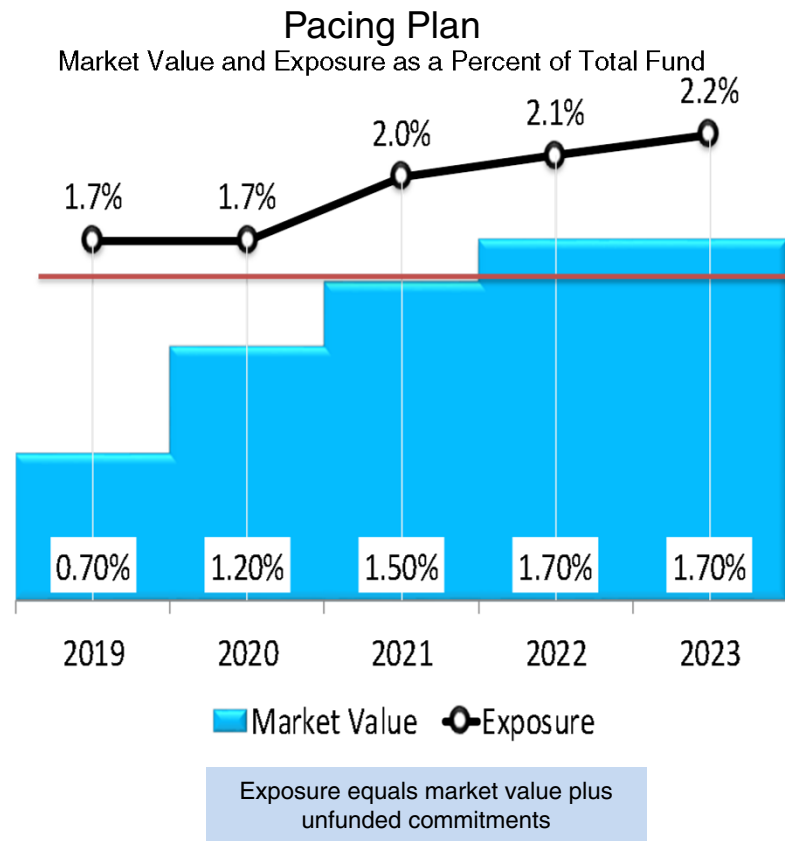
Policy target of 1.5% within Growth Class

Allocation starts at 0.7% (current allocation), increasing to 1.5% by 2021

Unfunded commitments = 0.5% to 1.0% of total fund

Opportunistic and diversified pacing

- Vintage year
 - Maintain level vintage year commitments averaging \$35mm per year
- Funds
 - ~1-2 funds per year/\$20-35 mm per fund
- Potential Strategies:
 - Distressed corporate debt
 - Distressed real estate debt
 - Other non-performing debt



Pacing Plan Opportunistic Private Credit

ERSRI - Pacing Plan	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Forecast Plan Total Assets	8,775,450	9,038,714	9,309,875	9,589,171	9,876,846
New Commitments		35,000	35,000	35,000	35,000

Private Opportunistic Credit Fair Value by Sector:

Private Opportunistic Credit Total	61,746	103,795	136,453	158,224	167,195
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POC Fair Value as % of Total Plan Assets	0.70%	1.15%	1.47%	1.65%	1.69%
POC Target Asset Allocation	1.50%	1.50%	1.50%	1.50%	1.50%

Unfunded Commitments and Fair Value	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Private Opportunistic Credit Unfunded Commitments	86,573	53,972	48,392	46,717	46,215
Unfunded Commitments + FV	148,319	157,767	184,845	204,941	213,410
Unfunded Commitments + FV as % of Assets	1.7%	1.7%	2.0%	2.1%	2.2%
Ratio of Unf Com + FV to Target Allocation	1.13x	1.16x	1.32x	1.42x	1.44x

Net Cash Flow Requirements	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Total Net Cash Flow to Private Opportunistic Credit	(35,967)	(22,434)	(8,330)	6,614

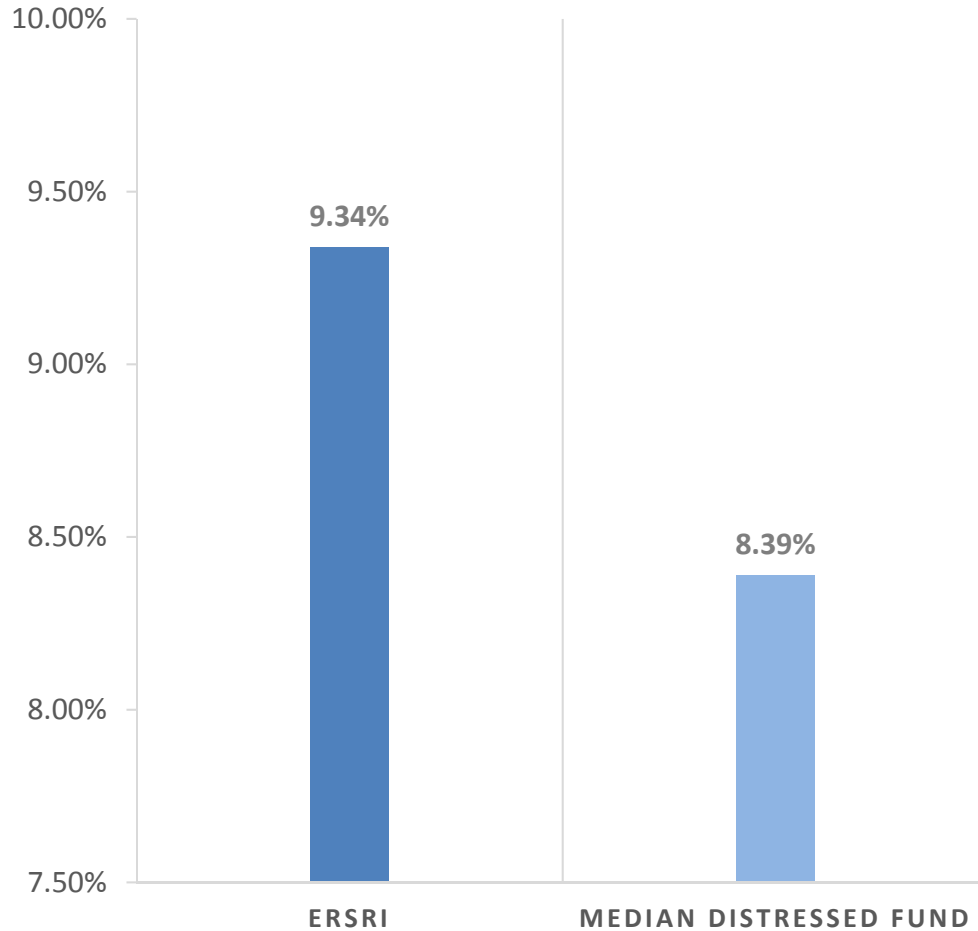
Total Plan Assets assumed to grow at 3.0%

Cash flow Forecast

Total	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Drawdowns	(147,753)	(67,601)	(40,580)	(36,674)	(35,502)
Distributions	124,240	31,634	18,146	28,344	42,116
Net Cash Flows	(23,513)	(35,967)	(22,434)	(8,330)	6,614
Amounts in \$000 Fair Market Value	61,746	103,795	136,453	158,224	167,195

Opportunistic Credit Performance

Since Inception Net IRRs



Cambridge Associates
Universe of Distressed
Funds (VY 2006-2019)



Section 3: Private Credit

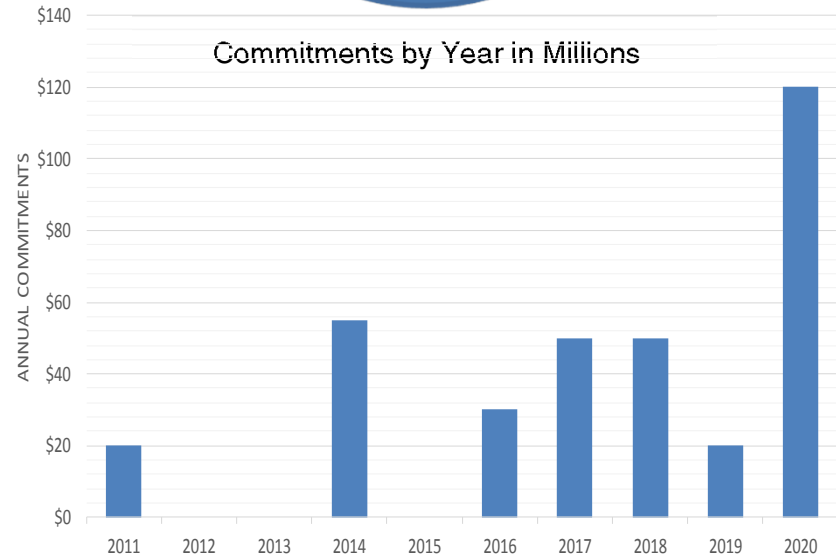
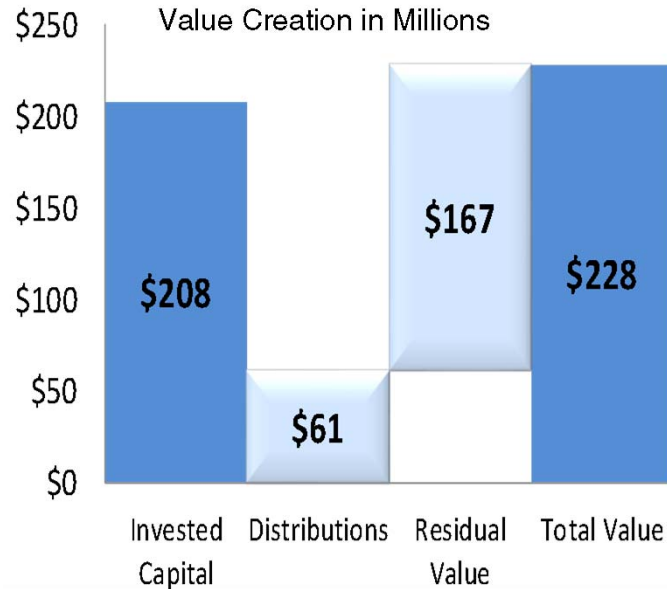
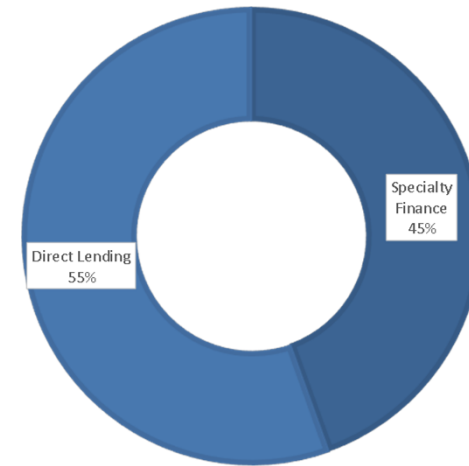
Private Credit – Current Status (active funds only)

\$345 million committed to 10 funds

66% of commitments have been invested

Direct lending and specialty finance

Strategy Diversification by Exposure



Pacing Plan: Private Credit

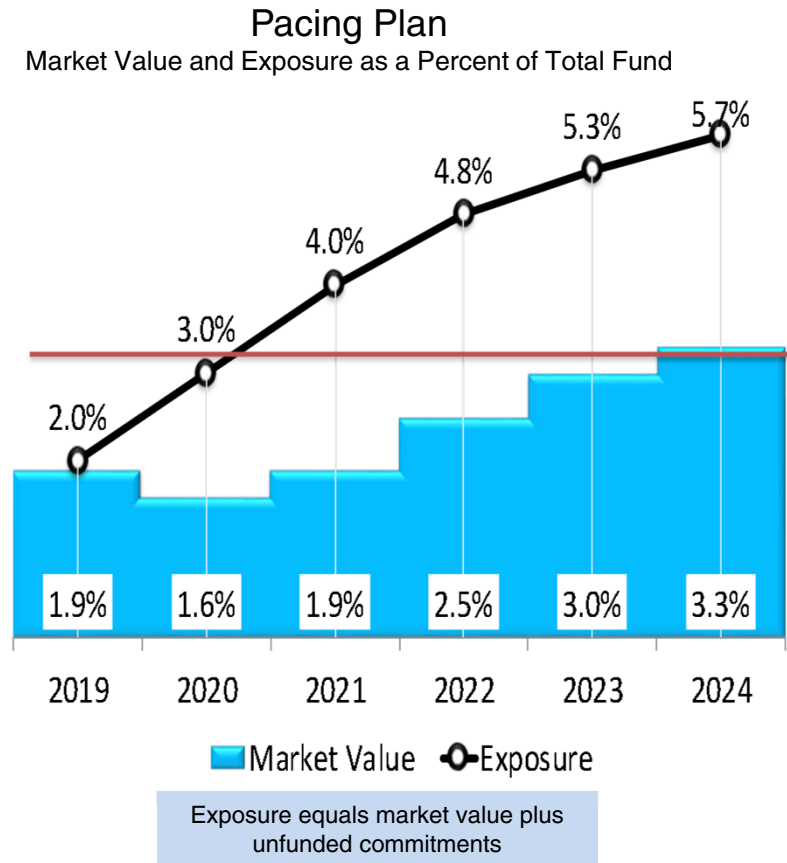
Policy target of 3.2% within Income Class

Allocation starts at 1.9% (current allocation), increasing to 3.2% by 2024

Unfunded commitments = 0.2% to 2.4% of total fund

Opportunistic and diversified pacing

- Vintage year
 - Maintain level vintage year commitments averaging \$150 mm per year
- Funds
 - ~2-3 funds per year/\$30-70mm per fund
- Potential Strategies:
 - Direct lending
 - Real estate debt
 - IP Royalties
 - Insurance linked
 - Other



Private Credit Pacing Plan

ERSRI - Pacing Plan	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Forecast Plan Total Assets	8,775,450	9,038,714	9,309,875	9,589,171	9,876,846	10,173,152
New Commitments		150,000	150,000	150,000	150,000	150,000

Private Credit Fair Value by Sector:

Private Credit at Fair Value	167,443	147,583	184,036	236,758	293,196	334,411
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Private Credit Fair Value as % of Total Plan Assets	1.9%	1.6%	2.0%	2.5%	3.0%	3.3%
Private Credit Target Asset Allocation	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%

Unfunded Commitments and Fair Value	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Private Credit Unfunded Commitments	16,859	127,744	185,747	220,924	234,995	240,623
Unfunded Commitments + FV	184,302	275,326	369,783	457,682	528,191	575,033
Unfunded Commitments + FV as % of Assets	2.1%	3.0%	4.0%	4.8%	5.3%	5.7%
Ratio of Unf Com + FV to Target Allocation	0.66x	0.95x	1.24x	1.49x	1.67x	1.77x

Net Cash Flow Requirements	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Total Net Cash Flow to Private Credit	32,084	(25,680)	(39,288)	(39,155)	(19,811)

Annual Commitments by Strategy	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
Total Annual Commitments to Private Credit	150,000	150,000	150,000	150,000	150,000

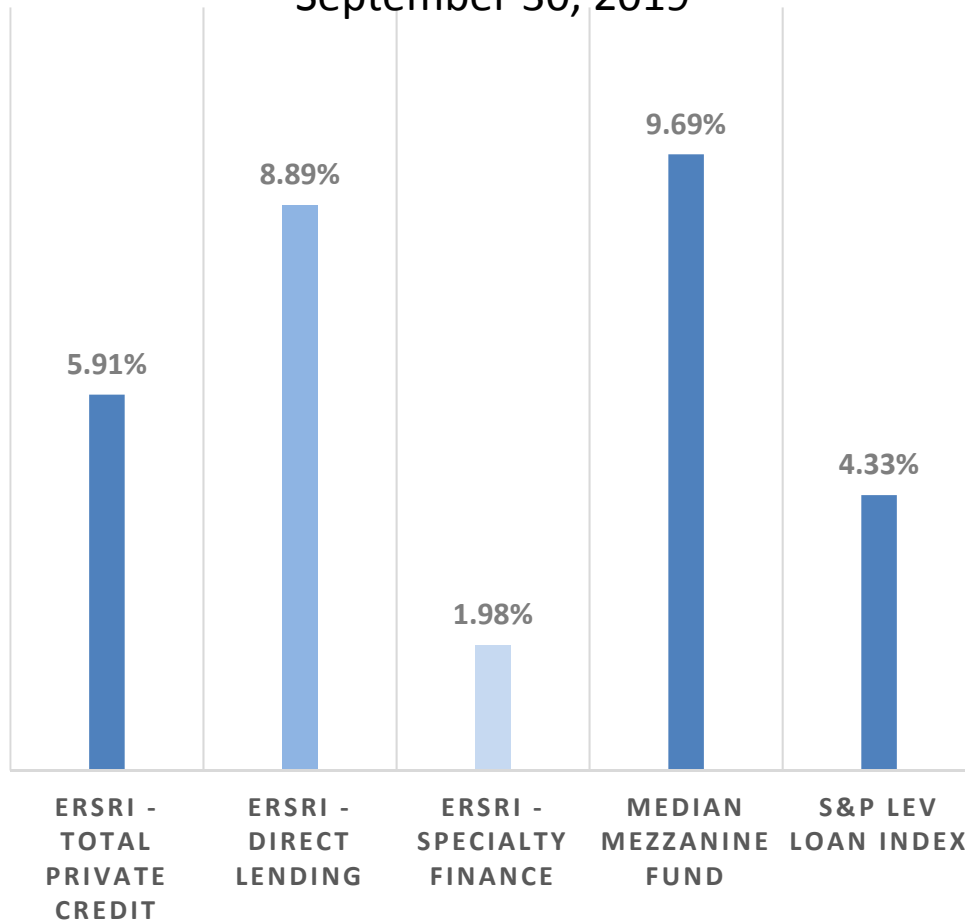
Total Plan Assets assumed to grow at 3.0%

Cash flow Forecast

Combined	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024	
Drawdowns	(208,141)	(49,115)	(91,996)	(114,823)	(135,929)	(144,372)	
Distributions	61,350	81,199	66,317	75,536	96,774	124,561	
Net Cash Flows	(146,791)	32,084	(25,680)	(39,288)	(39,155)	(19,811)	
Amounts in \$000	Fair Market Value	167,443	147,583	184,036	236,758	293,196	334,411

Private Credit Performance

Since Inception Net IRRs through
September 30, 2019



No active universe of similar strategies is available

Cambridge Associates Universe of Mezzanine Funds (VY 2011-2018) is used. However, portfolio is lower risk (more senior credits)

Public benchmark is S&P Leverage Loan Index



Section 4: Infrastructure/Natural Resources

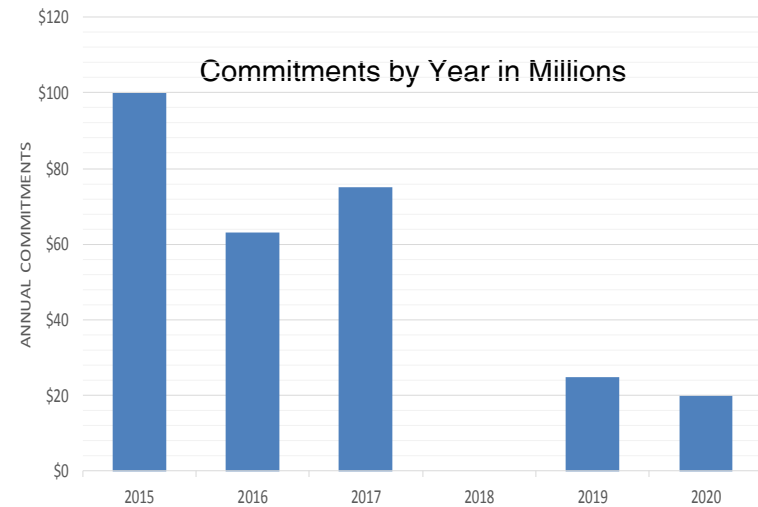
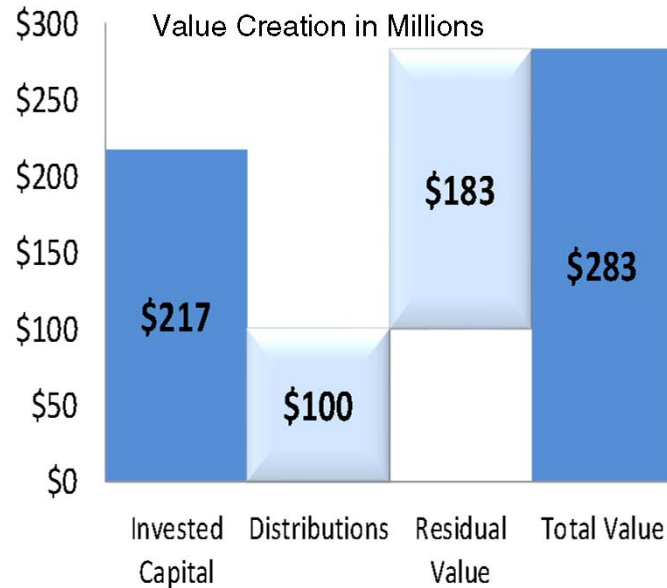
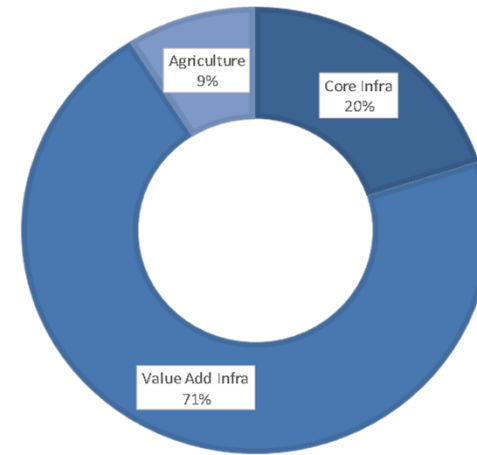
Infrastructure/Natural Resources – Current Status

\$283 million committed to 8 funds

77% of commitments have been invested

Core and value-added infrastructure and farmland

Strategy Diversification by Exposure



Pacing Plan: Infrastructure/Natural Resources

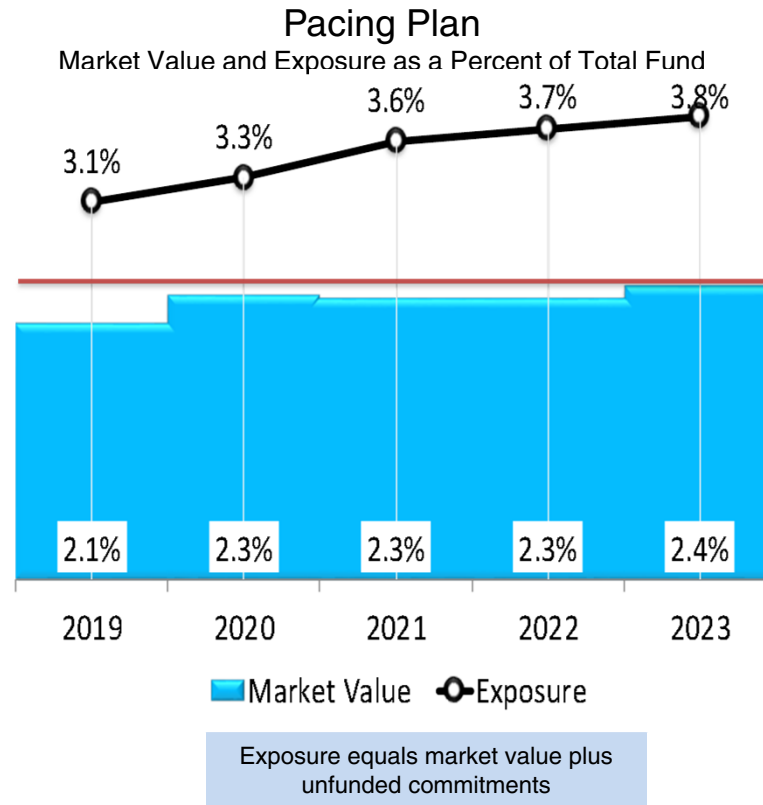
Policy target of 2.4% within Income Class

Allocation starts at 2.1% (current allocation), increasing to 2.4% by 2023

Unfunded commitments = 1.0% to 1.4% of total fund

Opportunistic and diversified pacing

- Vintage year
 - Maintain level vintage year commitments averaging \$65 mm per year
- Funds
 - ~1-2 funds per year/\$20-65mm per fund
- Potential Strategies:
 - Core and value-add infrastructure
 - Natural resources



Private Infrastructure Pacing Plan

ERSRI - Pacing Plan	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Forecast Plan Total Assets	8,775,450	9,038,714	9,309,875	9,589,171	9,876,846
New Commitments		65,000	65,000	65,000	65,000

Private Infrastructure Fair Value by Sector:

Private Infrastructure at Fair Value	182,996	205,617	213,948	222,926	234,635
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Private Infra Fair Value as % of Total Plan Assets	2.1%	2.3%	2.3%	2.3%	2.4%
Private Infra Target Asset Allocation	2.4%	2.4%	2.4%	2.4%	2.4%

Unfunded Commitments and Fair Value	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Private Infra Unfunded Commitments	93,306	92,943	117,488	133,762	142,713
Unfunded Commitments + FV	276,302	298,560	331,435	356,688	377,348
Unfunded Commitments + FV as % of Assets	3.1%	3.3%	3.6%	3.7%	3.8%
Ratio of Unf Com + FV to Target Allocation	1.31x	1.38x	1.48x	1.55x	1.59x

Net Cash Flow Requirements	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Total Net Cash Flow to Private Infrastructure	(8,896)	7,090	7,068	5,011

Annual Commitments by Strategy	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Total Annual Commitments to Private Infrastructure	65,000	65,000	65,000	65,000

Total Plan Assets assumed to grow at 3.0%

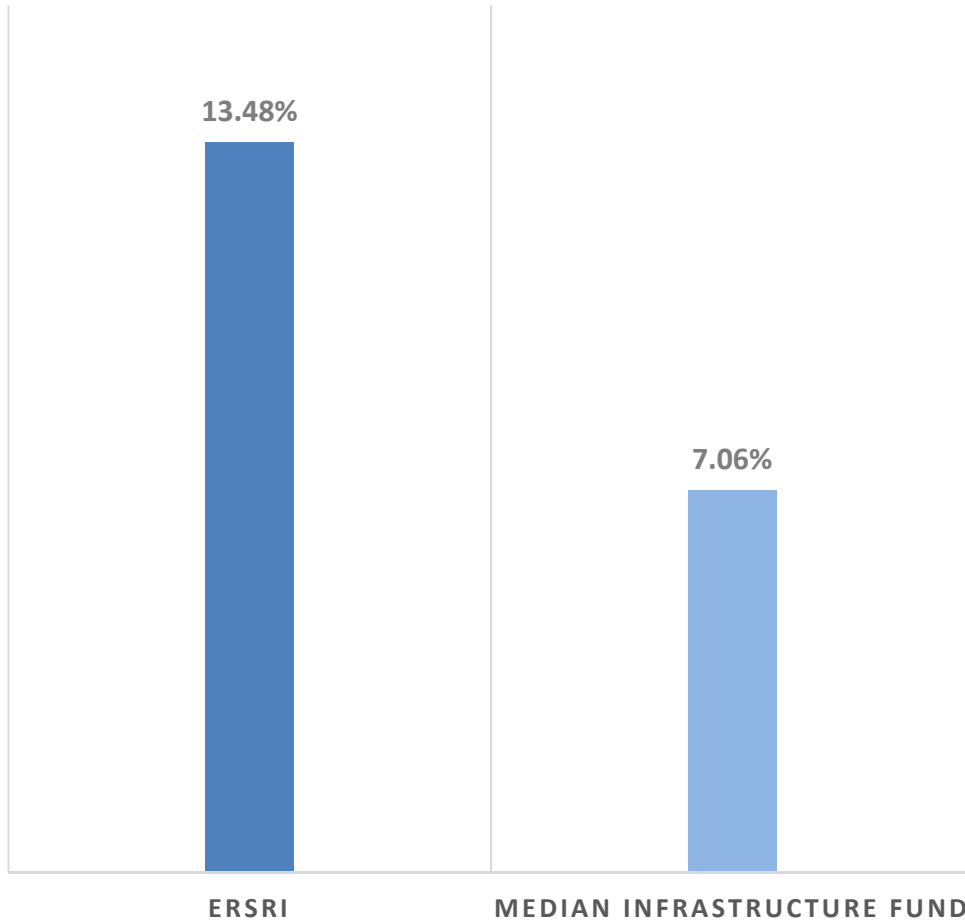
Cash flow Forecast

Combined	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Drawdowns	(216,694)	(45,363)	(40,456)	(48,726)	(56,049)
Distributions	99,615	36,467	47,546	55,793	61,060
Net Cash Flows	(117,079)	(8,896)	7,090	7,068	5,011
Fair Market Value	182,996	205,617	213,948	222,926	234,635

Amounts in \$000

Infrastructure Performance

Since Inception Net IRRs



Cambridge Associates
Universe of
Infrastructure Funds
(VY 2015-2018) is used

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