PENNSYLVANIA STATE EMPLOYEES' RETIREMENT SYSTEM DEFERRED COMPENSATION PLAN

Financial Statements
with Required Supplementary Information

December 31, 2020 and 2019

(With Independent Auditors' Report Thereon)

PENNSYLVANIA STATE EMPLOYEES' RETIREMENT SYSTEM
DEFERRED COMPENSATION PLAN

Table of Contents

KPMG LLP
Suite 1000
30 North Third Street
PO Box 1190
Harrisburg, PA 17108-1190

Independent Auditors' Report

The Members of the Board
Pennsylvania State Employees' Retirement System
Deferred Compensation Plan:

We have audited the accompanying financial statements of the Pennsylvania State Employees' Retirement System Deferred Compensation Plan as of and for the years ended December 31, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Deferred Compensation Plan's financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position available for benefits of the Pennsylvania State Employees' Retirement System Deferred Compensation Plan as of December 31, 2020 and 2019, and the changes in its net position available for benefits for the years then ended in accordance with U.S. generally accepted accounting principles.

KPMG

Other Matter

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 3-6 be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

KPMG LLP

Harrisburg, Pennsylvania
June 4, 2021

This section presents management's discussion and analysis of the Pennsylvania State Employees' Retirement System (SERS) Deferred Compensation Plan's (Deferred Compensation Plan) financial statements and the significant events and conditions that affected the operations and performance of the Deferred Compensation Plan during the years ended December 31, 2020, 2019, and 2018.

Overview of the Financial Statements

1. **Financial Statements**. The Deferred Compensation Plan presents Statements of Net Position Available for Benefits as of December 31, 2020 and 2019 and Statements of Changes in Net Position Available for Benefits for the years then ended. These statements reflect resources available for the payment of benefits as of year end, and the sources and uses of those funds during the year.

2. **Notes to Financial Statements**. The notes to financial statements are an integral part of the financial statements and provide additional detailed information to provide a better understanding of the financial statements. The notes discuss, among other things, the Deferred Compensation Plan's organization, contributions, investment options, and how asset values are determined.

Background

The State Employees' Retirement Board (SERB) is the trustee for the Deferred Compensation Plan, an Internal Revenue Code (IRC) Section 457(b) retirement plan for eligible government employees and officers. The Deferred Compensation Plan started as a voluntary tax-deferred supplemental retirement plan but also allows voluntary post-tax contributions through a Roth option. The participants may direct their deferrals among 17 investment options, which increased from 11 options in January 2020. A third-party administrator (TPA) maintains individual participant records. Investment advisors selected by the SERB manage the Deferred Compensation Plan's investment options. The Deferred Compensation Plan began accepting initial deferrals in 1988.

The Deferred Compensation Plan offers a wide range of investment options including ten different Target Date Funds and four core investment funds. The Target Date Funds were added in January 2020 and became the default investment option. These funds are professionally managed by BlackRock and offer participants the ability to easily invest their savings in a diversified portfolio that is risk-adjusted to an age-based glidepath. The core investment options are index funds managed by Mellon Investments Corporation (Mellon) that include the U.S. Large Company Stock Index Fund, U.S. Small/Mid Company Stock Index Fund, Global Non-U.S. Stock Index Fund (which replaced the former International Company Stock Index Fund in January 2020) and the U.S. Bond Index Fund. The Deferred Compensation Plan also offers a Stable Value Fund, a Short-Term Investment Fund, and Self-Directed Brokerage Accounts. With the adoption of the Target Date Funds in January 2020, four investment options from 2019 were eliminated including the 60/40 Balanced Stock and Bond Fund, as well as the Aggressive, Moderate, and Conservative risk profile funds. These risk profile funds contained various blends of the Short-Term Investment Fund and core investment options available.

During 2020, the COVID-19 pandemic caused volatility in the financial markets, but the Deferred Compensation Plan was able to end the year with positive returns across all investment options. On April 3, 2020, the SERS Board approved COVID-19 distributions from Deferred Compensation Plan accounts. This allowed participants to take early distribution withdrawals on a tax-penalty-free basis from their personal accounts to help them meet their immediate needs resulting from the pandemic, while providing the option to repay the money within three years. The full economic impact of the COVID-19 pandemic on the plan and its participants remains uncertain.

Financial Highlights

Net Position Available for Benefits

The net position was $4.4 billion and $3.9 billion as of December 31, 2020 and 2019, respectively, which was an increase of approximately $482 million. In 2018, plan net position was $3.3 billion. Investments make up the largest portion of the plan's net position. 41.1% and 54.1% of the plan net position are invested in the three core equity funds (large-cap; mid and small-cap; and global non-U.S. equities, which replaced international equities in 2020) as of December 31, 2020 and 2019, respectively. The fixed income portfolios, which consist of the U.S. Bond Index Fund and the Stable Value Fund, accounted for 33.4% and 40.1% of plan net position as of December 31, 2020 and 2019, respectively. In 2020, the allocations decreased mainly due to the SERB-approved move to streamline and simplify the Deferred Compensation Plan's investment options. Starting in January 2020, the Deferred Compensation Plan discontinued certain investment options and transferred to the newly added Target Date Funds. The Target Date Funds accounted for 19.8% of the plan net position as of December 31, 2020. The Short-Term Investment Fund accounted for 1.9% and 2.1% of the plan net position available for benefits as of December 31, 2020 and 2019, respectively.

Contributions and Investment Income

Contributions increased to $158.3 million in 2020 from $155.6 million in 2019. Contributions were $145.7 million in 2018. Changes in contributions are due to the fluctuations in the average contribution per participant and number of active plan participants. There were approximately 57,700, 57,400, and 56,200 participant accounts as of December 31, 2020, 2019, and 2018 respectively. Of these participant accounts, 34,300, 34,800, and 34,100 participants were actively contributing as of December 31, 2020, 2019, and 2018.

The Deferred Compensation Plan is permitted to accept rollovers into the plan from other qualified retirement plans. Transfers into the Deferred Compensation Plan were $59.5 million and $62.1 million in 2020 and 2019, respectively.

Net investment income in 2020 was $519.1 million, compared to $616.1 million in 2019. Net investment loss was $114.2 million in 2018. The decrease in net investment income in 2020 was attributed primarily to lower broad market equity returns as the S&P 500 Index and the U.S. Large Company Index Fund returned 18.40% and 18.43%, respectively, versus returns of 31.49% and 31.50%, respectively, in 2019. The S&P 500 Index and the U.S. Large Company Index Fund returned -4.40% and -5.60%, respectively, in 2018, which attributed to the 2018 net investment loss.

Program Benefits and Expenses

Benefits paid to participants increased to $126.3 million in 2020 from $112.1 million in 2019. Benefits paid to participants in 2018 were $107.4 million. The election to select a payment is voluntary up to age 72 or age 70½ if participants reached 70½ before January 1, 2020 and is typically dependent upon the participant's separation from service. The Deferred Compensation Plan offers a variety of payout methods. A majority of participants select a periodic payment either annually, semiannually, quarterly, or monthly. The number of participants receiving payments decreased to approximately 9,300 for 2020 from approximately 9,500 for 2019. The number of participants receiving payments in 2018 was approximately 9,000.

The Deferred Compensation Plan is permitted to process rollovers out of the plan into Individual Retirement Accounts (IRAs), 401(k) plans, or other qualified plans. Transfers out of the Deferred Compensation Plan were $124.3 million and $148.1 million in 2020 and 2019 respectively.

TPA and other administrative expenses were $4.9 million in 2020 and $5.5 million in 2019. In 2018, these expenses were $4.9 million. In October 2019, a new TPA contract was enacted and the fees are based on the number of participants in the plan, whereas the fees were previously based on both percentage of plan assets and the number of participants.

Condensed Financial Information

($ millions)

	Net Position				
Assets	**2020**	**Increase (decrease)**	**2019**	**Increase (decrease)**	**2018**
Total receivables	$ 2	$ (6)	$ 8	$ 2	$ 6
Total investments	4,379	490	3,889	566	3,323
Total assets	4,381	484	3,897	568	3,329
Liabilities					
Total liabilities	4	2	2	—	2
Total net position	$ 4,377	$ 482	$ 3,895	$ 568	$ 3,327

	Changes in Net Position				
Additions	**2020**	**Increase (decrease)**	**2019**	**Increase (decrease)**	**2018**
Net investment income/(loss)	$ 519	$ (97)	$ 616	$ 730	$ (114)
Contributions	158	3	155	9	146
Plan transfers in	60	(2)	62	—	62
Total additions	737	(96)	833	739	94
Deductions					
Benefit payments	126	14	112	4	108
Plan transfers out	124	(24)	148	(1)	149
Third party and administrative expenses	5	—	5	—	5
Total deductions	255	(10)	265	3	262
Increase/(decrease) in net position	$ 482	$ (86)	$ 568	$ 736	$ (168)

FINANCIAL STATEMENTS

PENNSYLVANIA STATE EMPLOYEES' RETIREMENT SYSTEM
DEFERRED COMPENSATION PLAN

Statements of Net Position Available for Benefits

December 31, 2020 and 2019

($ thousands)

	2020	2019
Assets:		
Receivables:		
Contributions receivable	$ 1,042	$ 7,589
Accrued investment income receivables	551	208
Other receivables	61	128
Total receivables	1,654	7,925
Investments:		
Cash and temporary investments	3,374	2,710
Short-term investment fund	81,132	81,332
Target date funds	866,660	—
U.S. bond index fund	225,237	445,440
U.S. large company stock index fund	1,158,009	1,397,701
U.S. small/mid company stock index fund	501,307	465,890
International company stock index fund	—	243,724
Global non-U.S. stock index fund	139,702	—
Stable value fund	1,236,970	1,118,261
Group annuity contract	813	927
Self-directed brokerage accounts	166,059	133,447
Total investments	4,379,263	3,889,432
Total assets	4,380,917	3,897,357
Liabilities:		
Participant payables	237	108
Investment purchases	2,863	—
Fees payable and accrued expenses	1,059	1,478
Other payables	61	484
Total liabilities	4,220	2,070
Net position available for benefits	$ 4,376,697	$ 3,895,287

See accompanying notes to financial statements.

PENNSYLVANIA STATE EMPLOYEES' RETIREMENT SYSTEM
DEFERRED COMPENSATION PLAN

Statements of Changes in Net Position Available for Benefits

December 31, 2020 and 2019

($ thousands)

	2020	2019
Additions:		
Contributions:		
Participants	$ 158,325	$ 155,626
Plan transfers in	59,484	62,141
Total contributions	217,809	217,767
Investment income:		
Net appreciation on investments	509,754	604,352
Interest	10,601	12,847
Gross investment income	520,355	617,199
Less investment expenses	1,266	1,064
Net investment income	519,089	616,135
Total Additions	736,898	833,902
Deductions:		
Benefits and refunds of contributions	126,299	112,111
Plan transfers out	124,251	148,087
Third party and other administrative expenses	4,938	5,480
Total Deductions	255,488	265,678
Increase in net position	481,410	568,224
Net position available for benefits, beginning of year	3,895,287	3,327,063
Net position available for benefits, end of year	$ 4,376,697	$ 3,895,287

See accompanying notes to financial statements.

(1) Organization and Description of the Plan

(a) Program Summary

The following description of the Pennsylvania State Employees' Retirement System Deferred Compensation Plan (Deferred Compensation Plan) provides only general information. Participants should refer to the Plan Document for a more complete description of the Deferred Compensation Plan provisions.

The Deferred Compensation Plan was established by the Commonwealth of Pennsylvania General Assembly on November 6, 1987, through Act 81 and in accordance with Section 457(b) of the Internal Revenue Code (IRC) of 1986, as amended. Under the Deferred Compensation Plan provisions, eligible employees of the Commonwealth of Pennsylvania (commonwealth) may voluntarily elect to contribute a portion of their compensation into the Deferred Compensation Plan through payroll deductions. The commonwealth does not make any contributions to the Deferred Compensation Plan. The Deferred Compensation Plan is included in the commonwealth's financial reports as a pension trust fund.

(b) Contributions

Under the Deferred Compensation Plan provisions, eligible employees may contribute to the Deferred Compensation Plan through payroll deductions. In accordance with Section 457(b) of the IRC, the amount of an individual's annual contributions for 2020 was limited to an amount not to exceed the lesser of $19,500 or 100% of the individual's gross compensation. In 2019, the annual contribution limit was $19,000. Individuals age 50 or over may make an additional "catch-up" contribution. In 2020 and 2019, the additional "catch-up" contribution was $6,500 and $6,000, respectively. Special catch-up is allowed for previously missed contributions for participants within three years of normal retirement age. In 2020 and 2019, the deferral limit for special catch-up was $39,000 and $38,000, respectively. Contributions can be made to the Deferred Compensation Plan using either the before-tax method in which amounts are deferred for federal income tax purposes or the Roth option in which contributions are made on an after-tax basis.

Contributions receivable represent amounts withheld from employees' pay and rollover contributions made into the plan that were not remitted to the investment managers at December 31. Contributions are credited by the applicable investment managers upon receipt from the commonwealth.

(c) Participant Accounts

Participants electing to contribute to the Deferred Compensation Plan have the option of investing their contributions in any of the following investments:

- *Short-Term Investment Fund*, which invests in a variety of securities including those issued by the U.S. Treasury, agency securities, short-term corporate debt instruments such as commercial paper, repurchase agreements, and certificates of deposit, is managed by the Commonwealth of Pennsylvania Treasury Department (Treasury Department).

- *Target Date Funds*, which invest in a diversified portfolio of equity and fixed income securities professionally managed to a participant's risk profile based on an age-based glidepath, are managed by BlackRock.
- *U.S. Bond Index Fund*, which is a commingled investment fund that invests in investment-grade corporate and government issues, mortgage-backed securities, asset-backed securities, and commercial mortgage-backed securities, is managed by Mellon Investments Corporation (Mellon).
- *U.S. Large Company Stock Index Fund*, which is a commingled investment fund that invests in publicly traded common stocks included in the S&P 500 Index, is managed by Mellon.
- *U.S. Small/Mid Company Stock Index Fund*, which is a commingled investment fund that invests in medium and small capitalization components of the U.S. equity market (primarily the portion not covered by the S&P 500 Index), is managed by Mellon.
- *Global Non-U.S. Index Fund,* which is a commingled investment fund that invests in large and mid-cap companies across developed markets, excluding the United States, is managed by Mellon. This fund replaced the International Company Stock Index Fund, which is mentioned in detail below.
- *Stable Value Fund*, which is a structure that allows participants an opportunity to gain exposure to fixed income investments without the return volatility normally associated with bond funds because of an associated insurance wrap provider. Participants receive the quarterly agreed-upon crediting rates regardless of actual investment performance.
- *Self-Directed Brokerage Account*, which is a mutual fund window whereby a participant may choose to invest in a variety of mutual funds offered through the Charles Schwab Corporation.

The below funds were present in 2019. In order to streamline and simplify investment options, the Deferred Compensation Plan discontinued the use of the following funds in January 2020:

- *Aggressive Portfolio Fund*, was a blend of the core investments, and consisted of 48% in the U.S. Large Company Stock Index Fund, 20% in the U.S. Bond Index Fund, 20% in the International Company Index Fund, and 12% in the U.S. Small/Mid Company Stock Index Fund.
- *Moderate Portfolio Fund*, was a blend of the core investments, and consisted of 40% in the U.S. Bond Index Fund, 36% in the U.S. Large Company Stock Index Fund, 15% in the International Company Index Fund, and 9% in the U.S. Small/Mid Company Stock Index Fund.
- *Conservative Portfolio Fund*, was a blend of the Short-Term Investment Fund and core investments, and consisted of 50% in the U.S. Bond Index Fund, 20% in the Short-Term Investment Fund, 17% in the U.S. Large Company Stock Index Fund, 8% in the International Company Index Fund, and 5% in the U.S. Small/Mid Company Stock Index Fund.
- *60/40 Balanced Stock & Bond Fund*, was a blend of the core investments, and consisted of 60% in the U.S. Large Company Stock Index Fund and 40% in the U.S. Bond Index Fund.

- *International Company Stock Index Fund*, was a commingled investment fund that invested in international stocks in the European, Australian, and Far East markets. This fund was managed by Mellon.

Investment income includes the realized and unrealized gains/losses and interest for each of the investment funds. These funds do not distribute dividends to shareholders. Earnings and dividends on securities held are reinvested. Purchases and sales of securities are recorded on a trade-date basis.

(d) Payment of Benefits

Participants may withdraw the current value of funds contributed to the Deferred Compensation Plan upon termination of employment, death, disability, retirement, or approved unforeseeable emergencies within Deferred Compensation Plan guidelines. Accounts that have no activity in a two-year period and a balance under $5,000 may also be voluntarily distributed.

Upon retirement or termination of service, participants may elect various payout options including lump-sum, equal annual payments, or elect to defer receipt of funds until some future date. Minimum distributions as required by Internal Revenue Service guidelines must commence no later than age 72 or age 70½ if participants reached 70½ before January 1, 2020, including the Roth option. Rollovers to other qualified retirement plans or IRAs are permitted. All investments are for the exclusive benefit of participants and their beneficiaries.

Upon a participant's death, with certain exceptions, any amount due under the participant's account is paid to the beneficiary or the estate. Distributions to participants are recorded at the time withdrawals are made from participant accounts.

(e) COVID-19 Impacts

The ongoing COVID-19 pandemic has caused significant disruptions in U.S. and global economies. The full extent and duration of the impact of COVID-19 on the Deferred Compensation Plan's operations and financial performance is currently still unknown, and depends on future developments that are uncertain and unpredictable, including the duration, spread, and severity of the pandemic; actions taken to treat the virus; its impact on capital and financial markets on a macro-scale; and any new information that may emerge concerning the virus.

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting in Preparing Financial Statements

The financial statements of the Deferred Compensation Plan are prepared on the accrual basis of accounting under which deductions are recorded when the liability is incurred, additions are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade date.

(b) Use of Estimates

Management of the Deferred Compensation Plan has made certain estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these financial statements in conformity with accounting principles generally accepted in the United States of America. Actual results could differ from those estimates.

(c) Valuation of Investments

The Short-Term Investment Fund is valued at amortized cost. The Target Date Funds, U.S. Bond Index Fund, U.S. Large Company Stock Index Fund, U.S. Small/Mid Company Stock Index Fund, Global Non-U.S. Stock Index Fund, International Company Stock Index Fund (eliminated in January 2020), and Self-Directed Brokerage Accounts are valued based on quoted redemption values on the last business day of the calendar year, which represents fair value.

The Stable Value Fund uses a fund manager to oversee the two main components to its investment strategy. The first component addresses building a diversified investment portfolio of high-quality fixed income securities with the second component maintaining an insurance wrap provider. This second component provides the stability of the return stream by smoothing investment returns over time. The Deferred Compensation Plan mitigates risk by having the fund manager allocate across six different investment managers and six insurance wrap providers. Stable Value Fund is valued at net asset value (NAV). NAV for the Stable Value Fund represents the consolidated values of the multiple managers that were hired by the fund manager.

The group annuity contract, which is no longer offered to participants as an investment option, is valued at contract value Contract value for the group annuity contract represents contributions made under the contract, plus earnings, less payments made to retirees and terminated participants.

(d) Reclassification

Certain 2019 balances have been reclassified to conform to the 2020 presentation. The reclassifications did not impact the net position.

(3) Agreement with Third-Party Administrator

The State Employees' Retirement Board (SERB) has engaged Great-West Life & Annuity Insurance Company (Great-West) as the Deferred Compensation Plan Third-Party Administrator (TPA). Empower Retirement is the brand name for Great-West's services division. In October 2019, a new contract was negotiated with Great-West, which resulted in a change in the third-party administration fee.

- Third-party administration fee – From January through September 2019, the fee that was charged was a blend of a flat fee per participant and a basis point fee on participants' asset values. A $24.00 annual fee and 0.07% was charged to each participant during that time period. Effective October 2019, the flat fee increased to $59.50, with no basis point fees being charged on a participant's asset balance. Participants are responsible for paying this fee.

(Continued)

- Investment management fee – This charge is assessed monthly on the value of all accounts in the Deferred Compensation Plan. The fee varies depending on the type of investment. Manager fees ranged from 0.00% to 0.338%. This fee is assessed against the account of each participant proportionately according to the value of each individual account.

  Investment advice fee – Great-West, through its subsidiary Advised Assets Group LLC, provides participants with online advisory tools and services based upon the level of involvement desired in managing their accounts. Guidance is offered at no additional cost. Advice is offered for an annual fee of $25.00. All advice fees are assessed quarterly. Managed accounts provide ongoing professional asset management at the individual participant level. Plan participants receive a personalized and strategically designed retirement portfolio that is automatically managed quarterly. The managed account fee structure is asset based and ranges from 0.15% to 0.45%. Participants are responsible for paying this fee.

- The Deferred Compensation Plan receives $275,000 annually from the TPA to assist with paying the administrative costs of the plan.

(4) Investments

(a) Program Overview

The Deferred Compensation Plan's core investments are managed primarily by three fund managers. As of December 31, 2020, BlackRock managed the ten target date funds, which comprised approximately 19.8% of the Deferred Compensation Plan total investment portfolio. As of December 31, 2020, and 2019, Mellon, managed approximately 46.2% and 65.6%, respectively, of the Deferred Compensation Plan total investment portfolio. There is also concentration in the fixed income type of investment. The fixed income portfolios, which consist of the U.S. Bond Index Fund and the fixed income investments within the Stable Value Fund, managed by Invesco, made up 33.4% and 40.2% of the Deferred Compensation Plan total investment portfolio as of December 31, 2020 and 2019, respectively. These concentrations are solely determined by the participants' elections to invest in the available investment options selected by the SERB.

(b) Valuation of Investments

The fair value hierarchy, which contains three levels, is based on the valuation inputs used to measure an asset's fair value. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, or other than quoted prices that are observable. Level 3 inputs are unobservable inputs used to measure fair value if relevant observable inputs are not available for the asset or liability at the reporting date.

The target date funds, U.S. bond index fund, core equity funds (U.S. large-cap; U.S. mid/small-cap, global non-U.S. equities (in 2020), and international equities (in 2019)), and Self-Directed Brokerage Accounts are valued using prices quoted in active markets for those securities and are categorized as Level 1 of the fair value hierarchy. The total value of the fund is apportioned to the Deferred

Compensation Plan based on units of ownership. Funds are marked to market daily with changes in fair value recognized as part of investment and investment income.

The Stable Value Fund is a multi-manager and multi-insurance wrap set-up and is not valued within the fair value hierarchy. The Stable Value Fund is valued at NAV. NAV for the Stable Value Fund represents the consolidated values of the multiple managers that were hired by the fund manager.

The Deferred Compensation Plan also has investments that are not measured at fair value or NAV. The Short-Term Investment Fund (STIF) and commonwealth Treasury Department's STIF are valued at amortized cost with the total value of the fund being apportioned to the Deferred Compensation Plan based on units of ownership. The group annuity contract, which is no longer offered to participants, is valued at contract value. Contract value for the group annuity contract represents contributions made under the contract, plus earnings, less payments made to retirees and terminated participants.

The Deferred Compensation Plan has the following recurring fair value, NAV, and other measurements as of December 31, 2020 and 2019:

	2020 ($ thousands)			
	Level 1 Fair value	NAV	Other	Total
Cash and temporary investments	$ —	$ —	$ 3,374	$ 3,374
Short-term investment fund	—	—	81,132	81,132
Commingled investment funds:				
Target date funds	866,660	—	—	866,660
U.S. bond index fund	225,237	—	—	225,237
U.S. large company stock index fund	1,158,009	—	—	1,158,009
U.S. small/mid company index fund	501,307	—	—	501,307
Global non-U.S. stock index fund	139,702	—	—	139,702
Stable value fund	—	1,236,970	—	1,236,970
Group annuity contract	—	—	813	813
Self-directed brokerage accounts	166,059	—	—	166,059
Total	$ 3,056,974	$ 1,236,970	$ 85,319	$ 4,379,263

	2019 ($ thousands)			
	Level 1 Fair value	NAV	Other	Total
Cash and temporary investments	$ —	$ —	$ 2,710	$ 2,710
Short-term investment fund	—	—	81,332	81,332
Commingled investment funds:				
U.S. bond index fund	445,440	—	—	445,440
U.S. large company stock index fund	1,397,701	—	—	1,397,701
U.S. small/mid company index fund	465,890	—	—	465,890
International company stock index fund	243,724	—	—	243,724
Stable value fund	—	1,118,261	—	1,118,261
Group annuity contract	—	—	927	927
Self-directed brokerage accounts	133,447	—	—	133,447
Total	$ 2,686,202	$ 1,118,261	$ 84,969	$ 3,889,432

(c) Concentration of Credit, Custodial Credit, Credit, Interest Rate, and Foreign Currency Risk

The Deferred Compensation Plan cash and temporary investments, Short-Term Investment Fund, Stable Value Fund, and U.S. Bond Index Fund are subject to various risks. Among these risks are concentration of credit risk, custodial credit risk, credit risk, interest rate risk, and foreign currency risk. Each of these risks are discussed below.

Concentration of credit risk is the risk of loss attributed to the magnitude of investment in a single issuer. As of December 31, 2020, and 2019, the Deferred Compensation Plan had no single issuer that exceeded 5% of total investments. Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments were excluded.

Custodial credit risk is the risk that, in the event of the failure of the counterparty to a transaction, the Deferred Compensation Plan would be unable to recover the value of investment or collateral securities that are in the possession of an outside party. In accordance with the contractual relationship between the commonwealth Treasury Department and its custodial agent, where securities are used as evidence of the investment, these securities are held by the custodian in book-entry form. These securities are defined as insured or registered investments for which the securities are held by the agent in the Deferred Compensation Plan’s name, and therefore have a minimal level of custodial credit risk losses. All remaining investments do not have securities that are used as evidence of the investments.

Credit risk is the risk that an issuer or the counterparty to an investment will not fulfill its obligations. The credit risk of a debt instrument is measured by nationally recognized statistical rating agencies such as Moody’s Investor Services (Moody’s), S&P, and Fitch Ratings (Fitch).

The Deferred Compensation Plan is exposed to credit risk through investment in the commonwealth Treasury Department’s STIF, which is not rated. The plan had $84.5 million and $84.0 million in STIF as of December 31, 2020 and 2019, respectively. The plan also has indirect exposure to credit risk through the U.S. Bond Index Fund which had a balance of $225.2 million and $445.4 million as of December 31, 2020 and 2019, respectively. The U.S. Bond Index Fund had an AA1/AA2 rating by Moody’s as of December 31, 2020 and 2019.

Interest rate risk is the risk that will adversely affect the fair value of an investment, should market interest rates rise or fall. Option-adjusted duration is the measure of the portfolio's exposure to changes in interest rates. The following table discloses the interest rate types and durations of the fixed income investments of the Deferred Compensation Plan as of December 31, 2020 and 2019:

	Debt Option-Adjusted Durations ($ thousands)			
	2020		2019	
	Fair value	Option-adjusted duration	Fair value	Option-adjusted duration
Commingled investment funds	$ 225,237	6.2	$ 445,440	5.9
Short-term investments[1/]	84,506	0.1	84,042	0.1
Total[2/]	$ 309,743		$ 529,482	

[1/] Represents investments in the commonwealth Treasury Department's STIF and Short-Term Investment Fund. This comprises short-term, investment grade securities, which are mainly U.S. Treasuries, agencies, or repurchase agreements, and also includes insignificant investments in cash, receivables, and payables. The investments are pooled together by utilization of the commonwealth Treasury Department's STIF, and the Deferred Compensation Plan recognizes its respective allocation.

[2/] Total fair values of the fixed income sector comprise cash and temporary investments, the Short-Term Investment Fund, and the U.S. Bond Index Fund from the Statements of Net Position Available for Benefits.

The Deferred Compensation Plan prohibits investments by the manager in the active bond portfolio in the following categories: real estate, Real Estate Investment Trust issues, mortgages (mortgage pass-throughs are exempt), secured term loans, oil and gas production properties, convertible or preferred stock, private placements (other than corporate debt purchased pursuant to SEC Rule 144A that has registration rights with the SEC), loaning of money or securities, hypothecating of any assets in the portfolio, interest and principal only strips, inverse floaters, and inverse interest-only securities.

Foreign currency risk is the risk where fluctuations in exchange rates will adversely affect the fair value of an investment. Starting in January 2020, the Deferred Compensation Plan had indirect foreign currency exposure within commingled investments through the following investment options:

- Target date funds are diversified across global asset classes, with allocations changing over the funds' investment horizon. The funds include varying degrees of international equity and fixed income as part of their allocations.
- The Global Non-U.S. Stock Index Fund tracks the performance of the MSCI All Country World Index (ACWI) ex-U.S. index, which is made up of non-U.S. stocks from 22 developed markets and 27 emerging markets.

Prior to January 2020, the Deferred Compensation Plan had indirect foreign currency exposure within commingled investments through the following investment option:

- The International Company Stock Index Fund tracked more than 1,000 foreign stocks representing established companies in 21 countries located in Western Europe and the Pacific Rim.

(5) Derivative Financial Instruments

The Deferred Compensation Plan, through investments in commingled investment funds managed by Mellon and BlackRock, indirectly hold certain derivative financial instruments. A derivative is a risk shifting agreement, the value of which is derived from the value of an underlying asset. The underlying asset could be a physical commodity, an interest rate, a company's stock, a stock index, a currency, or virtually any other tradable instrument upon which two parties can agree. The derivatives most commonly used by BlackRock and Mellon include currency forwards, futures, options, and swaps. The Deferred Compensation Plan's exposure to these instruments was not significant as of December 31, 2020 and 2019. The commingled investment funds that the Deferred Compensation Plan is invested in currently utilize the following derivative instruments:

- Target Date Funds (beginning January 2020) – futures, swaps, forward contracts
- U.S. Large Company Stock Index Fund – stock index futures
- U.S. Small/Mid Company Stock Index Fund – stock index futures
- Global Non-U.S. Stock Index Fund (beginning January 2020) – stock index futures, currency forwards
- International Company Stock Index Fund (prior to January 2020) – stock index futures, currency forwards

These instruments are used in the investment management of the commingled funds to the extent that their use is consistent with the specific commingled fund's objective. Derivatives are viewed within the context of the commingled fund's total portfolio. BlackRock and Mellon have instituted policies and procedures designed to ensure that derivative transactions are in keeping with the overall strategy and that such transactions are properly reviewed and monitored.

BlackRock and Mellon may take long or short positions in derivative instruments for, but not limited to, the following purposes: to create or hedge required exposure; to create or hedge model driven recommended exposure; as an adjustment to asset exposures within the parameters set in the commingled fund's investment instructions and guidelines; to achieve transactional efficiency; to adjust the duration of a fixed income portfolio; if applicable, to achieve the appropriate degree of leverage, as stated in the commingled fund's investment instructions and guidelines; and to facilitate meeting the commingled fund's objectives.

At the fund level, commingled fund managers hold foreign exchange contracts, futures contracts, and certain swap contracts. These funds invest in instruments directly and indirectly to gain foreign exchange exposure, to synthetically create equity-like returns, and to manage interest risk by altering the average life of the portfolio. Derivatives are viewed within the context of the funds' total portfolio and are consistent with the funds' overall strategy.

As advisors to these funds, BlackRock and Mellon evaluate the risks associated with derivatives in these commingled funds. DCP monitors the risks related to derivatives and monitors the managers' evaluation of risks by reviewing financial statements, exposure reports, and holdings reports on an ongoing basis.

Some of the risks associated with the use of derivatives include the following:

Market Risk: Market risk represents the risk of adverse movements in markets (including asset prices, volatility, changes in yield curve, implied volatility, or other market variables) for the derivatives or the underlying assets, reference rate or index to which the derivative instrument relates. Such risk is created by holding any security, physical, or derivative, which creates exposure to movements in process of a security or market. Additionally, some derivatives involve economic leverage, which could increase the volatility of these investments as they may fluctuate in value more than the underlying instrument. Blackrock and Mellon assess the risk associated with derivatives in the context of the commingled fund's total portfolio, taking into account the effective exposure of derivative instruments.

Liquidity Risk: Two types of liquidity risk are generally faced in derivative activities. The first is market liquidity risk, which applies to all investments. This is the risk that positions cannot easily be sold or unwound due to inadequate market depth or disruptions in the marketplace. The second is portfolio liquidity risk, which is the risk that there are insufficient funds in the portfolio to meet margin calls and other financial obligations resulting from derivative activities. Blackrock and Mellon have established restrictions and processes to assist with minimizing the impact of liquidity risk on the commingled fund's portfolio.

Counterparty Risk: Counterparty risk is the risk that a counterparty (the party with whom a derivative contract is made) will fail to perform contractual obligations under a contract. This is also sometimes referred to as credit risk. Blackrock and Mellon have established guidelines and procedures designed to limit the impact of counterparty risk. The creditworthiness of counterparties is evaluated prior to approval and counterparty exposure and creditworthiness is reviewed regularly.

Operational Risk: Operational risk is the risk that deficiencies in the effectiveness and accuracy of the information systems or internal controls will result in a material loss. This risk is associated with human error, systems failures, inadequate procedures, and internal management controls. For example, there is risk that the valuation system incorrectly calculates a price for a derivative or its equivalent exposure.

The Deferred Compensation Plan offers participants the ability to invest in a Stable Value Fund, which is a Synthetic Guaranteed Investment Contract (SGIC). The SGIC provides a guaranteed crediting rate based on the underlying bond portfolio and is adjusted quarterly. For 2020, the annualized net-of-fee crediting rates were 2.476% for the first quarter, 2.339% for the second quarter, 2.213% for the third quarter, and 2.055% for the fourth quarter. For 2019, the annualized net-of-fee crediting rates were 2.439% for the first quarter, 2.522% for the second quarter, 2.570% for the third quarter, and 2.593% for the fourth quarter. The value of the underlying investments of the SGIC at December 31, 2020 was $1,237 million and the book value was $1,188 million. The value of the underlying investments of the SGIC at December 31, 2019 was $1,118 million and the book value was $1,099 million. The book value – which was the total cost of the investment (amount paid at time of purchase plus or minus any additional deposits or withdrawals) plus accrued interest – was less than the underlying investment value

(6) Tax Qualification Status

According to the U.S. Treasury Department, the Deferred Compensation Plan is an eligible deferred compensation plan pursuant to IRC Section 457(b). Therefore, compensation deferred under the Deferred Compensation Plan, including income attributable to the deferred compensation, will be includible in gross income for the taxable year or years in which amounts are paid or otherwise made available to a participant or a participant's beneficiary in accordance with the terms of the Deferred Compensation Plan.

(7) Risks and Uncertainties

The Deferred Compensation Plan, as directed by participants, may invest in various types of investment securities. Investment securities are exposed to various risks, such as interest rate, market, and credit risk. Due to the level of risk associated with certain investment securities, it is possible that changes in the values of investment securities may occur in the near term and that such change could materially affect the amounts reported in the statements of net position available for benefits.

(8) Interfund Transfers and Related Parties

The Commonwealth of Pennsylvania State Employees' Retirement System provides certain management and administrative services to the Deferred Compensation Plan. Interfund transfers of assets take place on a regular basis to properly align expenses. These expenses are included in third party and other administrative expenses in the Statements of Changes in Net Position Available for Benefits.

Certain members of the SERB are participants in the Deferred Compensation Plan.

(9) Subsequent Events

On March 25, 2021, the SERB approved establishing a formal fee policy for the Deferred Compensation Plan and approved fee and expense changes to be effective July 1, 2021. The first fee change is to reduce the current TPA fee for participants from $4.95 to $4.65 per month. In addition, the SERB moved to assess a separate, additional fee on accounts with balances of more than $5,000. It consists of both a flat fee of $1 per month, and an annual asset-based fee of 2 basis points of the account value, withheld on a monthly basis, not to exceed $50 annually. This fee will be used to cover the administrative expenses of the plan.