APRIL 5, 2018

AGENDA ITEM 3
ACTION ITEM

SCHOLARSHARE INVESTMENT BOARD

Resolution to Approve Amendment to Agreement No. SIB 15-10 with TIAA-CREF Tuition Financing, Inc. for Program Management Services for the ScholarShare 529 College Savings Plan

Recommendation
ScholarShare Investment Board (SIB or Board) staff recommends the Board adopt Resolution No. 2018-01 approving an amendment to Agreement No. SIB 15-10 with TIAA-CREF Tuition Financing, Inc. (TFI) for program management services for the ScholarShare 529 College Savings Plan (Plan).

Background
In 2011, following a competitive request for proposals process, TFI was selected to provide program management services for the Plan. Agreement No. SIB 15-10 (Contract) with TFI provides for an initial five-year term, with options for five (5) one-year extensions. In March 2017, the Board approved an amendment to the Contract to extend the term for one year. The Contract is set to expire in November 2018.

Discussion
SIB staff reviewed both quantitative and qualitative factors in determining the recommendation to grant a one-year extension to the Contract with TFI. As part of the review process, SIB staff sought input from SIB's 529 industry consultant, AKF Consulting Group (AKF), and SIB's investment consultant, Pension Consulting Alliance, LLC (PCA).

Following a review of the analyses provided by AKF and PCA (Exhibit A and Exhibit B, respectively), SIB staff has found that since TFI assumed the position of program manager in November 2011, ScholarShare 529 remains competitively positioned amongst the 529 industry relative to asset and account growth, investment structure, and fees. ScholarShare's growth performance and overall positioning is in-line within the industry. Investment portfolios and underlying mutual funds have performed well relative to benchmark, industry, and peer group plans. Additionally, TFI has consistently met three of the four Board-approved marketing performance account and asset benchmarks for the Plan. However, TFI continues to lag the 529 industry annual asset growth rate benchmark. While overall performance and comparison factors for ScholarShare are generally positive and places the Plan competitively within the 529 industry, there are opportunities for growth and improvement. As a result, SIB staff has determined that a one-year extension to the Contract is warranted.

Presenter
Julio Martinez, Executive Director, ScholarShare Investment Board

RESOLUTION NO. 2018-01

RESOLUTION OF THE SCHOLARSHARE INVESTMENT BOARD RELATING TO THE APPROVAL OF AN AMENDMENT TO AGREEMENT NO. SIB 15-10 WITH TIAA-CREF TUITION FINANCING, INC. FOR PROGRAM MANAGEMENT SERVICES FOR THE SCHOLARSHARE 529 COLLEGE SAVINGS PLAN

WHEREAS, the ScholarShare Investment Board ("SIB" or the "Board") was created under Education Code section 69980 et seq. (the "Golden State ScholarShare Trust Act" or "Act");

WHEREAS, the Board, pursuant to Education Code Section 69982(b), has authority to contract for goods and services and engage personnel as necessary for the purpose of rendering professional, managerial, and technical assistance and advice to the Board;

WHEREAS, the Board, pursuant to Education Code Section 69981(c)(10), may authorize the Executive Director to enter into contracts on behalf of the Board or conduct any business necessary for the efficient operations of the Board;

WHEREAS, a program manager is needed to provide management services for California's ScholarShare 529 College Savings Plan (the "Plan"), which includes maintaining and managing investments, performing administration and customer service, and providing marketing;

WHEREAS, the term of the Board's existing contract, Agreement No. SIB 15-10 (the "Agreement"), with TIAA-CREF Tuition Financing, Inc. ("TFI") for program management services for the Plan expires on November 6, 2018;

WHEREAS, the Agreement provides for five optional one-year extensions to the term of the Agreement; and

WHEREAS, following a review of the analyses prepared and provided by the Board's investment consultant, Pension Consulting Alliance, LLC, and 529 industry consultant, AKF Consulting Group, SIB staff has determined that a one-year extension term to the Agreement is warranted.

NOW, THEREFORE, BE IT RESOLVED, that the Executive Director is hereby authorized to execute necessary documents and take whatever steps necessary to obtain all required approvals for an amendment to the Agreement with TFI to extend the term of the Agreement for one additional year, expiring on November 6, 2019.

Attest:____
For Chairperson, State Treasurer John Chiang

Date of Adoption: ______________________________

PCA | PENSION CONSULTING ALLIANCE

Date: March 15, 2018

To: ScholarShare Investment Board (SIB)

From: Pension Consulting Alliance, LLC (PCA)
Eric White, CFA, Kay Ceserani

RE: **TIAA Tuition Financing, Inc. (TFI) Peer Comparison Review**

Summary

PCA has conducted a peer comparison review of the ScholarShare College Savings Plan as of 12/31/2017. The review included an examination of the Plan's relative performance at both the Age-based and individual fund level, the asset allocation of Age-based options, available investments, and other considerations. To accomplish this, we looked at ScholarShare's Age-based portfolios' risk-adjusted performance compared to the following peer groups: (We do note, peer groups were adjusted this year to account for Program Manager changes or insufficient data due to glidepath structural changes.)

- The Morningstar median direct plan
- Other TFI managed plans
- Other plans with passive and active portfolios of similar size and characteristics to ScholarShare

We also examined the Plan's underlying mutual funds relative to their respective benchmarks and peer groups. We focused our analysis on the relative performance of the Plan's Age-based options as we believe this is the most important differentiator between competing plans within the 529 industry. We highlight the reason for this belief in more detail in the *Discussion* section (below). Generally, our findings are positive. In most circumstances, the performance of the Plan continues to be equal to or superior to plans in the industry, as well as the peer groups created for comparison purposes on a risk-adjusted basis. As is expected, we found that asset allocation was the main driver of relative performance. In some cases, the Plan's asset allocation aided relative performance, whereas in other cases, it weighed on performance. Overall, the Plan has a strong asset allocation and reasonably strong performance from underlying funds. We believe the results should be viewed positively.

Discussion

PCA was tasked with evaluating the performance of the Plan since the engagement of TFI as program manager through the end of 2017. Our analysis focused on the two areas we believe are most pertinent, from an investment perspective, in comparing one 529 plan to another: 1) the Age-based options and 2) the underlying funds. Most of our review focuses on the relative performance of the Plan's Age-based options relative to the industry as measured by the Morningstar Direct Plan Median and other peer group comparison plans that we view as good proxies for comparison; namely, other TFI managed plans and other plans with passive and active portfolios of similar size and characteristics to ScholarShare.

Our analysis focused heavily on the performance of the Age-based options for several important reasons:

- The majority of assets and flows are in and toward Age-based options.
- Individual options are often used as building blocks of the Age-based options and are thus incorporated into the analysis.
- Asset allocation is the largest determinant of a portfolio's risk and return. Asset allocation is determined at the Plan level for Age-based options.
- There are four main factors in determining the outcome of any savings program: size of the investment, timing of the investment, asset allocation, and fund selection. When looking to compare plans, Age-based options represent the only area where the Plan determines two of the four factors.

One issue that arises when comparing Age-based options across plans is the fact that plans differ on how often they segment their age bands. For example, one plan may have a single 0-7 age band, while a different plan may have 0-4 and 5-8 age bands. In recognizing this issue, PCA elected to utilize Morningstar's four age band buckets: Age 0-6, Age 7-12, Age 13-18, and Age 19+. As an example, both the ScholarShare Age 0-4 and Age 5-8 segments are compared against the Morningstar Age 0-6 segment. While this eliminates the possibility of a true apples-to-apples comparison, we believe the overall conclusions are still worthwhile because the general relationship holds; plans consistently producing above average results are superior to plans consistently producing below average returns.

The remainder of this memo will focus on Age-based performance analysis relative to the industry as measured by the Morningstar Direct Plan Median, other TFI managed plans and other passive and active portfolios of similar size and characteristics to ScholarShare. In addition, we will briefly look at the underlying fund performance relative to their benchmarks and peer groups.

<u>ScholarShare vs. Morningstar Direct Plan Median</u>

We compared the performance of the ScholarShare Age-based options to those of the Morningstar Direct Plan Median. Our analysis finds that both the active and passive portfolios produce solid risk-adjusted results versus the Morningstar median. The active portfolios produced results in-line with or above the Morningstar median across all stages of the glidepath primarily due to strong active management, while the passive portfolios yielded somewhat mixed results with 67% of the portfolios producing results at or above the median. This can largely be attributed to fees and differences in asset allocation. Both the active and passive portfolios outperformed the median in the 19+ age band due to the positive economics of the funding agreement.

ScholarShare Relative 3-Year Performance vs. Morningstar Median

	Active	**Passive**
Age 0-4	Above	In-line
Age 5-8	Above	**Below**
Age 9-10	Above	Above
Age 11-12	Above	**Below**
Age 13-14	Above	Above
Age 15	Above	Above
Age 16	Above	In-line
Age 17	In-line	**Below**
Age 18+	Above	Above

Other TFI Managed Plans

PCA compared the performance of ScholarShare to other 529 plans managed by TFI for which they have been the program manager for three or more years. This peer group consists of the Michigan, Wisconsin, Georgia, Oklahoma and Oregon Direct sold actively managed 529 plans. Our analysis finds that all the Plan's actively managed age bands perform in-line with or outperform all actively managed peer group age bands. This indicates that for a participant desiring active management, they would have received the similar or better risk-adjusted results being in ScholarShare than in the other peer group plans.

Non-TFI Managed Plans

PCA compared the performance of ScholarShare to other 529 plans not managed by TFI but which had certain characteristics that make them similar to ScholarShare. We broke this analysis into two segments: one for plans with actively managed portfolios and one for plans with passively managed portfolios. The passively managed peer group consists of the Maine, Massachusetts, Nebraska, and Colorado plans; while the actively managed peer group consists of the Maine, Massachusetts, Maryland, and Alabama plans.

For the passively managed Age 0-6 and Age 7-12 bands, ScholarShare's performance was in-line or better than the peer group. For the Age 13-18 band, ScholarShare on average generated higher returns than much of the peer group, yet did so with greater volatility than many of the peers. This can be attributed to differences in asset allocation. ScholarShare outperformed in the Age 19+ band due to the funding agreement.

Relative to other non-TFI actively managed plans, ScholarShare, as a whole, largely outperformed its peer groups. For all age bands, ScholarShare outperformed on either an absolute or risk adjusted basis. ScholarShare's actively managed Plan stands out for its strong performance relative to peers and the Morningstar median.

Underlying Fund Performance

In addition to evaluating ScholarShare's Age-based portfolios, PCA also reviewed the underlying mutual funds, which comprise both the building blocks of the Age-based options and the stand-alone fund options for the Plan. Since the revamping of the ScholarShare Plan with TFI as program manager, only three mutual funds have been on Watch status for performance reasons. This is unlike other PCA clients utilizing actively managed funds wherein often a third or more of the funds are on Watch status. Given the realities of actively managed mutual funds, this achievement will surely end; however, it is a surprising and impressive accomplishment over the measurement period.

When evaluating the efficacy of actively managed funds, two key questions are paramount:

1. Has the fund outperformed its stated benchmark on a risk-adjusted basis?
2. How has the fund performed relative to its peers?

Question one is important due simply to the fact that an investor chooses active management to accomplish just that. An investor can usually replicate the performance of a benchmark at very low cost (through a passive index fund), so an active manager unable to outperform the benchmark on a risk-adjusted basis hinders an investor through both foregone returns and higher fees. Question two tries to address (regardless of the answer to question one) whether the active manager is superior to other funds available to the investor.

In general, the actively managed funds within the ScholarShare Plan have outperformed both their respective benchmark and peer groups. Of the actively managed funds in the Plan, 7 out of 13 (or 54%) have matched or outperformed their respective benchmarks since the inception of TFI as program manager. In addition, 9 out of the 13 funds (or 69%) have produced results in the top half of their respective peer groups, of which 6 funds (or 46%) have performed in the top quartile of their peer group. This is exceptionally good performance.

Based on this, we can see that the underlying funds in the ScholarShare program, in aggregate, can answer affirmatively to both questions. The measurement period happens to coincide with a period, regarded by many in the asset management industry, of being quite challenging for active portfolio management. The fact that over 50% of the actively managed funds outperformed their respective benchmarks over this period is even that much more impressive given the difficulty of the environment.

PCA also evaluated the passively managed underlying mutual funds, which act as building blocks for the Age-based options and represent stand-alone funds within the Plan. We measured how closely the funds tracked their respective benchmarks and concluded that all passively managed funds have tracked their respective benchmark well within what we consider a tolerable level of deviation.

Conclusion

PCA has reviewed the performance of the ScholarShare program since the inception of TFI as program manager. Over this period, the Plan has performed well on both an absolute and relative basis. The Plan's Age-based portfolios consistently perform in-line with or outperform the Morningstar Direct Median Fund and the custom peer groups PCA created for comparison purposes, on a risk-adjusted basis. In the few instances where the Plan underperformed, there is a clearly identified reason for the underperformance and we believe it should be transitory in nature. In addition, the Plan's underlying mutual funds have performed extremely well versus both their benchmarks and peer groups.

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MEMORANDUM

TO:	**JULIO MARTINEZ, EXECUTIVE DIRECTOR**
	STANLEY ZETO, DEPUTY EXECUTIVE DIRECTOR
	SCHOLARSHARE INVESTMENT BOARD
FROM:	**AKF CONSULTING GROUP**
DATE:	**MARCH 20, 2018**
RE:	**SCHOLARSHARE 529 PLAN REVIEW**

I. INTRODUCTION

In November 2011, the ScholarShare Investment Board (the "Board") selected TIAA-CREF Tuition Financing, Inc. ("TFI") to replace Fidelity Investments as the Plan Manager for the ScholarShare 529 College Savings Plan ("ScholarShare 529", the "Plan" or "California"). The Board and TFI entered into a five-year Management Agreement, which includes optional one-year extensions for up to five years. The Board previously approved two options to extend the Management Agreement, which is currently set to expire on November 6, 2018. As the Board now contemplates another one-year extension, Staff has asked AKF Consulting Group ("AKF" or "AKF Consulting") to provide an overall Plan review. To that end, this memo includes current information about ScholarShare 529, the National Savings market and certain Peer Plans, including relative asset and account growth rates and comparisons of investment structures and fees. We believe the summarized information supports an additional extension of the Management Agreement.

II. RELATIVE GROWTH RATES

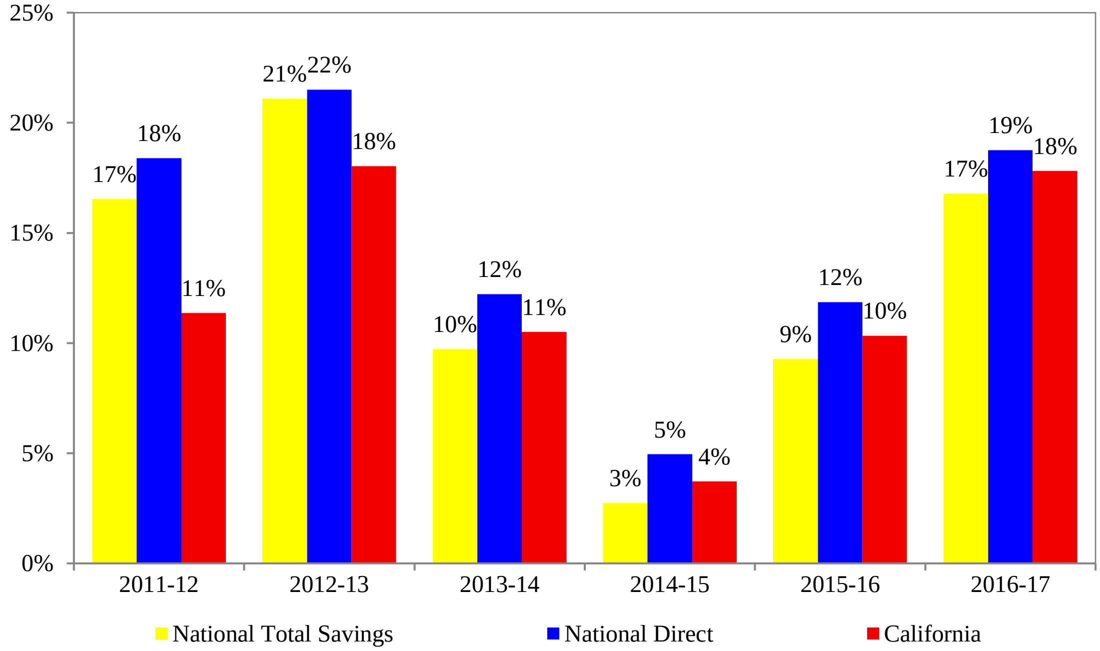
To assess relative growth rates, we have compared ScholarShare 529 to (i) the national savings market ("National Total", including Advisor and Direct Plans), (ii) the national direct market ("National Direct") and (iii) select Direct Plans ("Peer Plans"). In our view, Peer Plans include the following:

- Michigan and Wisconsin (managed by TFI)
- Nevada Vanguard (largest privately-managed Direct Plan nationwide; managed by Ascensus)
- New Hampshire (second largest privately-managed Direct Plan nationwide; managed by Fidelity)
- Kansas (Learning Quest and Schwab combined; high California concentration; managed by American Century)
- Illinois – ninth largest privately-managed Direct Plan nationwide; upgraded to Gold in 2017; managed by Union Bank)

For this analysis, we reviewed calendar years 2012 through 2017, the time period during which TFI has managed ScholarShare 529. We base our analysis on December 31 data from the College Savings Plans Network ("CSPN"), with clarifications by certain States.

National Savings Asset Growth. The following chart shows the asset growth of California versus each of National Total Savings and National Direct:

CALIFORNIA VS NATIONAL ASSET GROWTH 2012 – 2017



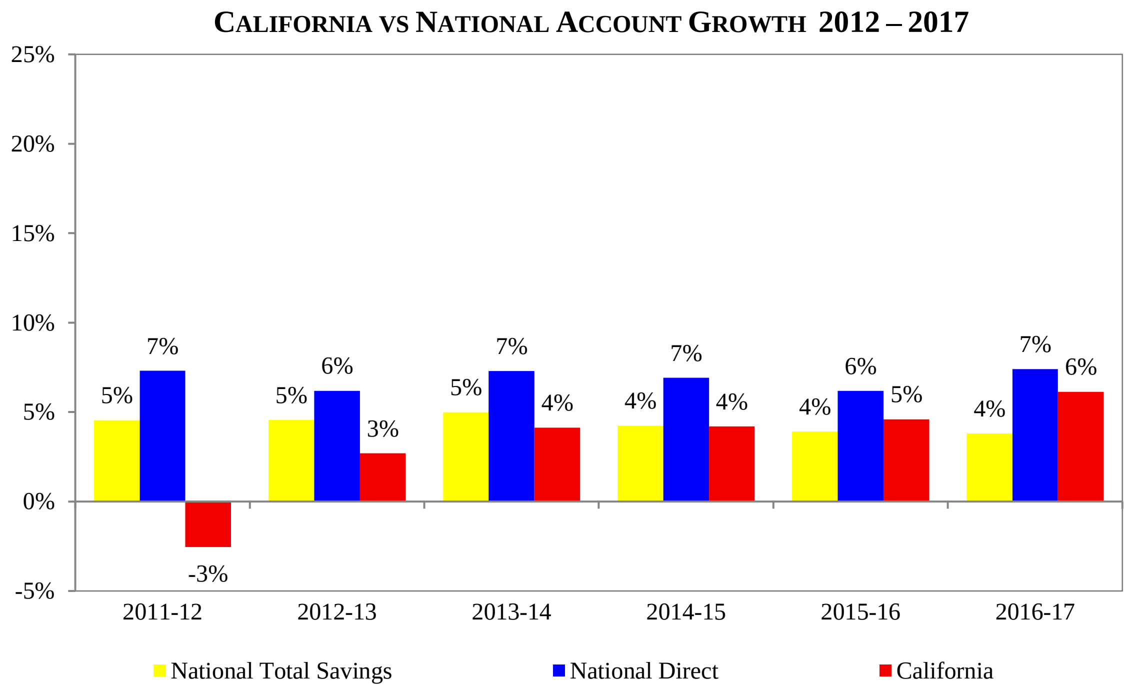
This chart effectively shows that between 2012 and 2017, California asset growth rates lagged National growth in early years but closed the gap more recently:

- California asset growth lagged National Total Savings and National Direct growth rates in 2012 by approximately 6% and 7%, respectively
- The gap narrowed in 2013, with California asset growth rates lagging National Total Savings and National Direct by 3% and 4%, respectively
- In each year between 2014 and 2017, California asset growth rates consistently exceeded National Total Savings growth rates while falling just short of National Direct growth rates

Over the long term, California asset growth has slightly lagged National growth rates:

- Over the 6-year period, California assets increased on average 11.8% annually, while National Total Savings increased by 12.5% and National Direct increased by 14.5%
- Removing the impact of the 2012 transition year (thus measuring the average annual growth over 5 years), the gap in growth rates is smaller (11.9% growth in California versus 11.7% growth in National Total Savings and 13.7% growth in National Direct)

National Account Growth. The following chart shows the account growth of California versus each of National Total Savings and National Direct:



This chart effectively shows that between 2012 and 2017, California account growth rates lagged National growth rates overall in early years but began to exceed National Total Savings growth rates in later years:

- Reflecting the conversion from Fidelity to TFI, California account growth lagged National Total Savings and National Direct in 2012 by 8% and 10%, respectively
- California account growth rebounded strongly in 2013
- Since 2014, California account growth has improved every year while National Total Savings and National Direct have either decreased or remained unchanged
    - Notably, in 2016 and 2017, California account growth exceeded National Total Savings while lagging National Direct just by 1%.

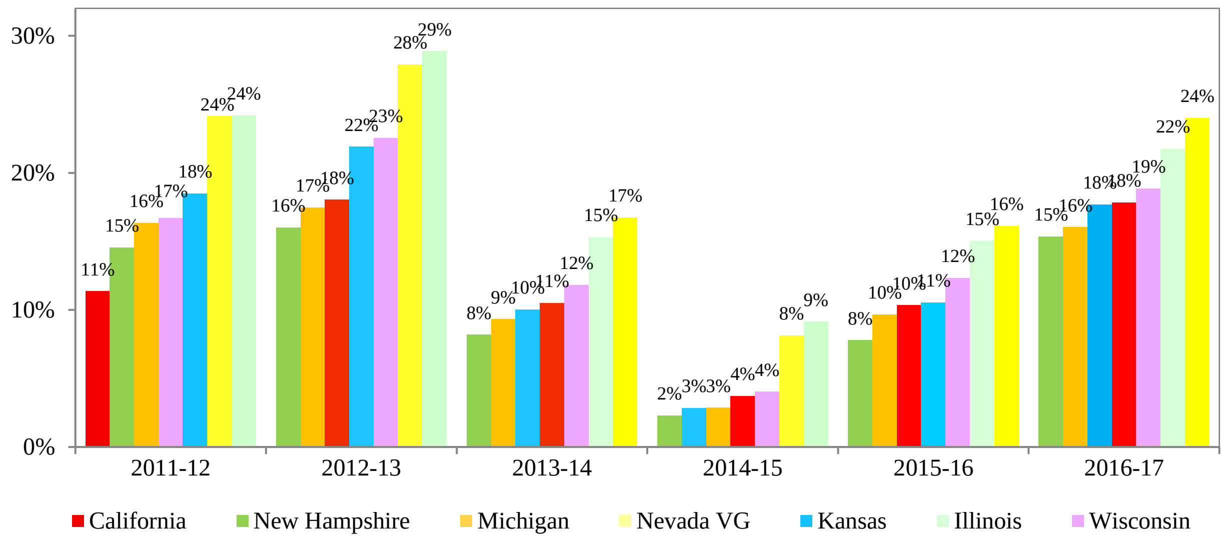
Over the long term, California account growth has lagged National account growth rates:

- Over the 6-year period, California accounts increased on average 3.2% annually while the National Total Savings accounts increased on average by 4.3% and National Direct increased on average 6.8%
- Removing the transition impact of 2012, over the 5-year period, California accounts increased on average 4.3% annually, matching the growth of National Total Savings (4.3%)[1] but still lagging the growth of National Direct (6.7%)

[1] Six-year growth for National Total Savings was 4.30%; five-year growth was 4.25%

Peer Plan Asset Growth. The following chart shows the asset growth of California versus Peer Plans:

CALIFORNIA VS PEER PLAN ASSET GROWTH 2012 – 2017



The chart above effectively shows that between 2012 and 2017, California's relative asset growth rates have generally improved:

- California 2012 asset growth (11%) underperformed all Peer Plans (lagging the fastest growing Illinois and Nevada Vanguard Plans by approximately 13%)
- In 2013, California asset growth (18%) surpassed Michigan (17%) and New Hampshire (16%), while in 2014, California (11%) also surpassed Kansas (10%)
- From 2014 through 2017, California asset growth approximated most Peers but for Nevada Vanguard, Illinois and Wisconsin

Peer Plan relative positions shifted overtime:

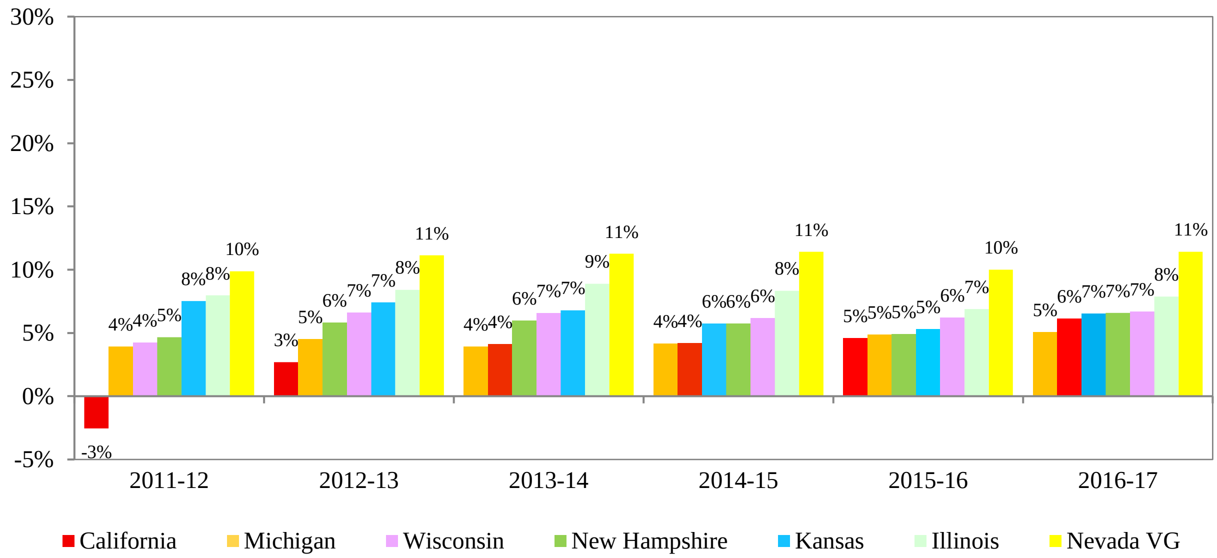
- While California's position improved, New Hampshire and Kansas relative asset growth rates have lagged overtime
- Wisconsin's comparatively strong asset growth (just behind Nevada and Illinois in most years) is partially explained by its small asset base compared to other Peer Plans
- Nevada Vanguard and Illinois consistently outpace Peer Plans

Over the long term, California assets have grown steadily:

- Between 2012 and 2017, average annual California asset growth (11.8%) outpaced New Hampshire (10.6%), while lagging Nevada Vanguard (19.3%) and Wisconsin (14.2%) over the same period
- Removing the impact of the transition year, California assets increased on average 11.9%, outpacing Michigan (10.9%) and New Hampshire (9.8%)

Peer Plan Account Growth. The following chart shows the account growth of California versus Peer Plans:

CALIFORNIA VS PEER PLAN ACCOUNT GROWTH 2012 – 2017



The chart above effectively shows that between 2012 and 2017, California relative account growth rates have improved slightly but still lag Peer Plans:

- California's negative growth in 2012 reflects the conversion as well as termination of the Advisor Plan
- In more recent years, California account growth rates have approximated other Peer Plans but still lag the leaders in Nevada Vanguard and Illinois

We observe noteworthy trends among Peer Plans:

- Wisconsin account growth has improved over time (partially boosted by its small account base compared to Peers) and is only surpassed by Illinois and Nevada as of 2015
- Nevada Vanguard consistently outpaced Peers despite a larger account base

Over the long term, California account growth rates lagged Peer Plans:

- California and Michigan lagged all Peers over the 6-year and 5-year periods
- Removing the impact of the transition year, California accounts increased on average 4.3% annually, slightly lagging Michigan's average annual growth rate (4.5%)

In general, while California has made notable improvements in relative asset and account growth overtime, there still is room for improvement in account growth rates. Still, in absolute terms, California has maintained its status as the fifth largest Direct Plan since 2012[2].

[2] Only New York, Nevada, New Hampshire and Utah exceed California

III. Comparison of Investment Structures

We have reviewed the investment structure of California and seven Peer Plans to identify differences in open versus closed architecture, portfolio management style and the breadth of options offered. For purposes of this analysis, we modified the Peer Plans defined on page 1 to include the Connecticut Direct Plan and to exclude the Kansas Learning Quest Plan, reflecting a more comparable investment analysis.[3] Thus, the Peer Plans for this section include:

- Connecticut, Michigan and Wisconsin (managed by TFI)
- Nevada Vanguard (managed by Ascensus)
- New Hampshire (managed by Fidelity)
- Kansas Schwab (managed by American Century)
- Illinois (managed by Union Bank[4])

Data for this section was provided by Morningstar Direct and individual Offering Statements as of March 7, 2018[5].

Overall Structure. In terms of overall investment structure and fund families involved, all but Nevada Vanguard include non-proprietary investments. Green represents TIAA-managed Plans.

Overview of Plan Investment Structure		
Direct Plan - *Program Manager*	**Open Architecture**	**Underlying Funds**
California - *TFI*	Yes	• ***Passive*** – 100% TIAA • ***Active*** – Mostly non-TIAA (Includes T. Rowe Price, DFA, Met West, etc.)
Connecticut - *TFI*	Yes	Mostly TIAA-CREF (Others include BlackRock, DFA, T. Rowe Price, etc.)
Illinois - *Union Bank*	Yes	• ***Passive*** – 100% Vanguard • ***Multifirm*** – Various non-proprietary funds (Includes T. Rowe Price, DFA, VG, etc.)
Kansas Schwab - *American Century*	Yes	• ***Passive*** –100% Schwab except one VG fund • ***Active*** – Mostly American Century (Others include JPMorgan, Laudus, etc.)
Michigan - *TFI*	Yes	100% TIAA except one VG fund
Nevada Vanguard - *Ascensus*	No	100% Vanguard
New Hampshire - *Fidelity*	Yes	• ***Index*** – 100% Fidelity • ***Fidelity (Active)*** – 100% Fidelity • ***Multifirm (Active)*** – Mostly non-Fidelity (Includes JPMorgan, MFS, PIMCO, etc.)
Wisconsin - *TFI*	Yes	Mostly TIAA-CREF (Others include T. Rowe Price and Templeton)

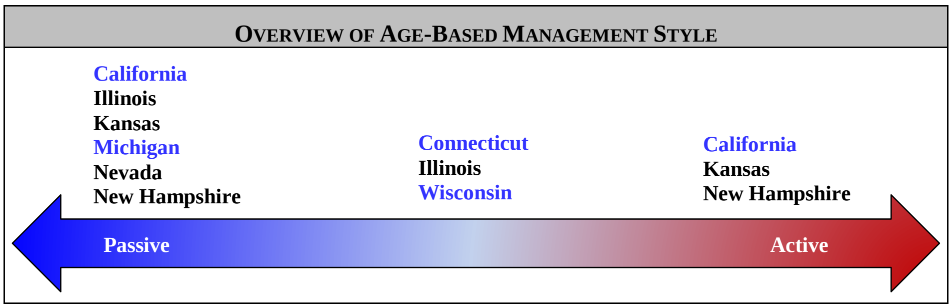
[3] This analysis includes Connecticut as another TFI-managed Medal-rated Plan; Kansas Schwab has a large number of Californian account owners.

[4] Union Bank replaced Oppenheimer as Bright Start Program Manager in July 2017. The Plan now offers a new line-up of investment options. Notably, Morningstar also upgraded Bright Start to Gold in October 2017.

[5] Illinois age-based asset data as of December 31, 2017

While the Peer Plans are characterized as "open architecture" (based on at least one fund unrelated to the Program Manager), a large number of the underlying funds are still proprietary to each Program Manager. For example, the chart above shows that the TFI-managed Plans predominantly use TIAA funds. Kansas generally includes either an American Century or Schwab Fund. New Hampshire includes an all-Fidelity line-up in two out of three age-based options.

Management Style. The following chart shows information about the portfolio management style for the Peer Plans. Not surprisingly, the style skews towards passive management since six out of eight Plans, including California, offer passively-managed age-based options.



Note: TFI-managed states shown in **blue**

As further detailed in the following chart, it is interesting to note that the Michigan Plan as well as Nevada Vanguard offer only 100% passive management for their age-based options. Four of eight Plans – California, Illinois, Kansas and New Hampshire – offer a choice of passive and blended or active management. Two Plans, Connecticut and Wisconsin, use a 100% blended management style.

MANAGEMENT STYLE OF AGE-BASED OPTIONS

Direct Plan	Number of Options: Passive	Number of Options: Blend or Active	Asset Weighting	Overall Management Style[6]
California	**1 Passive**	**1 Active**	**65% Passive / 35% Active**	Mostly Passive
Connecticut	--	3 Blend	100% Blend	Blended
Illinois	3 Passive	3 Blend	54% Passive / 46% Blend	Passive and Blended
Kansas Schwab	4 Passive	4 Active	14% Passive / 86% Active[7]	Mostly Active
Michigan	3 Passive	--	100% Passive	Passive
Nevada Vanguard	3 Passive	--	100% Passive	Passive
New Hampshire	1 Passive	2 Active	22% Passive / 78% Active	Mostly Active
Wisconsin	--	3 Blend	100% Blend	Blended

Breadth of Investment Options. With respect to investment choice, California offers a broad selection that is on par with Peer Plans. As shown in the following chart, California (19) is in line

[6] This column represents an overall asset-weighted management style of all age-based options within a Plan.
[7] No asset data provided on Morningstar Direct; information provided as of September 30, 2015

with the average number of total options offered by the Peer Plans (18). We also note differences in the TFI-managed Plans: Michigan offers just 9 investment options while Wisconsin offers 17. Kansas Schwab offers the greatest number of age-based options – four passively managed and four actively managed options. The new Illinois line-up offers 26 options overall, including 14 individual options (the most individual options offered but for Nevada Vanguard).

Distribution of Investment Options				
Direct Plan	**Total**	**Age-based**	**Static**	**Individual**
California	**19**	**2**	**12**	**5**
Connecticut	14	3	4	7
Illinois	26	6	6	14
Kansas Schwab	21	8	12	1
Michigan	9	3	4	2
Nevada Vanguard	23	3	5	15
New Hampshire	15	3	6	6
Wisconsin	17	2	8	7
Average of Plans Shown	**18.0**	**3.8**	**7.1**	**7.1**

Taking a closer look at individual options, we note that the total number of options ranges widely from 1 to 15, with California in the middle of the pack, as shown in the following chart:

Individual Options Offered					
Direct Plan	**# Options**	**Passive**	**Active**	**Guaranteed**	**Short Term**
California	**5**	**US Equity Bond**	**Social Choice**	**Principal Plus**	**--**
Connecticut	7	US / Int'l Equity Bond	Global Tactical Social Choice	Principal Plus	Money Market
Illinois	14	US / Int'l Equity US/ Int'l Bond TIPS Real Estate	US Equity Bond	--	Money Market
Kansas Schwab	1	--	--	--	Money Market
Michigan	2	US Equity	--	Principal Plus	--
Nevada Vanguard	15	US / Int'l Equity US/ Int'l Bond TIPS	US Equity Balanced High Yield TIPS	--	Short Term Reserves
New Hampshire	6	US / Int'l Equity Bond	--	--	Bank Money Market
Wisconsin	7	US Equity Bond	Social Choice	Principal Plus	Bank
Total Plans	**--**	**7**	**5**	**4**	**6**

As shown in the chart immediately above, seven of eight Plans offer either passively-managed or actively-managed individual options, which is appealing to investment savvy, do-it-yourself investors. We also note that Illinois and Nevada Vanguard offer the most diverse selection of passively- and actively-managed individual options across asset classes. TFI-managed California, Connecticut and Wisconsin each offer the actively-managed Social Choice Portfolio, while all four TFI Plans offer the TFI Principal Plus Interest Portfolio (all using the TIAA Life Funding Agreement). Kansas only offers the bare minimum of one Money Market.

More broadly, we also reviewed asset classes offered by California and Peer Plans as compared to the rest of the industry. The following chart shows a list of non-traditional asset classes that can play an important role in diversifying an investment portfolio to enhance the risk-return profile over time. California includes most of the asset classes either as part of its asset allocation strategies or as an individual option, as do other TFI-managed Plans and New Hampshire. Surprisingly, Nevada Vanguard and Kansas Schwab only offer a few of the listed asset classes.

Asset Classes Offered						
Direct Plan	**International Equity**	**TIPS**	**Real Estate**	**Emerging Market Equity**	**Guaranteed**	**Commodities**
California	**X**	**X**	**X**	**X**	**X**	
Connecticut	X	X	X	X	X	
Illinois	X	X	X	X		
Kansas Schwab	X	X				
Michigan	X	X	X	X	X	
Nevada Vanguard	X	X				
New Hampshire	X	X	X	X		X
Wisconsin	X	X	X	X	X	
529 Direct Plans[8]	**88%**	**76%**	**46%**	**44%**	**29%**	**12%**

[8] Represents data compiled by AKF Consulting as of April 10, 2016

IV. Comparison of Fees

The following chart shows the weighted average total fees by management style for the age-based options. As you can see, the range of fees varies widely but California passive and active fees are the lowest among all Peer Plans. This is consistent with California's positive Morningstar Pillar rating on Price.

Weighted Average Total Fees of Age-Based Options[9]				
Direct Plan	**Total Plan AUMs**	**Passive**	**Blend**	**Active**
California	$8,284,681,824	0.15%	--	0.56%
Connecticut	$3,000,292,082	--	0.31 – 0.34%	--
Illinois	$5,352,000,000	0.13%	0.38%	--
Kansas Schwab	$3,973,636,320	0.30%	--	0.65 – 0.83%[10]
Michigan	$5,269,305,200	0.17%	--	--
Nevada Vanguard	$17,015,397,253	0.16%	--	--
New Hampshire	$12,373,828,759	0.15%	--	0.81 – 1.07%
Wisconsin	$3,022,919,820	--	0.22 – 0.27%	--
Range	--	**0.13 – 0.30%**	**0.22 – 0.38%**	**0.56 – 1.07%**

In looking at pricing across Program Managers, it is interesting to note that despite much larger AUMs, the Nevada Vanguard and New Hampshire passive fees (0.16% and 0.15% (16 and 15 basis points), respectively) approximate California's (0.15% or 15 basis points). This certainly distinguishes the California pricing among Direct Plans nationwide. We note that Illinois fees for its passively-managed age-based options are priced below California's. Even though the Program Manager in Illinois charges a higher Program Management Fee than TFI charges in California (0.08% versus 0.03% (8 and 3 basis points), respectively), the underlying fund fees for Vanguard are lower than the TIAA underlying fund fees.

9 Morningstar Direct fee data available as of March 5, 2018; CSPN asset data as of December 31, 2017

10 Asset data not provided by Morningstar Direct. Represents simple average calculation of all actively managed age-based options

V. OBSERVATIONS

Based upon our research, we conclude that California is generally well-positioned compared to the industry. This is based upon the following observations:

- Asset growth is on par with the National Direct market and Peer Plans generally
- The sheer number of California accounts – only smaller than Nevada and New Hampshire – partially explains the relatively lower growth rates compared to Peer Plans
- With respect to investment structures and breadth of investment options, California is well in line with the industry
- California's fees are among the lowest in the industry

On a whole, we view the ScholarShare 529 favorably and believe that enhancements at the margin will further distinguish it from other 529 plans. Importantly, we believe that recent improvement in account growth rates justifies another extension of the Management Agreement.

We welcome the opportunity to discuss any part of our analysis in more detail. Thank you.