CAL POLY POMONA FOUNDATION, INC.
CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

INVESTMENT COMMITTEE MEETING

Wednesday, February 13, 2019
2:00 pm – 3:00 pm
Building #55 – Executive Conference Room

AGENDA

I. **ACKNOWLEDGEMENT OF MEMBERS OF THE PUBLIC** who may or may not be commenting on a specific item or making a general comment.

II. **CONSENSUS ACTION ITEMS** — **PAGE**

III. *Consensus Action Items: Items in this section are considered to be routine and acted on by the committee in one motion. Each item of the Consent agenda approved by the committee shall be deemed to have been considered in full and adopted as recommended. Any committee member may request that a consent item be removed from the consent agenda to be considered as a separate action item. If no additional information is requested, the approval vote will be taken without discussion*

1.	Minutes of November 27, 2018 meeting ACTION: Approval	Tom Goff	2 - 3

IV. **ACTION ITEMS**

2.	Investment Report – 2Nd Quarter 2018-2019 ACTION: Approval	David Prenovost	4 - 93
3.	Philanthropic Organization Transfer of Assets ACTION: Approval	David Prenovost / Dan Montplaisir	94-103
4.	Endowment Distribution ACTION: Approval	David Prenovost	104-106

V. **DISCUSSION ITEMS**

None

VI. **INFORMATION ITEMS**
The following items provide information and reports by management staff to the committee. Staff and committee may engage in discussion on any item if requested by committee member or staff member.

5.	NACUBO/Common Fund Endowment Study	David Prenovost	107-121
6.	CalPERS Public Agency Valuation Reports for Pension Plan	Dennis Miller	122-131
7.	Investment Advisor Review – General & Endowment Portfolios	David Prenovost	132-133
8.	Stochastic Study VEBA Trust	David Prenovost	134-143

VII. **OPEN FORUM**

The open proceedings of this meeting are being recorded

CAL POLY POMONA FOUNDATION, INC.
Investment Committee Meeting Minutes
November 27, 2018

Present: Mr. Michael Burckhardt, Dr, U.J. Fan, Mr. Tom Goff, Mr. Dan Montplaisir, Mr. Joe Simoneschi and Mr. Sean Yu

Absent: Dr. Lea Dopson, Ms. Danielle Manning, Ms. Kathy Tully

Staff: Ms. Jenny Dennis, Mr. Dennis Miller, Ms. Yvetth Parada, Mr. David Prenovost and Ms. Karen Sandoval.

Guest: Mr. Andy Price with Graystone Consulting

CALL TO ORDER

Mr. Tom Goff called the meeting to order at 1:02 p.m..

CONSENSUS ACTION ITEMS

1. Minutes – September 10, 2018

The minutes for September 10, 2018 were approved by consent with corrections to Michael Burckhardt's name.

ACTION ITEMS

2. Investment Report – 1st Quarter 2018-2019

David Prenovost presented the Endowment Investment Portfolio. The market has a volue of $97.4 millon at September 30, 2018; returned 1.89% versus 2.36% for the fiscal year and is over/under weighted by no more thatn 2.96%. Please see Graystone's reports and capital market overview.

The General Investment Portfolio has a current market value of $69.1 millon at September 30, 2018 and is over/under weighted by no more than 5% and the portion managed by Graystone Consulting has a current market value of $67.6 millon, returned 0.98% versus 1.34% for the fiscal year and is over/under weighted by no more than 0.87% basis points.

Per the Foundations Policy #133, only the quarterly yild is distributed: for the 1st quarter and the yield was 0.73% or seventy three basis points and the scholarship programs received $35,434 and the Foundations programs received $262,482.

The foundation received capital call notices and has contributed $231,250 agaubst uts cinnutnebt if $250,000 to Capital Partners IV and $681,000 against its commitment of $750,000 to capital Private Equity Partners VII.

The total Alernative Investment in Innovation Way infrastructure is $789,088. Per the terms of the investment agreement, the Foundation charged $7,591 year-to-date for fiscal year 2018-2019. This investment repaid $300,000 in the first quarter of fiscal year 2018-2019.

David Prenovost introduced Andrew Price with Graystone Consulting. Andrew presented a capital markets quarterly summary and reviewed the endowment and general investment performance reports.

A motion was made by Dan Montplaisir to accept the quarterly investment reports and believe the reports are in compliance with the investment policies and recommends the quarterly investment reports be presented to the Board of Directors. The motion was seconded by Sean Yu and approved 6-Ayes, 0-Nays and 0-Abstentions.

DISCUSSION ITEMS

None Presented

INFORMATION ITEMS

None Presented

OPEN FORUM

The next Board of Directors meeting is December 6, 2018 at Kellogg West, 2:00.

Meeting was adjourned at 2:07pm

Respectfully submitted,

Thomas W Goff

Tom Goff
Investment Committee, Chair

Memorandum

Cal Poly Pomona Foundation

Date: January 29, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: David F. Prenovost
Senior Managing Director/CFO

Subject: INVESTMENT HIGHLIGHTS – Second Quarter 2018-19

The Foundation's Endowment and General Investment Policies 130 and 131 requires a comprehensive quarterly report of the investment portfolio's performance be provided to the members of the Investment Committee and Board of Directors at each regularly scheduled meeting.

ENDOWMENT INVESTMENT PORTFOLIO
The Endowment Investment Portfolio (Portfolio) has a market value of $88.4 million at December 31, 2018; and lost -8.01% versus -5.50% (custom benchmark) for the fiscal year to date and is over weighted by 2.15% in fixed income and under weighted by 2.14% in private equity; please see Graystone's reports and capital market overview for further information.

GENERAL INVESTMENT PORTFOLIO
The General Investment Portfolio (Portfolio) has a current market value of $66.4 million at December 31, 2018 and is over weighted by no more than 7% in fixed income and underweighted by 3% in equities and 4% in Alternative Investments and the portion managed by Graystone Consulting has a current market value of $65.0 million, lost -2.86% versus -1.16% for the fiscal year and is over weighted 2% in equities and under weighted by 2.0% in fixed income. Please see Graystone's and the Common Fund's reports for further information.

Per the Foundation's Policy # 133, only the quarterly yield is distributed; for the 1st quarter the yield was 0.73% or seventy three basis points and the scholarship programs received $35,434 and the Foundation programs received $262,482; for the 2nd quarter the yield was 0.88% or eighty eight basis points and the scholarship programs received $41,110 and the Foundation programs received $315,417; (net of Foundation quarterly fee of 0.125% or twelve and a half basis points).

The scholarship and Foundation programs are categorized by the duration of the programs: short term (1 - 3 years), mid-term (4 - 7 years), or long term (7+ years). The cash balances in these programs as of December 31, 2018 are as follows:

- Short term - $25,907,850
- Mid-term - $4,471,855
- Long term - $8,995,403

The Foundation received capital call notices and has contributed $232,500 against its commitment of $250,000 to Capital Partners IV and $687,750 against its commitment of $750,000 to Capital Private Equity Partners VII. The value of the Non-Marketable Investments are $613,589, please see Common Fund Summary Investment and Performance Reports for further details.

The total Alternative Investment in Innovation Way infrastructure is $789,088. Per the terms of the investment agreement, the Foundation charged $15,507 year-to-date for fiscal year 2018-19. This investment repaid $300,000 in the first quarter of fiscal year 2018-19.

Recommended Action: The members of the Investment Committee have reviewed the comprehensive quarterly investment reports and believe the reports are in compliance with the investment policies and recommends the quarterly investment reports be presented to the Board of Directors at their next regularly scheduled meeting.

PASSED AND ADOPTED THIS 13th DAY OF FEBRUARY 2019.

By: Thomas M Goff
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Mr. Thomas M. Goff, Chair
Investment Committee

Graystone Consulting℠

A business of Morgan Stanley

Capital Markets Commentary

Global Investment Committee
Q4 2018 Review

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The Rolling Bear Market Is Ending; Buying Opportunity Is Near

As of January 9, 2019

- **Our rolling bear market narrative for 2018 has played out.** The price damage we expected from this *cyclical* bear market completed late last year with the S&P 500 briefly exceeding our bear case (2400) on Christmas Eve. Sentiment and positioning are also bearish currently and tell us this is a good time to add to equity risk. However, we believe 3 hurdles remain to sound the all-clear signal: 1) earnings revisions need to trough; 2) the Fed needs to *act d*ovish not just sound dovish; and 3) technical resistance must be overcome.

- **2018 marked the beginning of a wide trading range that could last several years, representing a cyclical bear within a secular bull.** We think the S&P 500 could trade between 2400 and 3000 (base case 2750) during 2018-2020 with an *earnings* recession marking the low point for this bear market in 2019 and an *economic* recession marking another low in 2020.

- **After reaching an all-time low a year ago, financial conditions tightened substantially during 2018.** As expected, the Fed's rate hikes and quantitative tightening (QT) weighed heavily on global asset prices, with the US finally getting hit in 4Q18. While the Fed's recent acknowledgment of this tightening is a positive, until they actually stop, we believe financial conditions will continue to tighten.

- **Meanwhile, economic and earnings growth is now deteriorating.** We think it will be difficult for the broader market to stage a sustainable recovery until these data trough during 1Q with the most important series being earnings revisions breadth.

- **The decline in 10-year Treasury yields and P/E multiples have led to the highest equity risk premium since 2016.** An equity risk premium above 400bps is acceptable and above 450bps appears very attractive. This would equate to 2400-2600 on the S&P 500.

- **We expect the global economy to trough and the Fed to pause and begin to taper QT by the end of Q1.** The combination of growth troughing and a change in Fed policy may lead to a powerful global equity rally.

- **International, especially EM and value stocks have outperformed during the latest stage of the rolling bear market.** We think this is supportive of our view that global nominal GDP will trough by the end of Q1 and the Fed will pause. Therefore, we recommend adding to these areas as the overall market re-tests the December lows on negative fundamental news flow.

- **10-Year Treasury yields appear to have topped and we expect modestly lower levels. We have avoided long duration due to the end of QE and fiscal austerity era and the rising positive correlation between stocks and bonds.** Avoid high-risk credits and levered equities. We remain constructive on MLPs as a source of yield. We also have a strong value over growth bias in our sector recommendations. **Overweights:** Energy, Utilities, Staples & Financials. **Underweights**: Tech & Consumer Discretionary. Look to rotate more cyclically and out of the defensive sectors during Q1.

Source: Morgan Stanley & Co. Research. Equity risk premium is the excess return that an individual stock or the overall stock market provides over a risk-free rate. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time. Earnings revisions breadth is defined as the number of positive analyst revisions minus the number of negative analyst revisions divided by the total number of revisions.

2018 Was a Terrible Year for Asset Allocation—Don't Fight the Fed!

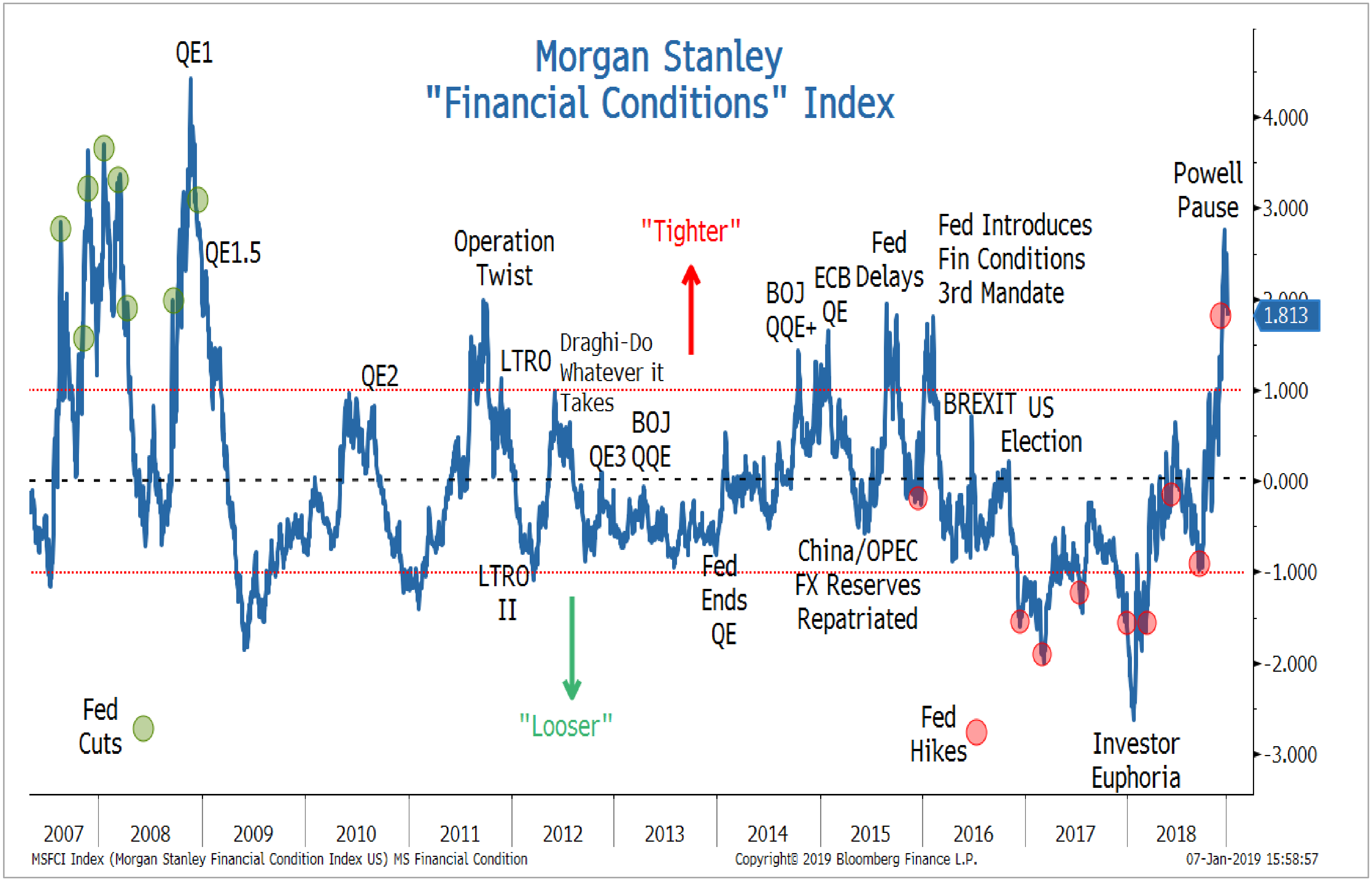
Red/Green Box Indicates Asset Class Underperforming/Outperforming Inflation (CPI)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MSCI China	MSCI China	US 10yr	MSCI EM	REITS	US 10yr	MSCI China	Russell 2000	REITS	MSCI Japan	Commodities	MSCI China	US 2yr
REITS	MSCI EM	US 2yr	MSCI China	Russell 2000	Inflation Bonds	MSCI Europe	S&P 500	S&P 500	REITS	Russell 2000	MSCI EM	US Agg. Bond
MSCI Europe	Commodities	US Agg. Bond	Global HY	Commodities	EM$Sov Credit	Global HY	MSCI Japan	US 10yr	US 10yr	US HY	MSCI Europe	US 10yr
MSCI EM	MSCI Europe	EM Local Debt	US HY	MSCI EM	US IG	REITS	MSCI Europe	MSCI China	EM$Sov Credit	Global HY	MSCI Japan	US HY
Russell 2000	Inflation Bonds	US IG	Commodities	MSCI Japan	US Agg. Bond	MSCI EM	US HY	US IG	S&P 500	S&P 500	S&P 500	US IG
S&P 500	US 10yr	Inflation Bonds	MSCI Europe	US HY	REITS	EM$Sov Credit	Global HY	EM$Sov Credit	US 2yr	MSCI EM	Russell 2000	EM Local Debt
Commodities	US 2yr	EM$Sov Credit	EM$Sov Credit	S&P 500	US HY	Russell 2000	MSCI China	US Agg. Bond	US Agg. Bond	EM$Sov Credit	EM Local Debt	Inflation Bonds
Global HY	US Agg. Bond	US HY	REITS	Global HY	Global HY	S&P 500	REITS	Russell 2000	US IG	REITS	Global HY	Global HY
US HY	EM$Sov Credit	Global HY	Russell 2000	EM Local Debt	S&P 500	US HY	US 2yr	Inflation Bonds	MSCI Europe	US IG	EM$Sov Credit	REITS
EM$Sov Credit	S&P 500	Commodities	S&P 500	EM$Sov Credit	US 2yr	EM Local Debt	US IG	US HY	Global HY	EM Local Debt	REITS	EM$Sov Credit
Inflation Bonds	US IG	MSCI Japan	US IG	US 10yr	EM Local Debt	US IG	US Agg. Bond	US 2yr	Russell 2000	Inflation Bonds	Inflation Bonds	S&P 500
MSCI Japan	EM Local Debt	Russell 2000	EM Local Debt	US IG	Russell 2000	Inflation Bonds	MSCI EM	Global HY	US HY	MSCI Japan	Commodities	Commodities
US Agg. Bond	Global HY	S&P 500	Inflation Bonds	US Agg. Bond	Commodities	MSCI Japan	Inflation Bonds	MSCI EM	Inflation Bonds	US Agg. Bond	US HY	Russell 2000
US IG	US HY	REITS	MSCI Japan	MSCI China	MSCI Europe	US Agg. Bond	EM Local Debt	EM Local Debt	MSCI China	MSCI China	US IG	MSCI Japan
US 2yr	Russell 2000	MSCI Europe	US Agg. Bond	MSCI Europe	MSCI Japan	US 10yr	US 10yr	MSCI Japan	EM Local Debt	US 2yr	US Agg. Bond	MSCI EM
US 10yr	MSCI Japan	MSCI China	US 2yr	Inflation Bonds	MSCI EM	Commodities	EM$Sov Credit	MSCI Europe	MSCI EM	US 10yr	US 10yr	MSCI Europe
EM Local Debt	REITS	MSCI EM	US 10yr	US 2yr	MSCI China	US 2yr	Commodities	Commodities	Commodities	MSCI Europe	US 2yr	MSCI China

Underperforming **Outperforming**

Source: Morgan Stanley & Co. Research as of December 31, 2018

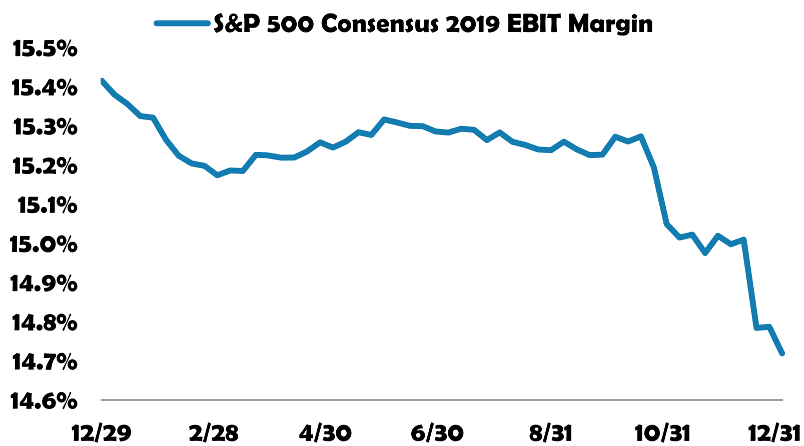
Financial Conditions Have Finally Forced Powell to *Consider* a Pause

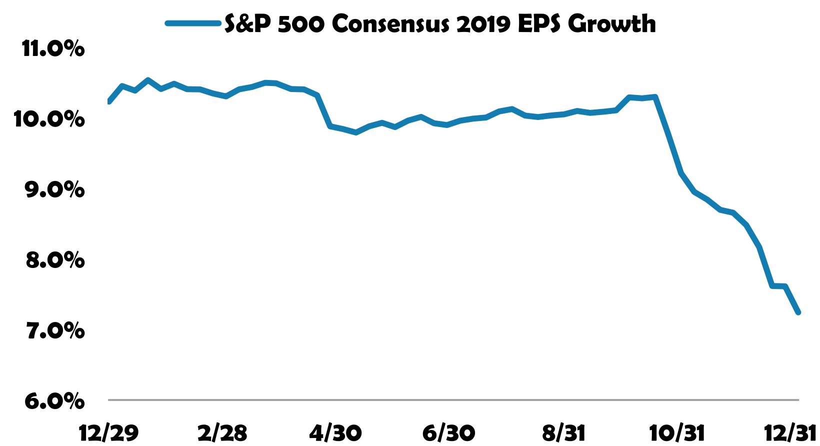


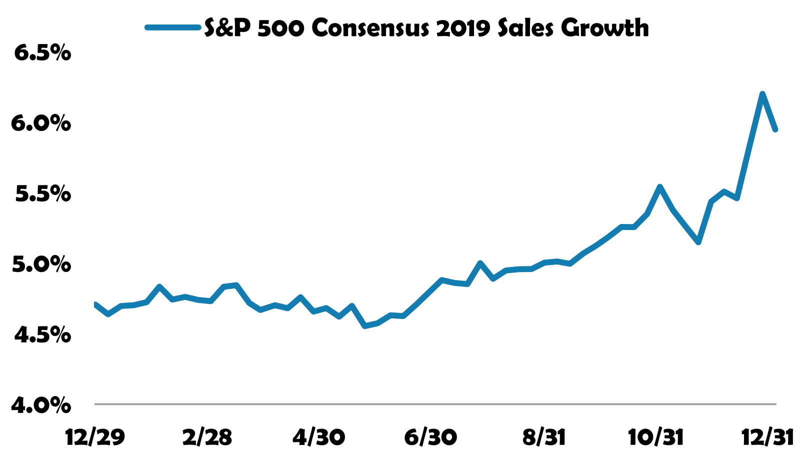
Source: Bloomberg, Morgan Stanley & Co. Research as of January 7, 2019

Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

Good News: Margin and EPS Growth Expectations Have Come Down
Bad News: Sales Growth Expectations Have Gone Up







Source: FactSet, Morgan Stanley & Co. Research as of January 7, 2019. Consensus S&P 500 2019 EBIT margin, EPS growth and sales growth represent FactSet estimates.

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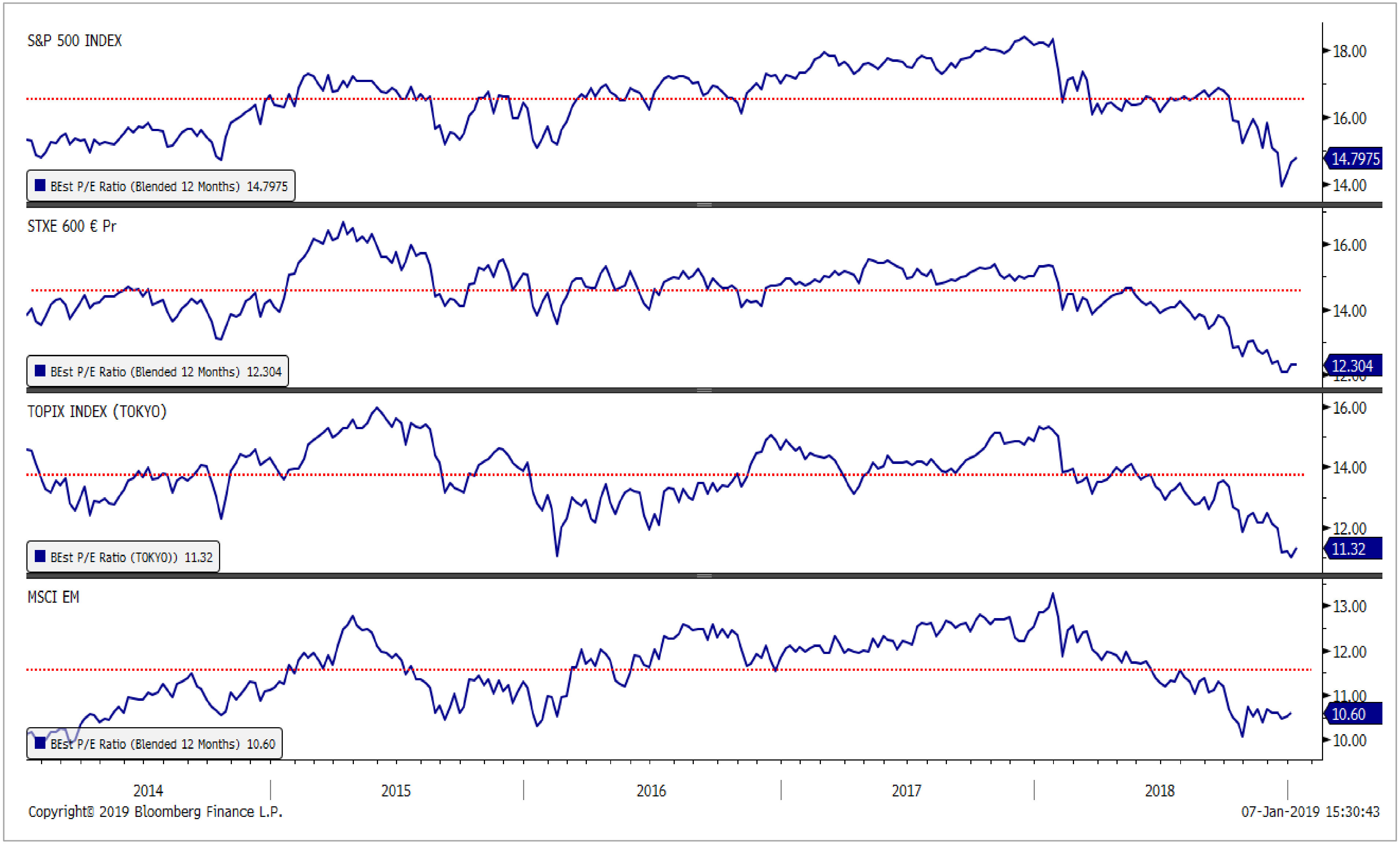
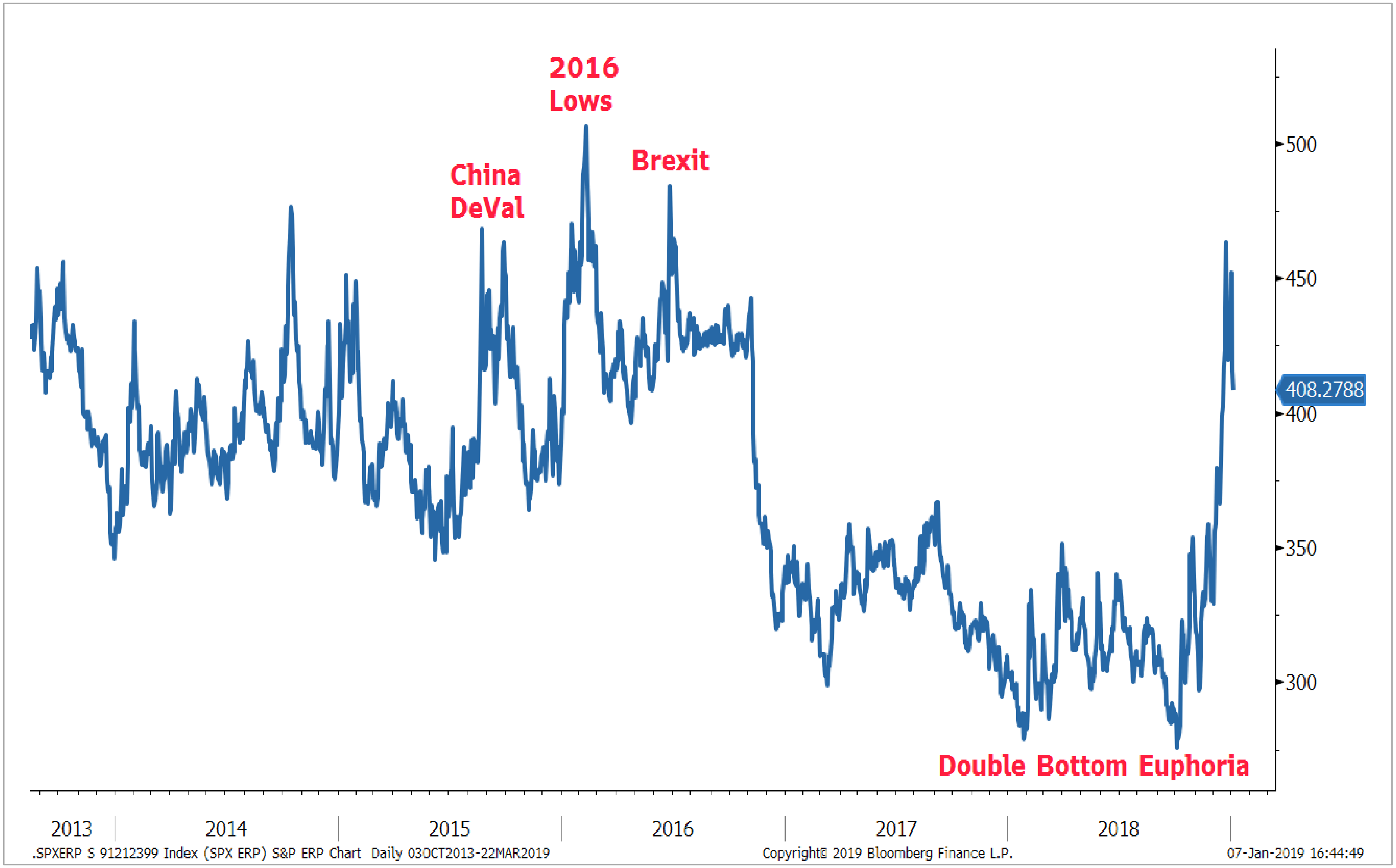
More Good News: The De-Rating of Equities Has Been Significant (25%)



Source: Bloomberg, Morgan Stanley & Co. Research as of January 7, 2019

On an Equity Risk Premium Basis, the De-rating Has Been Swift and Severe



Source: Bloomberg, Morgan Stanley & Co. Research as of January 7, 2019. Equity Risk Premium = 12 month forward earnings yield – 10 Year Treasury Yield. Earnings yield based on bottom-up consensus forecast. . Equity risk premium is the excess return that an individual stock or the overall stock market provides over a risk-free rate. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.

Our Valuation Framework Has Helped as a Timing Tool. At Current Rates and a Reasonable Equity Risk Premium, the S&P 500 Now Appears "Fairly" Valued

NTM S&P PE Sensitivity - ERP & 10 Yr Yield

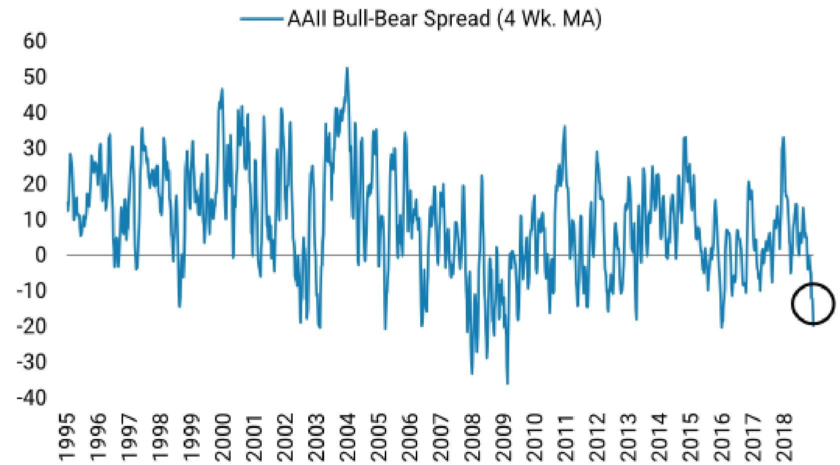
10Y Yield	Equity Risk Premium (bps) 275	300	325	350	375	400	425	450
2.25	20.0	19.0	18.2	17.4	16.7	16.0	15.4	14.8
2.50	19.0	18.2	**17.4**	**16.7**	**16.0**	**15.4**	**14.8**	14.3
2.75	18.2	17.4	**16.7**	**16.0**	**15.4**	**14.8**	**14.3**	13.8
3.00	17.4	16.7	**16.0**	**15.4**	**14.8**	**14.3**	**13.8**	13.3
3.25	16.7	16.0	15.4	14.8	14.3	13.8	13.3	12.9
3.50	16.0	15.4	14.8	14.3	13.8	13.3	12.9	12.5

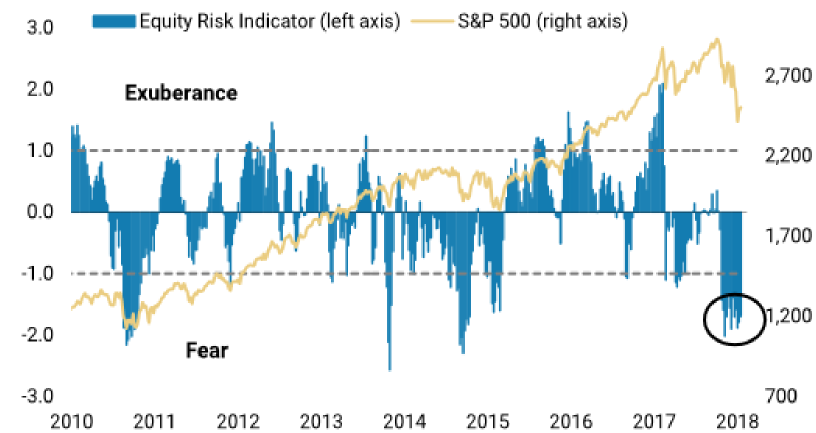
S&P 500 Price Matrix

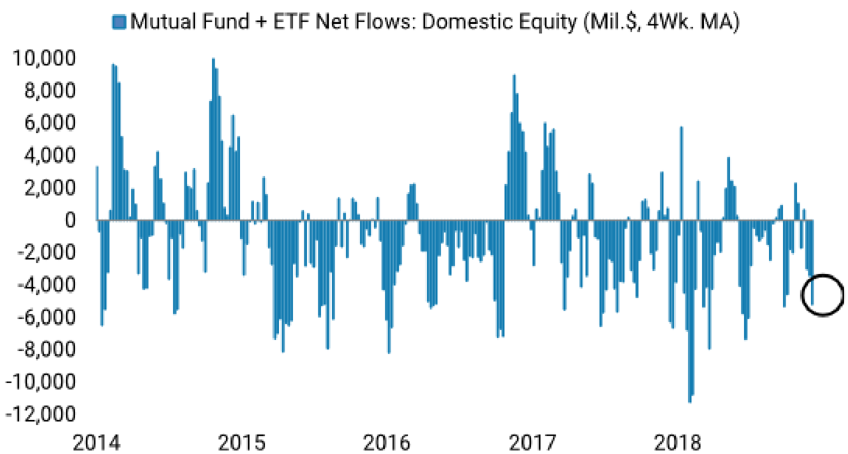
10Y Yield	Equity Risk Premium (bps) 275	300	325	350	375	400	425	450
2.25	3460	3296	3146	3009	2884	2768	2662	2563
2.50	3296	3146	**3009**	**2884**	**2768**	**2662**	**2563**	2472
2.75	3146	3009	**2884**	**2768**	**2662**	**2563**	**2472**	2387
3.00	3009	2884	**2768**	**2662**	**2563**	**2472**	**2387**	2307
3.25	2884	2768	2662	2563	2472	2387	2307	2233
3.50	2768	2662	2563	2472	2387	2307	2233	2163

Source: FactSet, Morgan Stanley & Co. Research as of January 7, 2019. Equity risk premium is the excess return that an individual stock or the overall stock market provides over a risk-free rate. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.

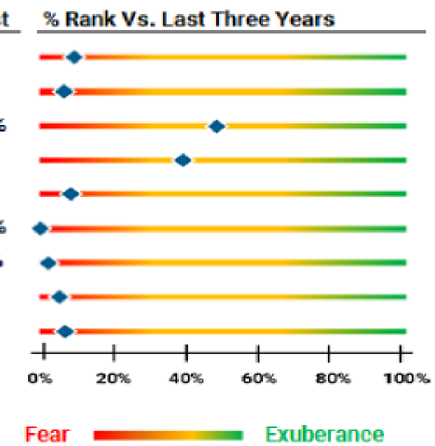
Sentiment and Positioning Is Very Bearish







Indicator	Latest
MS & Co. Standardized GRDI	-1.6
S&P 500 Daily Sentiment Index	21.0
US AAII % Bulls	33.0%
S&P 500 Mutual Fund Beta	1.0
S&P 500 30-Day Rel. Strength Index	42.4
% S&P 500 Members > 200-Day MA	14.0%
% S&P 500 >/< 200-Day MA	-8.5%
S&P 500 Put/Call[1]	0.8
VIX Index[1]	22.8



Source: FactSet, Haver Analytics, Bloomberg, Morgan Stanley & Co. Research as of January 4, 2019

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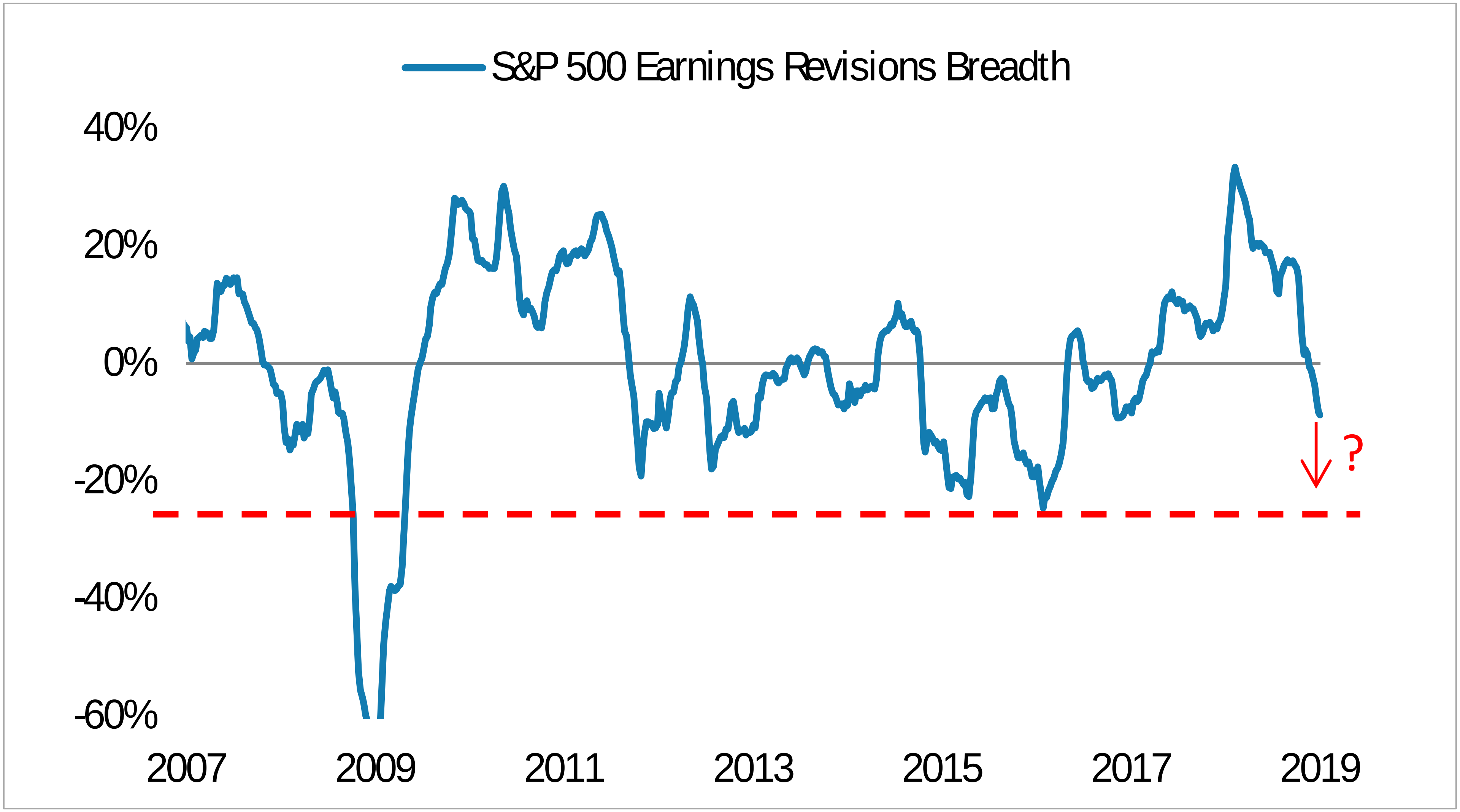
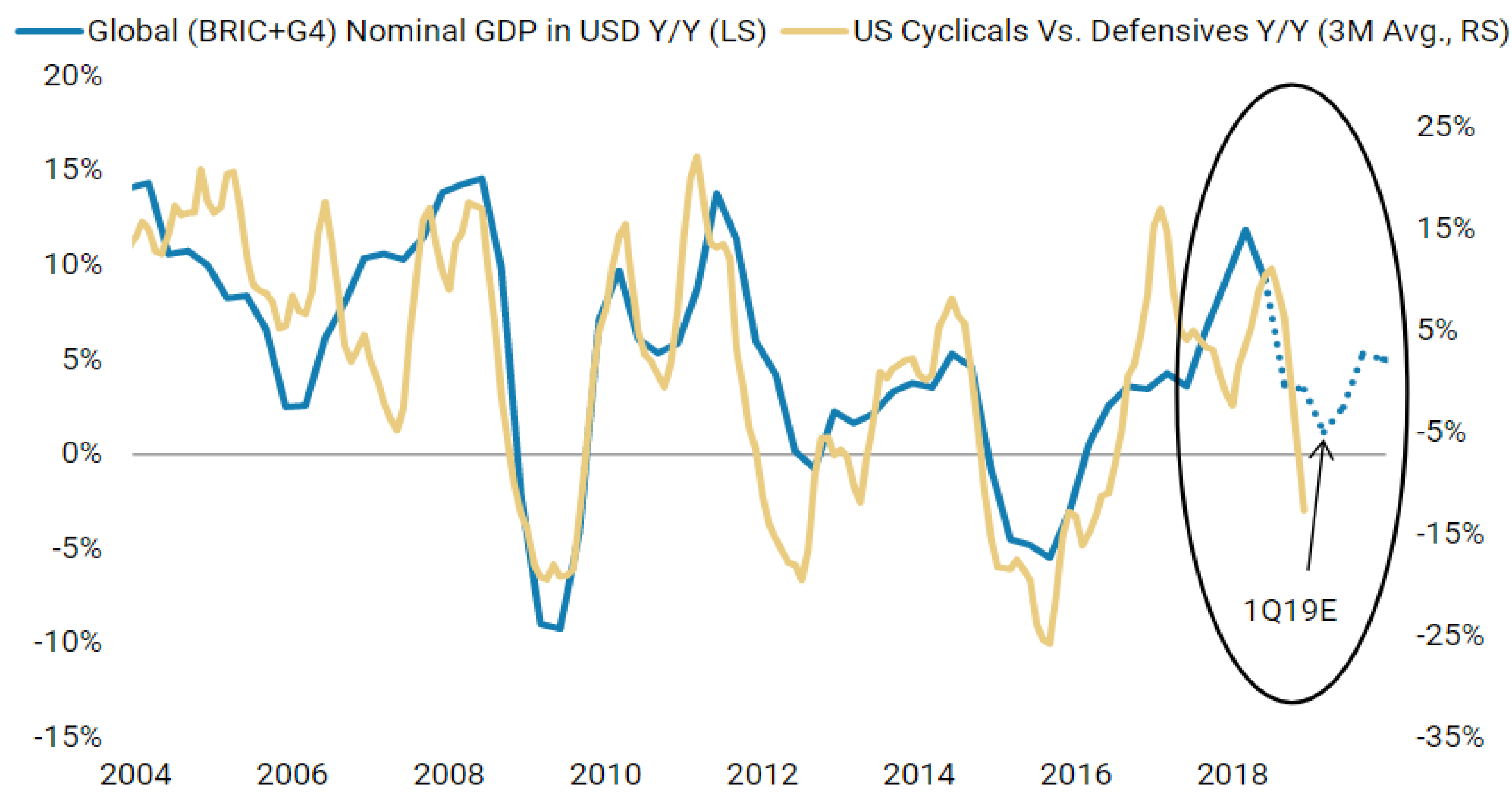
Major Hurdle: Earnings Revisions Breadth Likely to Get Worse in Near Term



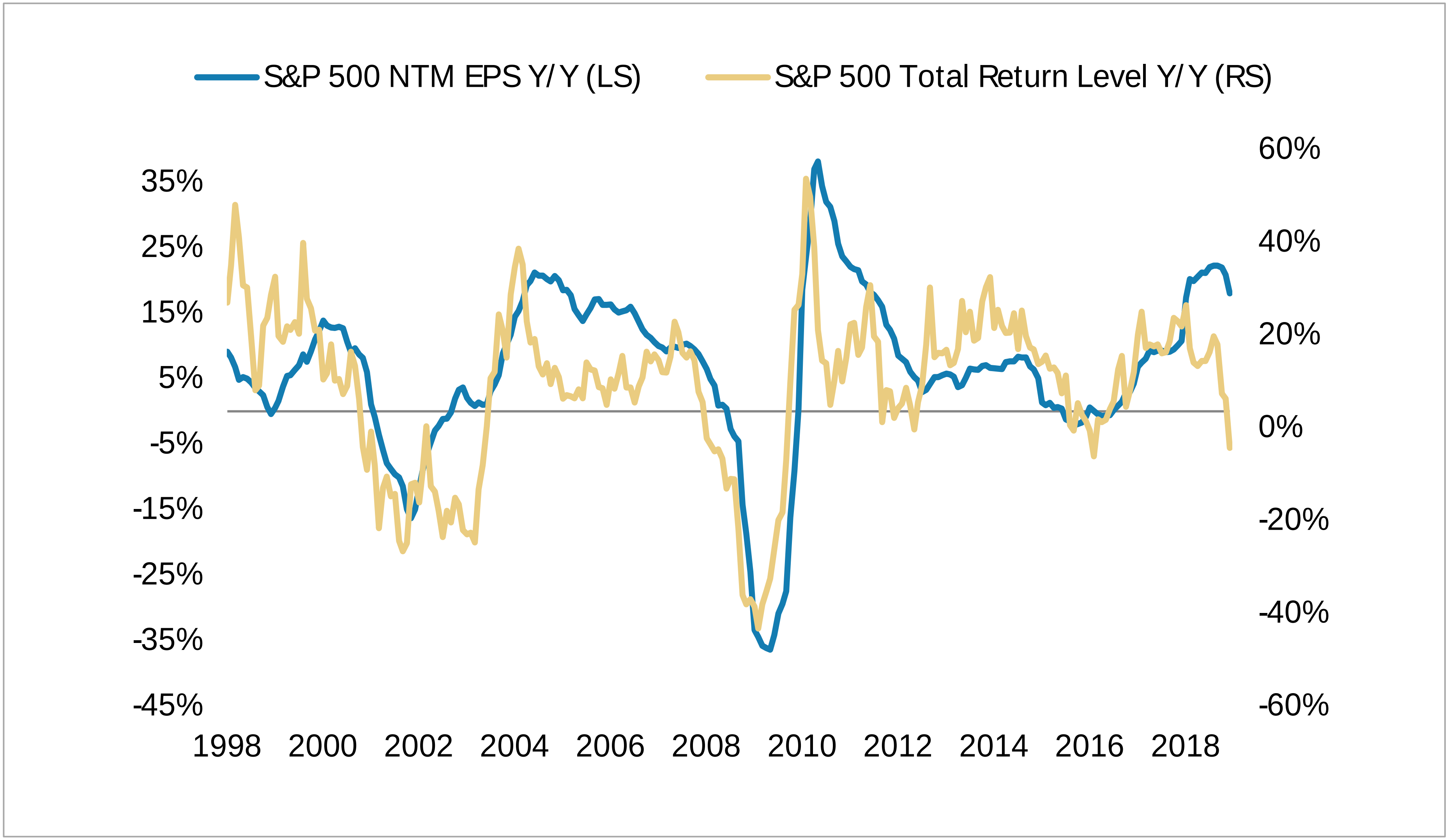
Source: FactSet, Morgan Stanley & Co. Research as of January 4, 2019. Earnings revisions breadth is defined as the number of positive analyst revisions minus the number of negative analyst revisions divided by the total number of revisions.

And, It Looks Like this Rotation Priced in a Deeper Decline in Global Nominal GDP Than What MS & Co. Economists Are Forecasting



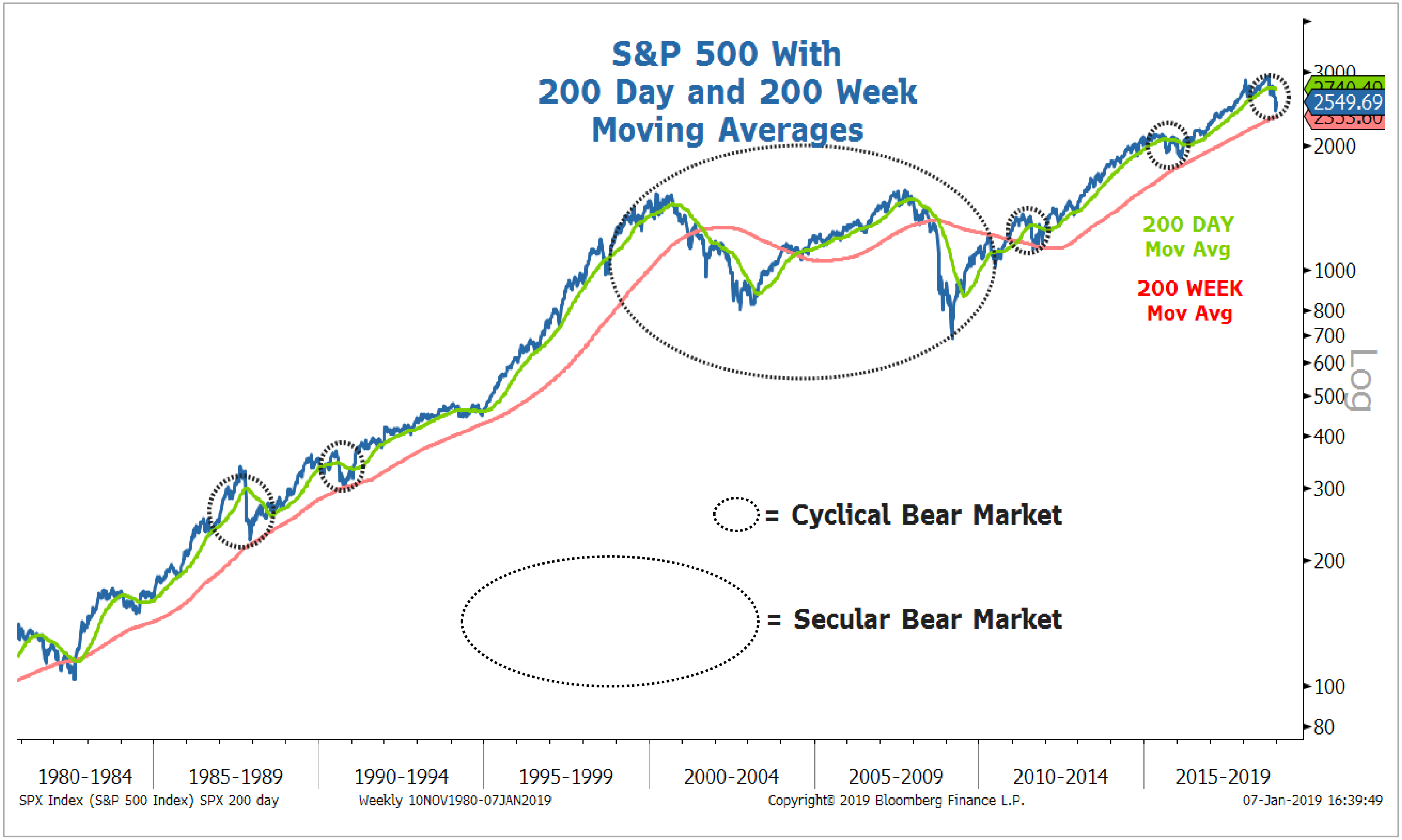
Source: FactSet, Morgan Stanley & Co. as of December 13, 2018. GDP as of 2Q 2018. Dotted line is MS estimates.

Stock Market Is Already Discounting a Very Steep Decline in EPS Growth



Source: FactSet, Morgan Stanley & Co. Research as of Dec 31, 2018

Consolidation (2400-3000) Is a Cyclical Bear in the Context of a Secular Bull



Source: Bloomberg, Morgan Stanley & Co. Research as of January 7, 2019

Our Target Prices Suggest Significantly More Upside in International Equity Markets Relative to the US, Especially in US Dollar Terms

		MS Dec 2019 Target Price (% Change from Current Levels)			Return from 12/31/18 - 12/31/19E (In USD)		
Index	**Current Price**	**Bull**	**Base**	**Bear**	**Bull**	**Base**	**Bear**
S&P 500	2507	3000	2750	2400	20%	10%	-4%
		20%	10%	-4%			
MSCI Europe	1405	1890	1540	1170	55%	26%	-4%
		35%	10%	-17%			
Topix	1494	2100	1800	1300	50%	29%	-7%
		41%	20%	-13%			
MSCI EM	966	1230	1050	750	32%	13%	-19%
		27%	9%	-22%			

Source: Bloomberg, Morgan Stanley & Co. Research as of December 31, 2018

Bottom Line: Our Recommendations

As of January 9, 2019

- The global economic recovery began almost 3 years ago. The synchronous nature of the recovery became less synchronous and the rate of change on growth peaked in 2Q18. However, we think global reflation is still the primary narrative. We expect the global economy to trough in 1Q 2019 with the US economy troughing in 3Q 2019.
- Global equity markets had a difficult year in 2018 despite relatively strong economic and earnings growth in most regions. Tightening financial conditions, higher interest rates and peaking growth led to a 25% de-rating on global valuations. We think that de-rating is complete but markets will remain choppy through 1Q 2019 until earnings revisions trough and the Fed backs off its tightening campaign.
- At current prices, we recommend global equities over fixed income given our constructive view on global reflation and the end of secular stagnation, the potential for more global fiscal stimulus, and attractively priced valuation relative to rates and credit. We are in a *cyclical* bear within a *secular* bull market for global equities, a time when we think asset owners should remain fully invested in order to capture tax-deferred potential compounded returns.
- After raising cash last year on several occasions and recommending clients be patient with new capital, we are now recommending putting that cash back to work in US equities. However, we suggest investors be disciplined on entry points and not chase momentum. Add, in particular, when the S&P is below 2500. We have a preference for value sectors globally—Energy, Materials, Industrials, Utilities, Staples and Financials.
- International equity markets have been outperforming the US since October as the US finally caught up on the downside. We expect International to continue to outperform on the upside as the global economy troughs in 1Q and the dollar weakens. If our forecast for the US dollar to depreciate significantly this year is right, international equity markets should outperform the US by a margin of 2 to 1.
- Within fixed income, we recommend US-only positioning with no exposure to high yield and some TIPS as inflation expectations recover further with our leading indicators suggesting core CPI is heading to 2.5% or higher by the middle of 2019. We would add to high yield if spreads were to widen out again to levels seen at the end of December.
- We think the end of the rolling bear market is likely to spur a rolling bull market in 2019. However, our 2400-3000 consolidation call for the S&P 500 is likely to remain in place for 2 more years. This is why one must be disciplined on entry points and attendant to valuation.
- We think the end of the rolling bear market should coincide with a paradigm shift in which leadership moves from stability and growth assets to cyclicality and value. This aligns with our global reflation narrative from 2016 and the end of secular stagnation. The end of QE and the rise of populism have ignited "animal spirts" and capital spending at both the government and corporate level. Add International over US and Value over Growth over the next 3 months.

Source: Morgan Stanley Wealth Management GIC

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Global Investment Manager Analysis (GIMA) Focus List, Approved List and Tactical Opportunities List; Watch Policy. GIMA uses two methods to evaluate investment products in applicable advisory programs: **Focus** (and investment products meeting this standard are described as being on the Focus List) and **Approved** (and investment products meeting this standard are described as being on the Approved List). In general, Focus entails a more thorough evaluation of an investment product than Approved. Sometimes an investment product may be evaluated using the Focus List process but then placed on the Approved List instead of the Focus List. Investment products may move from the Focus List to the Approved List, or vice versa. GIMA may also determine that an investment product no longer meets the criteria under either process and will no longer be recommended in investment advisory programs (in which case the investment product is given a "Not Approved" status). GIMA has a '**Watch**" policy and may describe a Focus List or Approved List investment product as being on "Watch" if GIMA identifies specific areas that (a) merit further evaluation by GIMA and (b) may, but are not certain to, result in the investment product becoming "Not Approved." The Watch period depends on the length of time needed for GIMA to conduct its evaluation and for the investment manager or fund to address any concerns. Certain investment products on either the Focus List or Approved List may also be recommended for the **Tactical Opportunities List** based in part on tactical opportunities existing at a given time. The investment products on the Tactical Opportunities List change over time. For more information on the Focus List, Approved List, Tactical Opportunities List and Watch processes, please see the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management. Your Financial Advisor or Private Wealth Advisor can also provide upon request a copy of a publication entitled "Manager Selection Process."

The **Global Investment Committee** is a group of seasoned investment professionals who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks and recommend model portfolio weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

The GIC Asset Allocation Models are not available to be directly implemented as part of an investment advisory service and should not be regarded as a recommendation of any Morgan Stanley investment advisory service. The GIC Asset Allocation Models do not represent actual trading or any type of account or any type of investment strategies and none of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, advisory fees, fund expenses) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models which, when compounded over a period of years, would decrease returns.

Adverse Active Alpha (AAA) is a patented screening and scoring process designed to help identify high-quality equity and fixed income managers with characteristics that may lead to future outperformance relative to index and peers. While highly ranked managers performed well as a group in our Adverse Active Alpha model back tests, not all of the managers will outperform. Please note that this data may be derived from back-testing, which has the benefit of hindsight. In addition, highly ranked managers can have differing risk profiles that might not be suitable for all investors. Our view is that Adverse Active Alpha is a good starting point and should be used in conjunction with other information. Morgan Stanley Wealth Management's qualitative and quantitative investment manager due diligence process are equally important factors for investors when considering managers for use through an investment advisory program. Factors including, but not limited to, manager turnover and changes to investment process can partially or fully negate a positive Adverse Active Alpha ranking. Additionally, highly ranked managers can have differing risk profiles that might not be suitable for all investors. For more information on AAA, please see the Adverse Active Alpha Ranking Model and Selecting Managers with Adverse Active Alpha whitepapers. The whitepaper are available from your Financial Advisor or Private Wealth Advisor. ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

The Global Investment Manager Analysis (GIMA) Services Only Apply to Certain Investment Advisory Programs GIMA evaluates certain investment products for the purposes of some – but not all – of Morgan Stanley Smith Barney LLC's investment advisory programs (as described in more detail in the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management). If you do not invest through one of these investment advisory programs, Morgan Stanley Wealth Management is not obligated to provide you notice of any GIMA Status changes even though it may give notice to clients in other programs.

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Consider Your Own Investment Needs: The model portfolios and strategies discussed in the material are formulated based on general client characteristics including risk tolerance . This material is not intended to be a client-specific suitability analysis or recommendation, or offer to participate in any investment. Therefore, clients should not use this profile as the sole basis for investment decisions. They should consider all relevant information, including their existing portfolio, investment objectives, risk tolerance, liquidity needs and investment time horizon. Such a suitability determination may lead to asset allocation results that are materially different from the asset allocation shown in this profile. Talk to your Financial Advisor about what would be a suitable asset allocation for you, whether CGCM is a suitable program for you.

No obligation to notify – Morgan Stanley Wealth Management has no obligation to notify you when the model portfolios, strategies, or any other information, in this material changes.

Please consider the investment objectives, risks, fees, and charges and expenses of mutual funds, ETFs, closed end funds, unit investment trusts, and variable insurance products carefully before investing. The prospectus contains this and other information about each fund. To obtain a prospectus, contact your Financial Advisor or Private Wealth Advisor or visit the Morgan Stanley website at www.morganstanley.com**. Please read it carefully before investing.**

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it is possible to lose money by investing in the fund.

The type of mutual funds and ETFs discussed in this presentation utilizes nontraditional or complex investment strategies and /or derivatives. Examples of these types of funds include those that utilize one or more of the below noted investment strategies or categories or which seek exposure to the following markets: (1) commodities (e .g., agricultural, energy and metals), currency, precious metals; (2) managed futures; (3) leveraged, inverse or inverse leveraged; (4) bear market, hedging, long-short equity, market neutral; (5) real estate; (6) volatility (seeking exposure to the CBOE VIX Index). Investors should keep in mind that while mutual funds and ETFs may, at times, utilize nontraditional investment options and strategies, they should not be equated with unregistered privately offered alternative investments. Because of regulatory limitations, mutual funds and ETFs that seek alternative-like investment exposure must utilize a more limited investment universe. As a result, investment returns and portfolio characteristics of alternative mutual funds and ETFs may vary from traditional hedge funds pursuing similar investment objectives. Moreover, traditional hedge funds have limited liquidity with long "lock-up" periods allowing them to pursue investment strategies without having to factor in the need to meet client redemptions and ETFs trade on an exchange. On the other hand, mutual funds typically must meet daily client redemptions. This differing liquidity profile can have a material impact on the investment returns generated by a mutual or ETF pursuing an alternative investing strategy compared with a traditional hedge fund pursuing the same strategy.

Nontraditional investment options and strategies are often employed by a portfolio manager to further a fund's investment objective and to help offset market risks. However, these features may be complex, making it more difficult to understand the fund's essential characteristics and risks, and how it will perform in different market environments and over various periods of time. They may also expose the fund to increased volatility and unanticipated risks particularly when used in complex combinations and/or accompanied by the use of borrowing or "leverage."

KEY ASSET CLASS CONSIDERATIONS AND OTHER RISKS

Investing in the markets entails the risk of market volatility. The value of all types of investments, including stocks, mutual funds, exchange-traded funds ("ETFs"), closed-end funds, and unit investment trusts, may increase or decrease over varying time periods. To the extent the investments depicted herein represent **international securities**, you should be aware that there may be additional risks associated with international investing, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards. These risks may be magnified in **emerging markets and frontier markets**. **Small- and mid-capitalization companies** may lack the financial resources, product diversification and competitive strengths of larger companies. In addition, the securities of small- and mid-capitalization companies may not trade as readily as, and be subject to higher volatility than, those of larger, more established companies. The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer. **High yield bonds** are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. In the case of **municipal bonds**, income is generally exempt from federal income taxes. Some income may be subject to state and local taxes and to the federal alternative minimum tax. Capital gains, if any, are subject to tax. **Treasury Inflation Protection Securities' (TIPS)** coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation. There is no guarantee that investors will receive par if TIPS are sold prior to maturity. The returns on a portfolio consisting primarily of **environmental, social, and governance-aware investments ("ESG")** may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein. **Options** and margin trading involve substantial risk and are not suitable for all investors. Besides the general investment risk of holding securities that may decline in value and the possible loss of principal invested, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance and potential leverage. Closed-end funds, unlike open-end funds, are not continuously offered. There is a one-time public offering and once issued, shares of closed-end funds are sold in the open market through a stock exchange. NAV is total assets less total liabilities divided by the number of shares outstanding. At the time an investor purchases shares of a closed-end fund, shares may have a market price that is above or below NAV. Portfolios that invest a large percentage of assets in only one industry **sector** (or in only a few sectors) are more vulnerable to price fluctuation than those that diversify among a broad range of sectors.

Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are suitable only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; Risks associated with the operations, personnel, and processes of the manager; and Risks associated with cybersecurity. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. All expressions of opinion are subject to change without notice and are not intended to be a forecast of future events or results. Further, opinions expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management. This is not a "research report" as defined by FINRA Rule 2241 or a "debt research report" as defined by FINRA Rule 2242 and was not prepared by the Research Departments of Morgan Stanley Smith Barney LLC or Morgan Stanley & Co. LLC or its affiliates. Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. While the HFRI indices are frequently used, they have limitations (some of which are typical of other widely used indices). These limitations include survivorship bias (the returns of the indices may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indices, and the index may omit funds, the inclusion of which might significantly affect the performance shown. The HFRI indices are based on information self-reported by hedge fund managers that decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these indices may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Individual funds have specific tax risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice. Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Wealth Management and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley Wealth Management or any of its affiliates, (3) are not guaranteed by Morgan Stanley Wealth Management and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Wealth Management is a registered broker-dealer, not a bank. 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Investment products in this category may employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives and options, which can increase volatility and the risk of investment loss. Alternative investments are not suitable for all investors. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

It should be noted that the majority of hedge fund indexes are comprised of hedge fund manager returns. This is in contrast to traditional indexes, which are comprised of individual securities in the various market segments they represent and offer complete transparency as to membership and construction methodology. As such, some believe that hedge fund index returns have certain biases that are not present in traditional indexes. Some of these biases inflate index performance, while others may skew performance negatively. However, many studies indicate that overall hedge fund index performance has been biased to the upside. Some studies suggest performance has been inflated by up to 260 basis points or more annually depending on the types of biases included and the time period studied. Although there are numerous potential biases that could affect hedge fund returns, we identify some of the more common ones throughout this paper.

Self-selection bias results when certain manager returns are not included in the index returns and may result in performance being skewed up or down. Because hedge funds are private placements, hedge fund managers are able to decide which fund returns they want to report and are able to opt out of reporting to the various databases. Certain hedge fund managers may choose only to report returns for funds with strong returns and opt out of reporting returns for weak performers. Other hedge funds that close may decide to stop reporting in order to retain secrecy, which may cause a downward bias in returns.

Survivorship bias results when certain constituents are removed from an index. This often results from the closure of funds due to poor performance, "blow ups," or other such events. As such, this bias typically results in performance being skewed higher. As noted, hedge fund index performance biases can result in positive or negative skew. However, it would appear that the skew is more often positive. While it is difficult to quantify the effects precisely, investors should be aware that idiosyncratic factors may be giving hedge fund index returns an artificial "lift" or upwards bias.

Hedge Funds of Funds and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns. An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. An investment in a **target date portfolio** is subject to the risks attendant to the underlying funds in which it invests, in these portfolios the funds are the Consulting Group Capital Market funds. A target date portfolio is geared to investors who will retire and/or require income at an approximate year. The portfolio is managed to meet the investor's goals by the pre-established year or "target date." A target date portfolio will transition its invested assets from a more aggressive portfolio to a more conservative portfolio as the target date draws closer. An investment in the target date portfolio is not guaranteed at any time, including, before or after the target date is reached. **Managed futures** investments are speculative, involve a high degree of risk, use significant leverage, are generally illiquid, have substantial charges, subject investors to conflicts of interest, and are suitable only for the risk capital portion of an investor's portfolio. Managed futures investments do not replace equities or bonds but rather may act as a complement in a well diversified portfolio. Managed Futures are complex and not appropriate for all investors. **Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets. Past performance is no guarantee of future results. Actual results may vary.

Tax laws are complex and subject to change. Morgan Stanley Smith Barney LLC ("Morgan Stanley"), its affiliates and Morgan Stanley Financial Advisors and Private Wealth Advisors do not provide tax or legal advice and are not "fiduciaries" (under ERISA, the Internal Revenue Code or otherwise) with respect to the services or activities described herein except as otherwise provided in writing by Morgan Stanley and/or as described at www.morganstanley.com/disclosures/dol. Individuals are encouraged to consult their tax and legal advisors (a) before establishing a retirement plan or account, and (b) regarding any potential tax, ERISA and related consequences of any investments made under such plan or account.

Annuities and insurance products are offered in conjunction with Morgan Stanley Smith Barney LLC's licensed insurance agency affiliates.

Indices are unmanaged and investors cannot directly invest in them. They are not subject to expenses or fees and are often comprised of securities and other investment instruments the liquidity of which is not restricted. A particular investment product may consist of securities significantly different than those in any index referred to herein. Composite index results are shown for illustrative purposes only, generally do not represent the performance of a specific investment, may not, for a variety of reasons, be a suitable comparison or benchmark for a particular investment and may not necessarily reflect the actual investment strategy or objective of a particular investment. Consequently, comparing an investment to a particular index may be of limited use.

This material is not a financial plan and does not create an investment advisory relationship between you and your Morgan Stanley Financial Advisor. We are not your fiduciary either under the Employee Retirement Income Security Act of 1974 (ERISA) or the Internal Revenue Code of 1986, and any information in this report is not intended to form the primary basis for any investment decision by you, or an investment advice or recommendation for either ERISA or Internal Revenue Code purposes. Morgan Stanley Private Wealth Management will only prepare a financial plan at your specific request using Private Wealth Management approved financial planning signature.

We may act in the capacity of a broker or that of an advisor. As your broker, we are not your fiduciary and our interests may not always be identical to yours. Please consult with your Private Wealth Advisor to discuss our obligations to disclose to you any conflicts we may from time to time have and our duty to act in your best interest. We may be paid both by you and by others who compensate us based on what you buy. Our compensation, including that of your Private Wealth Advisor, may vary by product and over time.

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For index, indicator and survey definitions referenced in this report please visit the following: http://www.morganstanleyfa.com/public/projectfiles/id.pdf

GLOBAL INVESTMENT COMMITTEE (GIC) ASSET ALLOCATION MODELS: The Asset Allocation Models are created by Morgan Stanley Wealth Management's GIC.

HYPOTHETICAL MODEL PERFORMANCE (GROSS): Hypothetical model performance results do not reflect the investment or performance of an actual portfolio following a GIC Strategy, but simply reflect actual historical performance of selected indices on a real-time basis over the specified period of time representing the GIC's strategic and tactical allocations as of the date of this report. The past performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation or trading strategy. Hypothetical performance results do not represent actual trading and are generally designed with the benefit of hindsight. Actual performance results of accounts vary due to, for example, market factors (such as liquidity) and client-specific factors (such as investment vehicle selection, timing of contributions and withdrawals, restrictions and rebalancing schedules). Clients would not necessarily have obtained the performance results shown here if they had invested in accordance with any GIC Asset Allocation Model for the periods indicated. Despite the limitations of hypothetical performance, these hypothetical performance results allow clients and Financial Advisors to obtain a sense of the risk/return trade-off of different asset allocation constructs. The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products. Models may contain allocations to Hedge Funds, Private Equity and Private Real Estate. The benchmark indices for these asset classes are not issued on a daily basis. When calculating model performance on a day for which no benchmark index data is issued, we have assumed straight line growth between the index levels issued before and after that date.

FEES REDUCE THE PERFORMANCE OF ACTUAL ACCOUNTS: None of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, fees) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models. The GIC Asset Allocation Models and any model performance included in this presentation are intended as educational materials. Were a client to use these models in connection with investing, any investment decisions made would be subject to transaction and other costs which, when compounded over a period of years, would decrease returns. Information regarding Morgan Stanley's standard advisory fees is available in the Form ADV Part 2, which is available at www.morganstanley.com/adv. The following hypothetical illustrates the compound effect fees have on investment returns: For example, if a portfolio's annual rate of return is 15% for 5 years and the account pays 50 basis points in fees per annum, the gross cumulative five-year return would be 101.1% and the five-year return net of fees would be 96.8%. Fees and/or expenses would apply to clients who invest in investments in an account based on these asset allocations, and would reduce clients' returns. The impact of fees and/or expenses can be material.

Variable annuities are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options. Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract. If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection. Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment. **Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV, and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention. **Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions. Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage. Principal is returned on a monthly basis over the life of a **mortgage-backed security.** Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. **Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision. **Credit ratings** are subject to change. **Duration**, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. The majority of $25 and $1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per $25 or $1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price. The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk. The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield. Some $25 or $1000 **par preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

Companies paying **dividends** can reduce or cut payouts at any time.

Nondiversification: For a portfolio that holds a concentrated or limited number of securities, a decline in the value of these investments would cause the portfolio's overall value to decline to a greater degree than a less concentrated portfolio. The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time. Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. **Value investing** does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.
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Cal Poly Pomona Foundation Endowment Portfolio

Portfolio Review
As of December 31, 2018

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Cal Poly Pomona Foundation
Executive Summary

Type of Fund	Endowment
Time Horizon Investment	Perpetuity
Horizon Target Return	Over 10 Years
Normal Policy Allocation	Greater Los Angeles Area CPI + 4%
	29.5% Russell 3000 / 33.0% MSCI AC World ex US Net / 27.5% Barclays Aggregate / 5.0% HFRI FoF Diversified / 5.0% Cambridge Private Equity Benchmark

Asset Allocation Guidelines

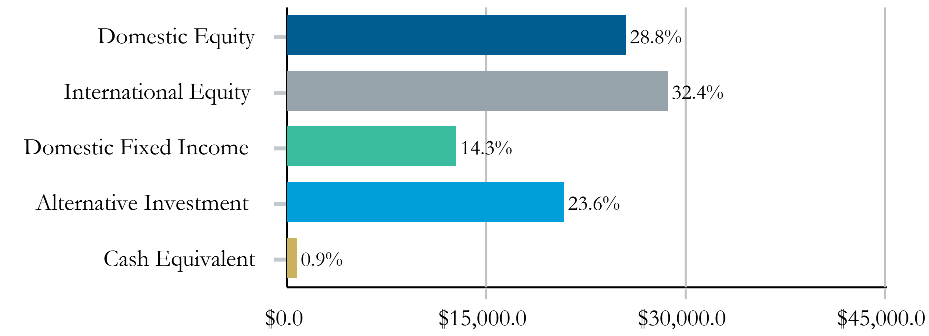
Asset Class	Target Allocation
Total Equities	**62.5%**
Domestic Equity	29.5%
International Equity	33.0%
Fixed Income includes MBS	**27.5%**
Domestic and International	27.5%
Hedge Funds	**5.0%**
Private Equity	**5.0%**
Cash Equivalents	**0.0%**

Cal Poly Pomona Foundation
Portfolio Summary
As of December 31, 2018

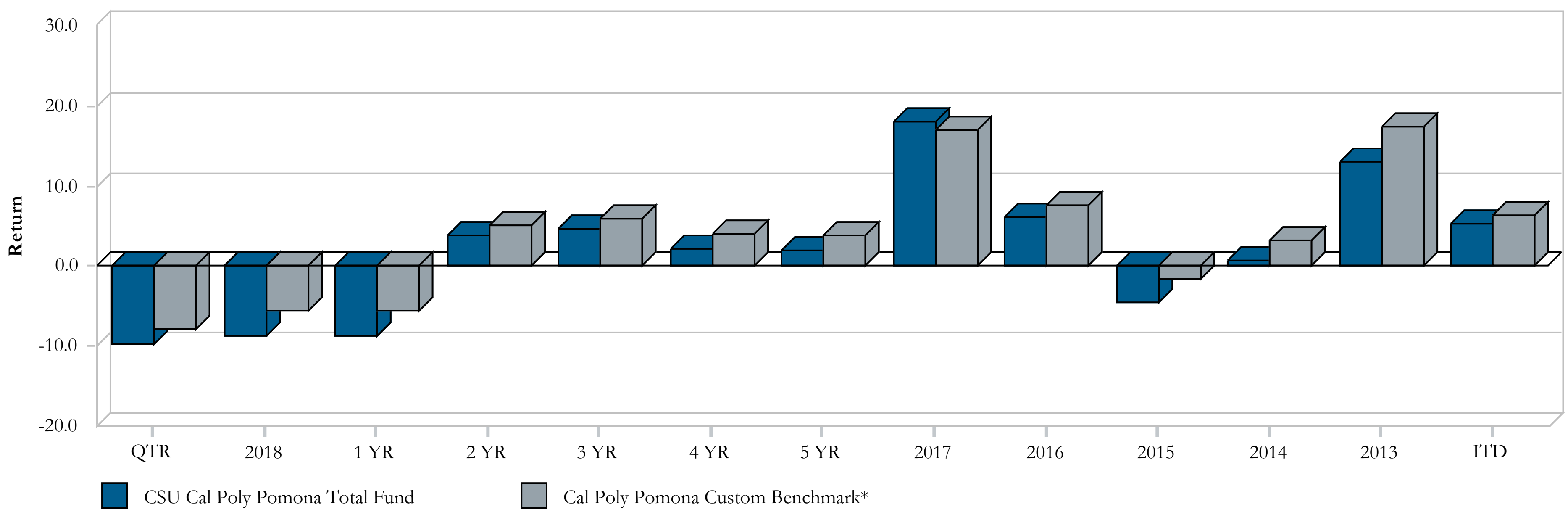
Market Valuation

	1 Quarter	YTD	Since Inception	Inception Date
Total Fund Composite				10/01/2008
Beginning Market Value	$97,406,051	$100,185,360	$31,161,294	
Net Contributions	$536,316	($3,473,238)	$24,256,917	
Gain/Loss	($9,531,754)	($8,301,509)	$32,992,402	
Ending Market Value	**$88,410,613**	**$88,410,613**	**$88,410,613**	

December 31, 2018 : $88,411



Total Portfolio Performance (%)



	QTR	YTD	1 YR	2 YR	3 YR	4 YR	5 YR	2017	2016	2015	2014	2013	ITD	Inception Date
CSU Cal Poly Pomona Total Fund	-9.76	-8.64	-8.64	3.87	4.64	2.28	1.98	18.10	6.21	-4.51	0.81	13.09	5.30	10/01/2008
Cal Poly Pomona Custom Benchmark*	-7.87	-5.67	-5.67	5.03	5.88	3.98	3.82	16.94	7.62	-1.53	3.18	17.53	6.30	10/01/2008

*The custom benchmark is an evolving benchmark that is currently comprised of 29.5% Russell 3000, 33% MSCI AC World ex US Net, 27.5% Barclays Aggregate, 5% HFRI FoF Diversified, and 5% Cambridge PE benchmark.

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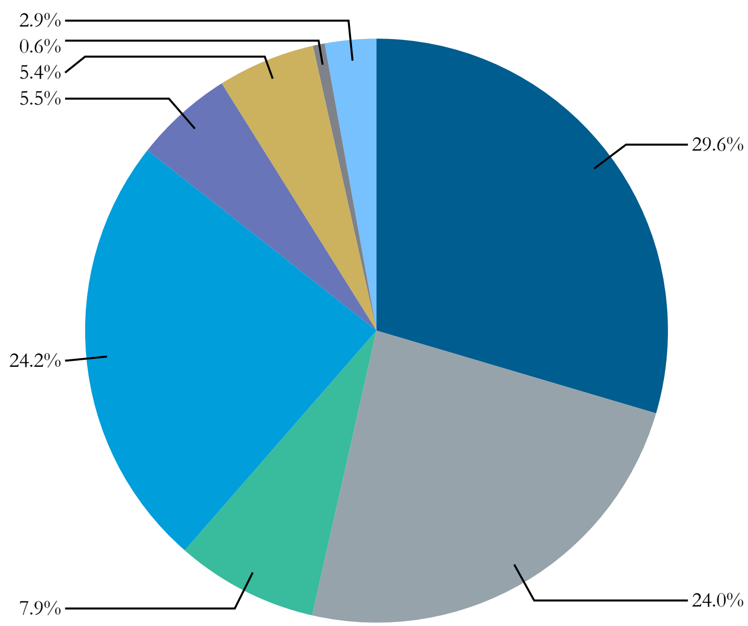
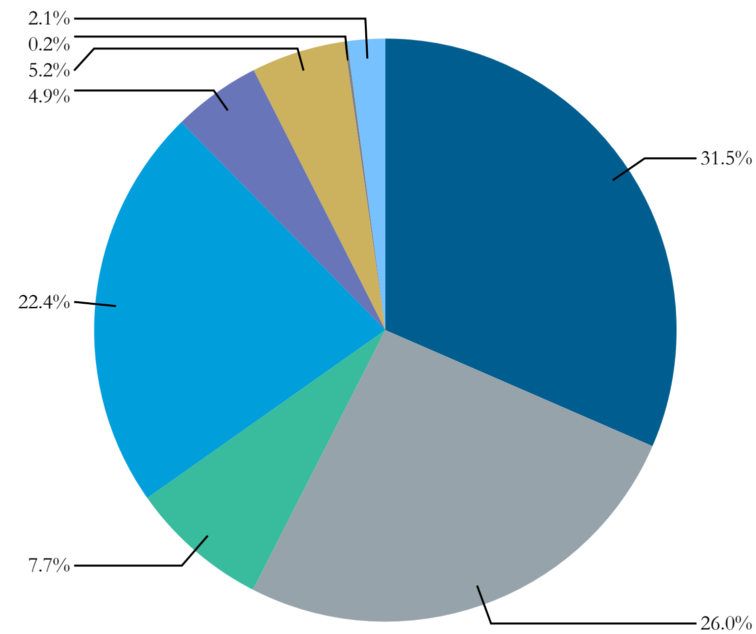
Cal Poly Pomona Foundation

Portfolio Asset Allocation Summary

As of December 31, 2018

December 31, 2018 : $88,410,613	September 30, 2018 : $97,406,051





December 31, 2018

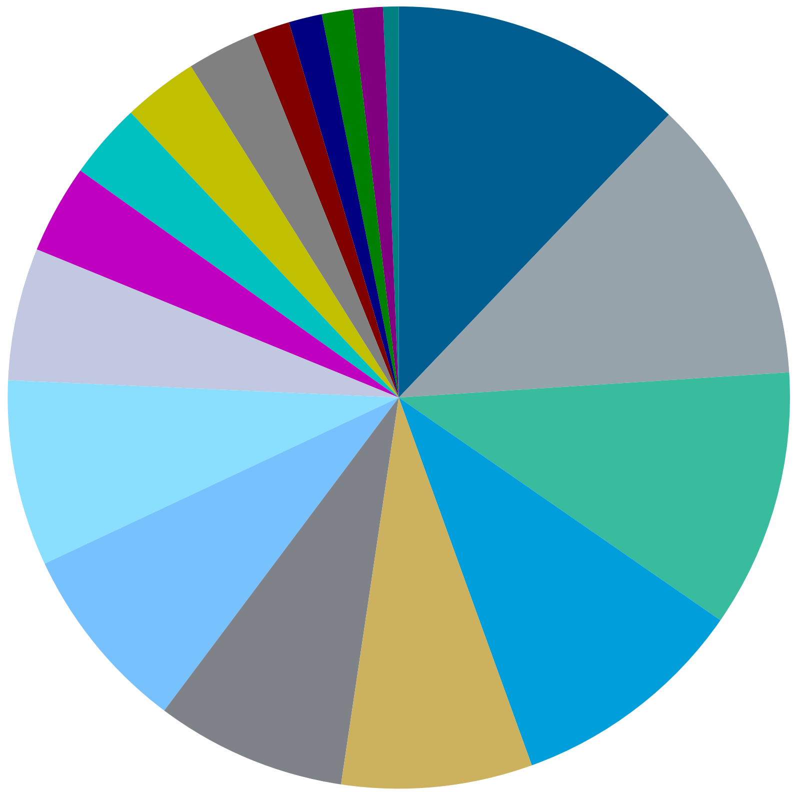
	Market Value ($)	Allocation (%)
US Equity	26,145,457	29.57
International Equity	21,195,470	23.97
International-Emerging Equity	6,970,121	7.88
US Fixed Income	21,371,928	24.17
Global Fixed Income	4,840,626	5.48
Hedge Fund	4,789,432	5.42
Cash	573,104	0.65
Private Equity	2,524,475	2.86

September 30, 2018

	Market Value ($)	Allocation (%)
US Equity	30,698,550	31.52
International Equity	25,326,750	26.00
International-Emerging Equity	7,517,058	7.72
US Fixed Income	21,829,888	22.41
Global Fixed Income	4,759,050	4.89
Hedge Fund	5,080,623	5.22
Cash	155,218	0.16
Private Equity	2,038,914	2.09

Cal Poly Pomona Foundation
Asset Allocation By Manager
As of December 31, 2018

December 31, 2018 : $88,410,613



	Market Value ($)	Allocation (%)
William Blair International Growth	10,727,076	12.13
Oakmark International	10,468,393	11.84
PIMCO Income	9,428,181	10.66
Guggenheim Macro Opportunities	8,696,835	9.84
iShares MSCI Emerging Markets Index	6,970,121	7.88
Lazard US Equity Concentrated	6,961,813	7.87
iShares Russell 1000 Growth	6,883,204	7.79
Aristotle Value Equity	6,800,048	7.69
Templeton Global Bond Fund	4,840,626	5.48
Eaton Vance Income	3,246,912	3.67
Apex SMID Cap Growth	2,765,302	3.13
Vaughan Nelson SMID Cap Value	2,735,090	3.09
Hamilton Lane	2,524,475	2.86
Blackstone Alt Multi-Strategy	1,355,702	1.53
Ironwood International	1,214,685	1.37
Graham Absolute Return	1,125,851	1.27
Balyasny Atlas Enhanced	1,093,194	1.24
Cash Holding Account	573,104	0.65

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Cal Poly Pomona Foundation
Annualized Performance Summary
As of December 31, 2018

	Allocation		Performance(%)								
	Market Value ($)	%	Quarter To Date	Fiscal YTD	1 Year	3 Years	5 Years	Ficscal Year 2018	Fiscal Year 2017	Since Inception	Inception Date
CSU Cal Poly Pomona Total Fund	**88,410,613**	**100.00**	**-9.76**	**-8.01**	**-8.64**	**4.64**	**1.98**	**7.75**	**13.67**	**5.30**	**10/01/2008**
*Cal Poly Pomona Custom Benchmark**			*-7.87*	*-5.50*	*-5.67*	*5.88*	*3.82*	*7.85*	*13.12*	*6.30*	
Public Equities	**54,311,048**	**61.43**	**-14.55**	**-12.52**	**-13.44**	**4.46**	**2.56**	**10.49**	**17.10**	**6.05**	**10/01/2008**
MSCI AC World Net			*-12.75*	*-9.02*	*-9.41*	*6.60*	*4.26*	*10.72*	*18.78*	*6.55*	
Domestic Equities	**26,145,457**	**29.57**	**-14.84**	**-9.86**	**-6.49**	**7.00**	**6.07**	**14.46**	**18.31**	**8.98**	**10/01/2008**
Russell 3000			*-14.30*	*-8.20*	*-5.24*	*8.97*	*7.91*	*14.78*	*18.51*	*10.02*	
iShares Russell 1000 Growth	6,883,204	7.79	-15.84	-8.28	-1.85	8.64	7.30	21.83	20.32	10.49	08/02/2016
Russell 3000 Gr			*-16.33*	*-8.90*	*-2.12*	*10.85*	*9.99*	*22.47*	*20.72*	*10.80*	
Lazard US Equity Concentrated	6,961,813	7.87	-12.53	-7.98	-5.90	N/A	N/A	8.86	N/A	3.15	12/19/2016
S&P 500 Total Return			*-13.52*	*-6.85*	*-4.38*	*9.26*	*8.49*	*14.37*	*17.90*	*7.35*	
Aristotle Value Equity	6,800,048	7.69									
Aristotle - Combined Accounts Return			-12.33	-9.59	-6.60	9.90	8.67	13.68	22.25	10.49	06/01/2013
Russell 1000 VL			*-11.72*	*-6.69*	*-8.27*	*6.95*	*5.95*	*6.77*	*15.53*	*7.69*	
Apex SMID Cap Growth	2,765,302	3.13	-18.88	-14.07	-8.51	5.93	4.75	21.33	18.67	9.67	08/01/2011
Russell 2500 GR			*-20.08*	*-14.35*	*-7.47*	*8.11*	*6.19*	*21.54*	*21.44*	*10.13*	
Vaughan Nelson SMID Cap Value	2,735,090	3.09	-19.55	-15.45	-15.94	N/A	N/A	7.81	12.60	5.01	02/03/2016
Russell 2500 VL			*-17.12*	*-14.91*	*-12.36*	*6.59*	*4.16*	*11.49*	*18.36*	*10.03*	

*The custom benchmark is an evolving benchmark that is currently comprised of 29.5% Russell 3000, 33% MSCI AC World ex US Net, 27.5% Barclays Aggregate, 5% HFRI FoF Diversified, and 5% Cambridge PE benchmark. **The performance of Cambridge PE benchmark is lagged by a quarter. Please see important disclosures at the end of the presentation.

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Cal Poly Pomona Foundation
Annualized Performance Summary
As of December 31, 2018

	Allocation		Performance(%)								
	Market Value ($)	%	Quarter To Date	Fiscal YTD	1 Year	3 Years	5 Years	Ficscal Year 2018	Fiscal Year 2017	Since Inception	Inception Date
International and EM Equities	**28,165,591**	**31.86**	**-14.27**	**-14.86**	**-19.19**	**2.78**	**-1.10**	**7.79**	**17.74**	**3.22**	**10/01/2008**
MSCI AC World ex US Net			*-11.46*	*-10.84*	*-14.19*	*4.48*	*0.68*	*7.28*	*20.45*	*3.81*	
William Blair International Growth	10,727,076	12.13	-16.35	-16.41	-17.82	1.32	0.12	11.33	15.94	4.79	10/01/2008
MSCI AC World ex US Net			*-11.46*	*-10.84*	*-14.19*	*4.48*	*0.68*	*7.28*	*20.45*	*3.81*	
Oakmark International	10,468,393	11.84	-16.32	-17.06	-23.41	-0.19	-2.40	3.16	16.60	-7.82	05/19/2017
MSCI AC World ex US Net			*-11.46*	*-10.84*	*-14.19*	*4.48*	*0.68*	*7.28*	*20.45*	*-1.69*	
iShares MSCI Emerging Markets Index	6,970,121	7.88	-7.30	-8.63	-15.06	9.04	-1.07	7.65	22.29	1.88	01/01/2015
MSCI EM Net			*-7.46*	*-8.48*	*-14.57*	*9.25*	*1.65*	*8.20*	*23.74*	*2.63*	
Fixed Income	**26,212,554**	**29.65**	**-0.38**	**0.56**	**0.17**	**4.19**	**2.26**	**1.56**	**6.03**	**4.95**	**10/01/2008**
Barclays Aggregate			*1.64*	*1.65*	*0.01*	*2.06*	*2.52*	*-0.40*	*-0.31*	*3.84*	
Guggenheim Macro Opportunities	8,696,835	9.84	-1.14	-0.13	0.43	2.60	2.76	2.81	0.67	2.30	05/19/2017
Barclays Aggregate			*1.64*	*1.65*	*0.01*	*2.06*	*2.52*	*-0.40*	*-0.31*	*0.89*	
PIMCO Income	9,428,181	10.66	0.69	1.19	0.36	N/A	N/A	2.27	9.61	5.84	02/03/2016
Barclays Aggregate			*1.64*	*1.65*	*0.01*	*2.06*	*2.52*	*-0.40*	*-0.31*	*1.57*	
Eaton Vance Income	3,246,912	3.67	-4.27	-2.32	-2.66	N/A	N/A	1.46	10.49	5.73	02/03/2016
BC Corp High Yield			*-4.53*	*-2.24*	*-2.08*	*7.23*	*3.83*	*2.62*	*12.70*	*8.31*	
Templeton Global Bond Fund	4,840,626	5.48	1.69	2.64	1.32	3.48	1.56	-2.00	10.57	2.30	08/01/2011
Citi WGBI Unhedged			*1.75*	*0.10*	*-0.84*	*2.69*	*0.77*	*1.90*	*-4.14*	*0.18*	
Hedge Funds	**4,789,432**	**5.42**	**-3.84**	**-2.37**	**-1.19**	**N/A**	**N/A**	**4.54**	**4.73**	**2.74**	**07/15/2016**
HFRI FOF Diversified			*-4.71*	*-4.11*	*-3.37*	*1.23*	*1.38*	*5.29*	*5.26*	*2.23*	
Blackstone Alt Multi-Strategy	1,355,702	1.53	-2.66	-0.29	-1.64	N/A	N/A	0.57	7.26	3.00	07/15/2016
HFRI FOF Diversified			*-4.71*	*-4.11*	*-3.37*	*1.23*	*1.38*	*5.29*	*5.26*	*2.23*	
Ironwood International	1,214,685	1.37	-2.48	-1.40	1.48	N/A	N/A	7.55	6.30	5.05	07/26/2016
HFRI FOF Conservative			*-3.55*	*-2.66*	*-1.05*	*1.63*	*1.67*	*4.18*	*5.15*	*2.35*	

*The custom benchmark is an evolving benchmark that is currently comprised of 29.5% Russell 3000, 33% MSCI AC World ex US Net, 27.5% Barclays Aggregate, 5% HFRI FoF Diversified, and 5% Cambridge PE benchmark. **The performance of Cambridge PE benchmark is lagged by a quarter. Please see important disclosures at the end of the presentation.

Cal Poly Pomona Foundation
Annualized Performance Summary
As of December 31, 2018

	Allocation		Performance(%)								
	Market Value ($)	%	Quarter To Date	Fiscal YTD	1 Year	3 Years	5 Years	Ficscal Year 2018	Fiscal Year 2017	Since Inception	Inception Date
Balyasny Atlas Enhanced	1,093,194	1.24	-7.67	-4.83	-6.96	N/A	N/A	3.65	3.34	0.79	07/26/2016
HFRI EH Equity Market Neutral			*-2.49*	*-1.84*	*-1.00*	*2.01*	*2.67*	*4.99*	*2.40*	*2.19*	
Graham Absolute Return	1,125,851	1.27	-2.82	-3.47	2.27	N/A	N/A	6.64	1.73	1.91	07/22/2016
HFRI Macro Total			*-1.84*	*-1.87*	*-3.62*	*-0.16*	*0.74*	*1.14*	*-2.89*	*-1.61*	
Hamilton Lane	2,524,475	2.86	-0.02	2.36	2.17	N/A	N/A	3.92	N/A	5.23	06/05/2017
*Cambridge Private Equity***			*0.00*	*4.11*	*13.42*	*15.05*	*12.33*	*18.84*	*18.11*	*17.32*	

*The custom benchmark is an evolving benchmark that is currently comprised of 29.5% Russell 3000, 33% MSCI AC World ex US Net, 27.5% Barclays Aggregate, 5% HFRI FoF Diversified, and 5% Cambridge PE benchmark. **The performance of Cambridge PE benchmark is lagged by a quarter. Please see important disclosures at the end of the presentation.

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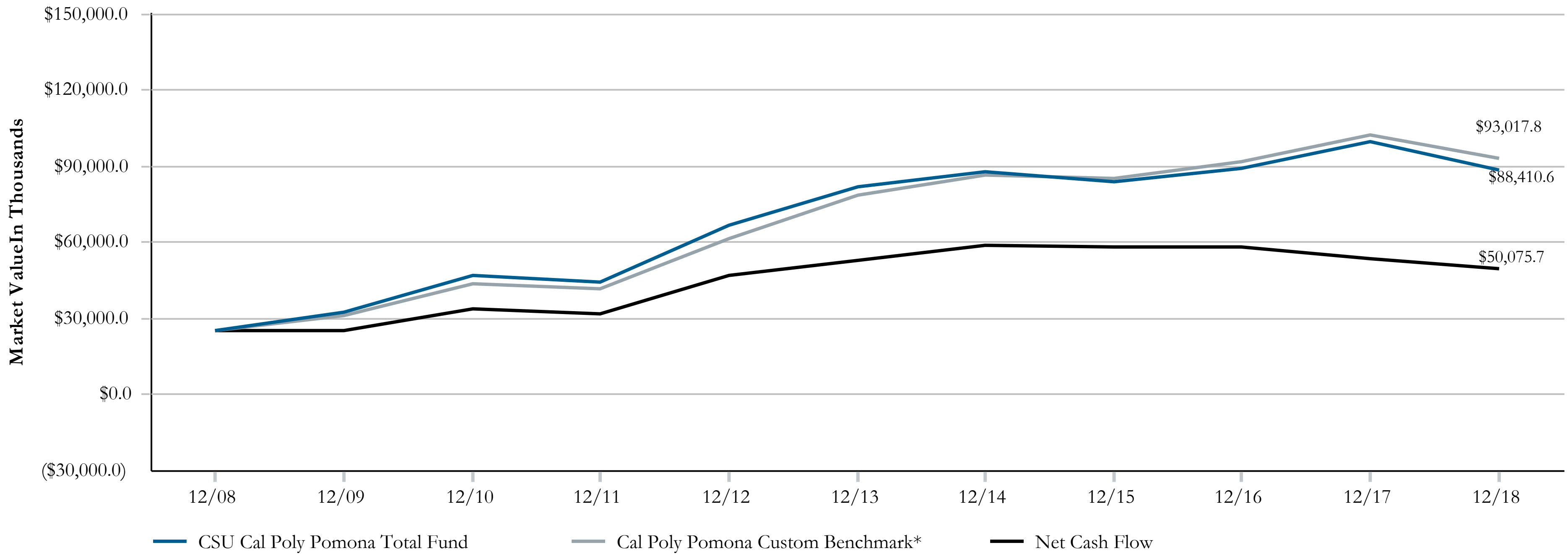
Cal Poly Pomona Foundation

CSU Cal Poly Pomona Total Fund vs. Cal Poly Pomona Custom Benchmark*

January 1, 2009 To December 31, 2018

Schedule of Investable Assets - Jan-2009 To Dec-2018



Periods Ending	Beginning Market Value ($000)	Net Cash Flow ($000)	Gain/Loss ($000)	Ending Market Value ($000)	%Return	Unit Value	Income ($000)	Income % of Beginning Market Value
2008	-	-	-	25,342.84	N/A	100.00	-	0.00
2009	25,342.84	179.54	6,835.02	32,357.40	26.76	126.76	1,080.68	4.26
2010	32,357.40	8,620.66	6,260.57	47,238.63	15.82	146.82	1,060.41	3.28
2011	47,238.63	-2,158.97	-865.15	44,214.52	-1.69	144.34	1,393.14	2.95
2012	44,214.52	14,860.81	7,719.97	66,795.30	14.26	164.91	2,126.25	4.81
2013	66,795.30	6,176.70	9,093.77	82,065.77	13.09	186.50	2,439.27	3.65
2014	82,065.77	5,715.61	447.78	88,229.16	0.81	188.02	3,631.06	4.42
2015	88,229.16	-334.45	-4,069.07	83,825.63	-4.51	179.55	3,021.20	3.42
2016	83,825.63	64.06	5,401.43	89,291.12	6.21	190.70	2,077.18	2.48
2017	89,291.12	-4,917.86	15,812.10	100,185.36	18.10	225.21	2,360.98	2.64
2018	100,185.36	-3,473.24	-8,301.51	88,410.61	-8.64	205.74	3,858.48	3.85
	25,342.84	24,732.86	38,334.92	88,410.61	7.48	205.74	23,048.66	90.95

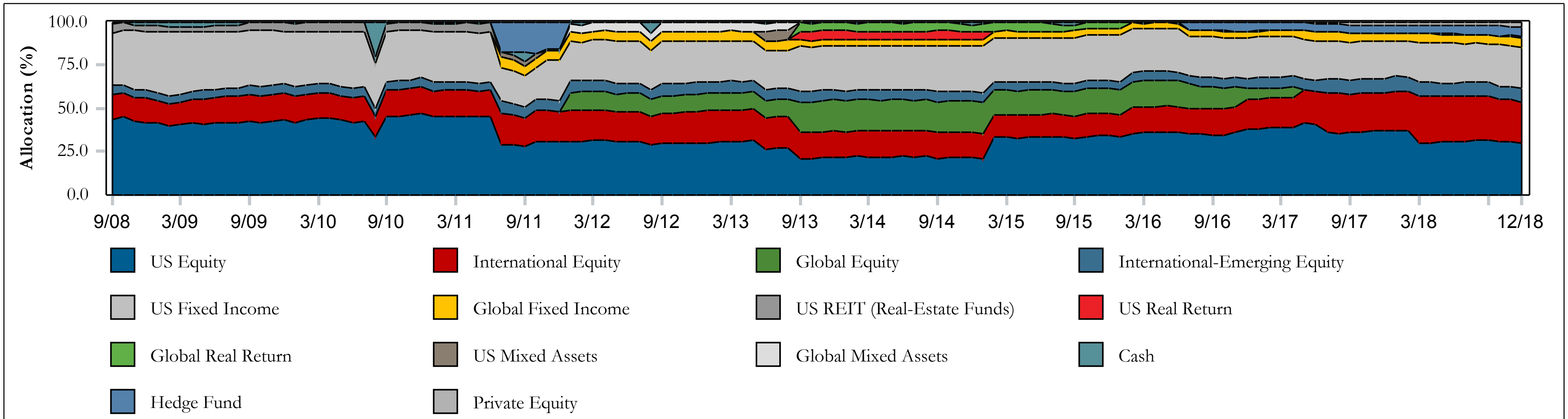
*The custom benchmark is an evolving benchmark that is currently comprised of 29.5% Russell 3000, 33% MSCI AC World ex US Net, 27.5% Barclays Aggregate, 5% HFRI FoF Diversified, and 5% Cambridge PE benchmark.

Cal Poly Pomona Foundation
Performance and Asset Allocation History
As of December 31, 2018

	QTD	Fiscal YTD	1 Year	3 Years	Fiscal Year 2017	Since Inception	Inception Date
Cal Poly Pomona Foundation Total Fund							10/01/2008
Beginning Market Value	97,406,051	99,821,562	100,185,360	83,825,635	85,625,356	31,161,294	
Net Contributions	536,316	-3,769,115	-3,473,238	-8,327,041	-1,084,250	24,256,917	
Gain/Loss	-9,531,754	-7,641,834	-8,301,509	12,912,019	11,709,148	32,992,402	
Ending Market Value	**88,410,613**	**88,410,613**	**88,410,613**	**88,410,613**	**96,250,255**	**88,410,613**	

	QTD	Fiscal YTD	1 Year	3 Years	Since Inception	Inception Date
Cal Poly Pomona Foundation Total Fund	-9.76	-8.01	-8.64	4.64	5.30	10/01/2008
Cal Poly Pomona Custom Benchmark*	-7.87	-5.50	-5.67	5.88	6.30	

Asset Allocation Over Time



*The custom benchmark is an evolving benchmark that is currently comprised of 29.5% Russell 3000, 33.0% MSCI AC World ex US Net, 27.5% Barclays Aggregate, 5% HFRI FoF Diversified, and 5% Cambridge PE benchmark. **The performance of Cambridge PE benchmark is lagged by a quarter. Please see important disclosures at the end of the presentation.

PORTFOLIO PERFORMANCE SUMMARY

The Endowment Portfolio lost 9.76% in the fourth quarter, underperforming its blended benchmark's return of -7.87%. The portfolio's Domestic Equities were down 14.84%, while its benchmark, the Russell 3000, lost 14.30%. International and Emerging Market Equities were down 14.27%, while its benchmark was down 11.46%. The Fixed Income Portfolio was down slightly, at -0.38%, underperforming the Barclays Aggregate which returned 1.64%. The Alternative Investments portfolio was down 3.84%, outperforming its benchmark, which was down 4.71%.

Performance Appendix

Portfolio Name	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Aristotle Value Equity	-12.33	--	--	--	--	--	-7.34	03/01/2018
Balyasny Atlas Enhanced	-7.67	-6.96	-6.96	--	--	--	0.77	07/01/2016
Blackstone Alt Multi-Strategy	-2.66	-1.64	-1.64	--	--	--	2.95	07/01/2016
Eaton Vance Income	-4.27	-2.66	-2.66	--	--	--	5.72	02/01/2016
Graham Absolute Return	-2.82	2.27	2.27	--	--	--	1.86	07/01/2016
Guggenheim Macro Opportunities	-1.14	0.43	0.43	2.60	2.76	--	3.58	07/01/2011
Hamilton Lane	-0.02	2.17	2.17	--	--	--	5.20	06/01/2017
Ironwood International	-2.48	1.48	1.48	--	--	--	4.91	07/01/2016
Oakmark International	-16.32	-23.41	-23.41	-0.19	-2.40	5.58	2.79	09/01/2008
PIMCO Income	0.69	0.36	0.36	--	--	--	5.83	02/01/2016
Templeton Global Bond Fund	1.69	1.32	1.32	3.48	1.56	--	2.27	07/01/2011
William Blair International Growth	-16.35	-17.82	-17.82	1.32	0.12	7.93	3.85	09/01/2008
iShares MSCI Emerging Markets Index	-7.30	-15.06	-15.06	9.04	-1.07	--	-1.69	07/01/2011
iShares Russell 1000 Growth	-15.84	-1.85	-1.85	8.64	7.30	--	10.69	07/01/2011

Graystone Consulting℠

Glossary of Terms

Active Contribution Return: The gain or loss percentage of an investment relative to the performance of the investment benchmark.

Active Exposure: The percentage difference in weight of the portfolio compared to its policy benchmark.

Active Return: Arithmetic difference between the manager's return and the benchmark's return over a specified time period.

Actual Correlation: A measure of the correlation (linear dependence) between two variables X and Y, with a value between +1 and -1 inclusive. This is also referred to as coefficient of correlation.

Alpha: A measure of a portfolio's time weighted return in excess of the market's return, both adjusted for risk. A positive alpha indicates that the portfolio outperformed the market on a risk-adjusted basis, and a negative alpha indicates the portfolio did worse than the market.

Best Quarter: The highest quarterly return for a certain time period.

Beta: A measure of the sensitivity of a portfolio's time weighted return (net of fees) against that of the market. A beta greater than 1.00 indicates volatility greater than the market.

Consistency: The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

Core: Refers to an investment strategy mandate that is blend of growth and value styles without a pronounced tilt toward either style.

Cumulative Selection Return (*Cumulative Return*): Cumulative investment performance over a specified period of time.

Distribution Rate: The most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or return of capital.

Down Market Capture: The ratio of average portfolio returns over the benchmark during periods of negative benchmark return. Lower values indicate better product performance.

Downside Risk: A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the value, the more risk the product has.

Downside Semi Deviation: A statistical calculation that measures the volatility of returns below a minimum acceptable return. This return measure isolates the negative portion of volatility: the larger the number, the greater the volatility.

Drawdown: A drawdown is the peak-to-trough decline during a specific period of an investment, fund or commodity.

Excess over Benchmark: The percentage gain or loss of an investment relative to the investment's benchmark.

Excess Return: Arithmetic difference between the manager's return and the risk-free return over a specified time period.

Growth: A diversified investment strategy which includes investment selections that have capital appreciation as the primary goal, with little or no dividend payouts. These strategies can include reinvestment in expansion, acquisitions, and/or research and development opportunities.

Growth of Dollar: The aggregate amount an investment has gained or lost over a certain time period, also referred to as Cumulative Return, stated in terms of the amount to which an initial dollar investment would have grown over the given time period.

Investment Decision Process (IDP): A model for structuring the investment process and implementing the correct attribution methodologies. The IDP includes every decision made concerning the division of the assets under management over the various asset categories. To analyze each decision's contribution to the total return, a modeling approach must measure the marginal value of every individual decision. In this respect, the hierarchy of the decisions becomes very important. We therefore use the IDP model, which serves as a proper foundation for registering the decisions and relating them to each other.

Information Ratio: Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.

Jensen's Alpha: The Jensen's alpha measure is a risk-adjusted performance measure that represents the average return on a portfolio or investment above or below that predicted by the capital asset pricing model (CAPM) given the portfolio's or investment's beta and the average market return. This metric is also commonly referred to as alpha..

Kurtosis: A statistical measure that is used to describe the distribution, or skewness, of observed data around the mean, sometimes referred to as the volatility of volatility.

Maximum Drawdown: The drawdown is defined as the percent retrenchment from a fund's peak to the fund's trough value. It is in effect from the time the fund's retrenchment begins until a new fund high is reached. The maximum drawdown encompasses both the period from the fund's peak to the fund's valley (length), and the time from the fund's valley to a new fund high (recovery). It measures the largest percentage drawdown that has occurred in any fund's data record.

Modern Portfolio Theory (MPT): An investment analysis theory on how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward.

Mutual Fund (MF): An investment program funded by shareholders that trade in diversified holdings and is professionally managed.

Peer Group: A combination of funds that share the same investment style combined as a group for comparison purposes.

Peer/ Plan Sponsor Universe: A combination of asset pools of total plan investments by specific sponsor and plan types for comparison purposes.

Performance Ineligible Assets: Performance returns are not calculated for certain assets because accurate valuations and transaction data for these assets are not processed or mai these include life insurance, some annuities and some assets held externally.

Performance Statistics: A generic term for various measures of investment performance measurement terms.

Portfolio Characteristics: A generic term for various measures of investment portfolio characteristics.

Preferred Return: A term used in the private equity (PE) world, and also referred to as a "Hurdle Rate." It refers to the threshold return that the limited partners of a private equity fund must receive, prior to the PE firm receiving its carried interest or "carry."

Ratio of Cumulative Wealth: A defined ratio of the Cumulative Return of the portfolio divided by the Cumulative Return of the benchmark for a certain time period.

Regression Based Analysis: A statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables

Residual Correlation: Within returns-based style analysis, residual correlation refers to the portion of a strategy's return pattern that cannot be explained by its correlation to the asset-class benchmarks to which it is being compared.

Return: A rate of investment performance for the specified period.

Rolling Percentile Ranking: A measure of an investment portfolio's ranking versus a peer group for a specific rolling time period (i.e. Last 3 Years, Last 5 years, etc.).

R-Squared: The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

SA/CF (Separate Account/Comingled Fund): Represents an acronym for Separate Account and Commingled Fund investment vehicles.

Sector Benchmark: A market index that serves as a proxy for a sector within an asset class.

Sharpe Ratio: Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance results in.

Standard Deviation: A statistical measure of the range of a portfolio's performance; the variability of a return around its average return over a specified time period.

Total Fund Benchmark: The policy benchmark for a complete asset pool that could consist of multiple investment mandates.

Total Fund Composite: The aggregate of multiple portfolios within an asset pool or household.

Tracking Error: A measure of standard deviation for a portfolio's investment performance, relative to the performance of an appropriate market benchmark.

Treynor Ratio: A ratio that divides the excess return (above the risk free rate) by the portfolio's beta to arrive at a unified measure of risk adjusted return. It is generally used to rank portfolios, funds and benchmarks. A higher ratio is indicative of higher returns per unit of market risk. This measurement can help determine if the portfolio is reaching its goal of increasing returns while managing market risk.

Up Market Capture: The ratio of average portfolio returns over the benchmark during periods of positive benchmark return. Higher values indicate better product performance.

Upside Semi Deviation: A statistical calculation that measures the volatility of returns above an acceptable return. This return measure isolates the positive portion of volatility: the larger the number, the greater the volatility.

Value: A diversified investment strategy that includes investment selections which tend to trade at a lower price relative to its dividends, earnings, and sales. Common attributes are stocks that include high dividend, low price-to-book ratio, and/or low price-to-earnings ratio.

Worst Quarter: The lowest rolling quarterly return for a certain time period.

Information Disclosures

Performance results are annualized for time periods greater than one year and include all cash and cash equivalents, realized and unrealized capital gains and losses, and dividends, interest and income. The investment results depicted herein represent historical performance. As a result of recent market activity, current performance may vary from the figures shown. Past performance is not a guarantee of future results.

Please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 Brochure for advisory accounts and/or any applicable brokerage account trade confirmation statements for a full disclosure of the applicable charges, fees and expenses. Your Financial Advisor will provide those documents to you upon request.

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The performance data shown reflects past performance, which does not guarantee future results. Investment return and principal will fluctuate so that an investor's shares when redeemed may be worth more or less than original cost. Please note, current performance may be higher or lower than the performance data shown. For up to date month-end performance information, please contact your Financial Advisor or visit the funds' company website.

Investors should carefully consider the fund's investment objectives, risks, charges and expenses before investing. The prospectus and, if available the summary prospectus, contains this and other information that should be read carefully before investing. Investors should review the information in the prospectus carefully. To obtain a prospectus, please contact your Financial Advisor or visit the funds' company website.

Past performance is no guarantee of future results.

Investing involves market risk, including possible loss of principal. **Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. **Value investing** involves the risk that the market may not recognize that securities are undervalued and they may not appreciate as anticipated. **Small and mid-capitalization companies** may lack the financial resources, product diversification and competitive strengths of larger companies. The securities of small capitalization companies may not trade as readily as, and be subject to higher volatility than those of larger, more established companies. **Bond funds** and bond holdings have the same interest rate, inflation and credit risks that are associated with the underlying bonds owned by the funds. The return of principal in bond funds, and in funds with significant bond holdings, is not guaranteed. **International securities'** prices may carry additional risks, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes and differences in financial and accounting standards. International investing may not be for everyone. These risks may be magnified in emerging markets. **Alternative investments**, including private equity funds, real estate funds, hedge funds, managed futures funds, and funds of hedge funds, private equity, and managed futures funds, are speculative and entail significant risks that can include losses due to leveraging or\other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and risks associated with the operations, personnel and processes of the advisor. **Master Limited Partnerships** (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk; and MLP interests in the real estate sector are subject to special risks, including interest rate and property value fluctuations, as well as risks related to general and economic conditions. Because of their narrow focus, MLPs maintain exposure to price volatility of commodities and/or underlying assets and tend to be more volatile than investments that diversify across many sectors and companies. MLPs are also subject to additional risks including: investors having limited control and rights to vote on matters affecting the MLP, limited access to capital, cash flow risk, lack of liquidity, dilution risk, conflict of interests, and limited call rights related to acquisitions.

Mortgage backed securities also involve prepayment risk, in that faster or slower prepayments than expected on underlying mortgage loans can dramatically alter the yield-to-maturity of a mortgage-backed security and prepayment risk includes the possibility that a fund may invest the proceeds at generally lower interest rates.

Tax managed funds may not meet their objective of being tax-efficient.

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Credit quality is a measure of a bond issuer's creditworthiness, or ability to repay interest and principal to bondholders in a timely manner. The credit ratings shown are based on security rating as provided by Standard & Poor's, Moody's and/or Fitch, as applicable. Credit ratings are issued by the rating agencies for the underlying securities in the fund and not the fund itself, and the credit quality of the securities in the fund does not represent the stability or safety of the fund. Credit ratings shown range from AAA, being the highest, to D, being the lowest based on S&P and Fitch's classification (the equivalent of Aaa and C, respectively, by Moody(s). Ratings of BBB or higher by S&P and Fitch (Baa or higher by Moody's) are considered to be investment grade-quality securities. If two or more of the agencies have assigned different ratings to a security, the highest rating is applied. Securities that are not rated by all three agencies are listed as "NR".

"**Alpha tilt strategies** comprise a core holding of stocks that mimic a benchmark type index such as the S&P 500 to which additional securities are added to help tilt the fund toward potentially outperforming the market in an effort to enhance overall investment returns. Tilt strategies are subject to significant timing risk and could potentially expose investors to extended periods of underperformance."

Custom Account Index: The Custom Account Index is an investment benchmark based on your historical target allocations and/or manager selection that you may use to evaluate the performance of your account. The Custom Account index does take into consideration certain changes that may have occurred in your portfolio since the inception of your account, i.e., asset class and/or manager changes. However, in some circumstances, it may not be an appropriate benchmark for use with your specific account composition. For detailed report of the historical composition of this blend please contact your Financial Advisor.

Peer Groups

Peer Groups are a collection of similar investment strategies that essentially group investment products that share the same investment approach. Peer Groups are used for comparison purposes to compare and illustrate a clients investment portfolio versus its peer across various quantitative metrics like performance and risk. Peer Group comparison is conceptually another form of benchmark comparison whereby the actual investment can be ranked versus its peer across various quantitative metrics.

All Peer Group data are provided by Investment Metrics, LLC.

The URL below provides all the definitions and methodology about the various Peer Groups

https://www.invmetrics.com/style-peer-groups

Peer Group Ranking Methodology

A percentile rank denotes the value of a product in which a certain percent of observations fall within a peer group. The range of percentile rankings is between 1 and 100, where 1 represents a high statistical value and 100 represents a low statistical value.

The 30th percentile, for example, is the value in which 30% of the highest observations may be found, the 65th percentile is the value in which 65% of the highest observations may be found, and so on.

Percentile rankings are calculated based on a normalized distribution ranging from 1 to 100 for all products in each peer group, where a ranking of 1 denotes a high statistical value and a ranking of 100 denotes a low statistical value. It is important to note that the same ranking methodology applies to all statistics, implying that a ranking of 1 will always mean highest value across all statistics.

For example, consider a risk/return assessment using standard deviation as a measure of risk. A percentile ranking equal to 1 for return denotes highest return, whereas a percentile ranking of 1 for standard deviation denotes highest risk among peers.

In addition, values may be used to demonstrate quartile rankings. For example, the third quartile is also known as the 75th percentile, and the median is the 50th percentile.

Alternatives

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Traditional alternative investment vehicles are illiquid and usually are not valued daily. The estimated valuation provided will be as of the most recent date available and will be included in summaries of your assets. Such valuation may not be the most recent provided by the fund in which you are invested. No representation is made that the valuation is a market value or that the interest could be liquidated at this value. We are not required to take any action with respect to your investment unless valid instructions are received from you in a timely manner. Some positions reflected herein may not represent interests in the fund, but rather redemption proceeds withheld by the issuer pending final valuations which are not subject to the investment performance of the fund and may or may not accrue interest for the length of the withholding. Morgan Stanley does not engage in an independent valuation of your alternative investment assets. Morgan Stanley provides periodic information to you including the market value of an alternative investment vehicle based on information received from the management entity of the alternative investment vehicle or another service provider.

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For most investment advisory clients, the program account will be charged an asset-based wrap fee every quarter ("the Fee"). In general, the Fee covers investment advisory services and reporting. In addition to the Fee, clients will pay the fees and expenses of any funds in which their account is invested. Fund fees and expenses are charged directly to the pool of assets the fund invests in and impact the valuations. Clients must understand that these fees and expenses are an additional cost and will not be included in the Fee amount in the account statements.

As fees are deducted quarterly, the compounding effect will be to increase the impact of the fees by an amount directly related to the gross account performance. For example, for an account with an initial value of $100,000 and a 2.5% annual fee, if the gross performance is 5% per year over a three year period, the compounding effect of the fees will result in a net annual compound rate of return of approximately 2.40% per year over a three year period, and the total value of the client's portfolio at the end of the three year period would be approximately $115,762.50 without the fees and $107,372.63 with the fees. Please see the applicable Morgan Stanley Smith Barney LLC Form ADV Part 2A for more information including a description of the fee schedule. It is available at www.morganstanley.com/ADV <http://www.morganstanley.com/ADV> <http://www.morganstanley.com/ADV> or from your Financial Advisor/Private Wealth Advisor.

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Money Market Funds

You could lose money in Money Market Funds. Although MMFs classi

MMFs that invest 99.5% of total assets in cash and/or securities backed by the U.S government) and retail funds (i.e., MMFs open to natural person investors only) seek to preserve value at $1.00 per share, they cannot guarantee they will do so. The price of other MMFs will fluctuate and when you sell shares they may be worth more or less than originally paid. MMFs may impose a fee upon sale or temporarily suspend sales if liquidity falls below required minimums. During suspensions, shares would not be available for purchases, withdrawals, check writing or ATM debits. A MMF investment is not insured or guaranteed by the Federal Deposit Insurance Corporation or other government agency.

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Cal Poly Pomona Foundation General Investment Portfolio

Portfolio Review
As of December 31, 2018

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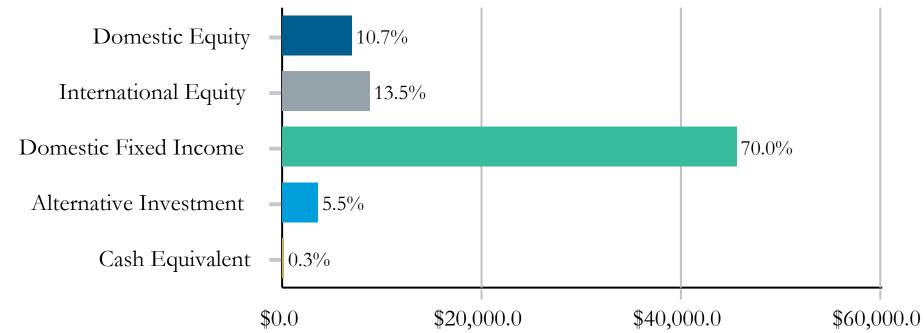
Cal Poly Pomona General Investment Portfolio
Portfolio Summary
As of December 31, 2018

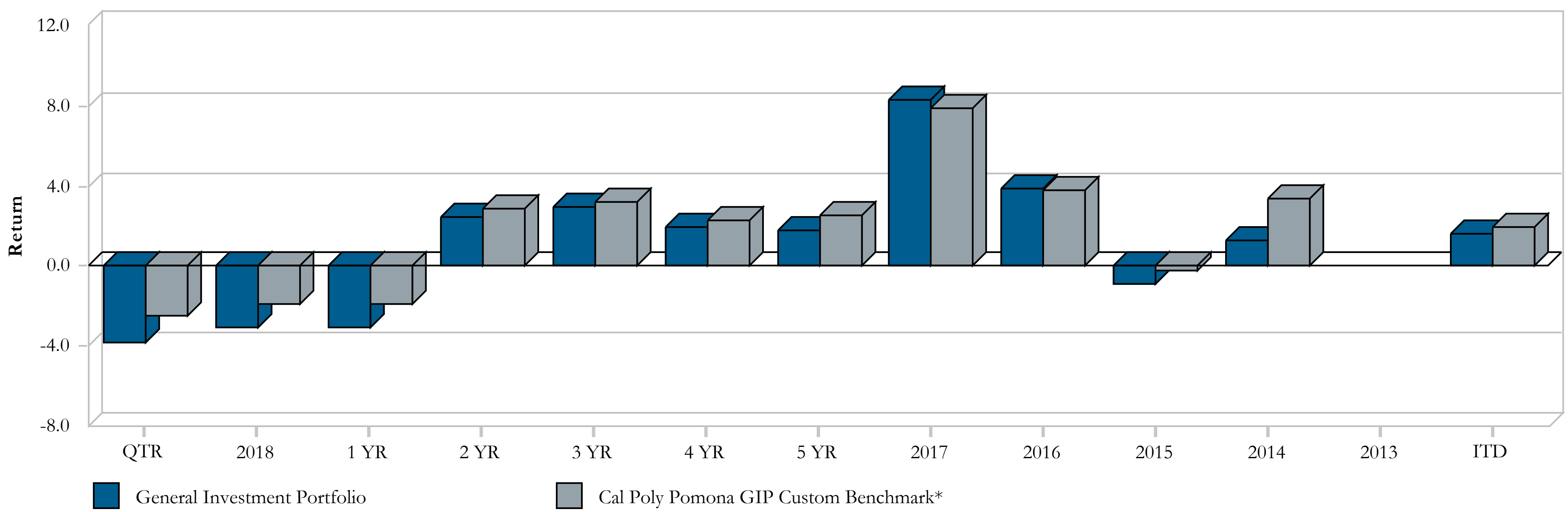
Market Valuation

	1 Quarter	YTD	Since Inception	Inception Date
Total Fund Composite				03/01/2013
Beginning Market Value	$67,631,723	$55,136,357	$24,301,287	
Net Contributions	$563	$12,001,735	$37,170,196	
Gain/Loss	($2,588,080)	($2,093,886)	$3,572,723	
Ending Market Value	**$65,044,206**	**$65,044,206**	**$65,044,206**	

December 31, 2018 : $65,044



Total Portfolio Performance (%)



	QTR	YTD	1 YR	2 YR	3 YR	4 YR	5 YR	2017	2016	2015	2014	2013	ITD	Inception Date
General Investment Portfolio	-3.83	-3.07	-3.07	2.47	2.93	1.95	1.82	8.32	3.84	-0.91	1.31	N/A	1.64	03/01/2013
Cal Poly Pomona GIP Custom Benchmark*	-2.47	-1.91	-1.91	2.86	3.19	2.33	2.54	7.87	3.83	-0.18	3.35	N/A	2.00	03/01/2013

*The custom benchmark is an evolving benchmark that currently consists of 72% Barclays Int. Gov't Credit and 28% MSCI ACWI.

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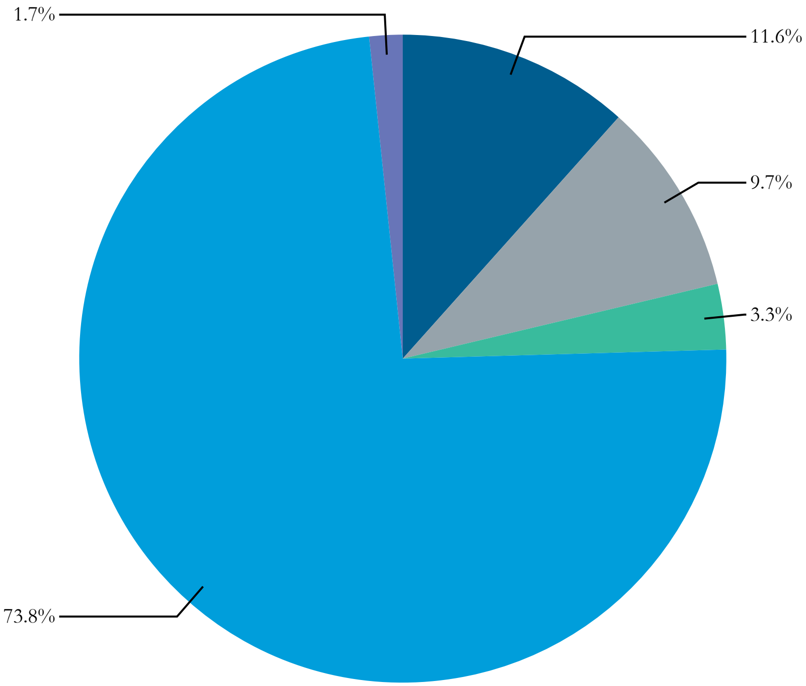
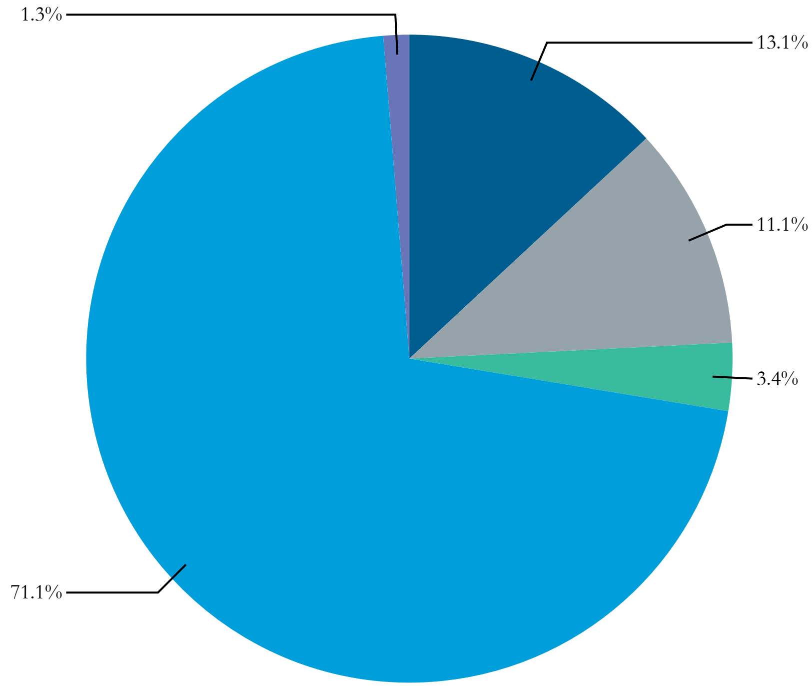
Cal Poly Pomona General Investment Portfolio
Portfolio Asset Allocation Summary
As of December 31, 2018

December 31, 2018 : $65,044,206



September 30, 2018 : $67,631,723

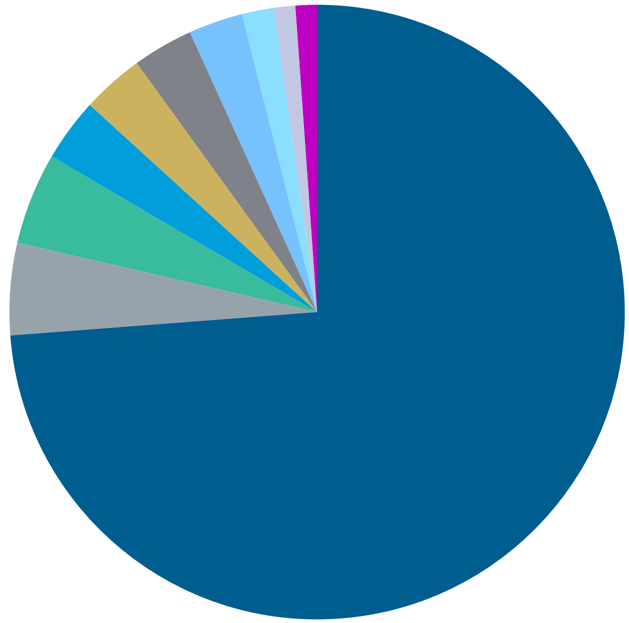


	Market Value ($)	Allocation (%)
US Equity	7,554,761	11.61
International Equity	6,288,637	9.67
International-Emerging Equity	2,122,378	3.26
US Fixed Income	47,996,336	73.79
US Private Equity	1,082,095	1.66

	Market Value ($)	Allocation (%)
US Equity	8,859,682	13.10
International Equity	7,514,360	11.11
International-Emerging Equity	2,289,167	3.38
US Fixed Income	48,094,657	71.11
US Private Equity	873,857	1.29

Cal Poly Pomona General Investment Portfolio
Asset Allocation By Manager
As of December 31, 2018

December 31, 2018 : $65,044,206



	Market Value ($)	Allocation (%)
Short-Term Portfolio Strategy	47,996,336	73.79
William Blair International Growth	3,150,091	4.84
Oakmark International Value	3,138,545	4.83
Lazard US Equity Concentrated	2,152,780	3.31
iShares MSCI Emerging Markets Index	2,122,378	3.26
Aristotle Large Cap Value	2,072,780	3.19
iShares Russell 1000 Growth	1,858,189	2.86
Hamilton Lane	1,082,095	1.66
Vaughan Nelson SMID Cap Value	737,574	1.13
Apex SMID Cap Growth	733,438	1.13

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Cal Poly Pomona General Investment Portfolio
Annualized Performance Summary
As of December 31, 2018

	Allocation		Performance(%)								
	Market Value ($)	%	Quarter To Date	Fiscal YTD	1 Year	3 Years	5 Years	Fiscal Year 2018	Fiscal Year 2017	Since Inception	Inception Date
General Investment Portfolio	**65,044,206**	**100.00**	**-3.83**	**-2.86**	**-3.07**	**2.93**	**1.82**	**3.63**	**6.63**	**1.64**	**03/01/2013**
*Cal Poly Pomona Custom Benchmark**			*-2.47*	*-1.16*	*-1.91*	*3.19*	*2.54*	*2.55*	*4.82*	*2.00*	
Public Equities	**15,965,775**	**24.55**	**-14.48**	**-12.64**	**-13.71**	**3.91**	**N/A**	**9.72**	**16.81**	**2.10**	**04/01/2014**
MSCI AC World Net			*-12.75*	*-9.02*	*-9.41*	*6.60*	*4.26*	*10.72*	*18.78*	*4.25*	
Domestic Equities	**7,554,761**	**11.61**	**-14.73**	**-10.01**	**-7.46**	**6.54**	**N/A**	**13.57**	**18.50**	**5.43**	**04/01/2014**
Russell 3000			*-14.30*	*-8.20*	*-5.24*	*8.97*	*7.91*	*14.78*	*18.51*	*7.89*	
iShares Russell 1000 Growth	1,858,189	2.86	-15.82	-8.22	-1.77	8.71	N/A	22.04	20.37	10.67	08/02/2016
Russell 3000 Gr			*-16.33*	*-8.90*	*-2.12*	*10.85*	*9.99*	*22.47*	*20.72*	*10.80*	
Aristotle Large Cap Value	2,072,780	3.19	-12.39	-9.65	-9.28	8.90	N/A	10.67	21.96	7.45	04/01/2014
Russell 1000 VL			*-11.72*	*-6.69*	*-8.27*	*6.95*	*5.95*	*6.77*	*15.53*	*5.60*	
Lazard US Equity Concentrated	2,152,780	3.31	-12.68	-8.39	-6.51	N/A	N/A	8.73	N/A	2.92	12/19/2016
S&P 500 Total Return			*-13.52*	*-6.85*	*-4.38*	*9.26*	*8.49*	*14.37*	*17.90*	*7.35*	
Apex SMID Cap Growth	733,438	1.13	-18.91	-14.14	-8.77	5.54	N/A	21.02	18.26	4.17	04/01/2014
Russell 2500 GR			*-20.08*	*-14.35*	*-7.47*	*8.11*	*6.19*	*21.54*	*21.44*	*6.29*	
Vaughan Nelson SMID Cap Value	737,574	1.13	-19.57	-15.51	-16.05	N/A	N/A	8.14	13.81	3.90	02/03/2016
Russell 2500 VL			*-17.12*	*-14.91*	*-12.36*	*6.59*	*4.16*	*11.49*	*18.36*	*10.03*	
International and EM Equities	**8,411,014**	**12.93**	**-14.25**	**-14.95**	**-19.23**	**2.18**	**N/A**	**7.55**	**17.23**	**-1.23**	**04/01/2014**
MSCI AC World ex US Net			*-11.46*	*-10.84*	*-14.19*	*4.48*	*0.68*	*7.28*	*20.45*	*0.60*	
William Blair International Growth	3,150,091	4.84	-16.37	-16.45	-17.59	1.10	N/A	11.49	15.22	0.08	04/01/2014
MSCI AC World ex US Net			*-11.46*	*-10.84*	*-14.19*	*4.48*	*0.68*	*7.28*	*20.45*	*0.60*	
Oakmark International Value	3,138,545	4.83	-16.34	-17.11	-23.28	-0.11	N/A	3.39	17.67	-8.61	06/01/2017
MSCI AC World ex US Net			*-11.46*	*-10.84*	*-14.19*	*4.48*	*0.68*	*7.28*	*20.45*	*-2.57*	
iShares MSCI Emerging Markets Index	2,122,378	3.26	-7.33	-8.84	-14.24	8.70	N/A	8.68	21.14	1.78	01/01/2015
MSCI EM Net			*-7.46*	*-8.48*	*-14.57*	*9.25*	*1.65*	*8.20*	*23.74*	*2.63*	

*The custom benchmark is an evolving benchmark that currently consists of 72% Barclays Int. Gov't Credit and 28% MSCI ACWI.

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Cal Poly Pomona General Investment Portfolio
Annualized Performance Summary
As of December 31, 2018

	Allocation		Performance(%)								
	Market Value ($)	%	Quarter To Date	Fiscal YTD	1 Year	3 Years	5 Years	Fiscal Year 2018	Fiscal Year 2017	Since Inception	Inception Date
Fixed Income	**47,996,336**	**73.79**	**0.23**	**0.83**	**0.97**	**2.30**	**1.62**	**1.22**	**2.93**	**1.46**	**03/01/2013**
BC Gov/Cr Intm			*1.65*	*1.87*	*0.88*	*1.70*	*1.86*	*-0.58*	*-0.21*	*1.42*	
Short-Term Portfolio Strategy	47,996,336	73.79	0.24	0.83	0.96	2.30	1.62	1.22	2.93	1.47	03/07/2013
BC Gov/Cr Intm			*1.65*	*1.87*	*0.88*	*1.70*	*1.86*	*-0.58*	*-0.21*	*1.44*	
Hamilton Lane	1,082,095	1.66	-0.05	2.31	2.07	N/A	N/A	3.85	N/A	5.16	06/05/2017
*Cambridge Private Equity***			*0.00*	*4.11*	*13.42*	*15.05*	*12.33*	*18.84*	*18.11*	*17.32*	

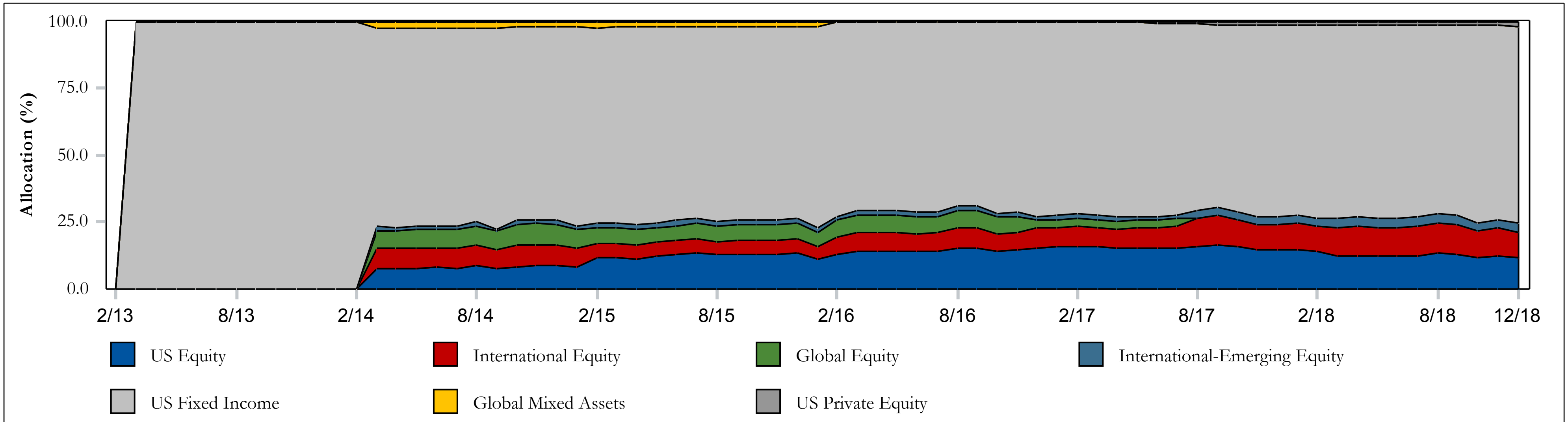
*The custom benchmark is an evolving benchmark that currently consists of 72% Barclays Int. Gov't Credit and 28% MSCI ACWI.

Cal Poly Pomona Foundation - General Investment Portfolio
Performance and Asset Allocation History
As of December 31, 2018

	QTD	Fiscal YTD	1 Year	3 Years	Fiscal Year 2017	Since Inception	Inception Date
General Investment Portfolio							**03/01/2013**
Beginning Market Value	67,631,723	65,950,327	55,136,357	41,573,406	43,243,289	24,301,287	
Net Contributions	563	1,000,982	12,001,735	19,904,749	6,962,990	37,170,196	
Gain/Loss	-2,588,080	-1,907,104	-2,093,886	3,566,051	3,014,501	3,572,723	
Ending Market Value	**65,044,206**	**65,044,206**	**65,044,206**	**65,044,206**	**53,220,780**	**65,044,206**	

	QTD	Fiscal YTD	1 Year	3 Years	Since Inception	Inception Date
General Investment Portfolio	**-3.83**	**-2.86**	**-3.07**	**2.93**	**1.64**	**03/01/2013**
Cal Poly Pomona GIP Custom Benchmark*	-2.47	-1.16	-1.91	3.19	2.00	03/01/2013

Asset Allocation Over Time



*The custom benchmark is an evolving benchmark that currently consists of 72% Barclays Int. Gov't Credit and 28% MSCI ACWI.

**Please see important disclosures at the end of the presentation.

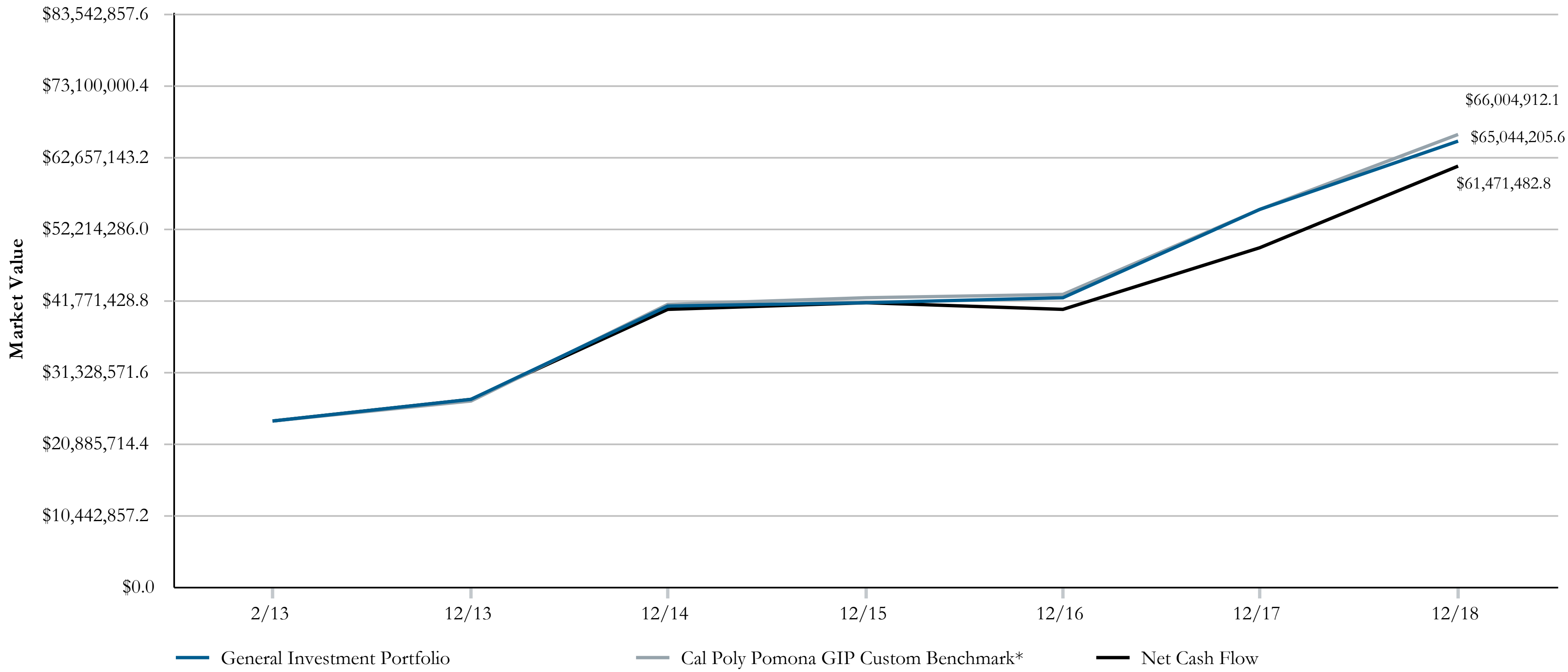
Graystone Consulting℠

Cal Poly Pomona General Investment Portfolio

General Investment Portfolio vs. Cal Poly Pomona GIP Custom Benchmark*

March 1, 2013 To December 31, 2018

Schedule of Investable Assets - Mar-2013 To Dec-2018



Periods Ending	Beginning Market Value ($)	Net Cash Flow ($)	Gain/Loss ($)	Ending Market Value ($)	%Return	Unit Value	Income ($)	Income % of Beginning Market Value
2013	-	-	-	24,301,287	N/A	100.00	-	0.00
2013	24,301,287	3,157,866	13,036	27,472,189	0.43	100.43	582,334	2.40
2014	27,472,189	13,165,056	445,070	41,082,315	1.31	101.75	1,172,581	4.27
2015	41,082,315	942,525	-451,434	41,573,406	-0.91	100.82	1,208,887	2.94
2016	41,573,406	-992,415	1,657,412	42,238,403	3.84	104.70	940,772	2.26
2017	42,238,403	8,895,429	4,002,525	55,136,357	8.32	113.41	1,206,244	2.86
2018	55,136,357	12,001,735	-2,093,886	65,044,206	-3.07	109.93	2,248,858	4.08
	24,301,287	37,170,196	3,572,723	65,044,206	1.64	109.93	7,359,676	30.29

*The custom benchmark is an evolving benchmark that currently consists of 72% Barclays Int. Gov't Credit and 28% MSCI ACWI.

Performance Appendix

Portfolio Name	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Aristotle Large Cap Value	-12.39	-9.28	-9.28	8.90	--	--	7.60	03/01/2014
Hamilton Lane	-0.05	2.07	2.07	--	--	--	5.12	06/01/2017
Oakmark International Value	-16.34	-23.28	-23.28	-0.11	--	--	-2.38	03/01/2014
Short-Term Portfolio Strategy	0.24	0.96	0.96	2.30	1.62	--	1.46	03/01/2013
William Blair International Growth	-16.37	-17.59	-17.59	1.10	--	--	0.01	03/01/2014
iShares MSCI Emerging Markets Index	-7.33	-14.24	-14.24	8.70	--	--	0.35	03/01/2014
iShares Russell 1000 Growth	-15.82	-1.77	-1.77	8.71	--	--	6.60	03/01/2014

Glossary of Terms

Active Contribution Return: The gain or loss percentage of an investment relative to the performance of the investment benchmark.

Active Exposure: The percentage difference in weight of the portfolio compared to its policy benchmark.

Active Return: Arithmetic difference between the manager's return and the benchmark's return over a specified time period.

Actual Correlation: A measure of the correlation (linear dependence) between two variables X and Y, with a value between +1 and -1 inclusive. This is also referred to as coefficient of correlation.

Alpha: A measure of a portfolio's time weighted return in excess of the market's return, both adjusted for risk. A positive alpha indicates that the portfolio outperformed the market on a risk-adjusted basis, and a negative alpha indicates the portfolio did worse than the market.

Best Quarter: The highest quarterly return for a certain time period.

Beta: A measure of the sensitivity of a portfolio's time weighted return (net of fees) against that of the market. A beta greater than 1.00 indicates volatility greater than the market.

Consistency: The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.

Core: Refers to an investment strategy mandate that is blend of growth and value styles without a pronounced tilt toward either style.

Cumulative Selection Return (*Cumulative Return*): Cumulative investment performance over a specified period of time.

Distribution Rate: The most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or return of capital.

Down Market Capture: The ratio of average portfolio returns over the benchmark during periods of negative benchmark return. Lower values indicate better product performance.

Downside Risk: A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the value, the more risk the product has.

Downside Semi Deviation: A statistical calculation that measures the volatility of returns below a minimum acceptable return. This return measure isolates the negative portion of volatility: the larger the number, the greater the volatility.

Drawdown: A drawdown is the peak-to-trough decline during a specific period of an investment, fund or commodity.

Excess over Benchmark: The percentage gain or loss of an investment relative to the investment's benchmark.

Excess Return: Arithmetic difference between the manager's return and the risk-free return over a specified time period.

Growth: A diversified investment strategy which includes investment selections that have capital appreciation as the primary goal, with little or no dividend payouts. These strategies can include reinvestment in expansion, acquisitions, and/or research and development opportunities.

Growth of Dollar: The aggregate amount an investment has gained or lost over a certain time period, also referred to as Cumulative Return, stated in terms of the amount to which an initial dollar investment would have grown over the given time period.

Investment Decision Process (IDP): A model for structuring the investment process and implementing the correct attribution methodologies. The IDP includes every decision made concerning the division of the assets under management over the various asset categories. To analyze each decision's contribution to the total return, a modeling approach must measure the marginal value of every individual decision. In this respect, the hierarchy of the decisions becomes very important. We therefore use the IDP model, which serves as a proper foundation for registering the decisions and relating them to each other.

Information Ratio: Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.

Jensen's Alpha: The Jensen's alpha measure is a risk-adjusted performance measure that represents the average return on a portfolio or investment above or below that predicted by the capital asset pricing model (CAPM) given the portfolio's or investment's beta and the average market return. This metric is also commonly referred to as alpha..

Kurtosis: A statistical measure that is used to describe the distribution, or skewness, of observed data around the mean, sometimes referred to as the volatility of volatility.

Maximum Drawdown: The drawdown is defined as the percent retrenchment from a fund's peak to the fund's trough value. It is in effect from the time the fund's retrenchment begins until a new fund high is reached. The maximum drawdown encompasses both the period from the fund's peak to the fund's valley (length), and the time from the fund's valley to a new fund high (recovery). It measures the largest percentage drawdown that has occurred in any fund's data record.

Modern Portfolio Theory (MPT): An investment analysis theory on how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward.

Mutual Fund (MF): An investment program funded by shareholders that trade in diversified holdings and is professionally managed.

Peer Group: A combination of funds that share the same investment style combined as a group for comparison purposes.

Peer/ Plan Sponsor Universe: A combination of asset pools of total plan investments by specific sponsor and plan types for comparison purposes.

Performance Ineligible Assets: Performance returns are not calculated for certain assets because accurate valuations and transaction data for these assets are not processed or mai these include life insurance, some annuities and some assets held externally.

Performance Statistics: A generic term for various measures of investment performance measurement terms.

Portfolio Characteristics: A generic term for various measures of investment portfolio characteristics.

Preferred Return: A term used in the private equity (PE) world, and also referred to as a "Hurdle Rate." It refers to the threshold return that the limited partners of a private equity fund must receive, prior to the PE firm receiving its carried interest or "carry."

Ratio of Cumulative Wealth: A defined ratio of the Cumulative Return of the portfolio divided by the Cumulative Return of the benchmark for a certain time period.

Regression Based Analysis: A statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables

Residual Correlation: Within returns-based style analysis, residual correlation refers to the portion of a strategy's return pattern that cannot be explained by its correlation to the asset-class benchmarks to which it is being compared.

Return: A rate of investment performance for the specified period.

Rolling Percentile Ranking: A measure of an investment portfolio's ranking versus a peer group for a specific rolling time period (i.e. Last 3 Years, Last 5 years, etc.).

R-Squared: The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

SA/CF (Separate Account/Comingled Fund): Represents an acronym for Separate Account and Commingled Fund investment vehicles.

Sector Benchmark: A market index that serves as a proxy for a sector within an asset class.

Sharpe Ratio: Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance results in.

Standard Deviation: A statistical measure of the range of a portfolio's performance; the variability of a return around its average return over a specified time period.

Total Fund Benchmark: The policy benchmark for a complete asset pool that could consist of multiple investment mandates.

Total Fund Composite: The aggregate of multiple portfolios within an asset pool or household.

Tracking Error: A measure of standard deviation for a portfolio's investment performance, relative to the performance of an appropriate market benchmark.

Treynor Ratio: A ratio that divides the excess return (above the risk free rate) by the portfolio's beta to arrive at a unified measure of risk adjusted return. It is generally used to rank portfolios, funds and benchmarks. A higher ratio is indicative of higher returns per unit of market risk. This measurement can help determine if the portfolio is reaching its goal of increasing returns while managing market risk.

Up Market Capture: The ratio of average portfolio returns over the benchmark during periods of positive benchmark return. Higher values indicate better product performance.

Upside Semi Deviation: A statistical calculation that measures the volatility of returns above an acceptable return. This return measure isolates the positive portion of volatility: the larger the number, the greater the volatility.

Value: A diversified investment strategy that includes investment selections which tend to trade at a lower price relative to its dividends, earnings, and sales. Common attributes are stocks that include high dividend, low price-to-book ratio, and/or low price-to-earnings ratio.

Worst Quarter: The lowest rolling quarterly return for a certain time period.

Information Disclosures

Performance results are annualized for time periods greater than one year and include all cash and cash equivalents, realized and unrealized capital gains and losses, and dividends, interest and income. The investment results depicted herein represent historical performance. As a result of recent market activity, current performance may vary from the figures shown. Past performance is not a guarantee of future results.

Please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 Brochure for advisory accounts and/or any applicable brokerage account trade confirmation statements for a full disclosure of the applicable charges, fees and expenses. Your Financial Advisor will provide those documents to you upon request.

Benchmark indices and blends included in this material are for informational purposes only, are provided solely as a comparison tool and may not reflect the underlying composition and/or investment objective(s) associated with the account(s). Indices are unmanaged and not available for direct investment. Index returns do not take into account fees or other charges. Such fees and charges would reduce performance.

The performance data shown reflects past performance, which does not guarantee future results. Investment return and principal will fluctuate so that an investor's shares when redeemed may be worth more or less than original cost. Please note, current performance may be higher or lower than the performance data shown. For up to date month-end performance information, please contact your Financial Advisor or visit the funds' company website.

Investors should carefully consider the fund's investment objectives, risks, charges and expenses before investing. The prospectus and, if available the summary prospectus, contains this and other information that should be read carefully before investing. Investors should review the information in the prospectus carefully. To obtain a prospectus, please contact your Financial Advisor or visit the funds' company website.

Past performance is no guarantee of future results.

Investing involves market risk, including possible loss of principal. **Growth investing** does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. **Value investing** involves the risk that the market may not recognize that securities are undervalued and they may not appreciate as anticipated. **Small and mid-capitalization companies** may lack the financial resources, product diversification and competitive strengths of larger companies. The securities of small capitalization companies may not trade as readily as, and be subject to higher volatility than those of larger, more established companies. **Bond funds** and bond holdings have the same interest rate, inflation and credit risks that are associated with the underlying bonds owned by the funds. The return of principal in bond funds, and in funds with significant bond holdings, is not guaranteed. **International securities'** prices may carry additional risks, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes and differences in financial and accounting standards. International investing may not be for everyone. These risks may be magnified in emerging markets. **Alternative investments**, including private equity funds, real estate funds, hedge funds, managed futures funds, and funds of hedge funds, private equity, and managed futures funds, are speculative and entail significant risks that can include losses due to leveraging or\other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and risks associated with the operations, personnel and processes of the advisor. **Master Limited Partnerships** (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk; and MLP interests in the real estate sector are subject to special risks, including interest rate and property value fluctuations, as well as risks related to general and economic conditions. Because of their narrow focus, MLPs maintain exposure to price volatility of commodities and/or underlying assets and tend to be more volatile than investments that diversify across many sectors and companies. MLPs are also subject to additional risks including: investors having limited control and rights to vote on matters affecting the MLP, limited access to capital, cash flow risk, lack of liquidity, dilution risk, conflict of interests, and limited call rights related to acquisitions.

Mortgage backed securities also involve prepayment risk, in that faster or slower prepayments than expected on underlying mortgage loans can dramatically alter the yield-to-maturity of a mortgage-backed security and prepayment risk includes the possibility that a fund may invest the proceeds at generally lower interest rates.

Tax managed funds may not meet their objective of being tax-efficient.

Real estate investments are subject to special risks, including interest rate and property value fluctuations, as well as risks related to general and economic conditions. **High yield** fixed income securities, also known as "junk bonds", are considered speculative, involve greater risk of default and tend to be more volatile than investment grade fixed income securities.

Credit quality is a measure of a bond issuer's creditworthiness, or ability to repay interest and principal to bondholders in a timely manner. The credit ratings shown are based on security rating as provided by Standard & Poor's, Moody's and/or Fitch, as applicable. Credit ratings are issued by the rating agencies for the underlying securities in the fund and not the fund itself, and the credit quality of the securities in the fund does not represent the stability or safety of the fund. Credit ratings shown range from AAA, being the highest, to D, being the lowest based on S&P and Fitch's classification (the equivalent of Aaa and C, respectively, by Moody(s). Ratings of BBB or higher by S&P and Fitch (Baa or higher by Moody's) are considered to be investment grade-quality securities. If two or more of the agencies have assigned different ratings to a security, the highest rating is applied. Securities that are not rated by all three agencies are listed as "NR".

"**Alpha tilt strategies** comprise a core holding of stocks that mimic a benchmark type index such as the S&P 500 to which additional securities are added to help tilt the fund toward potentially outperforming the market in an effort to enhance overall investment returns. Tilt strategies are subject to significant timing risk and could potentially expose investors to extended periods of underperformance."

Custom Account Index: The Custom Account Index is an investment benchmark based on your historical target allocations and/or manager selection that you may use to evaluate the performance of your account. The Custom Account index does take into consideration certain changes that may have occurred in your portfolio since the inception of your account, i.e., asset class and/or manager changes. However, in some circumstances, it may not be an appropriate benchmark for use with your specific account composition. For detailed report of the historical composition of this blend please contact your Financial Advisor.

Peer Groups

Peer Groups are a collection of similar investment strategies that essentially group investment products that share the same investment approach. Peer Groups are used for comparison purposes to compare and illustrate a clients investment portfolio versus its peer across various quantitative metrics like performance and risk. Peer Group comparison is conceptually another form of benchmark comparison whereby the actual investment can be ranked versus its peer across various quantitative metrics.

All Peer Group data are provided by Investment Metrics, LLC.

The URL below provides all the definitions and methodology about the various Peer Groups

https://www.invmetrics.com/style-peer-groups

Peer Group Ranking Methodology

A percentile rank denotes the value of a product in which a certain percent of observations fall within a peer group. The range of percentile rankings is between 1 and 100, where 1 represents a high statistical value and 100 represents a low statistical value.

The 30th percentile, for example, is the value in which 30% of the highest observations may be found, the 65th percentile is the value in which 65% of the highest observations may be found, and so on.

Percentile rankings are calculated based on a normalized distribution ranging from 1 to 100 for all products in each peer group, where a ranking of 1 denotes a high statistical value and a ranking of 100 denotes a low statistical value. It is important to note that the same ranking methodology applies to all statistics, implying that a ranking of 1 will always mean highest value across all statistics.

For example, consider a risk/return assessment using standard deviation as a measure of risk. A percentile ranking equal to 1 for return denotes highest return, whereas a percentile ranking of 1 for standard deviation denotes highest risk among peers.

In addition, values may be used to demonstrate quartile rankings. For example, the third quartile is also known as the 75th percentile, and the median is the 50th percentile.

Alternatives

The sole purpose of this material is to inform, and it in no way is intended to be an offer or solicitation to purchase or sell any security, other investment or service, or to attract any funds or deposits. Investments mentioned may not be suitable for all clients. Any product discussed herein may be purchased only after a client has carefully reviewed the offering memorandum and executed the subscription documents. Morgan Stanley has not considered the actual or desired investment objectives, goals, strategies, guidelines, or factual circumstances of any investor in any fund(s). Before making any investment, each investor should carefully consider the risks associated with the investment, as discussed in the applicable offering memorandum, and make a determination based upon their own particular circumstances, that the investment is consistent with their investment objectives and risk tolerance.

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Alternatives may be either traditional alternative investment vehicles or non-traditional alternative strategy vehicles. Traditional alternative investment vehicles may include, but are not limited to, Hedge Funds, Fund of Funds (both registered and unregistered), Exchange Funds, Private Equity Funds, Private Credit Funds, Real Estate Funds, and Managed Futures Funds. Non-traditional alternative strategy vehicles may include, but are not limited to, Open or Closed End Mutual Funds, Exchange-Traded and Closed-End Funds, Unit Investment Trusts, exchange listed Real Estate Investment Trusts (REITs), and Master Limited Partnerships (MLPs). These non-traditional alternative strategy vehicles also seek alternative-like exposure but have significant differences from traditional alternative investment vehicles. Non-traditional alternative strategy vehicles may behave like, have characteristics of, or employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives, and options, which can increase volatility and the risk of investment loss. Characteristics such as correlation to traditional markets, investment strategy, and market sector exposure can play a role in the classification of a traditional security being classified as alternative.

Traditional alternative investment vehicles are illiquid and usually are not valued daily. The estimated valuation provided will be as of the most recent date available and will be included in summaries of your assets. Such valuation may not be the most recent provided by the fund in which you are invested. No representation is made that the valuation is a market value or that the interest could be liquidated at this value. We are not required to take any action with respect to your investment unless valid instructions are received from you in a timely manner. Some positions reflected herein may not represent interests in the fund, but rather redemption proceeds withheld by the issuer pending final valuations which are not subject to the investment performance of the fund and may or may not accrue interest for the length of the withholding. Morgan Stanley does not engage in an independent valuation of your alternative investment assets. Morgan Stanley provides periodic information to you including the market value of an alternative investment vehicle based on information received from the management entity of the alternative investment vehicle or another service provider.

Traditional alternative investment vehicles often are speculative and include a high degree of risk. . Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to:• Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices;• Lack of liquidity in that there may be no secondary market for a fund;• Volatility of returns;• Restrictions on transferring interests in a fund;• Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized;• Absence of information regarding valuations and pricing;• Complex tax structures and delays in tax reporting;• Less regulation and higher fees than mutual funds; and• Risks associated with the operations, personnel, and processes of the manager. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund.

Indices are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Past performance is no guarantee of future results. Actual results may vary. Diversification does not assure a profit or protect against loss in a declining market. Any performance or related information presented has not been adjusted to reflect the impact of the additional fees paid to a placement agent by an investor (for Morgan Stanley placement clients, a one-time upfront Placement Fee of up to 3%, and for Morgan Stanley investment advisory clients, an annual advisory fee of up to 2.5%), which would result in a substantial reduction in the returns if such fees were incorporated.

For most investment advisory clients, the program account will be charged an asset-based wrap fee every quarter ("the Fee"). In general, the Fee covers investment advisory services and reporting. In addition to the Fee, clients will pay the fees and expenses of any funds in which their account is invested. Fund fees and expenses are charged directly to the pool of assets the fund invests in and impact the valuations. Clients must understand that these fees and expenses are an additional cost and will not be included in the Fee amount in the account statements.

As fees are deducted quarterly, the compounding effect will be to increase the impact of the fees by an amount directly related to the gross account performance. For example, for an account with an initial value of $100,000 and a 2.5% annual fee, if the gross performance is 5% per year over a three year period, the compounding effect of the fees will result in a net annual compound rate of return of approximately 2.40% per year over a three year period, and the total value of the client's portfolio at the end of the three year period would be approximately $115,762.50 without the fees and $107,372.63 with the fees. Please see the applicable Morgan Stanley Smith Barney LLC Form ADV Part 2A for more information including a description of the fee schedule. It is available at www.morganstanley.com/ADV <http://www.morganstanley.com/ADV> <http://www.morganstanley.com/ADV> or from your Financial Advisor/Private Wealth Advisor.

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You could lose money in Money Market Funds. Although MMFs classi

MMFs that invest 99.5% of total assets in cash and/or securities backed by the U.S government) and retail funds (i.e., MMFs open to natural person investors only) seek to preserve value at $1.00 per share, they cannot guarantee they will do so. The price of other MMFs will fluctuate and when you sell shares they may be worth more or less than originally paid. MMFs may impose a fee upon sale or temporarily suspend sales if liquidity falls below required minimums. During suspensions, shares would not be available for purchases, withdrawals, check writing or ATM debits. A MMF investment is not insured or guaranteed by the Federal Deposit Insurance Corporation or other government agency.

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Cal Poly Pomona Foundation Endowment Portfolio

Long Term Manager Analysis
As of December 31, 2018

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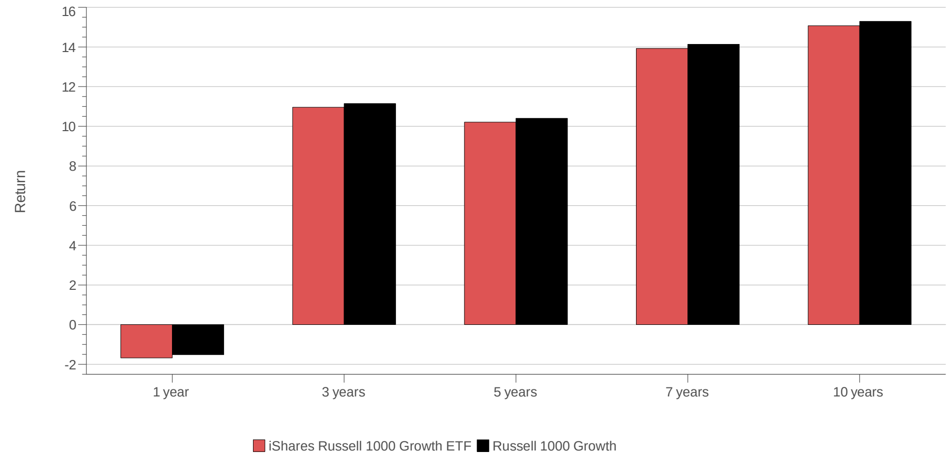
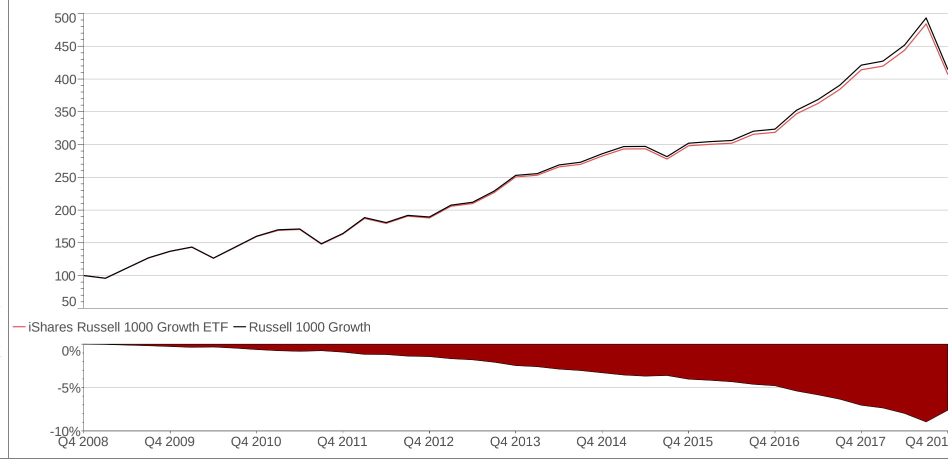
Large Cap Growth - iShares ETF

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
iShares Russell 1000 Growth ETF	15.07%	-0.21%	14.34%	1.03	0.03%	-6.49	-0.16%	1.00	-15.90%	99.08%	100.30%
Russell 1000 Growth	15.29%	0.00%	14.37%	1.04	0.00%	0.00	0.00%	1.00	-15.89%	100.00%	100.00%

Calendar Year Return

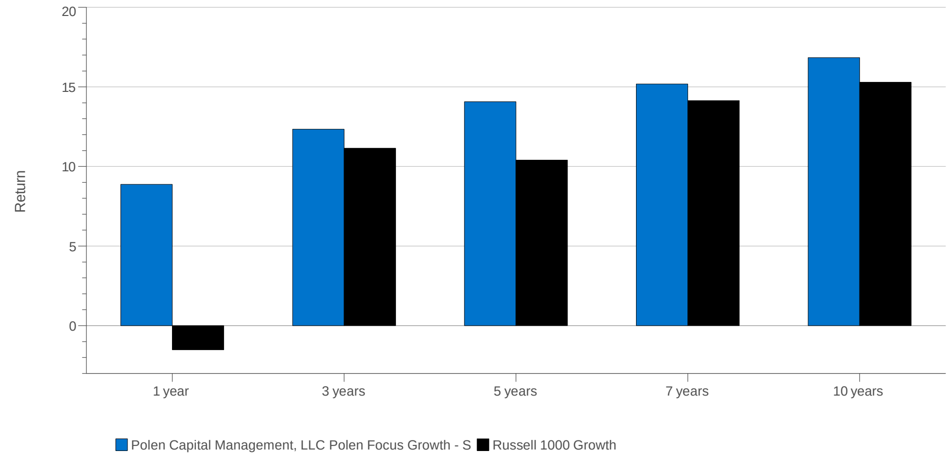
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
iShares Russell 1000 Growth ETF	-1.68%	29.96%	6.92%	5.48%	12.84%	33.19%	15.03%	2.47%	16.47%	36.94%
Russell 1000 Growth	-1.51%	30.21%	7.08%	5.67%	13.05%	33.48%	15.26%	2.64%	16.71%	37.21%

Manager vs Benchmark: Return

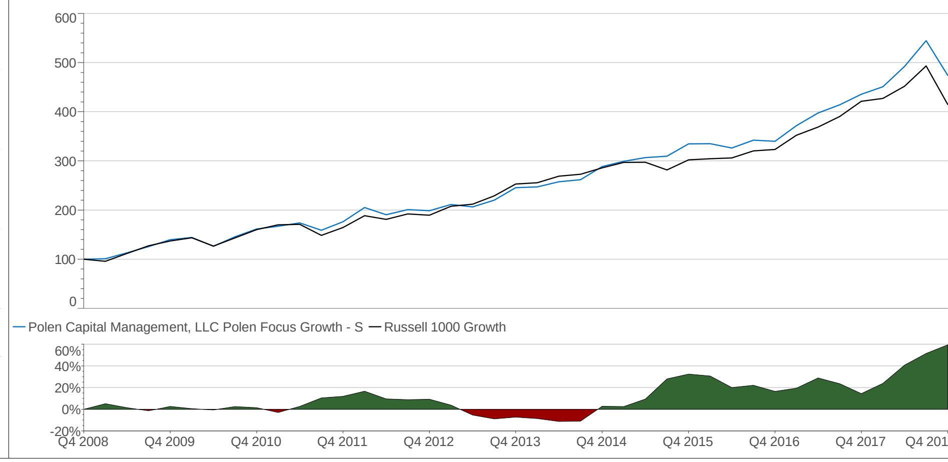
1 year	3 years	5 years	7 years	10 years
-1.68%	10.96%	10.21%	13.93%	15.07%
-1.51%	11.15%	10.40%	14.14%	15.29%

Large Cap Growth - Polen

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Polen Focus Growth	16.84%	1.55%	13.60%	1.21	5.46%	0.28	3.24%	0.88	-12.92%	98.24%	75.27%
Russell 1000 Growth	15.29%	0.00%	14.37%	1.04	0.00%	0.00	0.00%	1.00	-15.89%	100.00%	100.00%

Calendar Year Return

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Polen Focus Growth	8.87%	28.12%	1.63%	15.91%	17.51%	23.57%	12.74%	9.08%	15.61%	39.79%
Russell 1000 Growth	-1.51%	30.21%	7.08%	5.67%	13.05%	33.48%	15.26%	2.64%	16.71%	37.21%

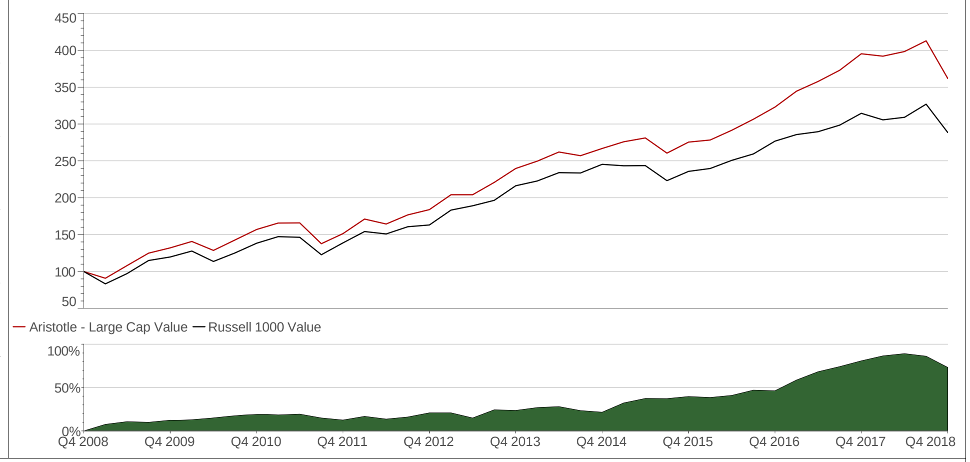
Manager vs Benchmark: Return

1 year	3 years	5 years	7 years	10 years
8.87%	12.34%	14.06%	15.18%	16.84%
-1.51%	11.15%	10.40%	14.14%	15.29%

Large Cap Value - Aristotle

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)

Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Aristotle Large Cap Value	13.72%	2.55%	14.40%	0.93	4.36%	0.58	3.49%	0.89	-17.04%	105.27%	83.48%
Russell 1000 Value	11.18%	0.00%	15.49%	0.70	0.00%	0.00	0.00%	1.00	-16.77%	100.00%	100.00%

Calendar Year Return

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Aristotle Large Cap Value	-8.47%	22.38%	17.23%	3.27%	11.27%	30.40%	21.48%	-3.60%	18.86%	32.13%
Russell 1000 Value	-8.27%	13.66%	17.34%	-3.83%	13.45%	32.53%	17.51%	0.39%	15.51%	19.69%

Manager vs Benchmark: Return

1 year	3 years	5 years	7 years	10 years
-8.47%	9.51%	8.57%	13.26%	13.72%
-8.27%	6.95%	5.95%	11.02%	11.18%

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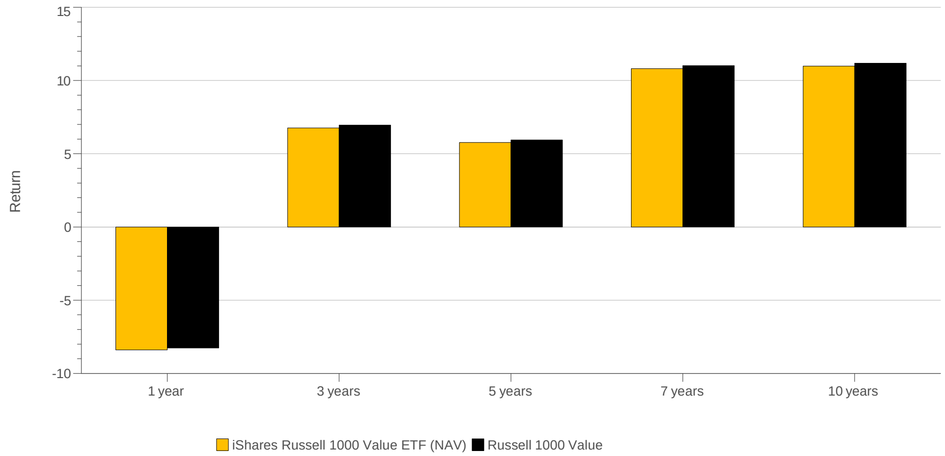
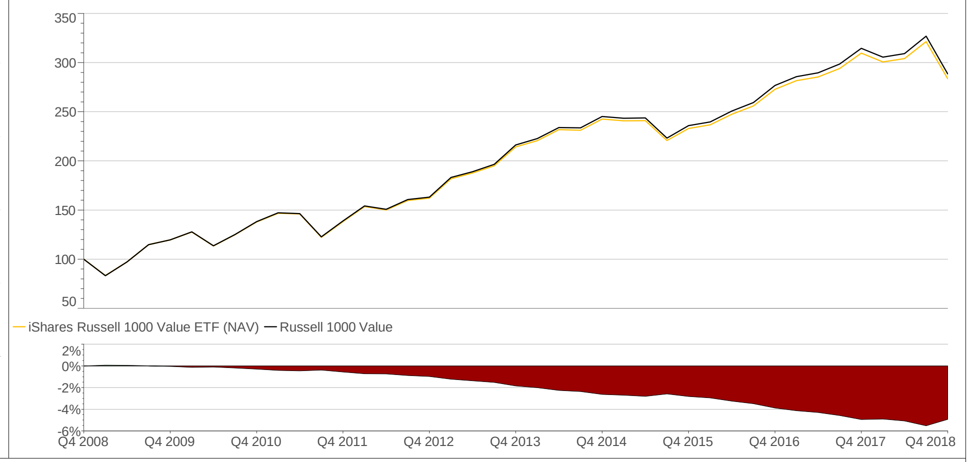
Large Cap Value - iShares ETF

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
iShares Russell 1000 Value ETF	10.99%	-0.19%	15.44%	0.69	0.06%	-3.29	-0.15%	1.00	-16.69%	99.00%	100.13%
Russell 1000 Value	11.18%	0.00%	15.49%	0.70	0.00%	0.00	0.00%	1.00	-16.77%	100.00%	100.00%

Calendar Year Return

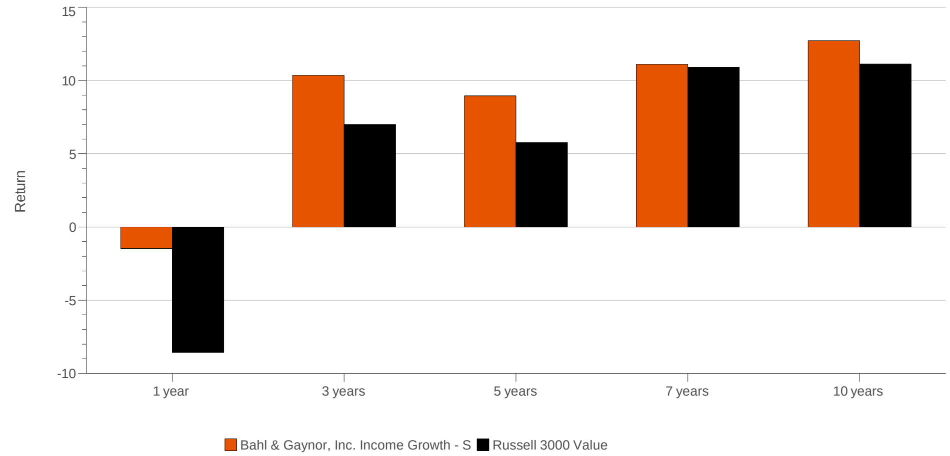
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
iShares Russell 1000 Value ETF	-8.40%	13.47%	17.09%	-3.95%	13.21%	32.18%	17.28%	0.21%	15.30%	19.64%
Russell 1000 Value	-8.27%	13.66%	17.34%	-3.83%	13.45%	32.53%	17.51%	0.39%	15.51%	19.69%

Manager vs Benchmark: Return

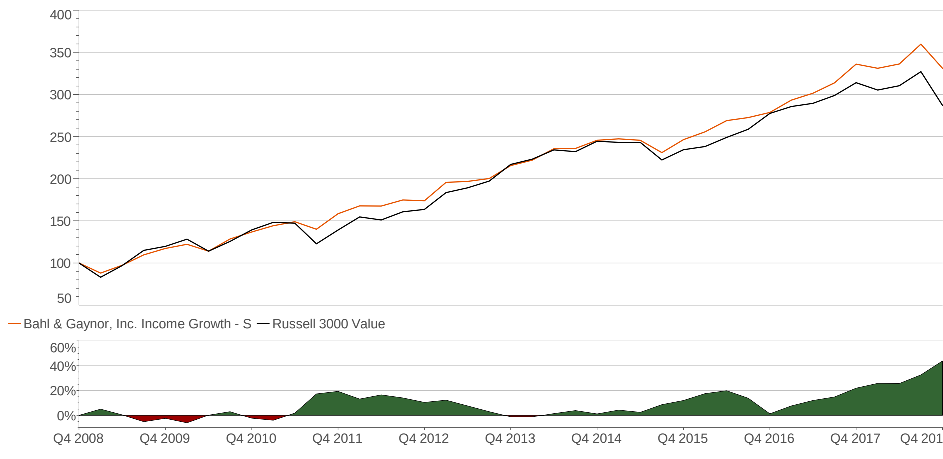
1 year	3 years	5 years	7 years	10 years
-8.40%	6.77%	5.76%	10.81%	10.99%
-8.27%	6.95%	5.95%	11.02%	11.18%

Large Cap Income - Bahl & Gaynor

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Bahl & Gaynor Income	12.72%	1.59%	11.35%	1.09	6.64%	0.24	4.86%	0.67	-12.06%	84.36%	52.34%
Russell 3000 Value	11.12%	0.00%	15.73%	0.68	0.00%	0.00	0.00%	1.00	-17.20%	100.00%	100.00%

Calendar Year Return

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Bahl & Gaynor Income	-1.46%	20.55%	13.14%	0.32%	13.87%	24.04%	9.77%	15.78%	16.70%	17.22%
Russell 3000 Value	-8.58%	13.19%	18.40%	-4.13%	12.70%	32.69%	17.55%	-0.10%	16.23%	19.76%

Manager vs Benchmark: Return

1 year	3 years	5 years	7 years	10 years
-1.46%	10.35%	8.95%	11.11%	12.72%
-8.58%	7.01%	5.77%	10.91%	11.12%

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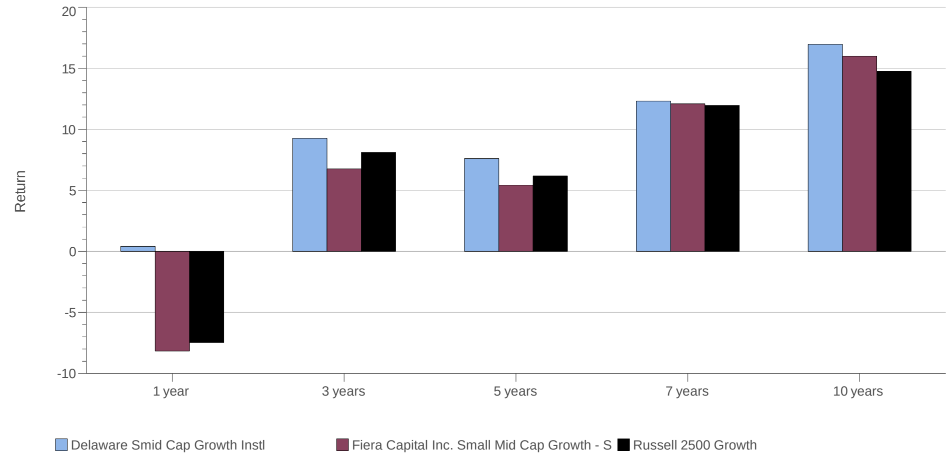
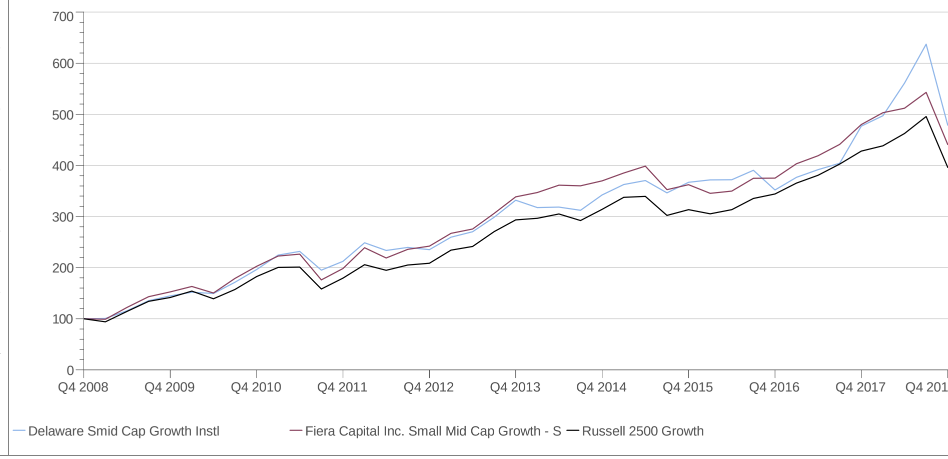
SMID Cap Growth - Delaware and Fiera (Apex)

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Delaware SMID Cap Growth	16.96%	2.19%	18.20%	0.91	9.10%	0.24	3.91%	0.88	-24.86%	96.23%	74.17%
Fiera (Apex) SMID Cap Growth	16.00%	1.23%	18.61%	0.84	4.97%	0.25	1.29%	0.99	-22.36%	102.73%	95.02%
Russell 2500 Growth	14.76%	0.00%	18.04%	0.80	0.00%	0.00	0.00%	1.00	-21.35%	100.00%	100.00%

Calendar Year Return

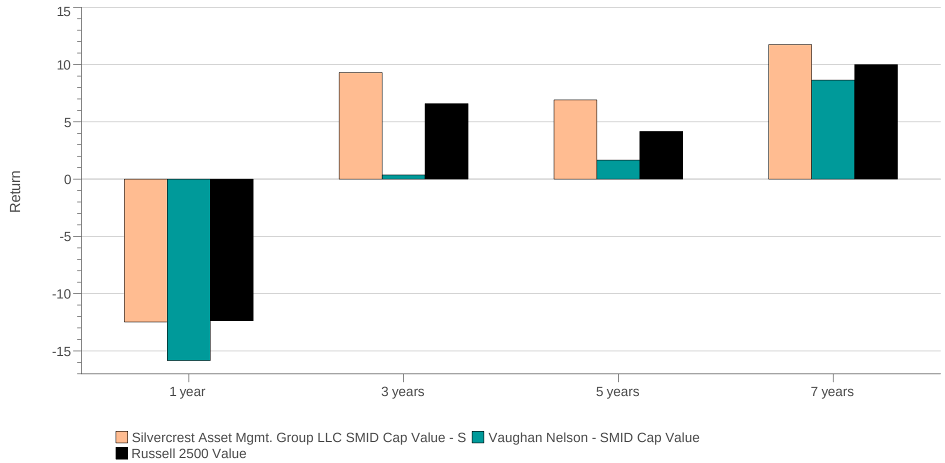
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Delaware SMID Cap Growth	0.41%	35.45%	-4.10%	7.30%	3.09%	41.20%	10.65%	8.28%	35.43%	44.89%
Fiera (Apex) SMID Cap Growth	-8.16%	27.97%	3.53%	-1.96%	9.15%	39.95%	22.04%	-2.18%	32.89%	52.55%
Russell 2500 Growth	-7.47%	24.46%	9.73%	-0.19%	7.05%	40.65%	16.13%	-1.57%	28.86%	41.66%

Manager vs Benchmark: Return

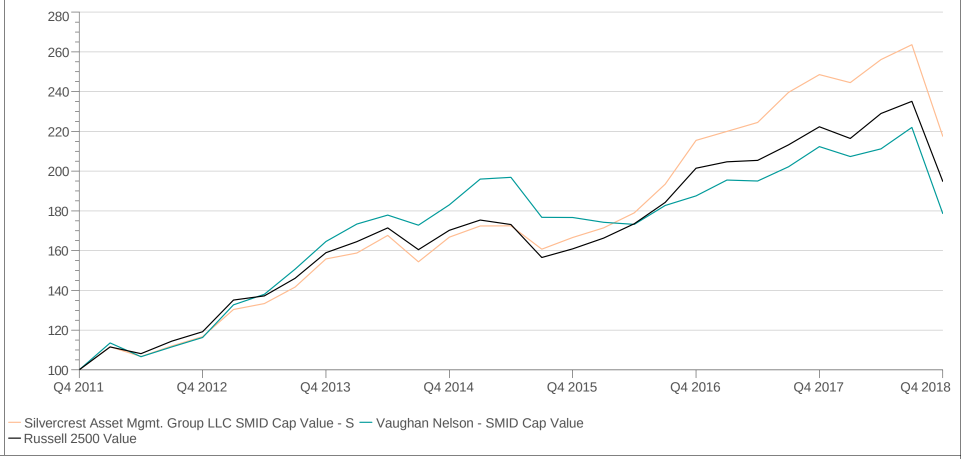
1 year	3 years	5 years	7 years	10 years
0.41%	9.26%	7.60%	12.31%	16.96%
-8.16%	6.76%	5.42%	12.09%	16.00%
-7.47%	8.11%	6.19%	11.96%	14.76%

SMID Cap Value - Silvercrest and Vaughan Nelson

Manager vs Benchmark: Return
January 2012 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2012 - December 2018 (Single Computation)



7-Year Statistics
January 2012 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Silvercrest SMID Cap Value	11.75%	1.75%	12.68%	0.89	2.59%	0.67	1.72%	0.99	-17.46%	109.30%	96.11%
Vaughan Nelson SMID Cap Value	8.64%	-1.35%	13.55%	0.60	5.45%	-0.25	-1.05%	0.99	-19.53%	92.38%	102.18%
Russell 2500 Value	10.00%	0.00%	12.49%	0.76	0.00%	0.00	0.00%	1.00	-17.12%	100.00%	100.00%

Calendar Year Return

	2018	2017	2016	2015	2014	2013	2012
Silvercrest SMID Cap Value	-12.47%	15.35%	29.34%	-0.08%	7.04%	33.45%	16.73%
Vaughan Nelson SMID Cap Value	-15.85%	13.19%	6.14%	-3.46%	11.23%	41.52%	16.28%
Russell 2500 Value	-12.36%	10.36%	25.20%	-5.49%	7.11%	33.32%	19.21%

Manager vs Benchmark: Return

1 year	3 years	5 years	7 years
-12.47%	9.30%	6.91%	11.75%
-15.85%	0.37%	1.66%	8.64%
-12.36%	6.59%	4.16%	10.00%

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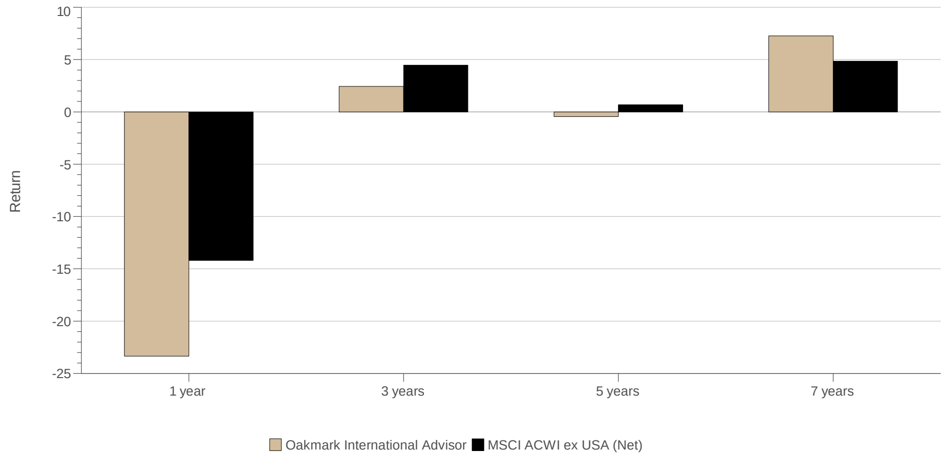
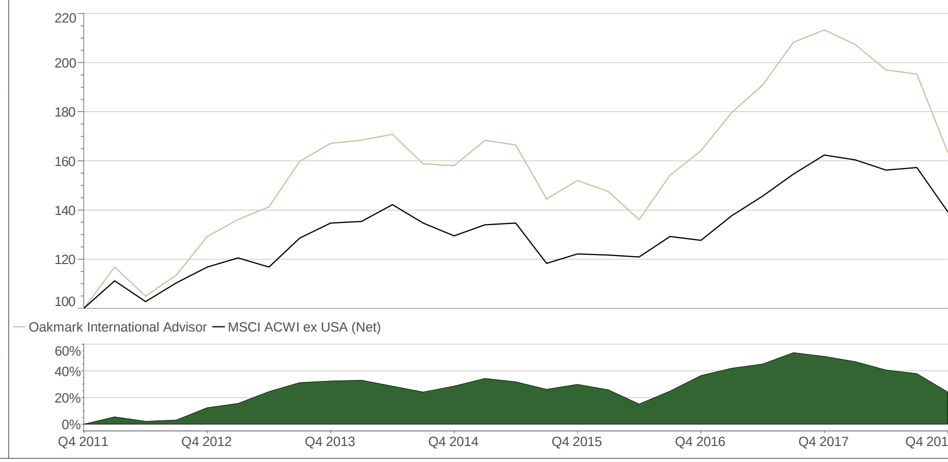
International Equities - Oakmark

Manager vs Benchmark: Return
January 2012 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2012 - December 2018 (Single Computation)



7-Year Statistics
January 2012 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Oakmark International Value	7.27%	2.42%	16.58%	0.41	7.72%	0.31	1.54%	1.26	-23.35%	131.68%	113.34%
MSCI ACWI ex USA (Net)	4.85%	0.00%	11.88%	0.37	0.00%	0.00	0.00%	1.00	-16.79%	100.00%	100.00%

Calendar Year Return

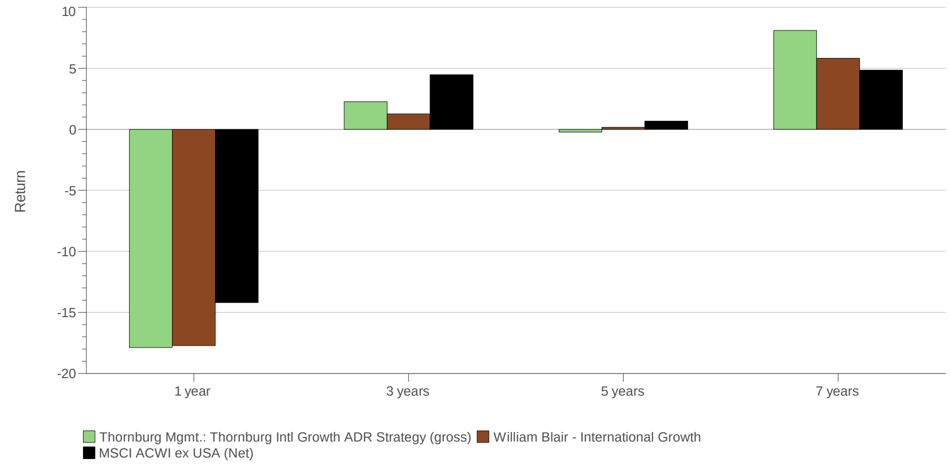
	2018	2017	2016	2015	2014	2013	2012
Oakmark International Value	-23.35%	29.93%	7.96%	-3.83%	-5.41%	29.34%	29.22%
MSCI ACWI ex USA (Net)	-14.20%	27.19%	4.50%	-5.66%	-3.87%	15.29%	16.83%

Manager vs Benchmark: Return

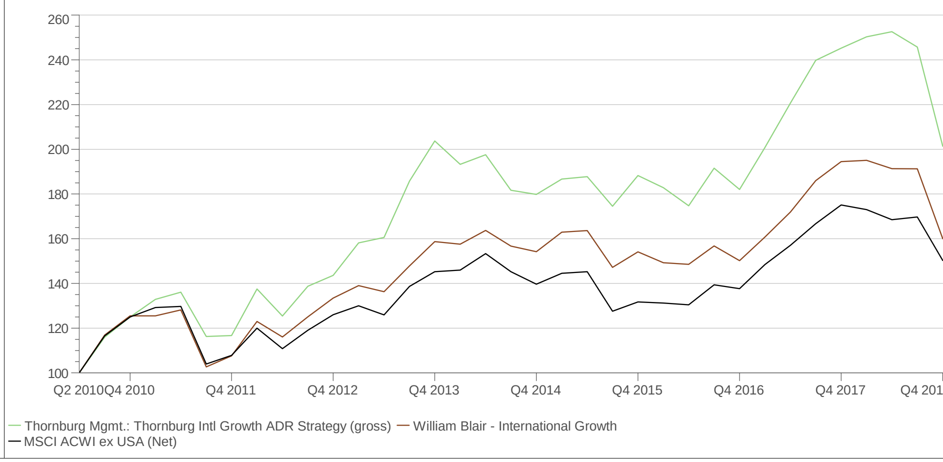
1 year	3 years	5 years	7 years
-23.35%	2.44%	-0.44%	7.27%
-14.20%	4.48%	0.68%	4.85%

International Equities - Thornburg and William Blair

Manager vs Benchmark: Return
July 2010 - December 2018 (not annualized if less than 1 year)



Growth of $100
July 2010 - December 2018 (Single Computation)



10-Year Statistics
July 2010 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
Thornburg International Growth	8.58%	3.68%	16.81%	0.49	7.52%	0.49	3.58%	1.06	-20.28%	124.85%	94.98%
William Blair International Growth	5.69%	0.78%	15.02%	0.35	3.66%	0.21	0.74%	1.02	-19.86%	106.33%	100.23%
MSCI ACWI ex USA (Net)	4.90%	0.00%	14.27%	0.32	0.00%	0.00	0.00%	1.00	-19.85%	100.00%	100.00%

Calendar Year Return

	2018	2017	2016	2015	2014	2013	2012	2011
Thornburg International Growth	-17.88%	34.71%	-3.31%	4.69%	-11.72%	41.86%	23.09%	-6.68%
William Blair International Growth	-17.73%	29.48%	-2.54%	-0.03%	-2.86%	18.96%	23.96%	-14.23%
MSCI ACWI ex USA (Net)	-14.20%	27.19%	4.50%	-5.66%	-3.87%	15.29%	16.83%	-13.71%

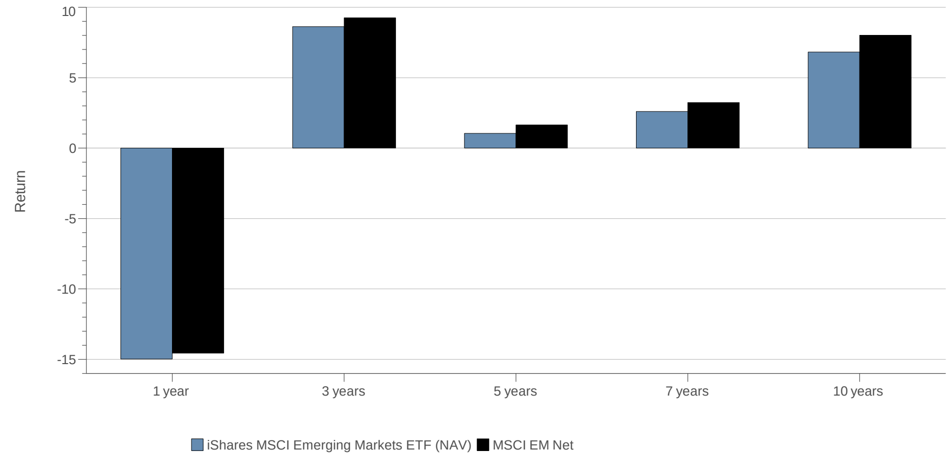
Manager vs Benchmark: Return

1 year	3 years	5 years	7 years
-17.88%	2.27%	-0.23%	8.11%
-17.73%	1.26%	0.16%	5.83%
-14.20%	4.48%	0.68%	4.85%

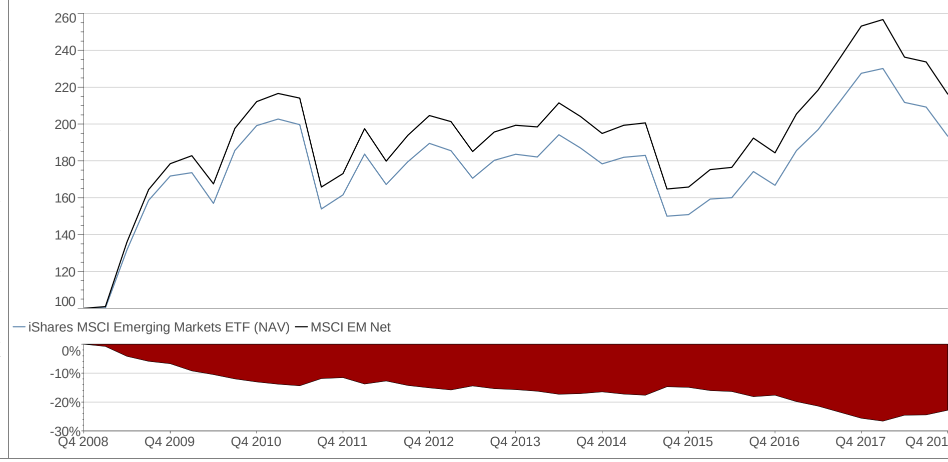
Created with Zephyr StyleADVISOR. Manager returns supplied by: Morningstar, Inc., Informa Investment Solutions, Inc.(PSN)

Emerging Markets Index - iShares ETF

Manager vs Benchmark: Return
January 2009 - December 2018 (not annualized if less than 1 year)



Growth of $100
January 2009 - December 2018 (Single Computation)



10-Year Statistics
January 2009 - December 2018: Summary Statistics

	Return	Excess Return	Standard Deviation	Sharpe Ratio	Tracking Error	Information Ratio	Alpha	Beta	Maximum Drawdown	Up Capture	Down Capture
iShares Emerging Markets ETF	6.82%	-1.20%	19.56%	0.33	1.13%	-1.06	-0.97%	0.98	-26.00%	95.44%	103.19%
MSCI EM Net	8.02%	0.00%	19.97%	0.38	0.00%	0.00	0.00%	1.00	-23.92%	100.00%	100.00%

Calendar Year Return

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
iShares Emerging Markets ETF	-14.98%	36.42%	10.51%	-15.41%	-2.82%	-3.14%	17.32%	-18.87%	15.93%	71.78%
MSCI EM Net	-14.56%	37.28%	11.19%	-14.91%	-2.20%	-2.61%	18.21%	-18.43%	18.88%	78.51%

Manager vs Benchmark: Return

1 year	3 years	5 years	7 years	10 years
-14.98%	8.63%	1.05%	2.61%	6.82%
-14.56%	9.26%	1.65%	3.23%	8.02%

Important Notes About This Report

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. ACTUAL INDIVIDUAL ACCOUNT RESULTS WILL DIFFER FROM THE PERFORMANCE SHOWN IN THIS REPORT.

INVESTMENT DECISIONS: Do not use this report as the sole basis for investment decisions. Do not select an allocation, investment disciplines or investment managers/funds based on performance alone. Consider, in addition to performance results, other relevant information about each investment manager or fund, as well as matters such as your investment objectives, risk tolerance and investment time horizon.

SOURCE OF PERFORMANCE INFORMATION FOR INVESTMENT MANAGERS AVAILABLE IN CONSULTING AND EVALUATION SERVICES, FIDUCIARY SERVICES OR SELECT UMA: Each investment manager included in this report that participates in one or more of the Consulting and Evaluation Services, Fiduciary Services or Select UMA programs ("Programs") has a track record of investing assets in the relevant investment discipline. The investment manager's gross performance track record shown in this report consists of its gross performance in either the Morgan Stanley or the Smith Barney form of the Fiduciary Services program (if that investment manager is in the Fiduciary Services program) for periods for which sufficient data is available. If the strategy or similar strategies are available in both the Morgan Stanley and Smith Barney forms of the program, this profile presents the composite for the strategy that is closest to the strategy currently offered in the Fiduciary Services program. If both strategies are equally close, the profile shows the longer of the two composites. For other periods, the gross performance track record is provided by the investment manager and consists of accounts managed by the investment manager in the same or a similar investment discipline, whether at Morgan Stanley or elsewhere (and may include institutional accounts, retail accounts and/or pooled investment vehicles such as mutual funds).

Important Notes About This Report (Cont'd)

There may be differences between the performance in the different forms of the Fiduciary Services program, in different Programs, and between the performance in Programs and performance outside the Programs, due to, among other things, investment and operational differences. For example:

- Institutional accounts included in related performance may hold more securities than the Program accounts, participate in initial public offerings (IPOs) and invest directly in foreign securities (rather than in ADRs).
- Mutual funds included in related performance may hold more securities than the Program accounts, may participate in IPOs, may engage in options and futures transactions, and are subject to certain regulatory limitations.
- Performance results in Select UMA accounts could differ from that in Fiduciary Services accounts because Select UMA accounts may hold fewer securities, and have automatic rebalancing, wash sale loss and tax harvesting features.

You should read the investment manager profile accompanying this report for each investment manager. The investment manager profile gives further details on the sources of performance information for a particular investment manager, as well as other calculations of the manager's performance returns (such as performance net of fees and expenses).

SOURCE OF PERFORMANCE INFORMATION FOR GLOBAL INVESTMENT SOLUTION STRATEGIES: In the Global Investment Solutions program, dedicated portfolio managers employed by Morgan Stanley or third party subadvisors make day-to-day investment decisions for clients' accounts invested in various investment strategies. The track record shown in this report for Global Investment Solutions strategies consists of the portfolio management team's gross performance in that strategy in the Global Investment Solutions program (or a predecessor program).

SOURCE OF PERFORMANCE INFORMATION FOR OTHER INVESTMENT MANAGERS: For any investment managers shown in this report that are not available in the Consulting and Evaluation Services, Fiduciary Services or Select UMA programs, the performance data is obtained from databases maintained by parties outside Morgan Stanley. This data has been included for your information, and has not been verified by Morgan Stanley in any way. See "Sources of Information" below. The gross performance shown in this report for these managers could differ materially from their gross performance in investment advisory programs offered by firms other than Morgan Stanley. If you have invested with any such manager through another firm, we recommend that you seek information from that firm on the manager's gross and net performance in its programs.

Important Notes About This Report (Cont’d)

SOURCE OF PERFORMANCE INFORMATION FOR FUNDS: For any fund shown in this report, the performance data is obtained from databases maintained by parties outside Morgan Stanley. This data has been included for your information, and has not been verified by Morgan Stanley in any way. See “Sources of Information” below.

BENCHMARK INDICES: Depending on the composition of your account and your investment objectives, the indices shown in this report may not be appropriate measures for comparison purposes and are therefore presented for illustration only. The indices used in this report may not be the same indices used for comparative purposes in the profile for each investment manager, mutual fund and/or ETF that accompanies this report. Indices are unmanaged. They do not reflect any management, custody, transaction or other expenses, and generally assume reinvestment of dividends, accrued income and capital gains. Performance of selected indices may be more or less volatile than that of any investment manager/fund shown in this report. Past performance of indices does not guarantee future results. You cannot invest directly in an index.

MANAGERS AND FUNDS APPROVED IN MORGAN STANLEY WEALTH MANAGEMENT PROGRAMS: Morgan Stanley Wealth Management approves certain managers and funds offered in its investment advisory programs:

- Morgan Stanley Wealth Management's Global Investment Manager Analysis (“GIMA") team approves managers and funds offered in Consulting and Evaluation Services, Fiduciary Services, and Select UMA.
- Managers and funds offered in Institutional Consulting Group and Graystone Consulting programs may be approved by GIMA, approved by Morgan Stanley Wealth Management using another process, or not approved by Morgan Stanley Wealth Management.
- Morgan Stanley Wealth Management does not approve managers in the Investment Management Services consulting program.
- Managers in the Global Investment Solutions (GIS) program are not evaluated by GIMA.

Important Notes About This Report (Cont'd)

If you invest in a manager or fund that is not approved by Morgan Stanley Wealth Management, you are responsible for selecting and/or retaining that manager or fund, and Morgan Stanley Wealth Management does not recommend or monitor that manager or fund. For more information on the approval process in any program, see the applicable ADV brochure, available at www.MorganStanley.com/ADV or from your Financial Advisor or Private Wealth Advisor. If you have any questions about whether or how Morgan Stanley Wealth Management has approved a manager or fund shown in this report, please ask our Financial Advisor or Private Wealth Advisor.

SHARE CLASSES OF FUNDS SHOWN IN THIS REPORT: The share class of a fund shown in this report may differ from the share class available in any Morgan Stanley Wealth Management investment advisory program in which you invest. The performance of the share class in which you invest may differ from that of the share class shown in this report.

REINVESTMENT: The performance results shown in this report assume that all dividends, accrued income and capital gains were reinvested.

SOURCES OF INFORMATION: Although the statements of fact in this report have been obtained from, and are based on, sources that Morgan Stanley believes to be reliable, Morgan Stanley makes no representation as to the accuracy or completeness of the information from sources outside Morgan Stanley. Any such information may be incomplete and you should not use it as the sole basis for investment decisions.

It is important to consider a fund's investment objectives, risks, charges and expenses carefully before investing. The prospectus contains this and other information about the fund. A copy of the prospectus may be obtained from your Financial Advisor or Private Wealth Advisor. Please read the prospectus carefully before investing in the fund.

Important Notes About This Report (Cont’d)

KEY ASSET CLASS RISK CONSIDERATIONS: Investing in securities entails risk including the risk of losing principal. There is no assurance that the investment disciplines and investment managers/funds selected will meet their intended objectives.

Commodities – Diversified: The commodities markets may fluctuate widely based on a variety of factors including changes in supply and demand relationships; governmental programs and policies; national and international political and economic events; war and terrorist events; changes in interest and exchange rates; trading activities in commodities and related contracts; pestilence; weather; technological change; and the price volatility of a commodity. In addition to commodity risk, commodity-linked notes may be subject to special risks, such as risk of loss of interest and principal, lack of a secondary market and risk of greater volatility that do not affect traditional equity and debt securities.

Commodities - Precious Metals: The prices of Commodities - Precious Metals tend to fluctuate widely and in an unpredictable manner, and have historically experienced extended periods of flat or declining prices. The prices of Commodities - Precious Metals are affected by several factors, including global supply and demand, investors' expectations with respect to the rate of inflation, currency exchange rates, interest rates, investment and trading activities of hedge funds and commodity funds, and global or regional political, economic or financial events and situations.

Fixed Income: Fixed income securities are subject to certain inherent risks such as credit risk, reinvestment risk, call risk, and interest rate risk. Fixed income securities are sensitive to changes in prevailing interest rates. When interest rates rise, the value of fixed income securities generally declines. Accordingly, managers or funds that invest in fixed income securities are subject to interest rate risk and portfolio values can decline in value as interest rates rise and an investor can lose principal.

High Yield Fixed Income: As well as being subject to risks relating to fixed income generally (see “Fixed Income”), high yield or "junk" bonds are considered speculative, have significantly higher credit and default risks (including loss of principal), and may be less liquid and more volatile than investment grade bonds. Clients should only invest in high yield strategies if this is consistent with their risk tolerance, and high yield investments should comprise only a limited part of a balanced portfolio.

Important Notes About This Report (Cont'd)

International/Emerging Market: International investing (including investing in particular countries or groups of countries) should be considered only one component of a complete and diversified investment program. Investing in foreign markets may entail greater risks than those normally associated with domestic markets, such as foreign political, currency, economic and market risks. In addition, the securities markets of many emerging markets are substantially smaller, less developed, less liquid and more volatile than the securities markets of the U.S. and other more developed countries. Further, a portfolio that focuses on a single country may be subject to higher volatility than one that is more diversified.

Preferred Securities: Preferred securities are generally subject to the same risks as apply to fixed income securities. (See "Fixed Income.") However, preferred securities (especially equity preferred securities) may rank below traditional forms of debt for the purposes of repayment in the event of bankruptcy. Many preferred securities are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. If a preferred security is called, the investor bears the risk of reinvesting proceeds at a potentially lower return. Investors may not receive regular distributions on preferred securities. For example, dividends on equity preferred securities may only be declarable in the discretion of the issuer's board and may not be cumulative. Similarly, interest payments on certain debt preferred securities may be deferred by the issuer for periods of up to 10 years or more, in which case the investor would still have income tax liability even though payments would not have been received.

Real Estate: Real estate investments are subject to special risks, including interest rate and property value fluctuations as well as risks related to general and local conditions.

Small and Mid Cap: Investments in small-to medium-sized corporations are generally more vulnerable to financial risks and other risks than larger corporations and may involve a higher degree of price volatility than investments in the broad equity market.

Hedged and Alternatives Strategies: In most Consulting Group investment advisory program, alternative investments are limited to US registered open-end mutual funds, separate account strategies, and ETFs that seek to pursue alternative investment strategies or returns utilizing publicly traded securities. Investment products in this category may employ various investment strategies and techniques for both hedging and more speculative purposes such as short selling, leverage, derivatives, and options, which can increase volatility and the risk of investment loss. Alternative Investments are not suitable for all investors.

Important Notes About This Report (Cont'd)

Managed Futures: Involve a high degree of risk, often involve leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, often charge high fees which may offset any trading profits, and in many cases the underlying investments are not transparent and are known only to the investment manager.

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies whose interests (limited partnership or limited liability company units) are generally traded on securities exchanges like shares of common stock. Investment in MLPs entails different risks, including tax risks, than is the case for other types of investments. Currently, most MLPs operate in the energy, natural resources or real estate sectors and are subject to the risks generally applicable to companies in those sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. Depending on the ownership vehicle, MLP interests are subject to varying tax treatment.

Glossary

ALPHA: Synonym of 'value added', linearly similar to the way beta is computed, alpha is the incremental return on a portfolio when the market is stationary. In other words, it is the extra expected return due to non-market factors. This risk-adjusted measurement takes into account both the performance of the market as a whole and the volatility of the portfolio. A positive alpha indicates that a portfolio has produced returns above the expected level at that level of risk, and vice versa for a negative alpha.

ANNUALIZED RETURN: The constant rate of return that, compounded annually, would yield the same overall return for a period of more than one year as the actual return observed for that period.

ANNUALIZED EXCESS RETURN: Excess return represents the difference between the manager's return and the return of a benchmark for that manager. Annualized excess return is calculated by taking the annualized return of the original series and forming the difference between the two. A positive annualized excess return implies that the manager outperformed the benchmark over the time period shown.

BEST AND WORST PERIOD RETURNS: The best period return for a time window is simply the maximum of the returns for that period inside this window. Similarly, the worst period return for a time window is the minimum of the returns for that period inside this window. To calculate the best one-year return for a return series, the program moves a one-year time window along the series and calculates the compound return for each of these windows. The best one-year return is the maximum of the returns thus found. Similarly, the worst one-year return is the minimum of the returns thus found. Therefore, best and worst one-year returns do not refer to calendar years.

BETA: The measure of a portfolio's risk in relation to the market (for example, the S&P 500) or to an alternative benchmark or factors. Roughly speaking, a portfolio with a beta of 1.5 will have moved, on average, 1.5 times the market return. According to asset pricing theory, beta represents the type of risk, systematic risk, which cannot be diversified away. When using beta, there are a number of issues that you need to be aware of: (1) betas may change through time; (2) betas may be different depending on the direction of the market (i.e. betas may be greater for down moves in the market rather than up moves); (3) the estimated beta will be biased if the portfolio does not frequently trade; and (4) the beta is not necessarily a complete measure of risk (you may need multiple betas). Also, note that the beta is a measure of co movement, not volatility. It is possible for a security to have a zero beta and higher volatility than the market.

Glossary (Cont'd)

CORRELATION: Statistical method to measure how closely related the variances of two series are. Assets that are highly correlated would be expected to react in similar ways to changing market conditions.

CUMULATIVE RETURN: The total return on an investment over a specified time period.

CUMULATIVE EXCESS RETURN: Excess return represents the difference between the manager's return and the return of a benchmark for that manager. Cumulative excess return is calculated by taking the cumulative return of the original series and forming the difference between the two. A positive cumulative excess return implies that the manager outperformed the benchmark over the time period shown.

DOWNSIDE CAPTURE RATIO: For each portfolio, this is calculated by (1) identifying the calendar quarters in which the portfolio's benchmark index had negative returns and then (2) for those quarters, dividing the portfolio's annualized net performance by the benchmark index's performance. For investors, the lower the downside capture ratio, the better. For example, a downside capture ratio of 90% means that the portfolio's losses were only 90% of the market's losses (as represented by the benchmark index).

DOWNSIDE DEVIATION: Similar to Standard Deviation, but Downside Deviation captures the range of expected returns only on the down side [when the returns fall below the minimum acceptable return (MAR)].

DRAWDOWN (MAXIMUM DRAWDOWN): The Maximum loss (compounded, not annualized) that the manager incurred during any sub-period of the time period shown.

- DRAWDOWN BEGIN DATE: the first date of the sub-period used to calculate the maximum drawdown
- DRAWDOWN END DATE: The last date of the sub period used to calculate the maximum drawdown
- DRAWDOWN LENGTH: The number of periods (months or quarters depending on the periodicity of the data) the sub-period used to calculate the maximum drawdown
- DRAWDOWN RECOVERY DATE: Date at which the compounded returns regain the peak level that was reached before the drawdown began
- DRAWDOWN RECOVERY LENGTH: Number of periods it takes to reach the recovery level from maximum drawdown end date

Glossary (Cont'd)

EXCESS RETURN: The difference between the returns of two portfolios. Usually excess return is the difference between a portfolio's return and the return of a benchmark for that portfolio.

GAIN TO LOSS RATIO: Divides the average gain in an up period by the average loss in a down period. A higher Gain to Loss Ratio is more favorable.

HIGH WATER MARK: The High Water Mark represents the peak level of the manager's return, as represented by the peak of the cumulative return series.

- HIGH WATER MARK DATE: The date which the High Water Mark was reached.
- UNDER WATER LOSS: Loss incurred between the high water mark date and the end of the period analyzed
- UNDER WATER LENGTH: Length of the time interval that begins with the high water mark and ends with the analysis period
- TO HIGH WATER MARK: The percentage of gain that the manager/fund needs to regain the peak level of the cumulative return series

INFORMATION RATIO: Measures the active return of the manager divided by the manager's active risk. Active return is the annualized differences of the manager and the benchmark index, while active risk is measured by tracking error. The higher the information ratio, the better. An information ratio of 0 implies that a manager/fund (or benchmark index, if applicable) has provided a return that is equivalent to the risk of the benchmark return.

MAR: Stands for "Minimum Acceptable Return." This represents the lowest return possible that could be considered a successful result of the investment. In most cases, the MAR will either be defined as 0 (meaning no negative return) or as the return of a cash benchmark (meaning the investment had a higher return that simply keeping the investment amount in the relatively safe investment of money market funds). Please refer to the specific chart/statistic to see the specific MAR used in the illustration.

Glossary (Cont'd)

MANAGER STYLE (RETURNS BASED STYLE ANALYSIS): A measure for analyzing the style of a portfolio's returns when compared with the quarterly returns on a number of selected style indices (the "Style Basis"). These style indices represent distinct investment styles or asset classes such as large cap value, large cap growth, small cap growth, small cap value, government bonds, or cash equivalents asset classes. Style analysis uses a calculation procedure that finds the combination of selected indices that best tracks (i.e. that has the highest correlation to) a given manager's return series. This allows the advisor to capture an accurate picture of the investment style of the manager without viewing the underlying holdings.

OMEGA: A measure of volatility designed to capture the entire return distribution (useful for investments that do not have normal return distributions), the Omega is tied to a MAR (see above) and shows the ratio of the entire upside performance to the entire downside, with the MAR representing the dividing line between upside and downside. (e.g. If MAR = 0.00%, any positive return is captured in the upside and any negative return is captured in the downside).

PAIN INDEX: Represents the frequency, the depth, and the width of the manager/fund's drawdowns. The Pain Index captures the information for every period in which the manager/fund is negative. A higher Pain Index indicates that the manager/fund had a more negative result when considering not just the depth (lowest return) but also the frequency of negative returns (frequency) and the amount of time that the return remained negative (width).

PAIN RATIO: A risk/return ratio which uses the Pain Index as the measure of risk. The higher the Pain Ratio, the better the risk-adjusted return of the portfolio.

ROLLING WINDOW: Indicates that the chart or statistic was evaluated using periodic smaller windows of data on a rolling basis. As an example, a 20 Quarter Rolling Window (Annual Roll) over a 10 year period indicates that 5 year (20 quarter) periods of time were evaluated from the start date, moving forward one year at a time, for the duration of the 10 year period, resulting in 5 "windows". Evaluating data this way allows us to remove end point bias and determine a measure of consistency in performance.

R-SQUARED: Used to show how much of a portfolio's variability can be accounted for by the market. For example, if a portfolio's R-Squared is 0.79, then 79% of the portfolio's variability is due to market conditions. As R-Squared approaches 100%, the portfolio is more closely correlated with the market.

Glossary (Cont'd)

SHARPE RATIO: Developed by William F. Sharpe, this calculation measures a ratio of return to volatility. It is useful in comparing two portfolios or stocks in terms of risk-adjusted return. The higher the Sharpe Ratio, the better the risk-adjusted return of the portfolio. It is calculated by first subtracting the risk free rate (Citigroup 3-month T-bill) from the return of the portfolio, then dividing by the standard deviation of the portfolio. Using Sharpe ratios to compare and select among investment alternatives can be difficult because the measure of risk (standard deviation) penalizes portfolios for positive upside returns as much as the undesirable downside returns.

SINGLE COMPUTATION: For a single computation chart, StyleADVISOR calculates the information over the entire time period shown as a single data point. AS an example, in a chart showing 10 years of performance, a "Single Computation" would represent the statistic shown over the entire 10 year window.

STANDARD DEVIATION: A statistical measure of the degree to which the performance of a portfolio varies from its average performance during a specified period. The higher the standard deviation, the greater the volatility of the portfolio's performance returns relative to its average return. A portfolio's returns can be expected to fall within plus or minus one standard deviation, relative to its average return, two-thirds of the time, and fall within plus or minus two standard deviations relative to its average return, 95% of the time. For example, if a portfolio had a return of 5% and a standard deviation of 13% then, if future volatility of returns is similar to historical volatility (which may not be the case):

- About two-thirds of the time, the future returns could be expected to fall between -8% and 18% (being 5% +/- 13%)
- About 95% of the time, the future returns could be expected to fall between -21% and 31% (being 5% +/- 26%).

In performance measurement, it is generally assumed that a larger standard deviation means that great risk was taken to achieve the return.

Glossary (Cont'd)

STYLE BASIS: A set of indices that represent the broad asset category being utilized. The Style Basis is used in the equation that calculates the Manager Style (see definition). The "Manager Style" chart shows the specific benchmarks utilized in the Style Basis. The following Style Bases would be appropriate for the asset classes shown below:

- Domestic Equity: Russell Generic Corners; Russell 6 Way Style basis; S&P Pure Style Basis
- International Equity: MSCI Regional Style Basis; MSCI World Ex USA Style Basis; MSCI International Equity Style Basis; S&P Regional International Indexes, S&P International 4 Way Style Basis
- Global Equity: MSCI World Style Basis; MSCI World Regional Indexes; MSCI Global Equity Style Basis
- Fixed income: Citigroup Corporate Bond Indexes; BofA Merrill Lynch Fixed Income Indexes; Citigroup Govt Fixed Income Indexes; Global Bond Indexes

STYLE BENCHMARK: A unique benchmark calculated for each manager/fund based on the Returns Based Style Analysis described above. The "Asset Allocation" chart in Zephyr shows the specific weightings used for the Style Benchmark for each manager or fund.

TRACKING ERROR: A measurement that indicates the standard deviation of the difference between a selected market index and a portfolio's returns. The portfolio's returns are then compared to the index's returns to determine the amount of excess return, which produces a tracking error. A low tracking error indicates that the portfolio is tracking the selected index closely or has roughly the same returns as the index.

UPSIDE CAPTURE RATIO: For each portfolio, this is calculated by (1) identifying the calendar quarters in which the portfolio's benchmark index had positive returns and then (2) for those quarters, dividing the portfolio's annualized net performance by the benchmark index's performance. A percentage less than 100% indicates that the portfolio "captured" less performance than the benchmark index, while a percentage greater than 100% indicates the portfolio captured more performance than the benchmark index. For investors, the higher the upside capture ratio, the better. For example, if the annualized performance of an benchmark index during "up" markets (when its returns were zero or positive) is 20.8% and the portfolio's annualized performance during the same period is 16.8%, then the portfolio's upside capture ratio is 16.8%/20.8% = 80.7%, meaning the portfolio "captured" 80.7% of the upside performance of the index. Stated another way, the portfolio in this example performed almost 20% worse than the market during up periods.

VARIANCE: A measure of how spread out a distribution is. It is computed as the average squared deviation of each number from its mean.

Private Programs Investment Report

Cal Poly Pomona Foundation

All Accounts

October 1, 2018 - December 31, 2018

commonfund

All Accounts

ACCOUNT SUMMARY AS OF 12/31/2018

	Vintage Year	Capital Committed	Capital Called	Remaining Capital to be Called	Capital Distributions	Capital Balance	Multiple	IRR	Value Date
General Fund - 06									
Commonfund Real Estate									
Realty Investors 2004-12 (Tranche)	2005	$1,500,000	$1,500,000	$0	($283,096)		0.2	-26.2%	
Total Commonfund Real Estate		**$1,500,000**	**$1,500,000**	**$0**	**($283,096)**		**0.2**	**-26.2%**	
US Private Equity									
Private Equity Partners VII	2007	$750,000	$687,750	$62,250	($873,094)	$521,631	1.9	13.8%	9/30/2018
Total US Private Equity		**$750,000**	**$687,750**	**$62,250**	**($873,094)**	**$521,631**	**1.9**	**13.8%**	**9/30/2018**
Multi-Asset									
Capital Partners IV	2007	$250,000	$232,500	$17,500	($259,978)	$158,792	1.8	10.3%	9/30/2018
Total Multi-Asset		**$250,000**	**$232,500**	**$17,500**	**($259,978)**	**$158,792**	**1.8**	**10.3%**	**9/30/2018**
Total General Fund - 06		**$2,500,000**	**$2,420,250**	**$79,750**	**($1,416,168)**	**$680,423**	**0.8**	**-2.2%**	**9/30/2018**
Grand Total		**$2,500,000**	**$2,420,250**	**$79,750**	**($1,416,168)**	**$680,423**	**0.8**	**-2.2%**	**9/30/2018**

- Performance data is net of all fees and carried interest. Transaction flows and capital for these funds are included in the appropriate totals.
- Net Multiple is total value to invested capital net of the general partner's carried interest = (Distribution + Ending Capital Balance)/Capital Drawdown).
- Net annualized Internal Rate of Return (IRR) since inception through value date. IRR represents an annualized "dollar-weighted" rate of return on an investment. IRR calculation takes into account the cost of the investment, its current value and any intermediate cash inflows and outflows that occur over time. IRR since inception is the standard for the calculation methodology of performance in private capital, rather than time-weighted (i.e., annual or other period rate of return) basis, which is used principally to report performance of publicly-traded securities.
- Capital Called and Capital Distributions are since inception through the report End Date.

NON-MARKETABLE INVESTMENTS ROLL FORWARD FROM VALUE DATE TO 12/31/2018

Non-Marketable Fund	Incep. Date	Commitment	Valuation Date	Most Recent Valuation	Capital Calls since Valuation Date	Distributions since Valuation Date	Adjusted Market Value
Private Equity Partners VII	9/30/2007	$750,000.00	9/30/2018	$521,631.00	$0.00	($60,119.00)	$461,512.00
Capital Partners IV	9/30/2007	$250,000.00	9/30/2018	$158,792.00	$625.00	($7,340.00)	$152,077.00
Total Core Funds		**$1,000,000.00**		**$680,423.00**	**$625.00**	**($67,459.00)**	**$613,589.00**

Fund performance is depicted net of fees. Manager and strategy performance is net of sub-advisor management fees and gross of other Commonfund Fund expenses. Past performance is no assurance of future returns.

All Accounts

NON-MARKETABLE INVESTMENTS ROLL FORWARD FROM VALUE DATE TO 12/31/2018

Non-Marketable Fund	Incep. Date	Commitment	Valuation Date	Most Recent Valuation	Capital Calls since Valuation Date	Distributions since Valuation Date	Adjusted Market Value
Non-Marketable Total		**$1,000,000.00**		**$680,423.00**	**$625.00**	**($67,459.00)**	**$613,589.00**

Fund performance is depicted net of fees. Manager and strategy performance is net of sub-advisor management fees and gross of other Commonfund Fund expenses. Past performance is no assurance of future returns.

All Accounts

TRANSACTIONS (10/1/2018 - 12/31/2018)

Fund Name	Transaction Date	Trade Shares	Trade Amount (USD)	Transaction Type
Capital Partners IV	12/27/2018	0.000	$625.00	Capital Call
Capital Partners IV	12/27/2018	0.000	($7,340.00)	Distribution
Private Equity Partners VII	10/22/2018	0.000	($19,631.00)	Distribution
Private Equity Partners VII	12/26/2018	0.000	($18,404.00)	Distribution
Private Equity Partners VII	12/31/2018	0.000	($22,084.00)	Distribution

Fund performance is depicted net of fees. Manager and strategy performance is net of sub-advisor management fees and gross of other Commonfund Fund expenses. Past performance is no assurance of future returns.

All Accounts

PERFORMANCE AS OF 12/31/2018

Performance Item	MTD	QTD	FYTD	1 Year	3 Years	5 Years	10 Years
Private Equity Partners VII	0.00	4.25	12.89	25.34	19.13	19.11	11.98
US Private Equity	0.00	4.25	12.89	25.34	19.13	19.11	11.98
Capital Partners IV	0.00	4.10	9.73	20.31	13.83	13.42	9.13
Multi-Asset	0.00	4.10	9.73	20.31	13.83	13.42	9.13
Total Non-Marketable	0.00	4.21	12.15	24.16	17.86	17.66	-0.99
Total Portfolio	0.00	4.21	12.15	24.16	17.86	17.98	4.36

Performance returns in open-end investment products include closed account history in group composites, if applicable. Performance is calculated monthly. Therefore, returns for any investments in any fund for less than a full month are not included in these performance figures.

Investments in Programs for closed-end investment products are carried as of the most recent valuation date, which may not correspond to the marketable securities valuation dates. Distressed Debt programs are reported with a one quarter lag. For example, if the report 'As of' date is 9/30/YY then Distressed Debt programs are represented using 6/30/YY, or previous quarter values. Private Capital programs are reported with a one quarter lag. For example, if the report 'As of' date is 9/30/YY then Private Capital and Real Estate programs are represented using 6/30/YY, or previous quarter values. Private Investment returns are normally reported as an Internal Rate of Return (IRR). All other Commonfund investment returns are reported as Time Weighted Rates of Return (TWR). For Consolidated Performance reporting purposes, TWRs are used for all individual and composite returns.

Fund performance is depicted net of fees. Manager and strategy performance is net of sub-advisor management fees and gross of other Commonfund Fund expenses. Past performance is no assurance of future returns.

Composite Benchmarks | MSE Funds Composite Benchmark
The MSE Funds Composite Benchmark is calculated using the following components' weights: for time periods after April 1, 2017, S&P 500 (85%) and MSCI All Country World Index excluding the U.S. Net (15%); and for time periods prior to April 1, 2017, S&P 500 (75%), MSCI All Country World Index excluding the U.S. Net (15%), and HFRI Fund of Funds Composite Index (10%). Effective April 1, 2017 the MSE Funds Composite Benchmark is calculated using the following components' weights: S&P 500 (85%) and MSCI All Country World Index excluding the U.S. Net (15%). Prior to April 1, 2017, the MSE Funds Composite Benchmark component weights consisted of S&P 500 (75%), MSCI All Country World Index excluding the U.S. Net (15%), and HFRI Fund of Funds Composite Index
(10%). The monthly return used for the HFRI Composite FOF Index, a component of the MSE Funds Composite Benchmark, is the Flash Update return that is published by HFRI by the 5th business day of the following month. HFRI reserves the right to adjust the monthly return of the HFRI index up to four months after the month end performance date. Monthly returns for the MSE Funds Composite Benchmark may be retroactively restated based on later adjustments to the HFRI index.

Composite Benchmarks | Global Multi-Asset Portfolio (GMAP) Composite Benchmark
The GMAP Composite Benchmark consists of the following components: MSCI ACWI Total Return Index (50.0%), Bloomberg Barclays Aggregate Total Return Index (20.0%), HFRI FOF Conservative Index (17.5%), MSCI U.S. REIT Total Return Index (5.0%), Bloomberg Commodities Total Return Index (5.0%) and S&P Global Natural Resources Total Return Index (2.5%).

Commonly Used Indices
HFRI Monthly Indices ("HFRI"): Most HFRI are equally weighted performance indices, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into four main strategies, each with multiple sub-strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2000 funds listed on the internal HFR Database. Funds included in the HFRI Monthly Indices must: report monthly returns; report net of all fees returns; report assets in U.S. dollars; and, have at least $50 million under management or have been actively trading for at least twelve months. Funds are eligible for inclusion in the HFRI the month after their addition to HFR Database. If a fund in an index liquidates or closes, that fund's performance will be included in the HFRI up to the fund's last reported performance update. Fund of Funds are not included in the HFRI Fund Weighted Composite Index. Both domestic and offshore funds are included in the HFRI. In cases where a manager lists mirrored-performance funds, only the fund with the larger asset size is included in the HFRI. FX-hedged versions of HFRI Indices are calculated by applying to the USD index value the cost of a rolling monthly foreign exchange contract on the relevant currency. The HFRI are updated three times a month. The current month and the prior three months are left as estimates and are subject to change. All performance prior to that is locked and is no longer subject to change. Due to contractual obligations, Comanco does not disclose the particular funds behind any index. See https://www.hedgefundresearch.com/hfri-index-methodology.

MSCI EAFE Index (Europe, Australasia, Far East): is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. & Canada. The MSCI EAFE Index consists of the following 21 developed market country indexes: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. (List as of January 2016.)

MSCI US REIT Index: is a free float-adjusted market capitalization weighted index that is comprised of Equity REIT securities. The MSCI US REIT Index includes securities with exposure to core real estate (e.g., residential and retail properties) as well as securities with exposure to other types of real estate (e.g., casinos, theaters).

MSCI ACWI Index: is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 46 country indexes comprising 23 developed and 23 emerging market country indexes. The developed market country indexes included are as follows: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the U.S. The emerging market country indexes included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates. (List as of January 2016.)

CS Leveraged Loan Index: is an index designed to mirror the investable universe of the U.S. dollar denominated leveraged loan market. The index inception is January 1992. The index frequency is monthly. New loans are added to the index on their effective date if they qualify according to the following criteria: loans must be rated "5B" or lower; only fully-funded term loans are included; the tenor must be at least one year; and the Issuers must be domiciled in developed countries (i.e., issuers from developing countries are excluded). Fallen angels are added to the index subject to the new loan criteria. Loans are removed from the index when they are upgraded to investment grade, or when they exit the market (for example, at maturity, refinancing or bankruptcy workout). Note that issuers remain in the index following default. Total return of the index is the sum of three components: principal, interest, and reinvestment return. The cumulative return assumes that coupon payments are reinvested into the index at the beginning of each period.

MSCI ACWI ex USA net Index: captures large and mid-cap representation across 22 of 23 developed markets countries – excluding the U.S. With 1,003 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Emerging Markets Index: is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consists of the following 23 emerging market country indexes: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates. (List as of January 2016.)
Dow Jones U.S. Select Real Estate Securities Index ("RESI"): represents equity real estate investment trusts ("REITs") and real estate operating companies traded in the U.S. The Dow Jones U.S. Select REIT Index is a subset of the Dow Jones Americas Select RESISM and includes only REITs and REIT-like securities.

S&P Global Natural Resources Index: includes 90 of the largest publicly-traded companies in natural resources and commodities businesses that meet specific investability requirements, offering investors diversified and investable equity exposure across three primary commodity-related sectors: agribusiness, energy, and metals & mining.

Bloomberg Commodity Index ("BCOM") is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule.

Bloomberg Barclays Capital U.S. Aggregate Bond Index: measures the performance of the U.S. investment grade bond market. The index invests in a wide spectrum of public, investment-grade, taxable, fixed income securities in the U.S. – including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities, all with maturities of more than 1 year.

Barclays Capital U.S. Treasury Inflation Protected Securities ("TIPS"): Index includes all publicly issued, U.S. Treasury inflation-protected securities that have at least one year remaining to maturity, are rated investment grade and have $250 million or more of outstanding face value.

Citigroup World Government Bond Index ("WGBI"): measures the performance of fixed-rate, local currency, investment grade sovereign bonds. The WGBI is a widely used benchmark that currently comprises sovereign debt from over twenty countries, denominated in a variety of currencies, and has more than twenty-five years of history available. The WGBI provides a broad benchmark for the global sovereign fixed income market. Sub-indices are available in any combination of currency, maturity, or rating.

BofA Merrill Lynch 1-3 US Year Treasury Index: is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than three years. It is not possible to invest directly in an unmanaged index. BOFA Merrill Lynch is licensing the BOFA Merrill Lynch Indices "As Is," makes no warranties regarding same, does not guarantee the suitability, quality, accuracy, timeliness, and/or completeness of the BOFA Merrill Lynch Indices or any data included in, related to, or derived therefrom, assumes no liability in connection with their use, and does not sponsor, endorse, or recommend Commonfund, or any of its products or services.

S&P 500 Index: is a widely recognized gauge of the U.S. equities market. This index is an unmanaged capitalization-weighted index consisting of 500 of the largest capitalization U.S. common stocks. The returns of the S&P 500 include the reinvestment of dividends.

Russell 2000 Index: measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000 Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2000 is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set.

Russell 3000 Index: measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market. The Russell 3000 Index is constructed to provide a comprehensive, unbiased and stable barometer of the broad market and is completely reconstituted annually to ensure new and growing equities are reflected.

NCREIF ODCE: The NFI-ODCE, short for NCREIF Fund Index - Open End Diversified Core Equity, is the first of the NCREIF Fund Database products and is an index of investment returns reporting on both a historical and current basis the results of 36 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted. NCREIF will calculate the overall aggregated Index return.

GENERALLY

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MARKET COMMENTARY

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Fund performance is depicted net of fees. Manager and strategy performance is net of sub-advisor management fees and gross of other Commonfund Fund expenses. Past performance is no assurance of future returns.

HYPOTHETICAL PORTFOLIOS AND HYPOTHETICAL RESULTS | GENERALLY

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Benchmarks and financial indices are shown for illustrative purposes only. They provide general market data that serves as point of reference to compare the performance of Investment Product's with the performance of other securities that make up a particular market. Such benchmark and indices are not available for direct investment and their performance does not reflect the expenses associated with the management of an actual portfolio, the actual cost of investing in the instruments that comprise it or other fees. An Investment Product's investment objective is not restricted to the securities and instruments comprising any one index. No representation is made that any benchmark or index is an appropriate measure for comparison. For a list of commonly used indices, please visit www.commonfund.org/important-disclosures. This list may not represent all available indices or those indices used in this material.

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SURVEY RANKINGS

The Commonfund rankings cited are from Market Strategies International. Cogent Reports™. US Institutional Investor Brandscape: February 2018 and are based on respondents' answers to questions in which they were asked to rank 55 asset managers on various brand attributes. The results were reported by Cogent based on four groups of respondents: Pension <$500M, Pension $500M+, Non-Profit <$500M, Non-Profit $500+. The survey was fielded online October 13, 2017 to November 28, 2017 and 371 investors with $100 million or more in institutional investable assets participated in the survey. Survey participants were required to play a direct role in the evaluation and selection of investments or asset managers within their organization. In determining the sampling frame for this study, Cogent indicated that it relied upon Standard & Poor's Money Market Directories (MMD) database of institutional investors. MMD supplied Cogent with a list of contacts at pensions and non-profits with a minimum of $100 million in investable assets. Cogent further reported that, to ensure the population for this research was representative of the universe of institutional investors, strict quotas were established by Cogent based upon a nested classification of institutional investor by category and size of assets. It also represented that data were weighted to be representative of the distribution of institutions by asset size and category according to the most recent MMD data. The data have a margin of error of +5.0% at the 95% confidence level.

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Asset allocations may not equal 100% due to rounding.

Past performance is not indicative of future results. An investor may lose all or a substantial portion of their investment in an Investment Product.

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CAL POLY POMONA FOUNDATION, INC.
INVESTMENT SUMMARY AS OF DECEMBER 31, 2018

Asset Class	Policy Range Minimum	Policy Range Maximum	Policy Target	Portfolio Allocation	Total Portfolio Amount	Graystone Target Portfolio Allocation	Graystone Portfolio Amount	Common Fund Portfolio Amount	Foundation Portfolio Amount
Equities									
Domestic & Int'l (Dev & Emerging)	10%	65%	27%	24%	15,965,776	27.00%	15,965,776		
Fixed Income	40%	85%	65%	72%	47,996,336	72.00%	47,996,336		
Cash Equivalents	0%	20%	0%	0%	-				
Real Assets	0%	10%	0%	0%	-				
Real Estate	0%	10%	0%	0%	-				
Alternative Investments	0%	25%	8%	4%					
C/F Private Equity & Capital Partners					613,589			613,589	
Innovation Way Infrastructure					789,088				789,088
Hamilton Lane-Private Equity					1,082,095	1%	1,082,095		-
			100%	100%	66,446,884	100%	65,044,207	613,589	789,088

Memorandum

Cal Poly Pomona Foundation

"Quality Service Supporting Quality Education"

Date: January 30, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: David F. Prenovost,
Senior Managing Director/Chief Financial Officer

Subject: **Transfer-By-Gift of Specified Donor-Funded Assets**

Background

As you may know, we have been working with Dan Montplaisir, Vice President for the Division of Advancement and his staff including our legal counsel, CPA's and consultants to transfer-by-gift, certain restricted assets of the Cal Poly Pomona Foundation to the Cal Poly Pomona Philanthropic Foundation.

The significant value and unusual nature of this transaction will require external and internal campus approvals, including authorization by the Board.

Analysis

The restricted assets include the endowments, scholarships and program net assets with an estimated total value of approximately $135 million, the majority consisting of investments along with pledge receivables and fixed assets.

Attachment A is pro-forma financial statements reflect the balance sheet and statement of activities for each of these auxiliaries at December 31, 2018.

Working with Robert Griffin, our consultant, we have developed an Asset Transfer Process Outline (Attachment B) as the guide to the authorizations and sequencing required to complete the transfer process.

Recommendation

A major prefatory action by the Board to move the transfer process along is the adoption of a resolution describing the specific conditions precedent to and delegated authority for final transfer action.

Foundation Management recommends the Members of the Investment Committee forward the Attachment C "Resolution to the Board of Directors at their next regularly scheduled meeting for their review, consideration and adoption authorizing the Transfer-By-Gift of Specified Donor-Funded Assets to the Cal Poly Pomona Philanthropic Foundation."

PROPOSED ACTION:
The following resolution is recommended for approval:

RESOLVED, that the Members of the Investment Committee approve forwarding the Attachment C "Resolution to the Board of Directors at their next regularly scheduled meeting for their review, consideration and adoption authorizing the Transfer-By-Gift of Specified Donor-Funded Assets to the Cal Poly Pomona Philanthropic Foundation."

PASSED AND ADOPTED THIS 13th DAY OF FEBRUARY 2019.

Thomas W Goff

Tom Goff, Chair
Investment Committee

CAL POLY POMONA FOUNDATION, INC.

Unaudited Schedule of Net Position - Proforma

December 31, 2018

Assets:		CPPF	CPP-PF	Total
Cash and cash equivalents	$	2,461,132	8,800	2,469,932
Short-term investments		72,072,046	1,651,660	73,723,706
Endowment investments		—	88,340,684	88,340,684
Accounts receivable, net		6,479,570	4,797,538	11,277,108
Inventories		3,540,361	70,917	3,611,278
Assets held for sale		660,000	—	660,000
Prepaid expenses and other assets		521,127	40	521,167
Due to/(from)		(36,481,855)	36,481,855	—
Capital assets, net		40,566,209	4,543,812	45,110,021
Total assets		89,818,590	135,895,306	225,713,896
Deferred outflows of resources:				
Unamortized loss on debt refunding		331,050	—	331,050
Net pension obligation		4,913,557	—	4,913,557
Net OPEB Obligation		3,325,170	—	3,325,170
Total deferred outflows of resources		8,569,777	—	8,569,777
Liabilities:				
Accounts payable		2,537,326	32,105	2,569,431
Accrued liabilities		4,110,996	251,475	4,362,471
Unearned revenue		1,273,342	30,425	1,303,767
Capitalized lease obligations		23,600,232	—	23,600,232
Line of credit		7,000,000	—	7,000,000
Other liabilities		3,596,288	931,365	4,527,653
Pension obligation		9,589,146	—	9,589,146
Net OPEB Liability		6,529,718	—	6,529,718
Unitrust liability		—	814,084	814,084
Total liabilities		58,237,048	2,059,454	60,296,502
Deferred inflows of resources:				
Net pension obligation		911,035	—	911,035
Unamortized gain on debt refunding		59,700	—	59,700
Split interest agreements		—	170,200	170,200
Net OPEB Obligation		2,190,313	—	2,190,313
Total deferred inflows of resources		3,161,048	170,200	3,331,248
Net Position:				
Net investment in capital assets		17,297,027	4,543,812	21,840,839
Restricted for:				
Nonexpendable – endowments		—	82,914,187	82,914,187
Expendable:				
Scholarships and fellowships		—	5,340,313	5,340,313
Capital projects		—	4,292,388	4,292,388
Endowments		—	5,420,161	5,420,161
Programs		—	31,154,791	31,154,791
Unrestricted		19,693,240	—	19,693,240
Total net position	$	36,990,267	133,665,652	170,655,919

CAL POLY POMONA FOUNDATION, INC.

Unaudited Schedule of Revenues, Expenses, and Changes in Net Position - Proforma

For the Period Ended December 31, 2018

Revenues:	CPPF	CPP-PF	Total
Operating revenues:			
Educational activities	2,314,156	6,350,099	8,664,255
Enterprise activities	24,503,837	—	24,503,837
Gifts, noncapital	—	2,829,132	2,829,132
Grants and contracts	7,605,630	—	7,605,630
Real estate activities	5,469,275	—	5,469,275
Total operating revenues	39,892,898	9,179,231	49,072,129
Expenses:			
Operating expenses:			
Educational activities	2,133,085	11,068,274	13,201,359
Enterprise activities	19,610,283	—	19,610,283
Grants and contract	7,605,630	—	7,605,630
Administrative and real estate activities	5,770,604	—	5,770,604
Depreciation and amortization	1,634,182	61,424	1,695,606
Total operating expenses	36,753,784	11,129,698	47,883,482
Operating income	3,139,114	(1,950,467)	1,188,647
Nonoperating revenues (expenses):			
Investment income (loss), net	(2,043,423)	185,955	(1,857,468)
Endowment income (loss), net	—	(7,597,128)	(7,597,128)
Interest expense	(576,321)	(1,952)	(578,273)
Other nonoperating revenues (expenses)	(46,754)	(224,158)	(270,912)
Net nonoperating revenues (expenses)	(2,666,498)	(7,637,283)	(10,303,781)
Income (loss) before other additions	472,616	(9,587,750)	(9,115,134)
Net position:			
Net position at beginning of year, as previously reported	36,517,651	143,253,402	179,771,053
Cumulative effect of change in accounting principle	—	—	—
Net position at beginning of year, after cumulative effect	36,517,651	143,253,402	179,771,053
Net position at end of year	36,990,267	$ 133,665,652	170,655,919

Attachment B

ROBERT E. GRIFFIN

POST OFFICE BOX 345 ▫ SAN LUIS OBISPO, CALIFORNIA 93406-0345
TELEPHONE: 805-801-7292
EMAIL: GRIFR@aol.com

SUBJECT: Assets Transfer Process Outline

Once the newly established auxiliary organization is fully qualified to succeed to and accept the donor-funded assets – that is:

- A California nonprofit public benefit corporation;
- A tax-exempt organization (in proper classification) as determined by the IRS;
- A California charitable organization, registered with the Charitable Trust Section;
- An auxiliary organization in good standing with the CSU, with an appropriate Operating Agreement authorizing the auxiliary to perform functions related to the development and use of donor-funded assets;
- Liability insurance coverage consistent with CSU requirements, confirmed by an appropriate certificate of insurance; and
- A party to an appropriate business services agreement to account for and administer the assets to be Transferred --

the following typical due diligence process should be followed to complete the gift-by-transfer (*Asset Transfer*) of donor-funded assets:

1. A complete *Asset Transfer* Inventory should be undertaken to accurately document and profile the donor-funded assets to be Transferred. The *Inventory* document should identify each fund/account by title, account number, type of asset, major donor(s)if known, purpose/restrictions, current balance/value. If pledges are involved, they should be separately identified and profiled.

2. Designated staff of both entities and the University should review the completed *Asset Transfer* Inventory

document, research, where feasible, any discrepancies or missing information, agree upon its accuracy, and recommend to management that the Transfer process continue. This effort may require the involvement of both advancement and the independent audit firm.

3. The transferor auxiliary organization should seek written confirmation from the University President of their approval of the intended *Asset Transfer* of donor-funded assets specified in the Inventory document to the transferee auxiliary organization using the due diligence process.

4. The transferor auxiliary organization should, upon receiving the confirmation approval from the University President, seek and receive a certified copy of the acceptance resolution adopted by the transferee organization board, then file a written notice (in proper form and content) with the Attorney General, Charitable Trusts Section, regarding the intended *Asset Transfer* of donor-funded assets. The notice-letter should typically be supported by the following documents –

- A statement by legal counsel or a director explaining the reason for and terms of the intended Transfer;
- A copy of the *Asset Transfer* resolution of the to be used by the Board of Directors of the transferor organization authorizing the Transfer;
- A copy of the *Assets Transfer* Inventory;
- A copy of the transferor organization’s Articles of Incorporation and Bylaws;
- A copy of the transferee organization’s Articles of Incorporation and Bylaws;
- A copy of the transferor organization’s most recent audited financial statements and IRS Form 990; and
- A copy of the University President’s Approval of the Transfer –

Then await letter response from AG.

5. The Board of Directors of the transferor organization should adopt a detailed resolution authorizing the specified donor-funded assets to be transferred to the

transferee organization, together with the process to complete the *Asset Transfer*.

6. The transferee organization should adopt a detailed resolution accepting the specified assets to be Transferred under the prescribed Transfer process.

7. The transferor organization officer(s) should execute a *Certificate of Compliance and Approval* (in proper form), and deliver the *Certificate* (with the *Asset Inventory* annexed thereto) to the transferee organization Secretary.

8. Both entities and the University should then coordinate the actual Transfer of the specified assets and set-up of appropriate accounts, and investment management relationships.

9. The transferee organization should notify the AG Charitable Trusts Section that it has received the donor-funded assets as charitable funds.

10. With respect to pledges and other Transferred donor-funded assets that may fall within the donor's charitable deduction carryover period, the transferee organization should send a written notice that the transferee organization is the successor-donee to their donation/pledge.

11. The transferor organization should complete Part II of Schedule N on the next IRS Form 990 to disclose the disposition of a significant portion of its net assets through the *Asset Transfer*.

12. The transferee organization, through the University, should notify the Chancellor's Office that the Transfer of the specified donor-funded assets has been completed, together with a brief description of the process used.

Attachment C

A RESOLUTION OF
THE BOARD OF DIRECTORS OF THE CAL POLY POMONA FOUNDATION AUTHORIZING THE TRANSFER-BY-GIFT OF SPECIFIED DONOR-FUNDED ASSETS TO THE CAL POLY POMONA PHILANTHROPIC FOUNDATION

WHEREAS, the University President has initiated a plan to restructure auxiliary services supportive of the University's mission; and

WHEREAS, a critical component of the plan establishes a separate auxiliary organization to manage functions related to the development and use of non-state funded resources, including endowment and scholarship funds; and

WHEREAS, the Cal Poly Pomona Foundation supports the President's restructuring plan and intends to transfer-by-gift (transfer) specified donor-funded assets to the Cal Poly Pomona Philanthropic Foundation; and

WHEREAS, the Cal Poly Pomona Philanthropic Foundation has attained corporation status, and has applied to the U.S. Internal Revenue Service and the California Franchise Tax Board to be exempt from corporate tax; and

WHEREAS, the Cal Poly Pomona Philanthropic Foundation is in the process of registering with the California Registry of Charitable Trusts as a charitable organization, and has received conditional approval by the California State University to form as an auxiliary organization in good standing; and

WHEREAS, the Cal Poly Pomona Philanthropic Foundation shall enter into an Operating Agreement with the University and the CSU Trustees authorizing the Cal Poly Pomona Philanthropic Foundation to perform functions related to the development and use of donor-funded assets; and

WHEREAS, as a result of an independent review of the inventoried assets to be transferred, the Cal Poly Pomona Foundation Board of Directors, in keeping with its fiduciary duty over such assets, seeks to engage a due diligent process to complete said transfer from Cal Poly Pomona Foundation to the Cal Poly Pomona Philanthropic Foundation;

NOW, THEREFORE, THE CAL POLY POMONA FOUNDATION BOARD OF DIRECTORS RESOLVES TO AUTHORIZE THE FOLLOWING STEPS TO EFFECT THE ASSETS TRANSFER:

1. The Senior Managing Director/Chief Financial Officer, with University President confirmation of transfer approval in hand, shall seek and receive an appropriate acceptance resolution from the Board of the transferee organization,

and then is authorized to file a written notice with the California Attorney General's Charitable Trust Section of the reason and intent of the Cal Poly Pomona Foundation to convey the specified donor-funded assets, reviewed by the Board at its February 26, 2019 Meeting, by transfer without consideration, to the Cal Poly Pomona Philanthropic Foundation, to be held and administered by the Cal Poly Pomona Philanthropic Foundation consistent with the intentions of the respective donors. Absent objection by, or the receipt of a written waiver from the Charitable Trusts Section, the Senior Managing Director/Chief Financial Officer shall proceed with the next action step.

2. The Senior Managing Director/Chief Financial Officer is directed to seek formal confirmation from the University President that the specified donor-funded assets now held by Cal Poly Pomona Foundation are to be transferred to the Cal Poly Pomona Philanthropic Foundation, upon adoption of an acceptance resolution by the Board of Directors of the Cal Poly Pomona Philanthropic Foundation. Upon receipt of a written confirmation from the University President, the Chair and Secretary of Cal Poly Pomona Foundation shall proceed with the next action step.

3. The Chair and Secretary of the Cal Poly Pomona Foundation are authorized to execute a *Certificate of Compliance and Approval*: (a) conveying the annexed donor-funded assets; (b) representing that the Cal Poly Pomona Foundation Board of Directors and the University President have approved the transfer; (c) stating that contingent upon approval of the required notice to the Attorney General has been given because the assets transfer is all of the donor-funded assets of the corporation and that the transfer is not in the usual and regular course of the business of the corporation. Upon delivery of said *Certificate* to the Cal Poly Pomona Foundation Secretary, the Officers and Senior Managing Director/Chief Financial Officer shall proceed with the next action step.

4. Upon receipt from the Cal Poly Pomona Philanthropic Foundation of the following documents, Resolve 5 shall be promptly undertaken:

- a). Certified copy of acceptance resolution;
- b). Copy of IRS favorable tax-exemption determination letter;
- c). Copy of registration confirmation from California Charitable Trusts Section;
- d). Copy of Chancellor letter granting final approval as auxiliary organization in good standing;
- e). Copy of fully executed Operating Agreement and evidence of liability insurance coverage; and
- f). Fully executed business services agreement between the parties.

5. The Officers and Senior Managing Director/Chief Financial Officer, as appropriate, shall cooperate in taking those necessary administrative timely steps required to complete the transfer(s) and, where appropriate, notify donors and pledgers of the transfer. It is contemplated that the transfer(s) may be phased,

first with the endowment and scholarship funds, then with the restricted program funds.

Adopted by the Board of Directors at its meeting of February 26, 2019.

Lea Dopson, Secretary

Memorandum

Cal Poly Pomona Foundation

Date: January 22, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: David F. Prenovost
Senior Managing Director/CFO

Subject: ENDOWMENT EARNINGS DISTRIBUTION 2018-19

Per the Administration of Program, Scholarship and Endowment Funds Policy #133, an annual distribution equal to 4% of the endowment average value will be made, provided there are earnings available for distribution. The effective rate equals the amount distributed divided by the market value on December 31st. Some endowments may have terms and conditions that take precedence over this policy.

As of December 31, 2018, excluding the Kellogg Legacy Endowment and the Osher Scholarship Endowment, the total endowment corpus is $42,474,460 and undistributed earnings is $2,129,653, of which the scholarships have $851,274 of undistributed earnings and the operating endowments have $1,278,379 of undistributed earnings,.

Upon review of the endowment portfolio and the values of the undistributed earnings at December 31, 2018, Foundation management is proposing an endowment distribution of $1,564,542 or 3.51%, comprised of the lessor of the effective rate of 4.17% of the endowment value (corpus plus undistributed earnings) or the undistributed earnings value as of December 31, 2018, subject to any endowment terms and conditions that would take precedence as follows:

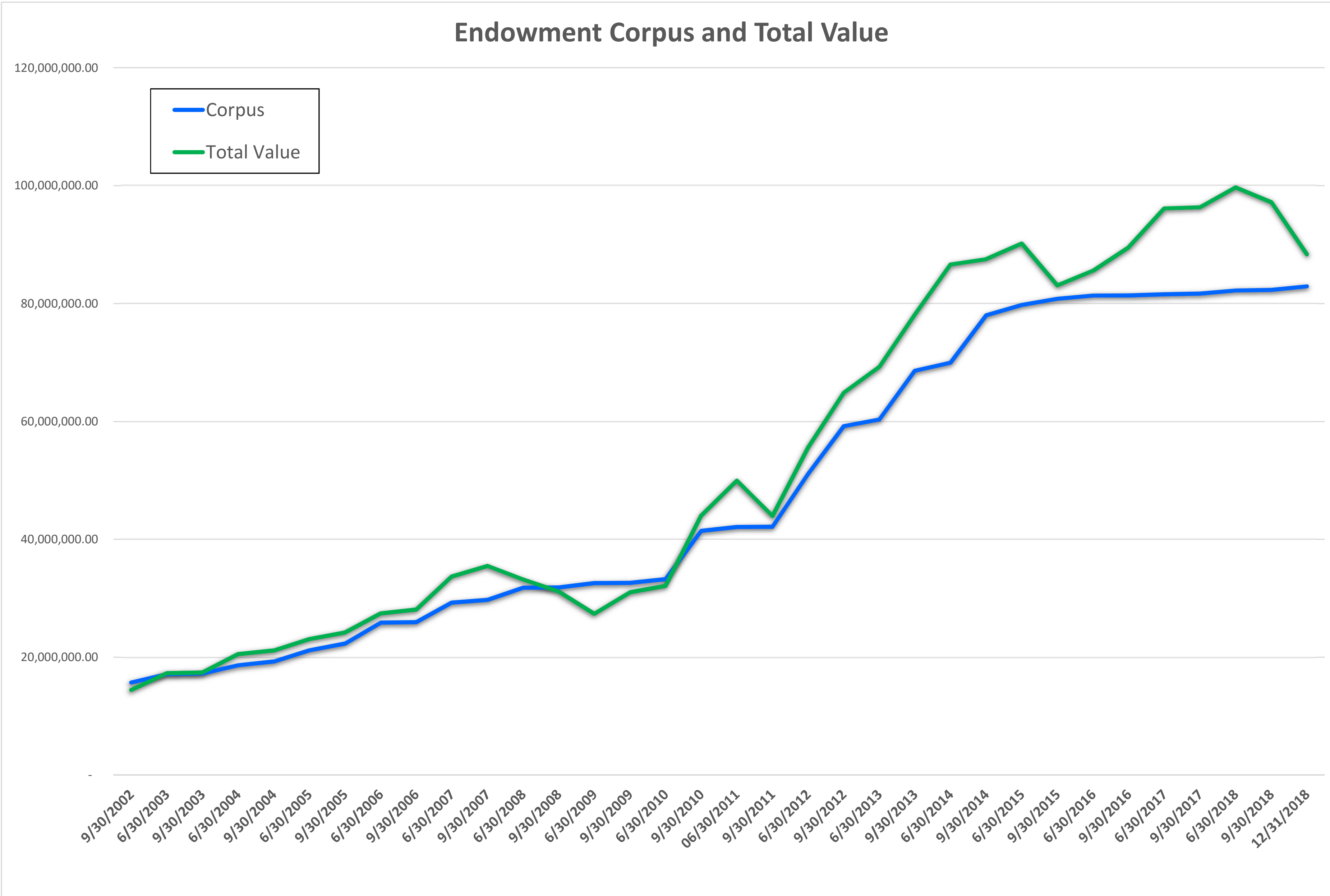
- Propose a distribution of $556,951 to 245 scholarship endowment operating accounts.

- Propose a distribution of $1,007,591 to 107 program endowment operating accounts.

Now therefore be it resolved that the Investment Committee approves an endowment distribution proposal of a net distribution of $1,564,542 to 245 scholarship endowment operating accounts and 107 program endowment operating accounts be presented to the Board of Directors at their next regularly scheduled meeting for review and consideration and approval.

PASSED AND ADOPTED THIS 13th DAY OF FEBRUARY 2019

By: ______________________________
Thomas M. Goff, Chair
Investment Committee


Endowment Corpus and Total Value
Corpus
Total Value
120,000,000.00
100,000,000.00
80,000,000.00
60,000,000.00
40,000,000.00
20,000,000.00
-
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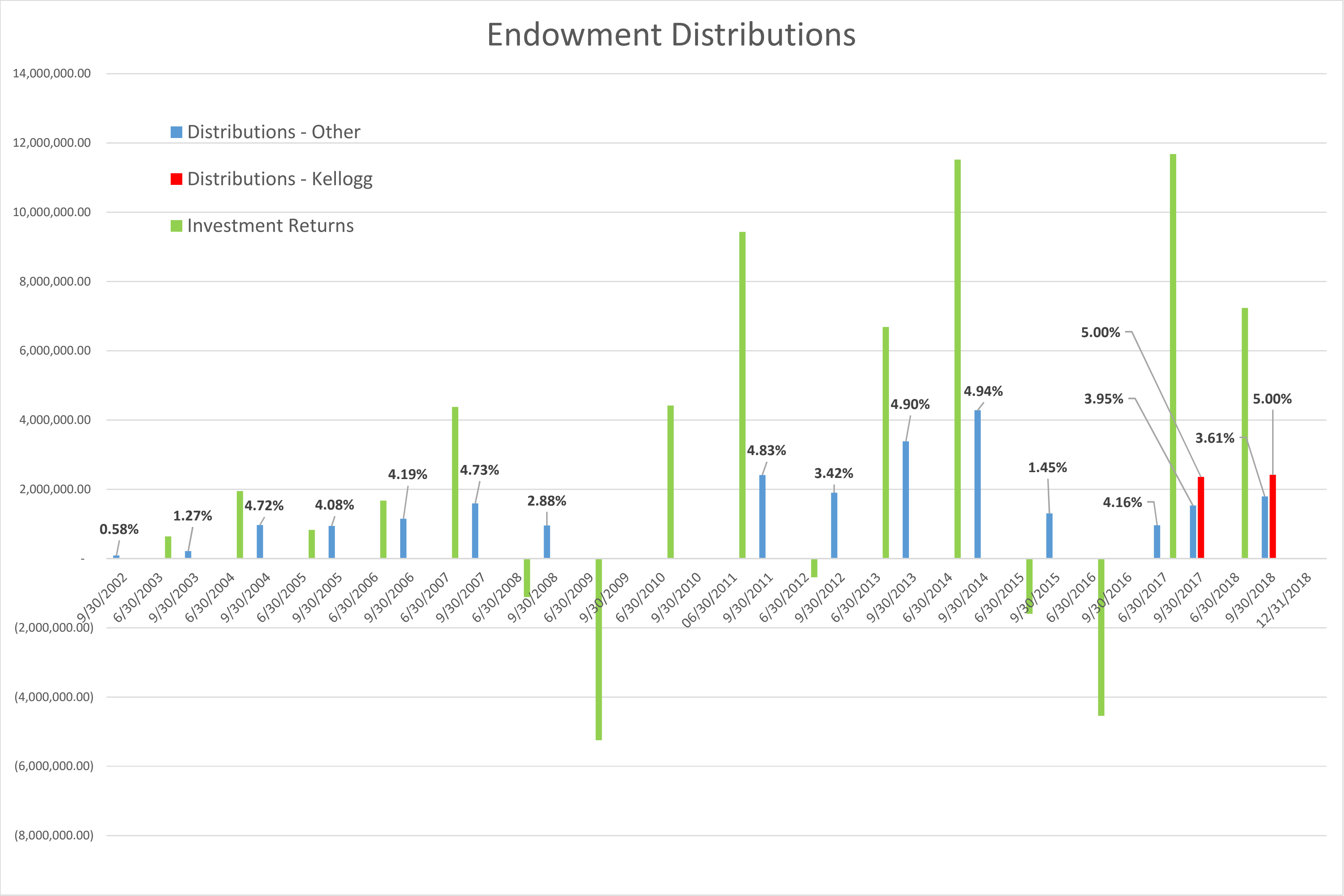
12/31/2018



Endowment Distributions
Distributions - Other
Distributions - Kellogg
Investment Returns
14,000,000.00
12,000,000.00
10,000,000.00
8,000,000.00
6,000,000.00
4,000,000.00
2,000,000.00
-
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(4,000,000.00)
(6,000,000.00)
(8,000,000.00)
0.58%
1.27%
4.72%
4.08%
4.19%
4.73%
2.88%
4.83%
3.42%
4.90%
4.94%
1.45%
5.00%
3.95%
4.16%
3.61%
5.00%
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6/30/2017
9/30/2017
6/30/2018
9/30/2018
12/31/2018

Memorandum

Date: January 22, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

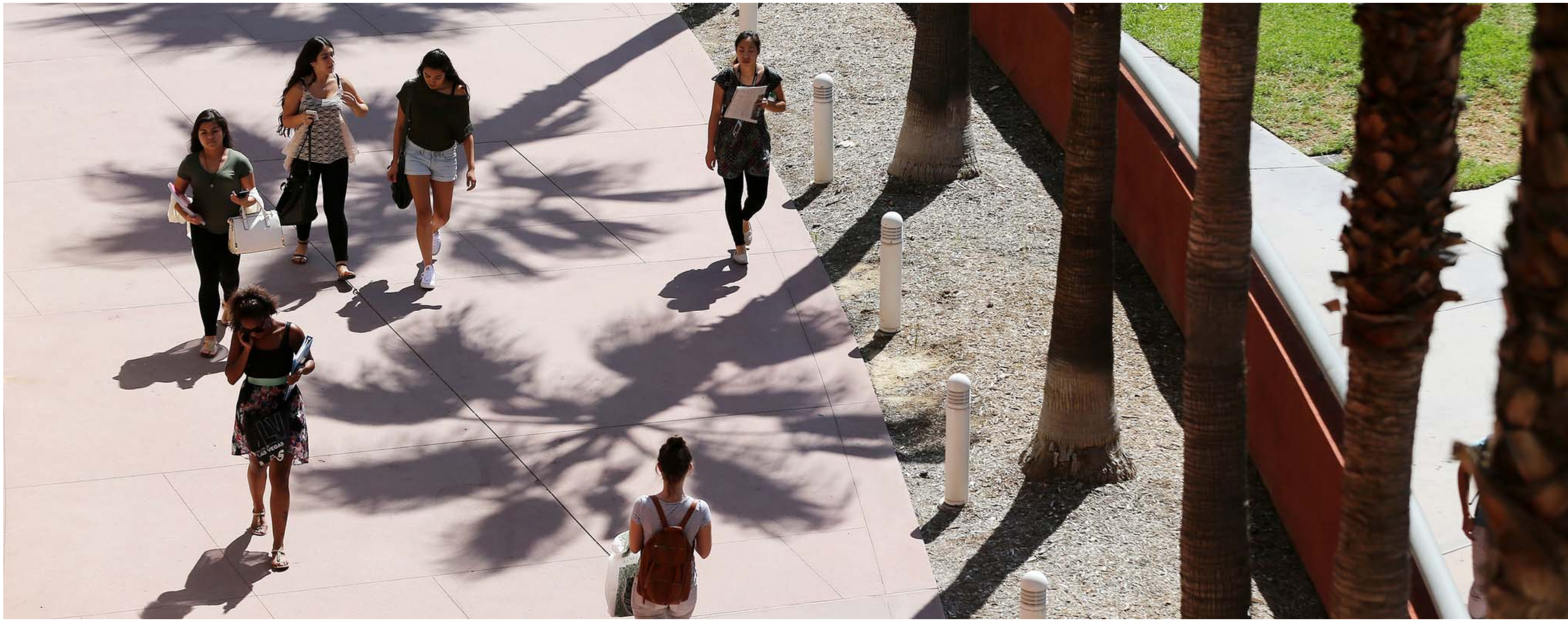
From: David F. Prenovost
Senior Managing Director/CFO

Subject: NACUBO/Common Fund Endowment Study 2017-18

The following was presented at the annual Auxiliary Organization Association's conference earlier this month and is a review of the annual National Association of College and University Business Officers (NACUBO) Endowment Study. This presentation summarizes the performance of the various CSU campus' endowment investments. This presentation also compares strategies for annual endowment spending policies or distributions.

The California State University

Endowment Management



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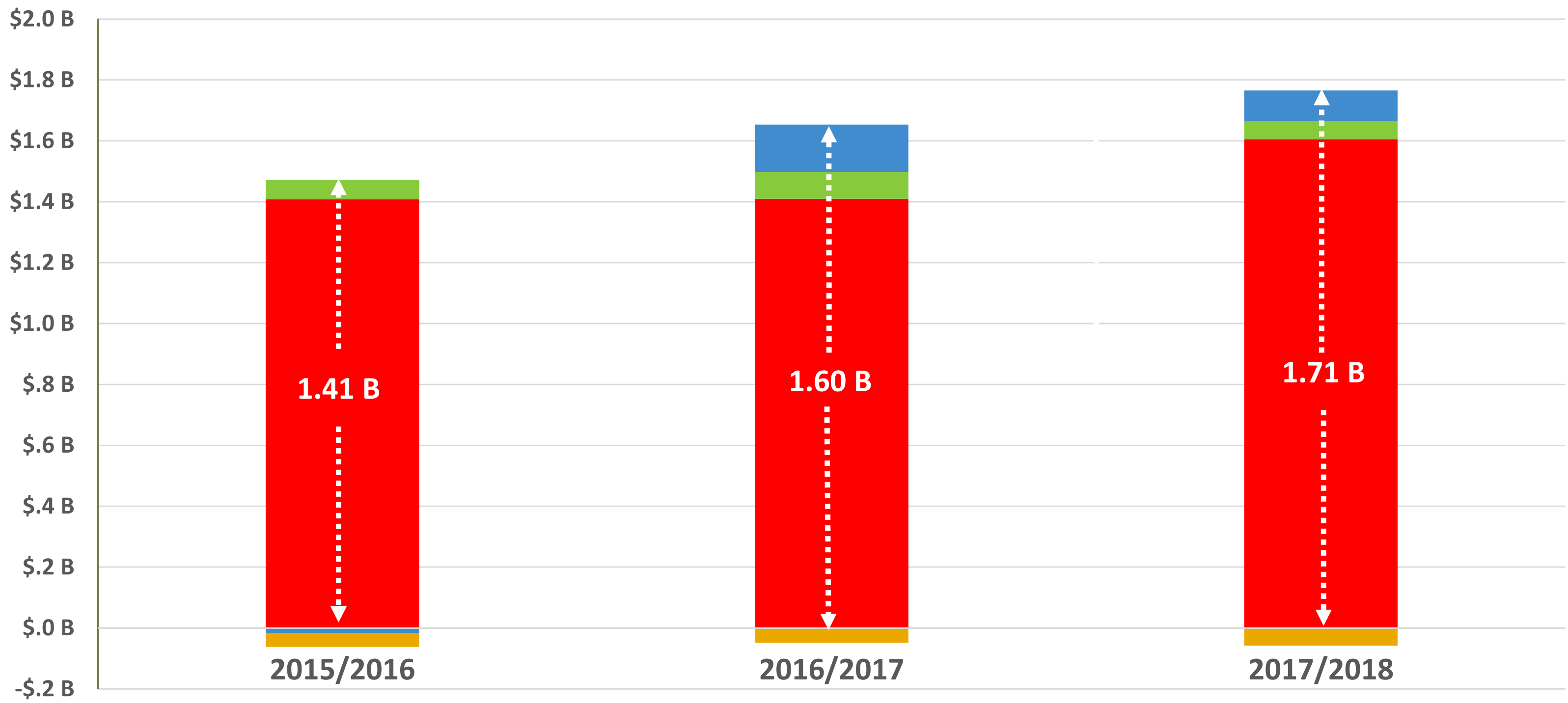
CSU Endowment Market Value



	2015/2016	2016/2017	2017/2018
Corpus and Prior Year Investment Return	$1.40 B	$1.40 B	$1.60 B
Annual Investment Return	-$16 M	$155 M	$100 M
New Gifts to Endowment	$64 M	$88 M	$61 M
Distribution	-$46 M	-$49 M	-$58 M

Endowment Asset Range Profile

Investment Pool Assets	Campus Count	Campus Asset Range
>$100 M	5	$110 M - $293 M
>$50 M to ≤$100 M	5	$65 M - $99 M
>$25 M to ≤$50 M	7	$25.1 M - $49 M
≤$25 M	7	$8.7 M - $24.9 M

The California State University

Endowment Performance

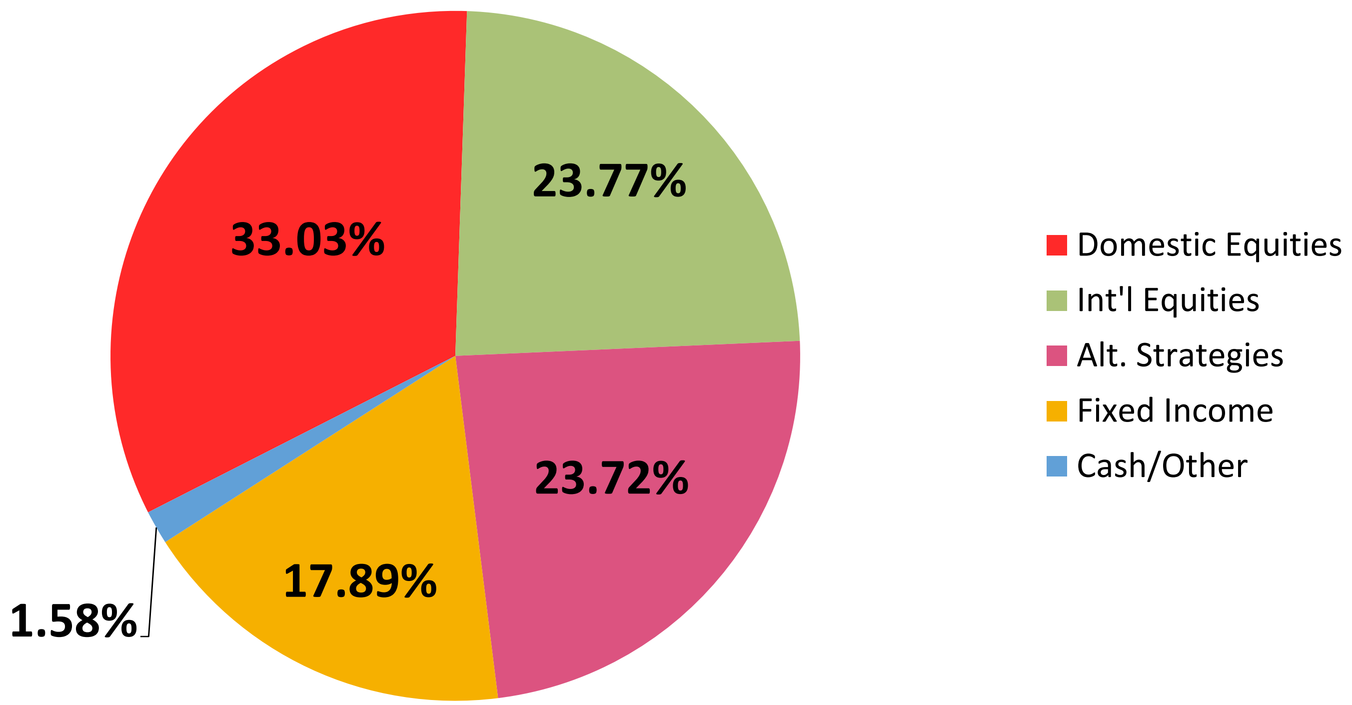
Average Investment Return

Endowment Assets	*2015/16*	*2016/17*	*2017/18*
> $100 M	-1.90%	12.39%	6.44%
> $50 M to ≤ $100 M	-1.36%	11.15%	7.10%
> $25 M to ≤ $50 M	-1.50%	10.63%	6.72%
Less than or = $25 M	-3.14%	11.43%	5.67%
Total Market Value	**$1.41 B**	**$1.60 B**	**$1.71 B**

- Net of Investment Management Fees and Expenses
- CSU Median Return for 2017-18 = **6.44%**
- 2017/2018 Industry Benchmark: Russell 3000 65% and Barclay's Aggregate Bond Index 35% = 9.47%

CSU The California State University

2018 Endowment Asset Allocation



The California State University

2018 Endowment Market Values

Campus	Endowment Market Value	Annual Investment Return
San Diego	$293,037,763	5.30%
San Luis Obispo	$220,534,684	7.10%
Fresno	$161,563,982	6.38%
San Jose	$150,056,030	6.00%
Northridge	$110,709,702	7.44%
Pomona	$99,711,469	7.75%
San Francisco	$90,778,660	6.60%
Long Beach	$77,174,529	8.19%
Fullerton	$64,984,100	5.68%
Chico	$64,728,583	7.30%
Sonoma	$49,080,742	6.10%
Sacramento	$48,045,682	8.02%
Los Angeles	$40,070,947	4.85%
San Bernardino	$39,641,520	5.58%
Humboldt	$30,058,632	6.23%
Bakersfield	$25,729,752	7.50%
Chancellor's Office	$25,070,216	8.79%
San Marcos	$24,932,534	6.83%
Monterey Bay	$23,915,333	6.50%
East Bay	$17,090,644	5.30%
Stanislaus	$16,358,618	4.55%
Channel Islands	$15,718,002	4.60%
Dominguez Hills	$10,393,538	8.46%
Maritime Academy	$8,764,384	3.46%

> $101 M to ≤ $500 M

> $51 M to ≤ $100 M

> $25 M to ≤ $50 M

Less than or = $25 M

CSU The California State University

Spending Policies

		Moving Average Over			
Rate	**Current**	**12 Qtrs**	**16 Qtrs**	**20 Qtrs**	**3 Yrs**
3.0%			1	1	
4.0%		8		1	4
4.4%		1			
4.5%					1
Other:	• (3) Decide on an appropriate rate or amount each year • (4) Weighted average or hybrid method				

UPMIFA

- Uniform Prudent Management of Institutional Funds Act
  - Adopted by California, effective January 1, 2009
  - Provides flexibility for determining spending rate
  - Previously you could not spend principal
    - Historical gift value

The California State University

UPMIFA Provisions

UPMIFA requires a charity and those who manage and invest its funds to:

- Give primary consideration to donor intent as expressed in a gift instrument
- Act in good faith, with the care an ordinarily prudent person would exercise
- Incur only reasonable costs in investing and managing charitable funds
- Make a reasonable effort to verify relevant facts
- Make decisions about each asset in the context of the portfolio of investments, as part of an overall investment strategy
- Diversify investments unless due to special circumstances, the purposes of the fund are better served without diversification
- Dispose of unsuitable assets
- Develop an investment strategy appropriate for the fund and the charity

UPMIFA Considerations of Prudent Spending

- Seven criteria guide board spending decisions
  1. Duration and preservation of the endowment fund
  2. Purposes of the institution and the endowment fund
  3. General economic conditions
  4. Effect of inflation or deflation
  5. Expected total return from income and the appreciation of investments
  6. Other resources of the institution
  7. Investment policy of the institution

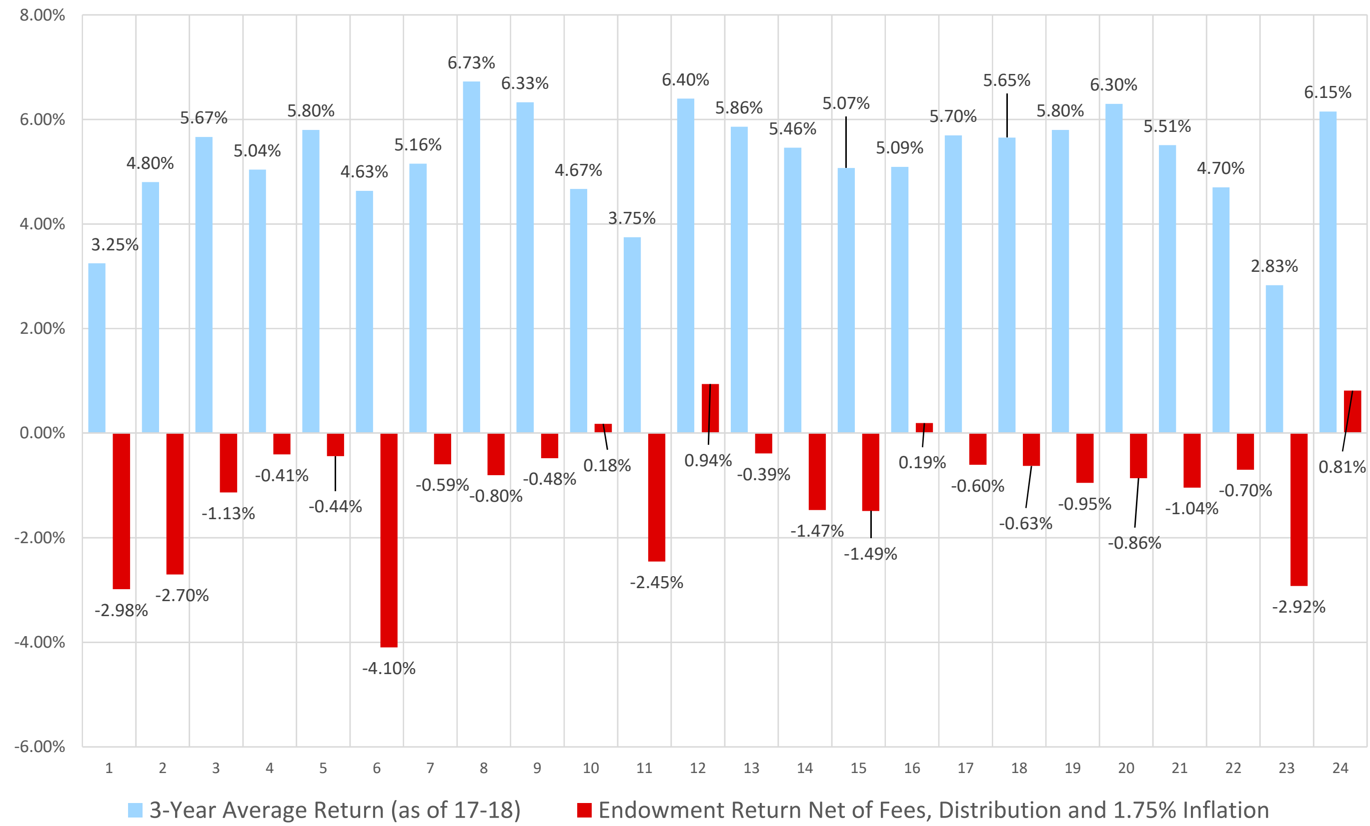
Inter-generational Equity

- A pure endowment should last forever.
  - That's a LONG time!
- We have an equal duty to the current recipients of the fund as well as the future recipients
  - Thus, we must consider the effects of inflation on the purchasing power of the fund
  - While inflation has been at historical lows, it's still estimated to be in the 1½ %-2% per year range.

CSU The California State University

Spending, Fees and Inflation Compared to Investment Returns

	Campus	3-Year Average Return (as of 17-18)	2017-18 Effective Spending Rate	Annual Endowment Management Fee
1	Bakersfield	3.25%	3.23%	1.25%
2	Channel Islands	4.80%	4.00%	1.75%
3	Chico	5.67%	3.30%	1.75%
4	Dominguez Hills	5.04%	3.30%	1.25%
5	East Bay	5.80%	3.49%	1.00%
6	Fresno	4.63%	5.40%	1.58%
7	Fullerton	5.16%	3.00%	1.00%
8	Humboldt	6.73%	4.28%	1.50%
9	Long Beach	6.33%	4.06%	1.00%
10	Los Angeles	4.67%	2.24%	0.50%
11	Maritime	3.75%	2.95%	1.50%
12	Monterey Bay	6.40%	3.71%	0.00%
13	Northridge	5.86%	3.00%	1.50%
14	Pomona	5.46%	4.43%	0.75%
15	Sacramento	5.07%	3.81%	1.00%
16	San Bernardino	5.09%	2.40%	0.75%
17	San Diego	5.70%	3.30%	1.25%
18	San Francisco	5.65%	3.28%	1.25%
19	San José	5.80%	3.50%	1.50%
20	San Luis Obispo	6.30%	4.05%	1.36%
21	San Marcos	5.51%	3.80%	1.00%
22	Sonoma	4.70%	3.15%	0.50%
23	Stanislaus	2.83%	3.00%	1.00%
24	Chancellor's Office	6.15%	3.09%	0.50%



CSU The California State University

Endowment Management Fees

Campus	Gift Fee - Revenue Based	Administration Fee - Expense Based	Remarks	Annual Endowment Fee	Remarks	Annual Fund Chargeback
Bakersfield	5%			1.25%		
Channel Islands	2%			1.75%		
Chico	5% except capital is 3%		No fee on scholarships	1.75%	The fee is waived on new endowments until the account has earned enough to pay out distribution and endowment fee.	
Dominguez Hills	0%		Fees included in fixed annual service fee with Foundation.	1.25%	Based on total portfolio asset value; determined on a quarterly basis	
East Bay	5%		Only non-endowed gifts are subject to the gift fee.	1%	1/12 of 1.0% charged monthly to each endowment	
Fresno	0%			See remarks	Our Foundation Board annually approves a lump-sum Endowment Administration Fee which is then allocated amongst eligible endowments within our endowment pool based on each endowment's pro-rata share of market value. For the average endowment, the fee assessed at June 30, 2017 averaged 1.58% of the endowment's market value.	College-based Direct Mail 10%
Fullerton	0%	6%	No fee on scholarships	1.%		10% Fee on UA Annual Fund Appeals
Humboldt	0%	5%		1.5%	Proceeds from fee are used to fund budgeted unrestricted contribution to the University by the Foundation.	
Long Beach	5%			1%		
Los Angeles	5% - 8%		5% fee on all Foundation gifts, fee on first 25K on annual scholarships monies is waived within fiscal year; non-endowment gifts including event registrations assessed 7.5% by Univ. Auxiliary Services, and 8.0% for Grants.	Up to 1.5%, currently 0.5%	Foundation Board reviews annual endowment fee at the annual June meeting.	
Maritime Academy	5%		No fees on scholarships	1.5%	The CMA Foundation Board will be reviewing the amount each year at our annual meeting in June.	
Monterey Bay	0%			0%		
Northridge	5%		Gift fee only applies non-endowment gifts	1.5%	None	
Pomona	5%	2.55%, scholarships exempt	Yield of the General Investment Portfolio, less 0.50 basis points for investment admin fee, is allocated to the program and scholarship accounts	0.75%	None	
Sacramento	3%			1%	1% of earnings	
San Bernardino	5%			0.75%	Endowment Management fee funds operations for Philanthropic Foundation	
San Diego	5%	6%		1.25%	Fee based on a 3 year average of the endowment market value.	25%
San Francisco	5%		No fees on scholarships	1.25%	Fees are deducted on a quarterly basis.	100% of the expenses to operate the Annual Fund are charged back (unrestricted funds)
San Jose	0%	5%	Gift fee only applies non-endowment gifts	1%/2%	1% on endowments with total gifts of $1 million and up, 2% on endowments with total gifts of under $1 million	
San Luis Obispo	5%		Earnings on program accounts is retained for Foundation operations.	1.45% - 1.05%	Sliding fee scale based on asset value. Most recent actual fee was 1.36% of which .76% was for administration and .60% was for campaign support. Not included in this number is the approximate .25% paid to investment managers.	Sliding scale up to 15% on restricted gifts (average 11%), no fee on unrestricted
San Marcos	5%		Annual/current-use scholarships equal to or under $25,000 are exempt.	1%		
Sonoma	5%		No fee on scholarships, Green Music Center, Lifelong Learning and others at discretion of the President.	see remarks	Annual assessment to endowment earnings based on operating need. Thus is a $ amount rather than a %. Historically, it has equaled around 0.5% based on assessment amount and endowment value.	
Stanislaus	5%	1%	No fee on scholarship funds; Gift Assessment: 5% on all new gifts; Fund Management Assessment: 1% fee assessed one time annually based on gift fund 06/30/xxxx balances.	1%	1% fee is administered monthly on the beginning corpus of the endowment.	
CSU Foundation	0%			0.50%	Based on annual asset value; dedicated to auxiliary administration.	

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Memorandum

Date: February 5, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: Dennis Miller
Chief Employment Officer

Subject: CalPERS Public Agency Valuation Reports for Foundation with Selected Pages from Each Valuation Report

Enclosure: (1) First Tier Plan
(2) Second Tier Plan
(3) PEPA Miscellaneous Plan

The California Public Employee Retirement System (CalPERS) released new financial reports for the FY ending June 30, 2017, which details the finances of CalPERS pension plans of contracting public agencies on that date.

Specific information related to the Cal Poly Pomona Foundation pension plans can be located on the CalPERS website under the Public Agency Valuation Report section. On that site one can locate detailed reports showing the financial status for each of the three Cal Poly Pomona Foundation pension plan tiers with established 2019-20 FY employer contribution rates, among other important pension plan data.

- Miscellaneous First Tier Plan is based on the 2% at 55 formula with an estimated funding level of 82.1 percent. The projected employer contribution rate for FY 2019-20 is 11.68% of covered payroll. However, when combined with the minimum required payment for the Unfunded Accrued Liability (UAL), the rate as a percentage of payroll exceeds 22%.

- Miscellaneous Second Tier Plan is based on 2% at 60 formula with an estimated funding level of 94.2% percent. The projected employer contribution rate for FY 2019-20 is 8.32%

- PERPA Miscellaneous Plan based on 2% at 62 formula with an estimated funding level of 95%. The projected employer contribution rate for FY 2019-20 is 6.985%

Cal Poly Pomona Foundation management continues to take pro-active steps to pay down its UAL by making payments above the minimum required payments toward the UAL obligation for all 3 rate plans, which helps ensure these plans remain financially viable for the foreseeable future.

Required Employer Contributions

		Fiscal Year
Required Employer Contributions		**2019-20**
Employer Normal Cost Rate		**11.680%**
Plus, Either		
1) Monthly Employer Dollar UAL Payment	**$**	**51,449.98**
Or		
2) Annual Lump Sum Prepayment Option	**$**	**596,167**

*The total minimum required employer contribution is the **sum** of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) **plus** the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).*

*Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**. Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.*

In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.

		Fiscal Year 2018-19		Fiscal Year 2019-20
Development of Normal Cost as a Percentage of Payroll[1]				
Base Total Normal Cost for Formula		15.794%		16.586%
Surcharge for Class 1 Benefits[2]				
a) EE Contribution to State Level - Covered by SS		2.000%		2.000%
Phase out of Normal Cost Difference[3]		0.000%		0.000%
Plan's Total Normal Cost		17.794%		18.586%
Formula's Expected Employee Contribution Rate		6.902%		6.906%
Employer Normal Cost Rate		10.892%		11.680%
Projected Payroll for the Contribution Fiscal Year	$	6,099,078	$	5,869,789
Estimated Employer Contributions Based on Projected Payroll				
Plan's Estimated Employer Normal Cost	$	664,312	$	685,591
Plan's Payment on Amortization Bases[4]		475,425		617,400
% of Projected Payroll (illustrative only)		7.795%		10.518%
Estimated Total Employer Contribution	$	1,139,737	$	1,302,991
% of Projected Payroll (illustrative only)		18.687%		22.198%

[1] The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

[3] The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

[4] See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits (PVB)	$	53,716,709	$	56,991,558
2. Entry Age Normal Accrued Liability (AL)		47,911,089		51,228,936
3. Plan's Market Value of Assets (MVA)		38,042,852		42,060,187
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		9,868,237		9,168,749
5. Funded Ratio [(3) / (2)]		79.4%		82.1%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)				
Fiscal Year	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Normal Cost %	11.680%	12.4%	12.4%	12.4%	12.4%	12.4%
UAL Payment	$617,400	$724,000	$856,000	$969,000	$1,025,000	$1,088,000

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for next year's valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Required Employer Contributions

Required Employer Contributions		Fiscal Year 2019-20
Employer Normal Cost Rate		**8.081%**
Plus, Either		
1) Monthly Employer Dollar UAL Payment	**$**	**251.47**
Or		
2) Annual Lump Sum Prepayment Option	**$**	**2,914**

*The total minimum required employer contribution is the **sum** of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) **plus** the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).*

*Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**. Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.*

In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.

		Fiscal Year 2018-19		Fiscal Year 2019-20
Development of Normal Cost as a Percentage of Payroll[1]				
Base Total Normal Cost for Formula		14.546%		14.996%
Surcharge for Class 1 Benefits[2]				
None		0.000%		0.000%
Phase out of Normal Cost Difference[3]		0.000%		0.000%
Plan's Total Normal Cost		14.546%		14.996%
Formula's Expected Employee Contribution Rate		6.912%		6.915%
Employer Normal Cost Rate		7.634%		8.081%
Projected Payroll for the Contribution Fiscal Year	$	1,371,896	$	1,254,020
Estimated Employer Contributions Based on Projected Payroll				
Plan's Estimated Employer Normal Cost	$	104,731	$	101,337
Plan's Payment on Amortization Bases[4]		3,420		3,018
% of Projected Payroll (illustrative only)		0.249%		0.241%
Estimated Total Employer Contribution	$	108,151	$	104,355
% of Projected Payroll (illustrative only)		7.883%		8.322%

[1] The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

[3] The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

[4] See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits (PVB)	$	2,575,506	$	2,725,372
2. Entry Age Normal Accrued Liability (AL)		864,160		1,100,469
3. Plan's Market Value of Assets (MVA)		764,402		1,036,995
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		99,758		63,474
5. Funded Ratio [(3) / (2)]		88.5%		94.2%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	**Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)**				
Fiscal Year	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Normal Cost %	8.081%	8.7%	8.7%	8.7%	8.7%	8.7%
UAL Payment	$3,018	$5,500	$8,500	$11,000	$13,000	$14,000

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

Due to the adopted changes in the discount rate for next year's valuation in combination with the 5-year phase-in ramp, the increases in the required contributions are expected to continue for six years from Fiscal Year 2019-20 through Fiscal Year 2024-25.

For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Required Employer Contributions

Required Employer Contributions		**Fiscal Year 2019-20**
Employer Normal Cost Rate		**6.985%**
Plus, Either		
1) Monthly Employer Dollar UAL Payment	**$**	**443.19**
Or		
2) Annual Lump Sum Prepayment Option	**$**	**5,135**

The total minimum required employer contribution is the ***sum*** *of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll)* ***plus*** *the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).*

Only the UAL portion of the employer contribution can be prepaid ***(which must be received in full no later than July 31)****. Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.*

In accordance with Sections 20537 and 20572 of the Public Employees' Retirement Law, if a contracting agency fails to remit the required contributions when due, interest and penalties may apply.

		Fiscal Year 2018-19		**Fiscal Year 2019-20**
Development of Normal Cost as a Percentage of Payroll[1]				
Base Total Normal Cost for Formula		13.092%		13.735%
Surcharge for Class 1 Benefits[2]				
None		0.000%		0.000%
Phase out of Normal Cost Difference[3]		0.000%		0.000%
Plan's Total Normal Cost		13.092%		13.735%
Plan's Employee Contribution Rate		6.250%		6.750%
Employer Normal Cost Rate		6.842%		6.985%
Projected Payroll for the Contribution Fiscal Year	$	4,060,525	$	4,650,646
Estimated Employer Contributions Based on Projected Payroll				
Plan's Estimated Employer Normal Cost	$	277,821	$	324,848
Plan's Payment on Amortization Bases[4]		2,911		5,318
% of Projected Payroll (illustrative only)		0.072%		0.114%
Estimated Total Employer Contribution	$	280,732	$	330,166
% of Projected Payroll (illustrative only)		6.914%		7.099%

[1] The results shown for Fiscal Year 2018-19 reflect the prior year valuation and may not take into account any lump sum payment, side fund payoff, or rate adjustment made after June 30, 2017.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

[3] The normal cost difference is phased out over a five-year period. The phase out of normal cost difference is 100 percent for the first year of pooling, and is incrementally reduced by 20 percent of the original normal cost difference for each subsequent year. This is non-zero only for plans that joined a pool within the past 5 years. Most plans joined a pool June 30, 2003, when risk pooling was implemented.

[4] See page 9 for a breakdown of the Amortization Bases.

Plan's Funded Status

		June 30, 2016		June 30, 2017
1. Present Value of Projected Benefits (PVB)	$	5,329,558	$	7,256,286
2. Entry Age Normal Accrued Liability (AL)		864,874		1,435,374
3. Plan's Market Value of Assets (MVA)		777,051		1,366,175
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		87,823		69,199
5. Funded Ratio [(3) / (2)]		89.8%		95.2%

This measure of funded status is an assessment of the need for future employer contributions based on the selected actuarial cost method used to fund the plan. The UAL is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. For a measure of funded status that is appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities, please see "Hypothetical Termination Liability" in the "Risk Analysis" section.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, "Statement of Actuarial Data, Methods and Assumptions" of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period.

	Required Contribution	Projected Future Employer Contributions (Assumes 7.25% Return for Fiscal Year 2017-18)				
Fiscal Year	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Normal Cost %	6.985%	7.5%	7.5%	7.5%	7.5%	7.5%
UAL Payment	$5,318	$11,000	$16,000	$21,000	$25,000	$28,000

Changes in the UAL due to actuarial gains or losses as well as changes in actuarial assumptions or methods are amortized using a 5-year ramp up. For more information, please see "Amortization of the Unfunded Actuarial Accrued Liability" under "Actuarial Methods" in Appendix A of Section 2. This method phases in the impact of unanticipated changes in UAL over a 5-year period and attempts to minimize employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

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For projected contributions under alternate investment return scenarios, please see the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section.

Investments (PERF*)

Total Fund Market Value & Total Net Investment Return** 10-year Review

(for FY end 6/30)

	(in billions)	(%)
2018	$354.0	8.6%
2017	$326.4	11.2%
2016	$302.0	0.6%
2015	$301.9	2.4%
2014	$300.3	18.4%
2013	$257.9	13.2%
2012	$233.4	0.1%
2011	$237.5	21.7%
2010	$200.0	13.3%
2009	$180.9	(24.0%)

* *Public Employees' Retirement Fund (PERF)*
** *Net time-weighted rate of returns*

Total Net Investment Return* *(for FY end 6/30)*

FY to date	8.6%
3 years	6.7%
5 years	8.1%
10 years	5.6%
20 years	6.1%
30 years	**8.4%**

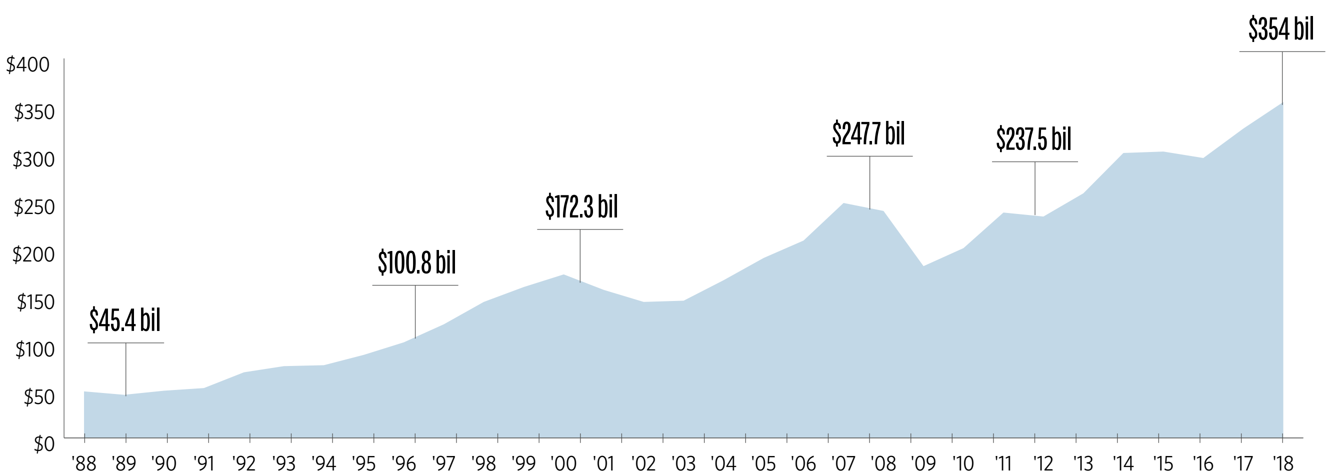
* *Net time-weighted rate of returns*

Discount Rate Changes

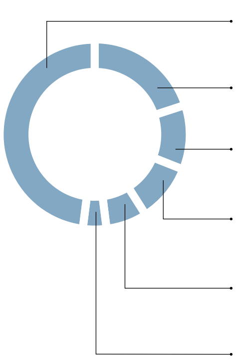
2017–18* (State)	7.5% →	7.375%
2018–19* (School/PA)	7.5% →	7.375%
2018–19* (State)	7.375% →	7.25%
2019–20* (School/PA)	7.375% →	7.25%
2019–20* (State)	7.25% →	7.0%
2020–21* (School/PA)	7.25% →	7.0%
2012	7.75% →	7.5%
2004	8.25% →	7.75%

* *FY required contribution*

Total Fund Market Value 1988–2018 *(for FY end 6/30)*



Current Asset Allocation



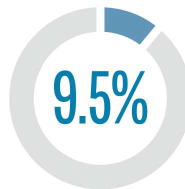
Asset Allocation

	Current Allocation	Strategic Asset Allocation *
Public Equity	48.8%	49.0%
Global Fixed Income	22.5%	22.0%
Real Assets	10.8%	12.0%
Private Equity	7.7%	8.0%
Inflation Assets	5.9%	6.0%
Liquidity	3.3%	3.0%
Total Plan Level**	0.9%	—

* *Adopted on December 18, 2017; implemented July 1, 2018*

** *The Total Plan Level includes multi-asset class, transition and plan level portfolios. These assets do not have targets because they are not components of the Total Fund Policy benchmark.*

California Investments



$33.6 billion

California investments as percentage of the total fund

	Fair Value (in millions)
Total California Investments	**$33,556**
Public Equity	$17,157
Global Fixed Income	$5,559
Private Equity*	$821
Real Assets*	$10,019

* *As of March 31, 2018*

Sustainable Investing

CalPERS actively engages with the companies we own to **protect the long-term sustainability of our investment**. From issues regarding environmental responsibility to safe labor practices, we keep an open dialog with company leaders and vote our proxies.

10,900+ Number of proxy votes CalPERS cast in 2018 at companies worldwide (calendar year)

Pension Funding

Funded Status of Retirement Plans by Member Category

	State	School	PA	Total
2016-17	**65.8%***	**68.7%***	**69.5%***	**67.9%***
2015-16	62.3%	67.8%	66.2%	68.3%
2014-15	69.4%	77.5%	74.5%	73.1%
2013-14	72.1%	82.0%	77.9%	76.3%
2012-13	66.1%	76.2%	70.5%	69.8%
2011-12	66.1%	75.4%	70.1%	69.6%

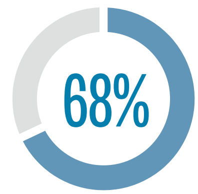
** Based on a 7.0% discount rate; does not include the 8.6% return for FY 2017-18.*

Contributions, 10-Year Review *(in thousands)*

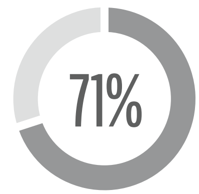
	Employer Contributions	Member Contributions	Investment & Other Income
2017-18	**$19,917,796***	**$4,415,129**	**$27,448,098**
2016-17	$12,329,837	$4,214,578	$32,977,020
2015-16	10,892,489	4,015,754	1,548,442
2014-15	9,997,705	3,826,072	6,702,997
2013-14	8,777,602	3,775,038	45,598,044
2012-13	8,123,833	3,897,078	30,291,983
2011-12	7,772,913	3,598,437	(196,014)
2010-11	7,465,397	3,600,089	43,907,436
2009-10	6,955,049	3,378,867	25,577,529
2008-09	6,912,379	3,882,355	(57,363,899)

** Amount includes an additional $6 billion dollar contribution by the state.*

Funded Status Total PERF*



2016–17**



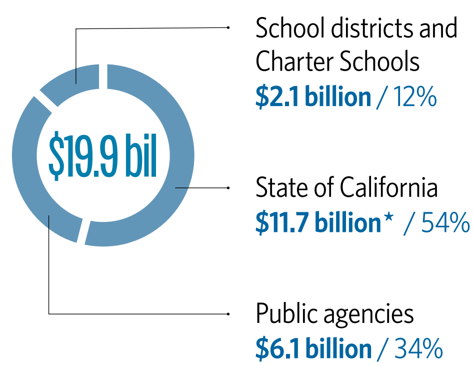
2017–18***

** Public Employees' Retirement Fund (PERF)*

*** Estimate using a 7.0% discount rate; does not include the 8.6% investment return for FY 2017-18; equivalent of 70.1% based on the CAFR using a discount rate of 7.375% for schools, 7.25% for public agencies and state.*

**** Estimate based on using a 7.0% discount rate; includes the 8.6% investment return for FY 2017-18.*

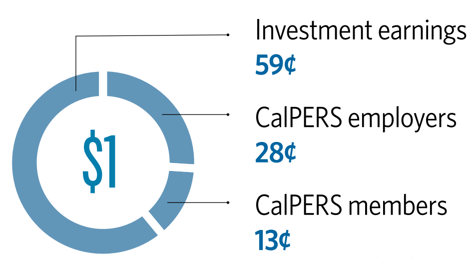
Total Employer Contributions



** Amount includes an additional $6 billion dollar contribution by the state.*

Shared Responsibility

Every dollar paid to CalPERS retirees comes from three sources:



Memorandum

Cal Poly Pomona Foundation

"Quality Service Supporting Quality Education"

Date: February 7, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: David F. Prenovost,
Senior Managing Director/Chief Financial Officer

Subject: ENDOWMENT INVESTMENT PORTFOLIO MANAGER

Per the Foundation's Endowment Investment Policy # 130, section VII, all custodians, investment advisors and brokers who perform investment transactions for the Foundation must supply the Executive Director with the following:

A. Annual audited financial statements*
B. Proof of National Association of Security Dealers certification**
C. Proof of registration with the SEC and a copy of their ADVII***
D. Completed broker/dealer questionnaires
E. Certificate of reviewing and understanding the FOUNDATION's Endowment Investment Policy
F. Certificate of understanding the delivery versus payment instructions for custody
G. Conflict of interest certification/statement

We have received and reviewed the above information from Graystone Consulting, a division of Morgan Stanley Private Wealth Management which provides investment advisory, custodial and reporting services to the Foundation for the endowment investment portfolio.

Based upon the results of this review, it is the opinion of Foundation management that Graystone Consulting, a division of Morgan Stanley Private Wealth Management are satisfactorily capitalized to provide investment management services.

Memorandum

Date: February 7, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: David F. Prenovost,
Senior Managing Director/Chief Financial Officer

Subject: GENERAL INVESTMENT PORTFOLIO MANAGER

Per the Foundation's General Investment Policy # 131, section VII, all custodians, investment advisors and brokers who perform investment transactions for the Foundation must supply the Executive Director with the following:

A. Annual audited financial statements*
B. Proof of National Association of Security Dealers certification**
C. Proof of registration with the SEC and a copy of their ADVII***
D. Completed broker/dealer questionnaires
E. Certificate of reviewing and understanding the FOUNDATION's Endowment Investment Policy
F. Certificate of understanding the delivery versus payment instructions for custody
G. Conflict of interest certification/statement

We have received and reviewed the above information from Graystone Consulting, a division of Morgan Stanley Private Wealth Management which provides investment advisory custodial and reporting services to the Foundation for the general investment portfolio.

Based upon the results of this review, it is the opinion of Foundation management that Graystone Consulting, a division of Morgan Stanley Private Wealth Management are satisfactorily capitalized to provide investment management services.

Memorandum

Date: January 25, 2019

To: Investment Committee
Cal Poly Pomona Foundation, Inc.

From: David F. Prenovost
Senior Managing Director/CFO

Subject: STOCHASTIC TRUST PROJECT STUDY–RETIREE MEDICAL BENEFITS TRUST

As you may recall, the Foundation contributes $1.0 million to the Auxiliaries Multiple Employer VEBA (since the fall of 2010) in an effort to reduce the interest costs associated with the Foundation's obligation. At June 30, 2018, the Foundation's Plan Fiduciary Net Position (i.e. Fair Value of Assets) is $8,373,339 and the AAL (Actuarially Accrued Liability) is $16,316,966 and the Net OPEB Liability is $7,943,627 or 51% funded.

In our previous 2016 study, the Trust could become fully-funded in fiscal year 2024/25, however in the 2018 study, the estimated fully funded status will be achieved in fiscal year 2022/23 and 85% funded in fiscal year 2021/22.

Foundation management believes we should continue to contribute $1.0 million annually to the Auxiliaries Multiple Employer VEBA until such time as the invested assets of the Trust are actuarially sufficient to offset the AAL, please see the enclosed Stochastic Trust Project Study for further details regarding funding this obligation.

NICOLAY CONSULTING

OPEB CONSULTANTS AND ACTUARIES
530 BUSH STREET, SUITE 500
SAN FRANCISCO, CALIFORNIA 94108-3633
TEL: 415-512-5300
FAX: 415-512-5314

January 29, 2019

Mr. David Prenovost
Chief Financial Officer
Cal Poly Pomona Foundation, Inc.
3801 West Temple Avenue, Building 55
Pomona, CA 91768-4038

Dear David:

Re: Cal Poly Pomona Retiree Medical Benefits Trust

We are pleased to present our cash flow and asset projections based on our latest actuarial valuations as of July 1, 2018. Projections are based on deterministic and stochastic modeling using 50,000 Monte Carlo simulations on return on assets after July 1, 2018 and projected liabilities from July 1, 2018. Please note that projection results are as estimates only, and that actual future results may be significantly different.

Background

The Foundation provides lifetime postretirement medical coverage to employees who were hired prior to March 1, 2009 and retired from the Foundation with at least age 50 and 10 years of service. Benefits vary based on years of service at retirement. The Foundation has adopted a policy to prefund this obligation by contributing $1,000,000 annually until a certain level of funding of the Present Value of Future Benefits is achieved. In addition, the Foundation will no longer withdraw funds for reimbursements until 85% or 100% funded status is achieved.

As in our previous study, the Foundation made the decision to utilize stochastic modeling to obtain long -term funding projections based on the current benefit provisions of the Plan, which are described in our latest GASB 75 report dated January 17, 2019.

We have performed the analysis assuming two different funding objectives – suspending expected payments and contributing $1,000,000 annually until funded ratio of 100% or 85% is achieved, where the funded ratio equals assets divided by the Present Value of Future Benefits.

Project Steps
The key steps of the project have been:

1. This study is based on the latest July 1, 2018 actuarial valuation results. This included a 75-year projection of benefit payouts and liabilities; however, we **did not** include any implicit subsidy in our benefit projections.
2. We assumed that in late July of each year, for the next several years, the Foundation will contribute $1,000,000 to the Trust, and that "post-Medicare" benefits will continue to be paid from the Trust.
3. We developed a stochastic model that utilizes Monte-Carlo simulations to generate 50,000 75-year asset balance projections.

Assumptions

Unless stated otherwise in this report, actuarial assumptions/plan provisions used in the study are as described in our report dated January 17, 2019.

We assumed that Trust assets is expected to earn an average geometric return of 6.50% per year net of investment expenses with a standard deviation of 8.45% (provided by the Trust's investment advisor). We assumed an administrative expense of $250 per participant claim projected to the end of the life of the plan, and the administrative expense is assumed to increase by 2.00% per year. Asset returns are modeled by a log-normal distribution. We did not include the "implicit subsidy" (as defined in ASOP 6) in the benefits payments.

In our 2016 study, we estimated that the Trust could be fully funded in around 2023 assuming $1,000,000 per year Trust contributions and a fixed 6.00% on asset returns. In this 2018 study, the estimated fully funded status will also be achieved in approximately July 1, 2023 assuming $1,000,000 per year Trust contributions and a fixed 6.50% on asset returns and a suspension of benefit payments until full-funded status is attained.

Some Key Findings

Before running the stochastic simulations, we performed deterministic projections assuming the Trust will earn 6.5% returns each year (net of investment expenses) and assuming no liability gains or losses. In order to reach a **100%** funded ratio, the Foundation would need to contribute four years of $1,000,000 annually plus a final contribution of $515,000 in FY2022/23. To reach **85%** funded ratio, the Foundation would need to contribute three years of $1,000,000 annually plus a final contribution of $100,000 in FY2021/22.

Contribution Schedule

Fiscal Year	100% Funding Target	85% Funding Target
2018/19	$1.00 M	$1.00 M
2019/20	$1.00 M	$1.00 M
2020/21	$1.00 M	$1.00 M
2021/22	$1.00 M	$0.10 M
2022/23	$0.52 M	-

The main reason for using the stochastic approach for this study, as in the previous study, was to quantify the likelihood of various outcomes. Attached Exhibit 2 shows additional outcomes and related information. It is of course the Trust can be overfunded if asset returns exceed expectations. However, we understand from discussion with Foundation management that surplus assets at the end may not be a serious problem, in that the Trust Agreement provides that any surplus assets can be used to pay medical premiums for active employees.

Other, Non-Investment, Risks

The scope of this study has been essentially limited to investment risk only. In other words, we are assuming that the projected retiree benefits will not vary from the projections developed in our July 1, 2018 actuarial valuation. Only investment returns are assumed to vary. However, in reality, there may also be variability (i.e. risk) on the liability side of the equation. The "liability risks" are (1) any changes in benefit provisions that would cause the medical premiums to increase above 5.00% per year, and (2) that future retirements will occur at earlier ages than our assumptions. When these risks are combined with investment risk, the overall risk is greater. Either or both of these could raise (or lower) payouts significantly. If desired, we can discuss possible approaches to model this.

Attached Exhibits

The following Exhibits appear at the end of this report.

Exhibit 1 shows the projected Present Value of Future Benefits based on our latest valuation on July 1, 2018. Note that the liabilities are not affected by either deterministic or stochastic modeling since both models are used to estimate future assets.

Exhibit 2 shows the funded ratio based on a ten-year projection using stochastic modeling. This table shows the funded status at the end of ten years for both 100% and 85% funded ratio goals under different schedule of assumptions for contributions and suspension of benefit payments. The stochastic model assumes a 6.50% expected rate of return with 8.45% of volatility on assets.

Exhibits 3 and 4 show a 75-year projection of assets and benefit payouts using a deterministic model. These charts show both a 100% and 85% target funded ratio goal; contribution and benefit payment schedules will vary between the two funded ratio goals. Both deterministic models assume a fixed 6.50% rate of return and no volatility on assets.

* * * * * * * * * *

We will also be happy to provide any additional information that may be useful to you. We, the undersigned, are Members of the American Academy of Actuaries and are qualified to render the information contained herein

Sincerely,

Nicolay Consulting Group

Gary E. Cline, ASA, EA, MAAA

Eddie W. Lee, ASA, EA, MAAA

Exhibit 1

Projected Present Value of Future Benefit *– Based on July 1, 2018 Valuation	
7/1/2018	$15.5 M
7/1/2028	$16.9 M
7/1/2038	$14.9 M
7/1/2048	$10.5 M

*Asset Market Value as of July 1, 2018 was $8.4 M

Exhibit 2

Projected Funded Status After Achieving 100% or 85% Funded Status

Target Funded Ratio Equals 100% as of July 1, 2023
(4 Years of $1 M plus a final $0.52 M contributions with suspension of benefit payments)

6.50% Expected Rate of Return, (8.45% Volatility*)	Projected July 1, 2028 Unfunded Liability ($ Mill.)	Average Return	Funded Ratio
Median	(0.09)**	6.69%	101%
Worst 20%	3.93	4.34%	77%
Worst 10%	5.68	3.13%	66%
Worst 5%	6.98	2.16%	59%
Best 20%	(5.16)**	9.11%	130%

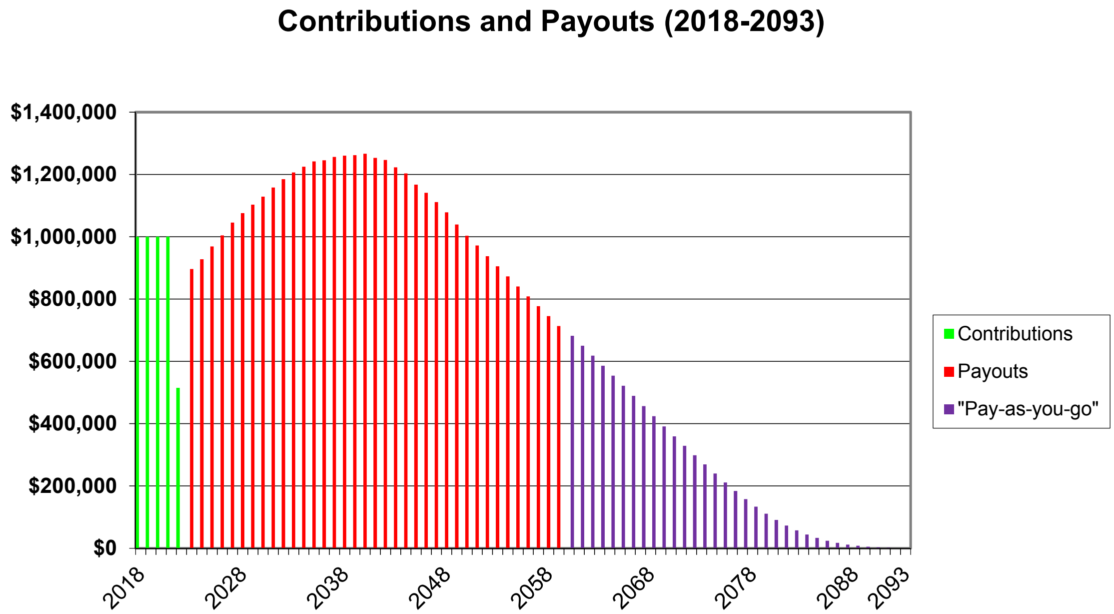
Target Funded Ratio Equals 85% as of July 1, 2022
(3 Years of $1 M plus a final $0.1 M contributions with suspension of benefit payments)

6.50% Expected Rate of Return, (8.45% Volatility*)	Projected July 1, 2028 Unfunded Liability ($ Mill.)	Average Return	Funded Ratio
Median	3.29	6.68%	81%
Worst 20%	6.88	4.33%	59%
Worst 10%	8.43	3.15%	50%
Worst 5%	9.62	2.14%	43%
Best 20%	(1.32)**	9.13%	108%

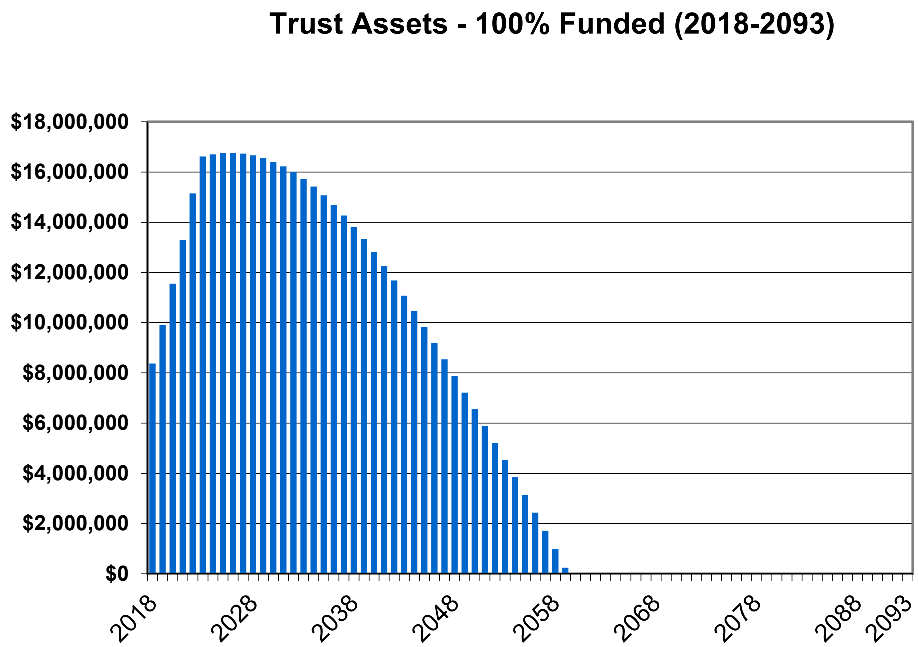
*Standard deviation of annual asset returns

**Surplus Assets

Exhibit 3



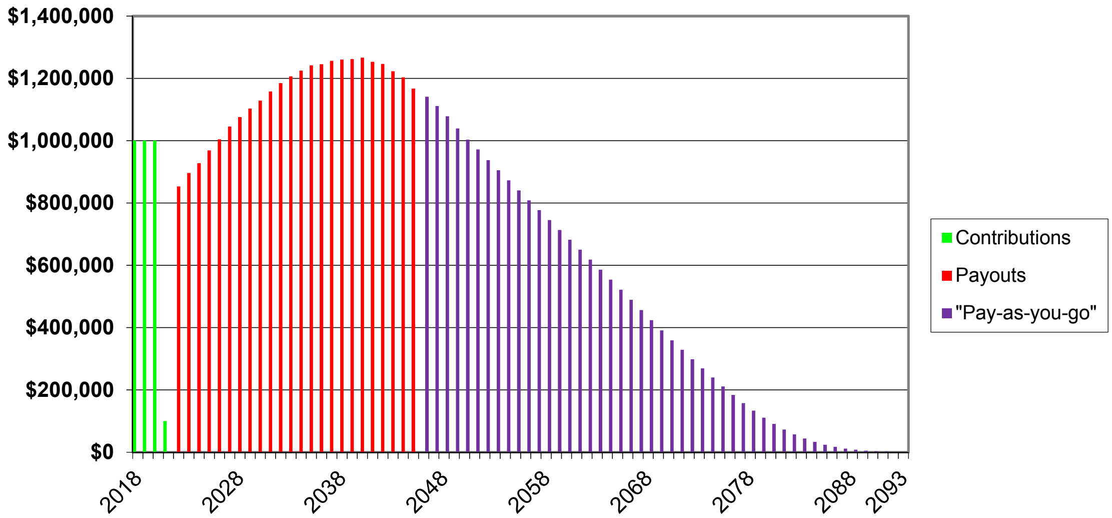
1) Assumes annual Trust returns of 6.50%, net of expenses
2) Trust is projected to be depleted in 2060; "pay-as-you-go" is used thereafter.



1) Assumes annual Trust returns of 6.50%, net of expenses

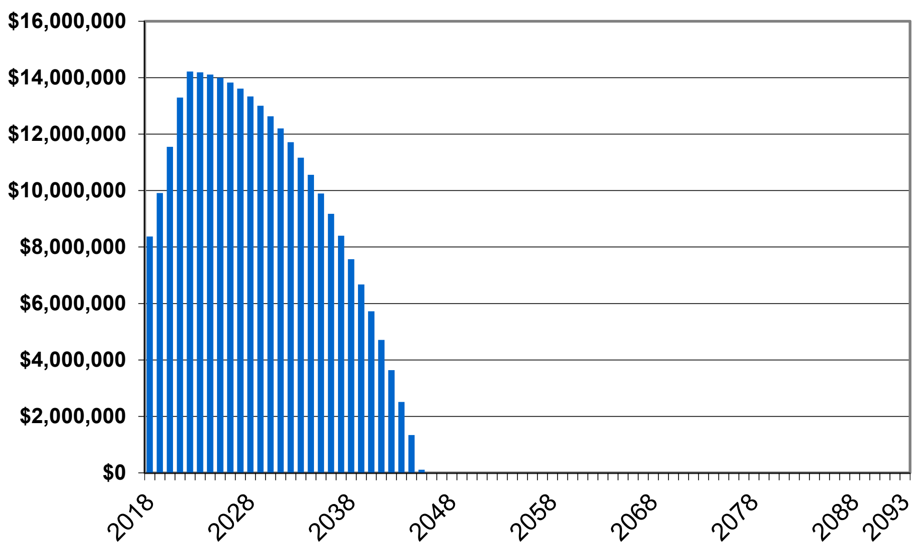
Exhibit 4

Contributions and Payouts (2018-2093)



1) Assumes annual Trust returns of 6.50% net of investment expenses.
2) Trust is projected to be depleted in 2046; "pay-as-you-go" is used thereafter.

Trust Assets - 85% Funded (2018-2093)



1) Assumes annual Trust returns of 6.50% net of investment expenses

E) Funding Progress

Below is an illustration of the funded status of the Plan for the past 9 years, and a projection of the next year looking forward: