APRIL 4, 2019

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 ScholarShare 529

Recommendation
ScholarShare Investment Board (SIB or Board) staff recommends the Board adopt Resolution No. 2019-02 approving an amendment to Agreement No. SIB 15-10 with TIAA-CREF Tuition Financing, Inc. (TFI) for program management services for ScholarShare 529 (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 2018, the Board approved an amendment to the Contract to extend the term for one year. The Contract is set to expire in November 2019.

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 (now Meketa Investment Group).

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 529 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
Andrea Feirstein, Managing Director, AKF Consulting Group
Soohyang Lee, Vice President, AKF Consulting Group
Eric White, Executive Vice President, Meketa Investment Group

RESOLUTION NO. 2019-02

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, 2019;

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 and 529 industry consultant, 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, 2020.

Attest:____
Chairperson

Date of Adoption: ______________________________

MEMORANDUM TO THE BOARD

TO: SCHOLARSHARE INVESTMENT BOARD
FROM: AKF CONSULTING GROUP
DATE: MARCH 25, 2019
RE: SCHOLARSHARE 529 PLAN REVIEW

I. INTRODUCTION

In November 2011, the ScholarShare Investment Board (the "Board") selected TIAA-CREF Tuition Financing, Inc. ("TFI") as the Plan Manager for the ScholarShare 529 College Savings Plan ("ScholarShare 529" or "California"). The Board and TFI entered into a five-year Management Agreement, which includes five optional one-year extensions. The Board has previously approved three extensions, resulting in a term ending November 6, 2019. As the Board now contemplates a fourth one-year extension, Staff has asked AKF Consulting Group 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 (defined below), including relative asset and account growth rates and comparisons of investment structures and fees. We believe the summarized information supports another 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 Savings," including Direct and Advisor Plans)
(ii) the national direct market ("National Direct"), and
(iii) select Direct Plans ("Peer Plans")

The Appendix to this memo includes the twenty largest Direct Plans by assets and accounts. In our view, Peer Plans include the following (California is included for comparison purposes):

Plan	Program Manager	Assets[1]	Morningstar Plan Rating	Reasons for Inclusion
California	TFI	$8,251,321,353	Silver	–
Illinois	Union Bank	$5,508,720,693	Gold	Program Manager, Size, Morningstar Rating, Investment Structure
Kansas[2]	American Century	$5,844,549,617	Neutral[3]	High California account concentration, Investment Structure
Michigan	TFI	$5,172,905,035	Silver	Program Manager, Size, Morningstar Rating

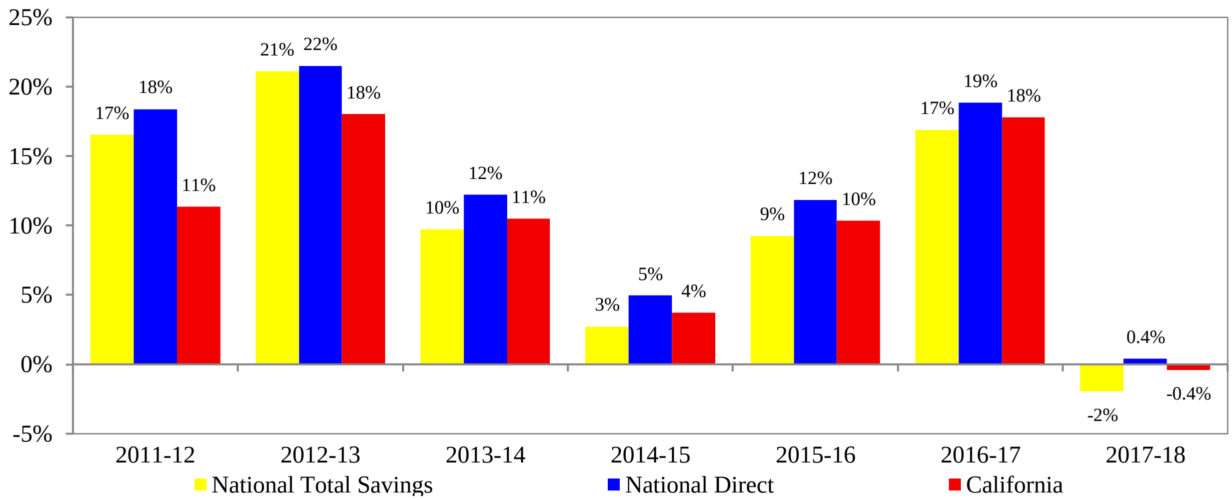
[1] College Savings Plans Network ("CSPN") as of December 31, 2018
[2] Kansas represents three Direct-sold Plans: Schwab 529 College Savings Plan ("Schwab 529"), Learning Quest Education Savings Plan Direct ("Learning Quest Direct"), and Schwab Learning Quest 529 Plan ("Schwab Learning Quest"). While we have included all three Direct-sold Plans for growth comparisons, we note that the Schwab 529 is the Plan with high California account concentration
[3] Schwab 529 and Learning Quest Direct are both rated Neutral by Morningstar

Plan	Program Manager	Assets[1]	Morningstar Plan Rating	Reasons for Inclusion
New York	Ascensus	$23,182,523,641	Bronze	Program Manager, State Distribution, Size
New Hampshire	Fidelity	$12,070,606,575	Bronze	Program Manager, Investment Structure
Wisconsin	TFI	$3,004,236,741	Bronze	Program Manager

To analyze relative growth rates, we have reviewed calendar years 2012 through 2018, 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 – 2018



This chart shows that between 2012 and 2018, California asset growth rates lagged National growth rates in early years but closed the gap more recently:

- Prior to TFI's management, California asset growth lagged National Total Savings and National Direct growth rates in 2012 by approximately 6% and 7%, respectively
- The gap narrowed in 2014, with California asset growth rates lagging National Direct by 1% but surpassing National Total Savings by 1%
- In each year between 2014 and 2018, California asset growth rates consistently exceeded National Total Savings growth rates while falling just short of National Direct growth rates

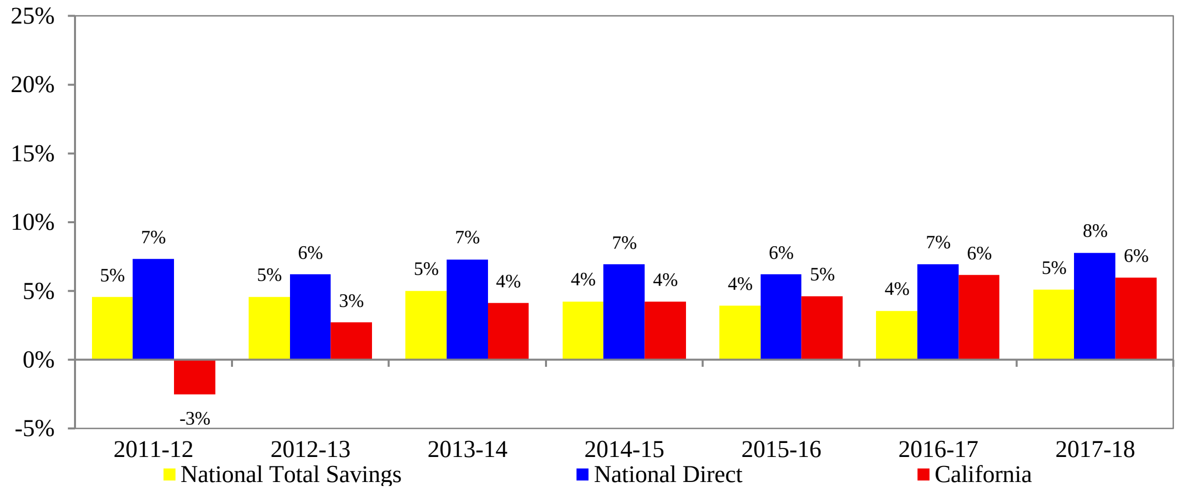
Over the long term, California asset growth has closely followed National asset growth rates:

- Over the seven-year period, California assets grew on par with the growth of National Total Savings (10.0% versus 10.3%, respectively) but lagged the growth of National Direct (10.0% versus 12.4%, respectively)
- Removing the impact of the 2012 transition year, over the six-year period:
    - The gap between California and National Direct growth rates narrows (9.8% and 11.4%, respectively, as opposed to 10.0% and 12.4%)

- California's growth rate exceeds the National Total Savings growth rate (9.8% versus 9.4%, respectively)

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

CALIFORNIA VS NATIONAL ACCOUNT GROWTH 2012 – 2018



This chart shows that between 2012 and 2018, California account growth rates lagged National growth rates overall in early years but began to exceed National Total Savings growth rates in later years:

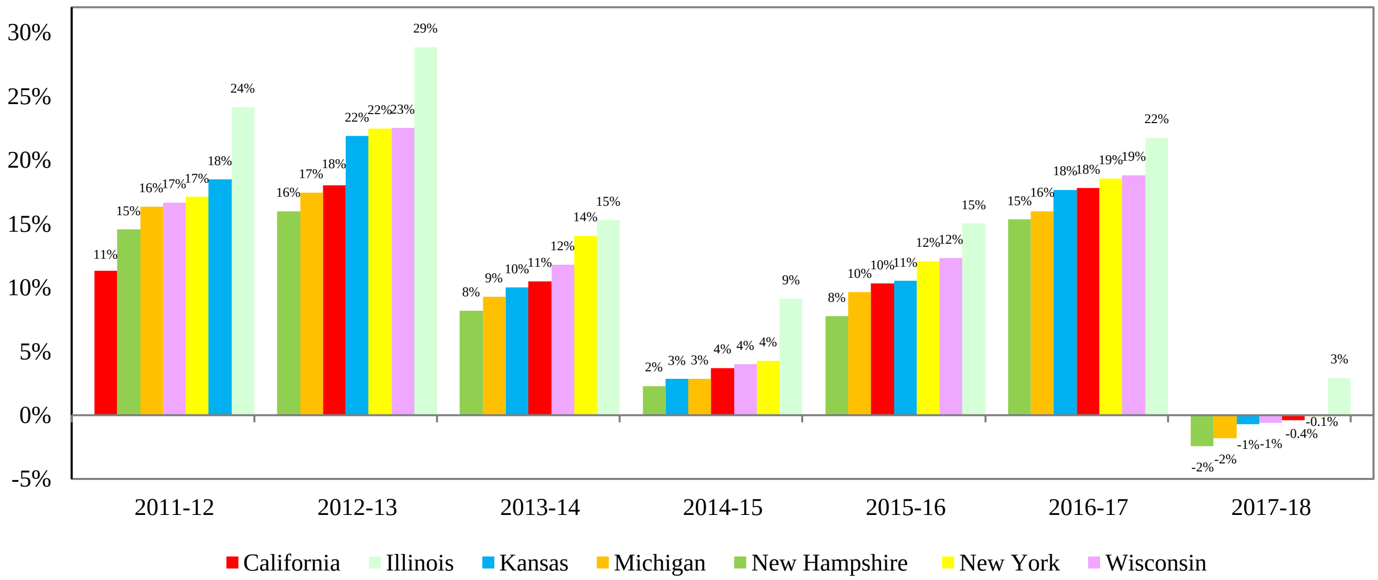
- Reflecting the conversion from Fidelity to TFI (shown in 2011-12), California account growth lagged National Total Savings and National Direct in 2012 by 8% and 10%, respectively
- California account growth improved strongly in 2013, with continued improvement since
- California account growth has surpassed the growth of National Total Savings since 2016

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

- Over the seven-year period, California accounts increased on average 3.6% annually, lagging the account growth of National Total Savings (4.4%) and National Direct (7.0%)
- Removing the transition impact of 2012, over the six-year period, California accounts increased on average 4.6% annually, exceeding the growth of National Total Savings (4.4%) but still lagging the growth of National Direct (6.9%)

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

CALIFORNIA VS PEER PLAN ASSET GROWTH 2012 – 2018



The chart shows that between 2012 and 2018, California's relative asset growth rates have generally improved:

- In the 2012 transition year, California asset growth (11%) underperformed all Peer Plans (lagging the fastest growing Illinois Plan by approximately 13%)
- Since 2013, California has remained in the middle of the pack, relatively grouped ahead of Kansas, Michigan and New Hampshire in each year
- In 2018, California asset growth (-0.4%) surpassed all Plans but for Illinois (3%) and New York (-0.1%)

Peer Plan relative positions have remained more or less consistent over time:

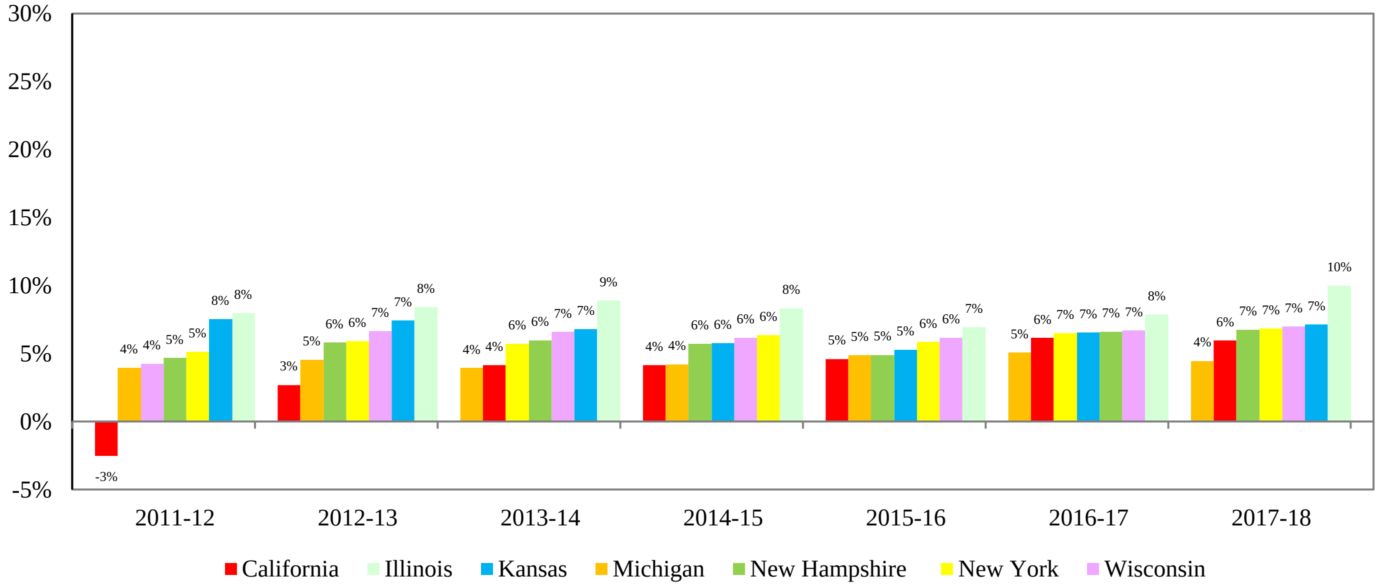
- While California's position improved, Michigan and New Hampshire relative asset growth rates have lagged over time
    - Michigan has generally lagged comparably-sized Peer Plans in Illinois and Kansas
    - Plans that are larger than California exhibit strikingly different growth rates – New Hampshire lags all Peer Plans while New York maintains a strong relative position despite its asset size
- Wisconsin's comparatively strong asset growth reflects its small asset base compared to other Peer Plans

Over the long term, California assets have grown steadily:

- Between 2012 and 2018, average annual California asset growth (10.0%) outpaced Michigan (9.8%) and New Hampshire (8.6%), while lagging other Peer Plans over the same period
- Removing the impact of the 2012 transition year, California assets increased on average 9.8%, outpacing Michigan (8.7%) and New Hampshire (7.7%) by a greater margin

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

CALIFORNIA VS PEER PLAN ACCOUNT GROWTH 2012 – 2018



The chart shows that between 2012 and 2018, California account growth rates have improved slightly but lag most Peer Plans in relative terms:

- California's negative growth in 2012 reflects the conversion
- California account growth rates have steadily improved from 3% in 2013 to 6% in each of 2017 and 2018
- In more recent years, California account growth rates have approximated other Peer Plans but still lag the leader in Illinois

We observe noteworthy trends among Peer Plans:

- Illinois has consistently outpaced Peer Plans, including New York and California, boosted by a smaller account base
- Wisconsin (close behind Illinois in most years) has also enjoyed a relatively strong account growth due to its small account base

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

- California and Michigan lagged all Peer Plans over the seven-year and six-year periods
- Removing the impact of the transition year, California accounts increased on average 4.6% annually, slightly outpacing Michigan's average annual growth rate (4.5%)

In general, California has made notable improvements in asset and account growth over time. We note, in absolute terms, California has maintained its status as the fifth largest Direct Plan since 2012.[4]

[4] Only New York, Nevada, New Hampshire and Utah exceed California in terms of absolute assets and accounts

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.[5] Thus, the Peer Plans for the investment structure analysis include:

- Connecticut, Michigan and Wisconsin (managed by TFI)
- Illinois (managed by Union Bank)
- Kansas Schwab (managed by American Century)
- New York (managed by Ascensus)
- New Hampshire (managed by Fidelity)

Data for this section was provided by individual Program Disclosure Statements as of March 6, 2019.

Overall Plan Structure. In terms of overall investment structure and fund families involved, all but New York include non-proprietary investments. Green rows represent TFI-managed Plans.

OVERVIEW OF PLAN INVESTMENT STRUCTURE

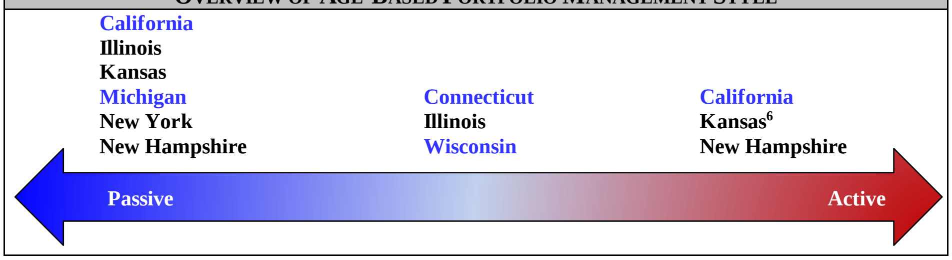
Direct Plan ***Program Manager***	**Open Architecture**	**Underlying Funds**
California ***TFI***	Yes	• ***Passive*** – 100% TIAA-CREF • ***Active*** – Mostly non-TIAA-CREF (includes DFA, MetWest, PIMCO, T. Rowe Price)
Connecticut ***TFI***	Yes	Mostly TIAA-CREF (others include BlackRock, DFA, Franklin Templeton, Harding Loevner, MetWest, PIMCO, SSGA, T. Rowe Price, Vanguard)
Illinois ***Union Bank***	Yes	• ***Passive*** – 100% Vanguard • ***Multi-firm*** – Various fund companies (includes Ariel, Baird, BlackRock, DFA, Dodge & Cox, Dreyfus, Nuveen, Oppenheimer, Prudential, T. Rowe Price , Vanguard)
Kansas Schwab 529 ***American Century***	Yes	• ***Passive*** –100% Schwab except one VG fund • ***Active*** – Mostly American Century (others include American Beacon, Baird, JPMorgan, Laudus, MetWest, Schwab)
Michigan ***TFI***	Yes	100% TIAA-CREF except one Vanguard fund
New Hampshire ***Fidelity***	Yes	• ***Index*** – 100% Fidelity • ***Fidelity (Active)*** – 100% Fidelity • ***Multi-firm (Active)*** – Mostly non-Fidelity (includes Acadian, AllianceBernstein, AQR, BlackRock, Brandywine, Causeway, Credit Suisse, Hotchkis & Wiley, JPMorgan, Loomis Sayles, LSV, MainStay, MetWest, MFS, PGIM, PIMCO, Western Asset, William Blair)
New York ***Ascensus***	No	100% Vanguard
Wisconsin ***TFI***	Yes	Mostly TIAA-CREF (others include DFA, MetWest, T. Rowe Price and Templeton)

[5] Connecticut is a TFI-managed, Bronze-rated Plan; Schwab 529 has a large number of California-based accounts

While 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.

Age-Based Portfolio Management Style. The following chart shows information about the portfolio management style for the Peer Plans. The style skews towards passive management since six of eight Plans, including California, offer at least one passively-managed age-based option.

OVERVIEW OF AGE-BASED PORTFOLIO MANAGEMENT STYLE



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

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

MANAGEMENT STYLE OF AGE-BASED OPTIONS			
	Number of Options		
Direct Plan	**Passive**	**Blend or Active**	**Overall Management Style**
California	**1 Passive**	**1 Active**	Choice of Passive and Active
Connecticut	--	3 Blend	Blended
Illinois	3 Passive	3 Blend	Choice of Passive and Blended
Kansas Schwab 529	4 Passive	4 Active	Choice of Passive and Active
Michigan	3 Passive	--	Passive
New Hampshire	1 Passive	2 Active	Choice of Passive and Active
New York	3 Passive	--	Passive
Wisconsin	--	3 Blend	Blended

[6] Underlying funds include just one index fund that comprises, at most, 8.50% of any actively-managed age-based portfolio

Breadth of Investment Options. California offers a selection of investment choices that is on par with Peer Plans. As shown in the following chart, California (19) exceeds the average number of total options offered by Peer Plans (17.4). We also note differences in the TFI-managed Plans in Michigan (9), Connecticut (14) and Wisconsin (17). Kansas Schwab 529 offers the greatest number of age-based options – four passively-managed and four actively-managed options. The Illinois line-up offers 28 options overall, including 16 individual options (the most individual options offered).

DISTRIBUTION OF INVESTMENT OPTIONS				
Direct Plan	**Total**	**Age-based**	**Static**	**Individual**
Illinois	28	6	6	16
Kansas Schwab 529	21	8	12	1
California	**19**	**2**	**12**	**5**
Wisconsin	17	2	8	7
New York	16	3	5	8
New Hampshire	15	3	6	6
Connecticut	14	3	4	7
Michigan	9	3	4	2
Average of Peer Plans	**17.4**	**3.8**	**7.1**	**6.5**

Taking a closer look at individual options, we note that the total number of options ranges widely from 1 to 16, with California in the lower end, as shown in the following chart:

INDIVIDUAL OPTIONS OFFERED					
Direct Plan	**# of Options**[7]	**Passive**	**Active**	**Guaranteed**	**Short Term**
Illinois	16	US / Int'l Equity US/ Int'l Bond TIPS Real Estate	US / Int'l Equity Bond	--	Money Market
New York	8	US / Int'l Equity Bond	TIPS	--	Short Term Reserves
Connecticut	7	US / Int'l Equity Bond	Global Tactical Social Choice	Principal Plus	Money Market
Wisconsin	7	US Equity Bond	US Equity Social Choice	Principal Plus	Bank
New Hampshire	6	US / Int'l Equity Bond	--	--	Bank Money Market
California	**5**	**US Equity Bond**	**Social Choice**	**Principal Plus**	**--**
Michigan	2	US Equity	--	Principal Plus	--
Kansas Schwab 529	1	--	--	--	Money Market
Total	**Average 6.7**	**7**	**5**	**4**	**6**

[7] Totals shown in this column may not add to the Options shown in the chart if a particular asset class is included in multiple Options

As shown in the chart, excluding Kansas, all Plans offer multiple individual fund options, which we believe is appealing to investment savvy, do-it-yourself investors. We also note that the Gold-rated Illinois Plan offers the most diverse selection of passively- and actively-managed individual options across asset classes. The TFI-managed Plans in California, Connecticut and Wisconsin each offer the actively-managed Social Choice Portfolio, while all four TFI-managed Plans (including Michigan) offer the TFI Principal Plus Interest Portfolio (all using the TIAA-CREF Life Funding Agreement). We note that California offers just five individual options, which is lower than the average of Peer Plans overall (6.7) and the TFI-managed Connecticut and Wisconsin Plans (7 each).

Diversifying Asset Class Offerings.[8] More broadly, we also reviewed select asset classes offered by California and Peer Plans. The following chart shows a list of 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 these asset classes either as part of an asset allocation strategy or as an individual option, as do other TFI-managed Plans and New Hampshire. New York and Kansas Schwab 529 only offer two of the listed asset classes.

EXPOSURE TO DIVERSIFYING ASSET CLASSES

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 529	X	X				
Michigan	X	X	X	X	X	
New Hampshire	X	X	X	X		X
New York	X	X				
Wisconsin	X	X	X	X	X	

[8] Asset class identification is based upon "dedicated" underlying funds and not underlying funds with partial exposure to these asset classes

IV. Comparison of Age-Based Fees

The following chart shows the range of total fees by management style for the age-based options. California offers some of the lowest fees for both passive and active age-based options among all Peer Plans. This is consistent with California's Positive Morningstar Price Pillar rating.

Direct Plan	Morningstar Price Pillar Rating (Plan Rating)	Total Assets[9]	Total Fees of Age-Based Options		
			Passive	Blend	Active
California	Positive (Silver)	$8,251,321,353	0.11% – 0.17%	--	0.31% – 0.56%
Connecticut	Positive (Bronze)	$2,946,746,057	--	0.21% – 0.43%	--
Illinois	Positive (Gold)	$5,508,720,693	0.12% – 0.15%	0.26% – 0.46%	--
Kansas Schwab 529	Neutral (Neutral)	$4,058,913,378	0.25%	--	0.50% – 1.00%
Michigan	Positive (Silver)	$5,172,905,035	0.14% – 0.20%	--	--
New Hampshire	Neutral (Bronze)	$12,070,606,575	0.13% – 0.17%	--	0.65% – 1.13%
New York	Positive (Bronze)	$23,182,523,641	0.13%		
Wisconsin	Positive (Bronze)	$3,004,236,741	--	0.18% – 0.32%	--
Range of Fees	--	--	**0.11% – 0.25%**	**0.18% – 0.46%**	**0.31% – 1.13%**

In looking at pricing across Program Managers, it is interesting to note that despite much larger AUMs, the New York and New Hampshire passive fees (0.13% and 0.13% - 0.17%, respectively) approximate California's (0.11%-0.17%). This certainly distinguishes the California pricing among Direct Plans nationwide. We also note that Illinois fees for its passively-managed age-based options are priced very similarly to California's. A higher Program Management Fee in Illinois (0.08% versus 0.03% in California) is offset by the use of lower cost Vanguard funds.

California's actively-managed age-based option is also well-priced compared to Kansas Schwab 529, and, despite a much larger asset base, New Hampshire. We believe that these fee differences are reflected in Morningstar's Positive Price Pillar for California (as compared to the Neutral Price Pillars for Kansas Schwab 529 and New Hampshire).

[9] CSPN as of December 31, 2018

V. OBSERVATIONS

Based upon our research, we conclude that ScholarShare 529 is well-positioned compared to the industry:

- Asset and account growth rates are on par with the National Direct market and Peer Plans generally.
- ScholarShare 529 is in line with the industry on investment structures and breadth of investment options. One potential area for the Board's consideration would be to evaluate whether additional individual fund options would enhance the Plan's appeal to do-it-yourself investors.
- ScholarShare 529 fees are competitive compared to Peer Plans and, importantly, remain among the lowest in the industry.

With TFI as its Program Manager, ScholarShare 529 has generally improved its position vis-à-vis Peer Plans and the rest of the industry. On a whole, we view the ScholarShare 529 favorably and believe that another extension of the Management Agreement is merited at this time.

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

Appendix
Top 20 Direct Plans by Assets and Accounts
CSPN data as of December 31, 2018

Rank	State	Total Assets
1	New York	$23,182,523,641
2	Nevada[10]	$22,404,859,500
3	Utah	$12,214,742,501
4	New Hampshire	$12,070,606,575
5	**California**	**$8,251,321,353**
6	Kansas[11]	$5,844,549,617
7	Ohio	$5,746,809,232
8	Massachusetts	$5,732,391,246
9	Maryland	$5,534,121,897
10	Illinois	$5,508,720,693
11	Michigan	$5,172,905,035
12	Iowa	$4,616,575,294
13	Virginia	$4,483,114,378
14	Colorado[12]	$3,764,669,896
15	Nebraska[13]	$3,194,698,445
16	Alaska[14]	$3,115,517,713
17	Wisconsin	$3,004,236,741
18	Connecticut	$2,946,746,057
19	Missouri	$2,893,644,804
20	Georgia	$2,655,461,034

Rank	State	Accounts
1	New York	856,490
2	Nevada[10]	830,206
3	New Hampshire	506,824
4	Utah	373,744
5	**California**	**317,761**
6	Virginia	312,272
7	Ohio	308,415
8	Michigan	258,404
9	Maryland	257,248
10	Iowa	243,403
11	Kansas[11]	219,760
12	Illinois	204,441
13	Massachusetts	188,075
14	Indiana	187,714
15	Wisconsin	177,536
16	Colorado[12]	174,356
17	Missouri	167,380
18	Georgia	167,347
19	North Carolina	142,995
20	Alaska[14]	132,022

[10] Includes SSGA Upromise 529 Plan, USAA College Savings Plan and Vanguard 529 Plan
[11] Includes Schwab 529, Learning Quest Direct, and Schwab Learning Quest
[12] Includes CollegeInvest Direct Portfolio College Savings Plan, Smart Choice College Savings Plan and Stable Value Plus College Savings Plan
[13] Includes Nebraska Educational Savings Plan Trust Direct and TD Ameritrade 529 College Savings Plan
[14] Includes University of Alaska College Savings Plan and T. Rowe Price College Savings Plan

PCA | PENSION CONSULTING ALLIANCE

MEMORANDUM

Date: March 15, 2019

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 12/31/2018. 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 2018. 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.

ScholarShare vs. Morningstar Direct Plan Median

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 the Age 13-14 and Age 15 portfolios producing results below the median. This can largely be attributed to an overweight to TIPS relative to the Morningstar Median which underperformed nominal bonds over the measurement period. Both the active and passive portfolios outperformed the median in the 19+ age band due to the positive economics of the funding agreement. We note that this advantage may wane as the return profile of other stable value options improve, in particular money market funds.

ScholarShare Relative 3-Year Performance vs. Morningstar Median

	Active	Passive
Age 0-4	Above	Above
Age 5-8	Above	Above
Age 9-10	Above	Above
Age 11-12	Above	Above
Age 13-14	In-line	**Below**
Age 15	Above	**Below**
Age 16	Above	In-line
Age 17	Above	Above
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, and Oklahoma 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 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, 8 out of 13 (or 62%) have matched or outperformed their respective benchmarks (as of 12/31/2018) since the inception of TFI as program manager. In addition, 11 out of the 13 funds (or 85%) have produced results in the top half of their respective peer groups, of which 7 funds (or 54%) 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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